



Rialtas
na hÉireann
Government
of Ireland

Tionscadal Éireann
Project Ireland
2040

National Development Plan 2021-2030



Prepared by the Department of Public
Expenditure and Reform
[gov.ie/2040](https://www.gov.ie/2040)

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Forewords

Foreword by An Taoiseach, An Tánaiste and Minister Ryan

When this Government took office in June 2020, we immediately signalled our intention to bring forward the review of the National Development Plan which was originally planned for 2022. We know that infrastructure can play a direct role in stimulating economies and maintaining employment, and notably there has been much discussion about an 'infrastructure-led recovery' and a 'green recovery' across the globe in the wake of the Covid-19 pandemic. We as a Government have a responsibility to plan for the changes and challenges that lie ahead, and that is why we have reaffirmed our commitment to capital investment.

As we plan for a sustainable and regionally balanced post-pandemic recovery, our country is also at a critical stage in its development. Our population is set to grow by approximately 1 million people between 2016 and 2040. The infrastructure and investment implications of that alone are enormous. This is coupled with the many challenges that we currently face as a country and as a generation, including Covid-19, Brexit, housing, health and the climate emergency.

It is imperative that this investment supports long-term, sustainable economic growth that benefits every region, town and city across Ireland. It is also important that this investment supports the realisation of our climate ambitions and targets. Therefore, investment must be well-planned, well-targeted and well-managed to ensure that our plan is fit for purpose, robust and responsive to current and future needs.

This NDP provides that detailed and positive vision for Ireland over the next 10 years. Together we have shaped a shared set of strategic objectives to secure the future prosperity of our country, our regions and our people. Our focus will now turn to ensuring the plan's speedy and efficient delivery.



Micheál Martin T.D.
An Taoiseach



Leo Varadkar T.D.
An Tánaiste and Minister for Enterprise,
Trade and Employment



Eamon Ryan T.D.
Minister for Environment, Climate,
Communications and Transport

Foreword by Minister McGrath

Following a thorough process of engagement, analysis and reflection, I am pleased to bring forward the revised National Development Plan (NDP) incorporating an investment package of €165 billion. The revised NDP sets out the ten year capital ceilings to 2030 which will support economic, social, environmental and cultural development across all parts of the country under Project Ireland 2040, in parallel with the National Planning Framework (NPF) which sets the overarching spatial strategy for the next twenty years. The alignment of the NDP and NPF under Project Ireland 2040 creates a unified and coherent plan for the country by ensuring our investment strategy supports spatial planning behind a shared set of strategic objectives for rural, regional and urban development.

The review of the NDP has considered the most important challenges facing us and takes account of the Covid-19 crisis and our related recovery plans, to ensure alignment with the new Programme for Government, to strengthen the alignment with the NPF and to enhance the link with the new Climate Action Plan and other sectoral policies.

This finalised report is the culmination of several strands of work led by my Department. On 4th April 2021, I published the Phase 1 report which drew upon a number of pieces of research and policy papers as well as an extensive public consultation. As part of Phase 2, there was detailed engagement with other Departments to agree capital allocations and priority programmes to be included in the NDP. Combined, this forms a strong evidence base which has allowed the Government to make informed decisions in developing our new and ambitious NDP.

The NDP will play an essential role in shaping our responses to the challenges of the present, and also prepare us for the challenges of the future. It will ensure the implementation of the NPF through investment levels which will be well above the EU average. It also represents a step-change in the Government's commitment to transitioning to a low carbon and climate resilient society, and includes strengthened governance arrangements in order to focus on delivery of efficient and cost-effective public infrastructure.



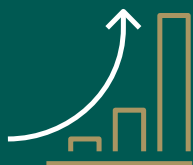
Michael McGrath T.D.
Minister for Public Expenditure and Reform

Summary



1. Overview

- The major public investment approved by Government and detailed in the new NDP will play a significant role in addressing the opportunities and challenges faced by Ireland over the coming years from issues such as Covid-19, Brexit, housing, health, climate action and a population projected to grow by one million people between 2016 and 2040.
- The NDP was drafted following a review conducted over two phases which commenced in October 2020 and included extensive engagement, public consultation and analysis led by the National Investment Office and available on Project Ireland 2040 webpage (gov.ie/2040).



2. Benefits of Investment

- It is estimated that an annual average of up to approximately 47,000 direct and 33,000 indirect construction jobs will be sustained by the investment over the course of the NDP.
- Economic modelling indicates that the investment planned under the NDP will result in increased GDP, employment and wages out to 2030.



3. Climate Action and the Environment

- Extensive efforts have been made to ensure that the NDP will support the Government's climate ambitions. For the first time in Ireland, climate and environmental assessment of the NDP measures has been undertaken, along with an assessment of the alignment of the plan as a whole with the ideals of a green recovery plan.
- Commitments are made to further reforms of the Public Spending Code and to the treatment of Energy Performance Contracts.
- Most significantly, €5 billion in additional carbon tax receipts over the period of the NDP have been allocated to increase capital investment levels in energy efficiency.



4. Funding

- The NDP sets out Departmental allocations to 2025 and a total public investment of €165 billion over the period 2021-2030. This will bring public investment to 5 per cent of GNI*, well above the recent EU average of 3 per cent of GDP.



5. Investment Framework

- The NDP is not intended to be a comprehensive list of all the public investment projects that will take place over the next ten years. However, where sufficient planning and evaluation has already taken place, the NDP contains a range of expenditure commitments.
- The plan is underpinned by an updated Public Spending Code which came into effect on the 1st January 2020 and sets out the value for money requirements for the evaluation, planning and management of public investment projects in Ireland.
- The launch of the NDP document has been accompanied by publication of an updated Investment Tracker and MyProjectIreland mapping tool which provides details on specific projects (see gov.ie/2040).



6. Improving Delivery

- A range of initiatives and reforms which are underway and planned to help develop the capacity of public sector bodies to effectively deliver public investment are detailed in the plan. This is alongside some key reforms to governance which are being implemented by the National Investment Office in order to improve project appraisal and reduce the risk of project overspends.
- Finally, the Government's policy approach to supporting the Irish construction sector is detailed along with the actions being taken to drive innovation and digital adoption.

Major investments in this NDP

This NDP will be the largest and greenest ever delivered in Ireland, with a particular focus on supporting the largest public housing programme in the history of the state. While many of the investments in this NDP are already well known and have been progressing through planning for some time (e.g. BusConnects), there are a range of investments which are new or enhanced in this NDP. A selection of these are listed below.

NSO 1 – Compact Growth

- Deliver an average of 6,000 affordable homes each year
- Urban Regeneration and Development Fund
- Croí Cónaithe Fund



NSO 2 – Enhanced Regional Accessibility

- €360 million annually for active travel programmes
- Replacement of the Dublin-Belfast Enterprise train fleet
- Enhancement of inter-regional bus services
- N/M20 Cork to Limerick

NSO3 - Strengthened Rural Economies and Communities

- Rural Regeneration and Development Fund
- National Broadband Plan
- Supports for the remote working hub network
- Better public transport through the Connecting Ireland bus programme

NSO 4 - Sustainable Mobility

- BusConnects for Ireland's Cities
- Commuter Rail – Regional Cities, MetroLink and Dart+
- Greener and Cleaner Bus Fleets

NSO 5 - A Strong Economy, supported by Enterprise, Innovation and Skills

- Green Transition Fund
- Digital Transition Fund
- Investment in Technological Universities
- National Grand Challenges Programme

NSO 6 - High Quality International Connectivity

- Completion of new parallel runway for Dublin Airport
 - Completion of investments at Dublin Port, the Port of Cork and Shannon Foynes Port
 - Dublin Port MP2 Project – two new berths
-

NSO 10 - Access to quality Childcare, Education and Health Services

- Investment in First 5 Initiatives
 - Delivery of 150 to 200 school building projects will be delivered annually over the period 2021 to 2025
 - Expansion of primary and community care in line with Sláintecare
-

NSO 9 - Sustainable Management of Water and other Environmental Resources

- Eastern and Midlands Water Supply Project
 - Greater Dublin Drainage Project
-

NSO 8 - Climate Action

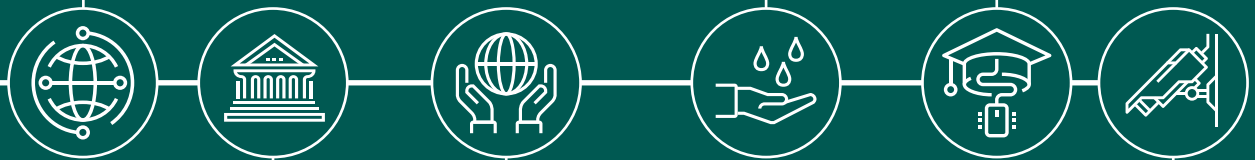
- Enhanced retrofitting programme of 500,000 homes to BER B2
 - Celtic Interconnector
 - Cork City Flood Relief Scheme
-

NSO 7 - Enhanced Amenity and Heritage

- Investments in the National Cultural Institutions
 - Investment in National Parks
 - Sports Capital and Equipment Programme and Large Scale Sport Infrastructure Fund
-

Other Sectors

- New System of Accommodation for International Protection Applicants (Asylum Seekers)
 - New Forensic Science laboratory, new Garda Security and Crime Operations Centre at Military Road, and redevelopment works at Limerick Prison
 - Defence Equipment replacement
-





Chapter 1: Overview

1.1 Context

As part of Project Ireland 2040 the National Development Plan sets out the Government's over-arching investment strategy and budget for the period 2021-2030. It is an ambitious plan that balances the significant demand for public investment across all sectors and regions of Ireland with a major focus on improving the delivery of infrastructure projects to ensure speed of delivery and value for money.

Achieving a high quality stock of infrastructure throughout Ireland will require sustained and elevated levels of investment over the long-term. This level of investment cannot happen overnight or even within one ten year plan. While it is guided and co-ordinated at a national and regional level, it must be delivered at a local and sectoral level. With this new National Development Plan (NDP) the Government will take another major step in ensuring that Ireland maintains and further develops its infrastructure stock to the highest standard throughout the country.

Project Ireland 2040 (PI2040) includes the National Planning Framework (NPF), which sets the overarching spatial strategy for the next twenty years, along with the NDP, which sets out the ten year investment strategy.

Ensuring close alignment between the two is necessary in order to accommodate a projected 1 million additional people by 2040. PI2040 provides an opportunity to successfully accommodate that growth by investment in our rural towns and villages, and by ensuring the cities of Cork, Galway, Limerick and Waterford grow at twice the pace of Dublin through sustained investment.

By delivering compact growth within our rural villages, our towns and our cities, it will become possible to deliver more public infrastructure to more people, e.g. public transport, broadband, housing, health and a broad range of social, cultural, sporting and community services.

The NDP sets out funding to underpin key Government priorities. Specifically, allocations will support the realisation of critical goals laid out in Housing for All and will enable a step-change in investment to ameliorate the effects of climate change.

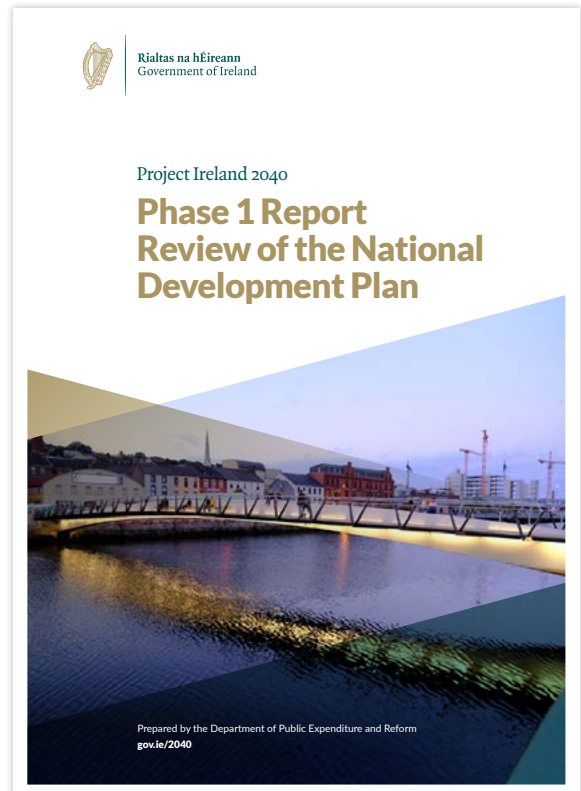
In addition to physical infrastructure, a significant element of the investment set out in the NDP will support enterprise development, research, innovation and science. This investment will be crucial to support the additional 660,000 jobs projected for 2040.

Finally, the impact of Covid-19 and other crises have demonstrated the vulnerability of society and the economy to external shocks. In this context, national security is a fundamental policy goal for the Government. This includes the key components of defence, foreign policy and justice. Other policy goals, whether social, economic or environmental cannot be achieved without the stability achieved through effective security and defence policies supported with appropriate capital resources.

1.2 Structure of NDP Review

The recent Review of the NDP was led by the National Investment Office in the Department of Public Expenditure and Reform and was structured in two phases with associated outputs.

Phase 1: started in October 2020 and culminated in a report published on gov.ie/2040 on 4th April 2021. That report drew upon a number of pieces of research, policy papers and consultations, addressing the various strands of the NDP Review process, to form the evidence base for phase 2 and the drafting of this new NDP.



The review was founded upon a strongly evidence based approach, building upon the extensive data and analyses that have been produced by the NIO and by the work of IGEEES and other policy units across other Government Departments and agencies, including other newly commissioned and targeted research.

Consultation with stakeholders has been a fundamental element of the review, through: the public consultation submissions, numerous Infrastructure Network Events, the National Investment Office's Annual Conference and continued engagement through the regular meetings of the Construction Sector Group.

The main outputs from the first phase of work were a number of pieces of research and technical papers produced and published between Q3 2020 and Q1 2021. This research, alongside the ongoing policy functions of the various Departments and Agencies, set the foundation for the next phase.

Phase 2: a strategic dialogue took place between the Department of Public Expenditure and Reform and other Departments with the primary aim of agreeing the new five year rolling Departmental capital allocations and overall ten year capital ceilings out to 2030. In parallel, Departments and Agencies finalised the investment areas which would be prioritised within their sectoral allocations.

Throughout this overall process, the PI2040 Delivery Board, composed of Secretaries General of the key Departments responsible for infrastructure coordination and delivery, along with an external member, played an important role in guiding and overseeing delivery of the NDP. The Delivery Board meets every two to three months and has reported through the Cabinet Committee on Economic Recovery and Investment. The Delivery Board is supported at Assistant Secretary and Principal Officer level through the PI2040 Coordination Group.

1.3 Evidence Base

Taking into account the significant consultation, planning and analysis that went into the formulation of PI2040, the review was able to build upon the analysis and evidence base which is already in place. The following sections give an overview of the findings from the different elements of Phase 1 of the NDP review.

Delivering Project Ireland 2040

The Phase 1 Report set out the progress made in the first three years of PI2040 under the existing NDP and each of the ten National Strategic Outcomes (NSO).

Since the launch of PI2040 there has been significant progress in delivering a range of both large and small infrastructure projects throughout the country. For example delivering better:

- transport links (e.g. completion of the M11 Gorey to Enniscorthy and the N25 New Ross Bypass),
- broadband (contract signed with National Broadband Ireland in 2019; roll out commenced in 2020 with 241 Broadband Connections installed at end of 2020,
- energy efficiency (since 2018, over 63,000 homes and almost 250 public buildings have been made more energy efficient),
- health facilities (e.g. two new acute ward blocks in Our Lady of Lourdes Hospital, Drogheda and Waterford University Hospital), and
- environmental outcomes (e.g. upgraded Waste Water Treatment Plants at Mohill, Athenry, Castleblaney, Enniscorthy, Manorhamilton, Ardee, Grange, Tubbercurry and Ballinacorney).

The 2020 annual and regional reports provide greater detail on the investments delivered throughout the country under PI2040 and show the pace and scale of investment across communities nationwide.

In addition the NIO are working with Departments on a number of more detailed case studies to examine the benefits delivered from a range of different projects completed in recent times.

Macro-economic Context

The Phase 1 Report summarised a paper by the NIO considering the appropriate level of public investment in the new NDP. The full paper is published alongside the Phase 1 Report on gov.ie/2040.

Supply side capacity constraints have been evident in recent years with elevated levels of construction tender inflation and Government Departments needing greater use of the capital carryover facility. A range of measures are being taken by industry and government to increase supply capacity.

The demand for public investment in Ireland is significant and relatively well established. Factors driving demand include maintenance, demographics and economic growth. Climate action is another major driver, given Ireland's goal of an average 7 per cent reduction per annum in greenhouse gas emissions from 2021 to 2030 which will require major increases in investment in areas such as energy efficiency.

Public investment (Gross Fixed Capital Formation) in Ireland in 2020 stood at 4.4 per cent as a share of GNI*, above The Netherlands (3.6), Denmark (3.6) and the EU27 Average (3.3).

The funding available for public investment is to a large degree dependent on the overall medium-term fiscal strategy adopted by the Government.

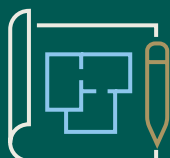
At a basic level, this means that a surplus/deficit target is set for the period and in a given year this may result in funding becoming available to be allocated across current, capital or tax expenditures. It is then a matter for Government as to what proportion is dedicated to capital expenditure.

Any increase in public investment to meet demand needs to be planned and sustainable over the lifetime of the ten year plan in order to reduce risks of over-heating and poor value for money. This would also allow for delivery capacity to continue to be expanded.

Project Ireland 2040

Key achievements for 2018-2021

526 completed school building projects that delivered in excess of 48,000 school places over 2018-2020



Since 2018, over 63,000 homes and almost 250 public buildings have been made more energy efficient

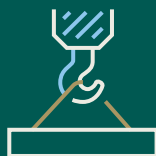
26,256 new social housing homes over 2018-2020



Net job creation of 52,574 in Enterprise Ireland and IDA supported client companies over 2018-2020



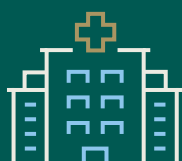
Higher and Further Education: Grangegorman - East and Central Quads completed, providing for 10,000 TU Dublin students to move to the campus



The four funds : Disruptive Technologies Innovation Fund: 43 successful project collaborations. Rural Regeneration and Development Fund: provided €166 million for 139 projects. Urban Regeneration and Development Fund: 45 projects under Call 2 were announced in March 2021. Climate Action Fund: €77 million allocated to 7 projects under round one, leveraging a total investment of €300 million



Delivering better health outcomes e.g. new acute ward blocks in Drogheda, Limerick, Tipperary and Waterford, new National Rehabilitation Hospital in Dún Laoghaire, new National Forensic Mental Hospital in Portrane, new Community Nursing Units across the country



Delivering better regional transport links such as completion of the M11 Gorey to Enniscorthy and the N25 New Ross Bypass



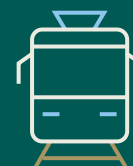
Phase 2 of the National Indoor Arena at the Sport Ireland Campus completed



6 new Water Treatment Plants were completed including Kildarragh and Goldrum, County Donegal and Lough Guitane, County Kerry

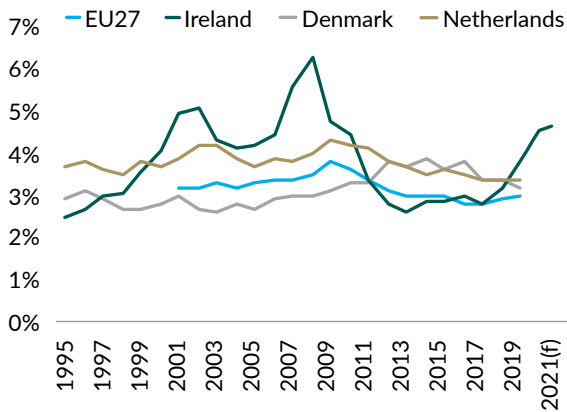


Significant progress made in planning for major projects such as Bus Connects, DART+, Metrolink and the N/M20 Cork to Limerick



20 projects were completed or are expected to be completed in 2021 including Carragaline School Campus, the R407 Sallins Bypass and the North Runway Project at Dublin Airport

Figure 1.1: Total Public Investment (GFCF) as a Percentage of GDP (GNI*)



Sources: Eurostat

Capital Expenditure Analysis

The Phase 1 report highlighted recent trends in capital expenditure, including Covid-19 impact. It summarises the features of capital spend under the initial years of the NDP, compared to the pre-NDP position in 2017.

When combined with a record 2021 carryover of almost €710 million, Departments and Agencies have potential to spend €10.8 billion in 2021, the highest level of capital investment in the history of the state.

In 2021 over 75 per cent of the allocation of €10.8 billion is concentrated in four sectors;

- Housing - €2,766 million (27.4%)
- Transport - €2,528 million (25.1%)
- Education - €1,241 million (12.3%)
- Health - €1,048 million (10.4%)

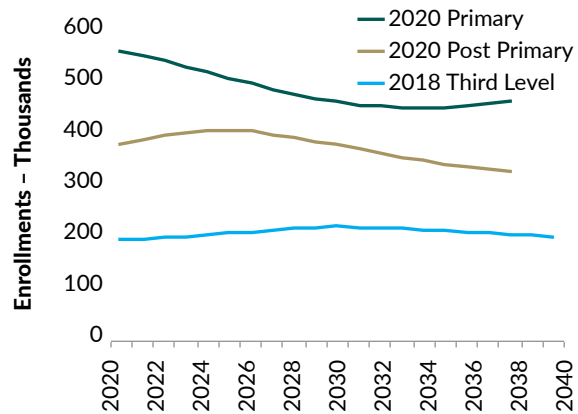
Infrastructure Demand Analysis

The Phase 1 Report summarised an update of the 2017 IGEES paper which examined sectoral trends in demand for the largest infrastructure sectors. The full paper is published alongside the Phase 1 Report on gov.ie/2040.

The analysis finds demand pressures across all sectors examined and confirms that housing is the area where demand for investment is most acute given the current housing dynamics.

In contrast, in the education sector demographics are favourable over the medium to long term with enrolments in primary schools declining from 2020 with secondary school enrolments due to begin decreasing from 2024.

Figure 1.2: Education Enrolment Projections



Source: Department of Education

Public Consultation

An expansive and inclusive public consultation process was a fundamental part of the process undertaken to deliver the revised NDP and a range of events, platforms and strategies were used to stimulate dialogue and encourage feedback.

Review to Renew, the consultation process, ran from 3 November 2020 to 19 February 2021 and sought to allow all relevant stakeholders an opportunity to participate in shaping our revised capital plan.



Advert for NDP Review public consultation on transit shelter

There were 572 submissions were received from members of the public, organisations, groups and Non-Governmental Organisations, City and County Councils, Chambers of Commerce, the third level sector, political parties and regional assemblies. Consideration of submissions received informed the direction of policy set out in this report. Themes arising include:

1. Housing and Sustainable Urban Development;
2. The All-Island Perspective;
3. Enterprise, Skills and Innovation Capacity;
4. Tourism and Connectivity including Airports and Ports;
5. Climate;
6. Health;
7. Transport/Roads;

- 8. Water Infrastructure;
- 9. Rural Development;
- 10. Remote Working;
- 11. Sports, Culture and Heritage; and
- 12. Utilities.

The findings of the consultations were shared with the relevant Departments and assimilated into sectoral policy deliberations.

Delivering Housing in line with the NPF

This piece of analysis was undertaken by the National Economic and Social Council (NESCC). The full paper is published in the gov.ie/2040 website and the NESCC website.

Delivering the right kind of housing in the right locations is critical to the successful delivery of PI2040 and thereby underpins the entire plan.

Given their significant policy experience in this area, the secretariat of the National Economic and Social Council was invited as part of the NDP Review to examine and recommend policy options to address the housing and urban development challenge.

The NESCC analysis and recommendations, which were summarised in the NDP Phase 1 Report, have informed the development of Housing for All, the Government's ambitious strategy for addressing the multi-faceted housing challenge.

Alignment of the NDP and NPF

This analysis was undertaken by economists in the National Investment Office in consultation with line Departments through the Project Ireland Coordination Group. The full paper was published alongside the NDP Phase 1 Report on gov.ie/2040.

Among the most important aspects underpinning PI2040 is the alignment of the NDPF and NDP.

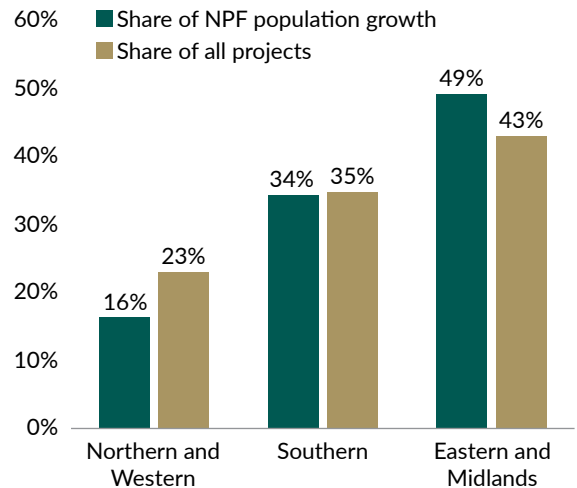
The data examined shows a clear spread in the number of investment projects across the three regions, largely in line with the NPF growth targets.

The regional cities in particular appear to have a lower share of investment projects over €20 million and €100 million compared to their planned growth, suggesting investment may be taking place in the wider regions rather than within the regional cities at present.

A range of measures were proposed including the establishment of PI2040 City Delivery Boards to drive investment in these locations in line with the NPF targets.

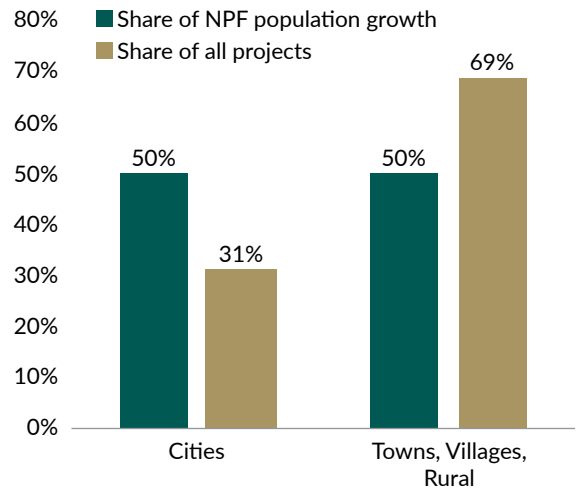
A number of Departments are due to update or develop sectoral investment strategies over the coming period and this will provide an opportunity to strengthen alignment with the NPF.

Figure 1.3: All Investment Projects by Region



Source: Department of Public Expenditure and Reform

Figure 1.4: All Investment Projects by Settlement



Source: Department of Public Expenditure and Reform

Reforming Oversight and Implementation

The Public Spending Code sets out the process by which individual investment projects are evaluated, planned and managed. The NIO has been continuously improving the Code to reflect leading international best practice in major programme management. A number of changes are now being made to the Code to further drive effective delivery:

An independent external review of projects over €100m is being introduced at two major decision gates in the project lifecycle (when the preferred delivery option to achieve the objective is chosen and before a decision is taken as to whether or not to approve a project to go to tender). A Major Projects Advisory Group is also being established to support DPER in assimilating the outputs from the external reviews, informed by the perspective of those who

have successfully delivered major public infrastructure in Ireland.

As a matter of good governance, the PI2040 Delivery Board is to be reformed with the introduction of four additional external members.

The Report of the Supporting Excellence Action Team will be implemented in full to improve capability of project delivery within the system.

The outcomes of the Action Team's work – and associated project governance reforms - are set out in Chapter 7 of this report.

1.4 Engagement and Communications

In addition to the extensive public consultation detailed above, a concerted effort has been made by the National Investment Office to ensure ongoing engagement with stakeholders in developing and considering the evidence base for the review of the NDP. This was facilitated through the InfraNet and the NIO's Annual Conference.

InfraNet

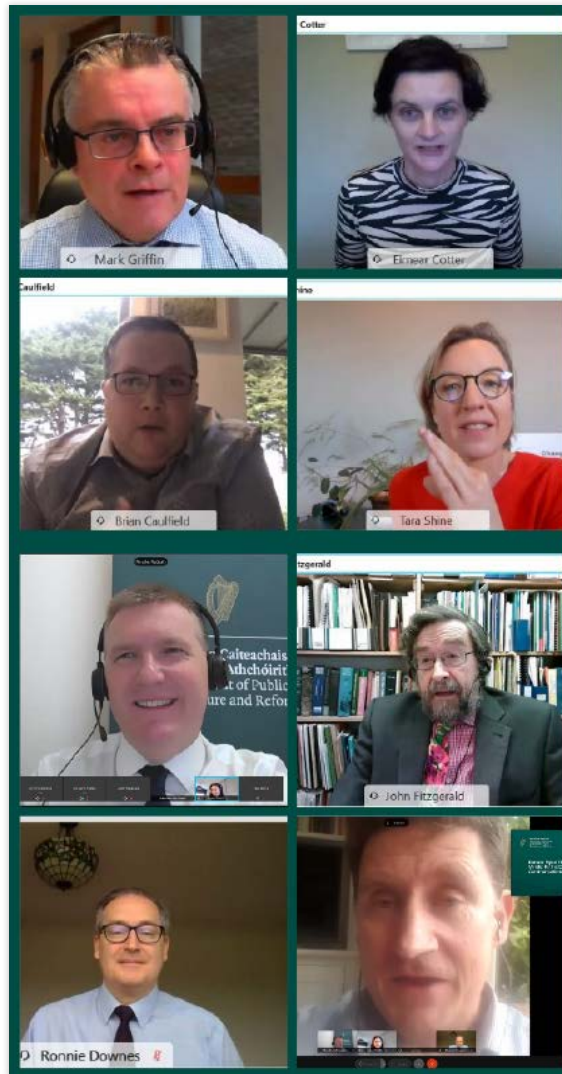
The InfraNet is a forum established by the NIO in DPER for experts to critically examine public investment delivery, governance, reforms and innovations.

On 26th November 2020, the NIO welcomed colleagues to a strategic information webinar on the theme 'Twin Tracks: Strategic Alignment of the National Planning Framework and National Development Plan – Challenges and Solutions'. The webinar was attended by over 160 participants from 67 organisations.

On 29th January 2021, another InfraNet webinar was held on the theme of 'Capital for Climate'. The webinar was attended by over 170 participants from 70 organisations.

These sessions were a fruitful exchange between policy-makers and experts in the context of the review of the NDP. The abstract and presentations for each event were published on gov.ie/2040.

Figure 1.5: InfraNet Webinar on 29th January 2021



NIO Annual Conference

The NIO's second annual conference – 'Nation Building: Ireland's Infrastructure Priorities' was held via Webex on Friday, 14th May, 2021.

- Against a backdrop of growing investment as part of PI2040, the conference was intended to:
- Provide a forum to explore the themes arising from *Review to Renew*, the public consultation of the Review of the NDP.
- Consider strategic foresight in capital expenditure planning and investment.
- Engage with expert colleagues in other public sector and delivery bodies to explore key megatrends identified for Ireland and reflect on how we might seize new opportunities for growth and innovation.

The conference was attended by over 180 participants from 91 organisations.

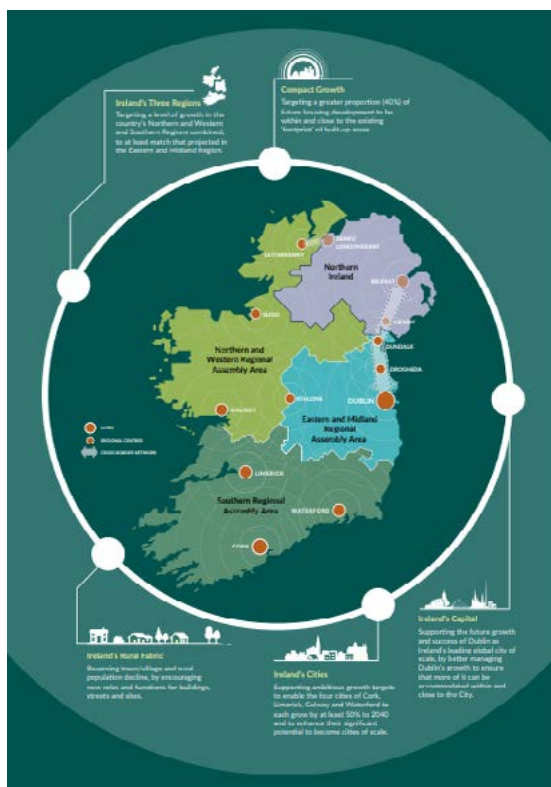
The ultimate objectives of the conference were to share experiences, build networks and support action on improving project delivery. The conference served as a platform for sharing experiences at different levels, from international organisations to local delivery agencies.

1.5 National Planning Framework

The NPF was published in 2018 following extensive research, consultation and environmental assessment processes. It sets out a spatial hierarchy of urban centres that are programmed for significant population and economic growth over the plan period. These include the five cities together with five regional growth centres across the country.

Within two years of the adoption of the NPF, in their Regional Spatial and Economic Strategies, the three Regional Assemblies (see figure 1.6) similarly designated various settlements for prioritised growth and as a focus for investment. The purpose of this is to identify accessible centres of scale that will be a focus for regional and rural development and to set a framework for local authority development plans.

Figure 1.6: Ireland's Regions, Cities and Regional Centres as detailed in the NPF



Source: National Planning Framework

The NPF establishes medium-long-term targets for population growth to 2040 as follows:

- 25 per cent is planned for Dublin, balanced to recognise its role as a key international and global city of scale and principal economic driver.
- 25 per cent across the other four cities combined (Cork, Limerick, Galway and Waterford), enabling all four to significantly grow their population and jobs by 50-60%, and become cities of greater scale, i.e. a combined growth rate twice that of Dublin and twice that of the previous 25 years to 2016.
- The remaining 50 per cent of growth to occur in key regional centres, towns, villages and rural areas, as determined in the Regional Spatial and Economic Strategies (RSEs) and local authority development plans.
- 50 per cent city growth is to be infill or brownfield in order to take advantage of underutilised land and reduce urban sprawl.

Since the adoption of the NPF in 2018 a range of supporting measures have been progressed, including: the establishment of the Office of the Planning Regulator (OPR); the roll-out and implementation of the Urban Regeneration and Development Fund (URDF), and the initial establishment and work of the Land Development Agency (LDA). Further details on this implementation can be found in the PI2040 Annual Reports.

To underpin NPF population targets, a detailed assessment of structural housing demand identifies demand for almost 400,000 new homes in Ireland between 2020 and 2031, or 33,000 new homes per annum. At city and county level, this is broken down to form a Housing Supply Target (HST) for each local authority area, to guide planning for future development. It also forms the basis for a 'Housing Need and Demand Assessment' (HNDA) process, to identify housing need by tenure type.

The National Marine Planning Framework (NMPF) was adopted as a parallel strategy to the NPF for Ireland's maritime area in 2021. The NMPF has a sectoral focus and addresses policies and objectives for marine activity and development, similarly setting a framework to 2040.

Among the most important aspects underpinning PI2040 is the alignment of the NPF and NDP. A point-in-time assessment of this alignment was carried out in phase 1 of the NDP Review. This alignment is ongoing with a number of Departments due to update or develop sectoral investment strategies over the coming period which will provide an opportunity to strengthen that alignment over time. The data examined showed a clear spread in the number of investment projects across the three regions, largely in line with the NPF growth targets. However the regional cities in the data at that point appeared

to have a lower share of investment projects over €20 million and €100 million in comparison to their planned growth, suggesting that the focus of investment may be across the wider regions rather than on or within the regional cities. A number additional actions are in progress to address this including the establishment of PI2040 City Delivery Boards, to drive investment in these locations in line with the NPF targets.

Table 1.1: National Planning Framework targeted pattern of city population growth

	Population 2016	% Population Growth to 2040	Minimum Target Population 2040
Dublin	1,173,000	20-25	1,408,000
Cork	209,000	50-60	314,000
Limerick	94,000	50-60	141,000
Galway	80,000	50-60	120,000
Waterford	54,000	50-60	81,000

Source: National Planning Framework

A review of the NPF is planned to take place by 2024 and will provide a timely opportunity to assess any structural developments which have occurred since its adoption in 2018.

1.6 Impacts of Covid-19

The long lasting impacts of Covid-19 will take time to manifest and assess. Understanding what this means for public infrastructure requirements and investment decisions over the next ten years is challenging given the high degree of uncertainty.

In the short-term there have been a range of direct investment requirements due to Covid-19. In the health sector in particular there was the requirement to provide additional capacity and space in acute health care settings. Many Local Authorities, particularly in urban areas have enlarged pavements, changed traffic systems and opened pedestrian friendly streets to make more space for social distancing and outdoor dining.

In terms of medium- to long-term structural impacts, an increased prevalence of people working from home will enhance the demand for high quality broadband throughout the country. If that is the case it would reduce the relative demand for public transport services in to city centre locations where offices may be located.

There has been some opinion and narrative questioning the rationale for high density parts of our cities and towns, with particular reference to health and the ability to work remotely, in a post Covid-19 environment. However, it is simplistic to link such mass movements of population to health concerns

and remote working alone. Such large societal shifts are influenced by a range of factors, such as increased transport mobility via road and rail infrastructure, the affordability and availability of housing, changing demographics, the nature of work and employment policy. In recent decades, while Ireland’s rural population has grown, there has been a trend toward urban consolidation largely arising from a growing population that wishes to be located closer to amenities, services and employment opportunities.

This is reflective of underlying ‘megatrends’, that have been with us since before the pandemic and which have been accelerated by Covid-19. The NPF strategy means that Ireland has a national spatial framework in place to shape how we respond to climate change, the more rapid ageing of our population than at any previous time and the disruptive influence of digitalisation on how and where we live and work.

There are some signs that the lasting impact of the pandemic will assist regional growth objectives, particularly those focused on towns. Predications of ‘the death of the city’ may be overstated. There are short, medium and longer term implications for the future of cities and towns as well as regions and rural areas that will need to be monitored to inform appropriately tailored future policy responses.

1.7 Economic Recovery Plan

The Economic Recovery Plan (ERP), launched on 1 June 2021, set out a new phase of supports and policies to drive a jobs-rich recovery, and to position the economy for the twin green and digital transitions.

The Plan provides stability and certainty for businesses and employees over the short to medium term by continuing to provide substantial labour market and enterprise supports through the early part of economic recovery from the pandemic and by providing targeted supports for worst-affected sectors.

The Plan is rooted in an overall ambition of exceeding pre-crisis employment levels by reaching 2.5 million people in work by 2024. Crucially these jobs will be more productive, innovative, resilient, secure, valued, and in new areas of opportunity.

The ERP therefore brings together policies and initiatives to drive an immediate economic recovery, with those setting Ireland on a pathway towards a renewed future proofed economy through policies and investments focused on long-term capacity and sustainable growth.

The four main areas of focus set out in the ERP include helping people back into work through intense activation and skills opportunities; re-building sustainable enterprises through targeted supports and policies to make enterprises more resilient

and productive; ensuring a balanced and inclusive recovery through strategic investment, regional development and improving living standards; and sustainable public finances for a lasting recovery.

In addition to substantial funding for labour market, enterprise and sectoral supports, the Plan is underpinned by further strategic investment through Ireland's National Recovery and Resilience Plan, with relevant projects rooted in advancing the green transition, accelerating and expanding digital reforms and transformations, and recovery and job creation, integrated throughout the Plan.

The central focus of the plan is the generation of employment through supporting new areas of opportunity and strategically investing in Ireland's long term economic and social capacity. To this end, the Housing for All Strategy, Climate Action Plan, and in particular the revised National Development Plan, are paramount.

Investment under the revised NDP will support the strong emphasis on regional development, a balanced and inclusive recovery, and the over-arching focus on climate, in the Economic Recovery Plan. In doing so, it will generate local employment and support substantial direct and indirect regionally dispersed job creation over a sustained period of time.

1.8 UN Sustainable Development Goals

In September 2015, UN Member States adopted the 2030 Agenda for Sustainable Development ("Transforming our World"). The 2030 Agenda is a plan of action for people, planet and prosperity and applies to both developed and developing countries. The focus of the 2030 Agenda is the 17 Sustainable Development Goals (SDGs) and their respective 169 sub-targets.

The SDGs cover ambitions such as:

- an end to poverty
- sustainable economic development
- protection of the environment
- access to health and education services
- gender equality
- peaceful societies
- decent work

The agreement of the 2030 Agenda and the Paris Agreement on Climate Change made 2015 a landmark year in international cooperation towards a sustainable world, and the Department of Environment, Climate and Communications (DECC) plays a key role in both agendas.

Sustainability continues to be at the heart of long term planning and investment as demonstrated by the significant alignment between the UN SDGs and PI2040's NSOs in areas such as climate action, clean energy, sustainable cities and communities, economic growth, reduced inequalities and innovation and infrastructure, as well as education and health.

In order to meet the 2030 objectives, a 'whole-of-government' approach has been taken in Ireland with each Minister being given specific responsibility for implementing individual SDG targets related to their Ministerial functions. DECC has overall responsibility for promoting the SDGs and overseeing their coherent implementation across Government. SDG National Implementation Plans developed by DECC set out arrangements for interdepartmental coordination, stakeholder engagement and periodic progress reporting on all 169 targets. The second National Implementation Plan is currently being developed and will focus on improving policy coherency across the Goals and increasing engagement with the SDGs across sectors and society.



Source: United Nations

1.9 Structure of this Report

This Report details an ambitious yet credible plan to continue the transformation of Ireland’s economic, environmental and social infrastructure in the years to 2030. The analysis builds on the findings set out in the Phase 1 report and documents the rationale for investment, the overall funding strategy, sectoral priorities and strengthened arrangements for delivery.

The structure is as follows:

- Chapter 2 details highlights of the economic and social benefits of investment
- Chapter 3 outlines the Climate Action context surrounding the NDP and assesses the potential contribution of various investment programmes
- Chapter 4 describes the overall funding context including the prioritisation of public capital investment to achieve strategic national priority objectives
- Chapter 5 sets out the framework through which investments are selected, appraised and monitored under Project Ireland 2040.
- Chapters 6 - 16 document the sectoral investment strategies and priorities designed to achieve each of the National strategic Objectives committed to PI2040
- Chapter 17 sets out investment plans relating to the Shared Island Initiative.
- Finally, Chapter 18 lays out plans to strengthen project delivery arrangements in order to achieve maximum value for money for tax payers’ investment.

Taken together, the contents of this Report represent an ambitious vision, backed by prioritised funding and enabled by efficient and effective delivery which can transform our national economic, social and environmental prospects.



Chapter 2:

Benefits of Investment

2.1 Introduction

Well targeted public capital investment can have a transformative impact on employment opportunities, economic development and regional growth. This chapter quantifies some of the benefits of the planned investment in the NDP for 2021-2030, as well as examining a number of case studies highlighting the positive impacts of capital investment made in recent years across all regions and in sectors including innovation, transport, health and education.

2.2 Socio-Economic Benefits

The literature relating to public investment suggests that the primary economic benefit from such investment is derived from its long-term impact on productivity, thereby increasing the State's economic capacity. Public investment can also “crowd-in” additional private investment in a region. A meta-analysis carried out by Bonn and Ligthart (2014) found that increasing the public capital stock has a positive and significant effect on output. Investment in infrastructure can increase competitiveness by reducing costs e.g. through improved transport and energy infrastructure, or through facilitating innovation such as through the delivery of broadband and education.

Economic theory and research provides a clear justification for Government intervention in the provision of public infrastructure. The case for such intervention is arguably stronger now in 2021 compared to 2018 in light of the economic challenges facing the country and the higher levels of unemployment facing the country. Previous research produced by Irish Government Economic Evaluation Service (IGEES) in 2015 showed that public capital investment can have a strong jobs multiplier effect. An update of that research is summarised in section 2.3.

Public capital investment also plays a major role in supporting the delivery of key public services and promoting the achievement of vital socio-economic objectives by connecting citizens to productive opportunities and serving as a catalyst for inclusive growth by supporting the greater integration of individuals and households into social and economic life.

For example, greater public investment in areas such as education and health can also have a positive impact on inequality:

- Households on low incomes are financially constrained and tend to consume less health and have worse outcomes in terms of life expectancy. Equitable access to health can increase productivity and earning potential, and thus decreasing income inequality.
- Better access to education allows individuals to invest in human capital, increases productivity, promote social mobility, and this benefits the overall economy.

Making good quality schools and healthcare more accessible to households on low incomes can, therefore, help to reduce inequality.

Infrastructure investment is seen as main cornerstones to regional development. This investment is utilised in Rural Ireland for town and village regeneration, investment in depopulated areas, improvements in regional and local transport and road infrastructure, investment in transport services, flood relief measures, and funding for tourism, culture and heritage projects. This will allow rural Ireland to retain and attract people to the area, and also attract new enterprises, assisting in diversifying rural economies into new sectors.

2.3 Employment and output Effect

Construction

As part of the review of the NDP, the National Investment Office (NIO) carried out an analysis to calculate the employment and output impacts as a result of public capital investment for the period between 2021 and 2030.¹ Using data produced by the CSO it is possible to estimate the downstream impacts of economic activities. The basic premise is that every euro invested has a direct impact in the construction sector *and* indirect impacts throughout the economic sector's supply chain. This section sets out the employment impact (direct jobs supported in construction firms delivering public projects and indirect jobs sustained throughout the supply chain) and the output impact (including both direct output in the construction sector and knock-on changes in demand in the supply chain).

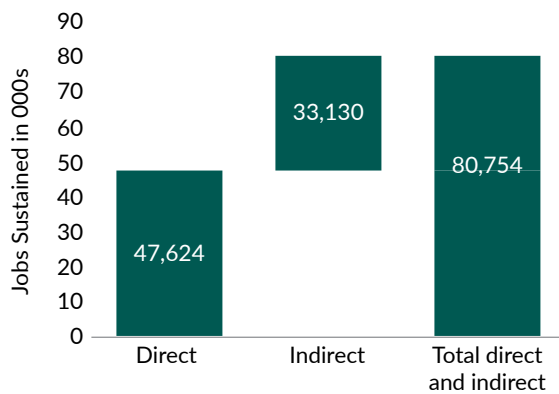
The paper estimates that for a €1 million increase in construction expenditure, direct and indirect employment (employed and self-employed) in construction will increase by approximately 8 job years². Therefore, if a construction project worth €10 million lasts for one year then it supports around 80 construction jobs for a one-year period.

The analysis estimates that an annual average of up to 80,754 direct and indirect construction jobs (including both employed and self-employed) will be sustained as a result of public investment over the period 2021 to 2030. The breakdown between direct and indirect are presented in figure 2.1.

¹ The full analysis can be found in the paper entitled 'Public Capital Programme 2021 – 2030: Labour Intensity of Public Investment', which is published alongside the NDP.

² The jobs in this instance are defined in terms of “job years” and can be explained by the following example; If a construction project worth €10 million lasts for one year then it supports around 80 construction jobs for a one-year period. If a project worth €10 million lasts for two years then around 40 construction jobs would be supported for a two-year period. In both cases there would be 80 job-years supported by the investment

Figure 2.1: Average annual direct, indirect and total jobs sustained from public construction investment over 2021 – 2030

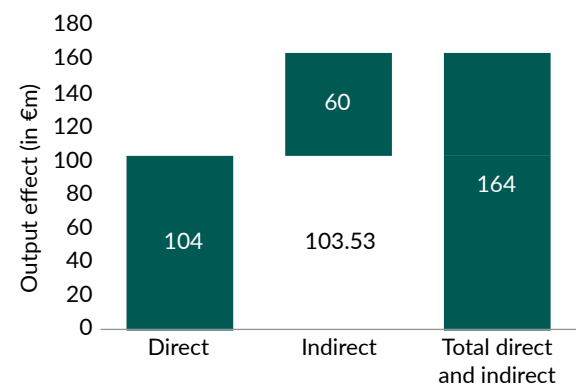


Source: NIO Calculations, using CSO Data

It is important to note that the analysis which produced these estimates has a number of limitations and caveats which are set out in detail in the accompanying paper being published on gov.ie/2040; firstly, the analysis calculates direct and indirect jobs, but not induced and catalytic job i.e. the analysis calculates the construction worker working on site, and those involved in the manufacture and supply of materials being used, but not the jobs supported in shops or restaurants close to the building site during the construction phase or the jobs supported from economic growth opportunities caused by better economic and social infrastructure. Secondly, for the construction sector, many construction multipliers were calculated in the paper for subsectors of construction i.e. construction of road & railways, construction for utility projects etc., however only one construction multiplier has been utilised for the final calculation to determine the jobs created as a result of public capital investment. Thirdly, these estimates had to be constructed with 2015 data as this is the most recently published Input-Output data, with revised data not due until 2022. Finally, given the elevated levels of construction tender price inflation in Ireland since 2015 the jobs estimates in this analysis are likely to slightly overestimate the current and future impact of investment.

Figure 2.2 shows the breakdown for direct and indirect output effect of construction spending 2021 – 2030. It is seen from the chart below that €104 billion direct spending in construction generates a further €60 billion in indirect output throughout the supply chain.

Figure 2.2: Direct, indirect and total output effect from public construction investment over 2021 – 2030



Source: NIO Calculations, using CSO Data

The impacts represent a significant economic impact in the Irish economy over the term of the NDP. Further detail, including assumptions and limitations of this analysis is set out in the accompanying paper 'Public Capital Programme 2021 – 2030: Labour Intensity of Public Investment', which is published alongside the NDP.

Enterprise

In addition to the direct and indirect jobs created from the construction of public infrastructure, significant job creation will also be delivered over the course of the NDP through the capital expenditure of the Enterprise Agencies within the Department of Enterprise, Trade and Employment (DETE).

Enterprise Ireland's primary remit is to assist and grow indigenous companies engaged in manufacturing and internationally traded services, through a network of 10 national and 40 international offices. Enterprise Ireland is currently developing its multi-year strategy for 2022-2024. The strategy will be complete by year end and will set targets for job creation and overall employment. At this time, for the period 2021 - 2025, Enterprise Ireland projects that 70,000 jobs are likely to be created over this period.

The Local Enterprise Offices will have a strategic ambition of 15,000 net jobs and client transfers during the period from 2021-2025, taking into account the impacts of Covid-19 and Brexit and the strategic priorities of Entrepreneurship, Competitiveness and Digitalisation, Sustainability, Innovation and Exporting.

In the period to the end of 2024, IDA Ireland will target and win 800 investments, to support client job creation of 50,000 to contribute significantly to national job creation goals. Its sectors of focus will be Technology; Content, Consumer and Business Services; International Financial Services; Biopharmaceuticals & Food; Medical Technologies;

and Engineering & Industrial Technologies. These investments will be for the main regional cities and the regional growth centres identified in the NPF – Dublin (400), Border (25), Mid-East (40), Mid-West (76), Midlands (25), South-East (40), South-West (118) and West (76).

IDA Ireland client companies employ over 257,000 people across the country, accounting directly for 10 per cent of the workforce at the end of 2019 and a higher share of approx. 12 per cent in 2020 due to the impact of Covid-19 on total employment nationally. Additionally, eight jobs are created in the economy for every ten created by IDA Ireland client companies, amounting to total direct and indirect employment of over 463,000 - approx. one quarter of employment in the private sector.

2.4 Increased Growth, Employment and Wages

As the previous sections have outlined, public investment in capital expenditure can have a range of positive impacts. This can include increasing productivity, economic growth and job creation.

Using the Economic and Social Research Institute's COSMO (COre Structural MOdel of the Irish economy) it is possible to project the economic impact of the planned *increases* in public investment as set out in the new National Development Plan for the period 2021-2030. COSMO models the behaviour of the economy in a small open economy framework and has a theoretically-founded structure and specification. COSMO takes the public sector and private sector into account. Furthermore, the treatment of private borrowing, debt accumulation, open labour market, competitiveness, world demand, consumption decisions and the financial system are taken into account.

In 2021, core Exchequer capital expenditure in Ireland is €9.7 billion, the highest level in the history of the state. Non-Exchequer capital expenditure is €2.8 billion.

The table below shows the average effects on the Irish economy of the additional public investment resulting from the implementation of the NDP for the 2021 – 2025 and 2025 – 2030 periods, in comparison with a Baseline Scenario where public investment remains fixed at 2021 levels. For example, on average for every year of the 2021-2025 period, GDP will be 1.1 per cent larger than in a situation where public investment was constant at 2021 levels.

Table 2.1: COSMO Impacts of Increased Investment

Per cent deviation from Baseline Level:	2021- 2025	2025 - 2030
GDP at basic prices	+1.1%	+1.6%
Employed persons	+1.5%	+3.0%
Total Wages	+1.8%	+3.1%

Source: ESRI

Overall, according to COSMO, the planned increases from 2021 onwards in capital expenditure in this NDP will result in:

- GDP (basic prices) to increase by 1.6 per cent more by 2030 than if investment remained constant at 2021 levels.
- Employed people to increase by 3.0 per cent more by 2030 than if investment remained constant at 2021 levels.
- Total wages are expected to increase by 3.1 per cent more by 2030 than if investment remained constant at 2021 levels.

While these results are based on robust and sophisticated modelling, they provide a top-down assessment of the planned investment under the new NDP. The following case studies provide bottom-up examples of the impacts from such public investment.

2.5 NDP Case Studies

As noted above in the introduction to Chapter 2, well-targeted public capital investment can have a transformative impact on employment opportunities, economic development and regional growth.

The following section examines a number of capital investment case studies over recent years. The case studies highlight, amongst other issues, the rationale, objectives, impacts, cost and governance structures in investments such as health, transport, innovation, and education.

These case studies give a tangible insight into the investments which have been delivered by public investment and the positive outcomes they can deliver.

Further detail on each of the eight case studies is available in a standalone publication which will be available on gov.ie/2040.

Case Study 1:

Cork University Hospital Radiation Oncology Department



(Glandore Centre)



Location:

Southern Region – Cork City

Main Contractor Procurement:

2016

Project Completion:

2019

Cost:

€51.2 million

Approving Authority:

Department of Health

Sponsoring Agency:

HSE

Overview

- The Glandore Centre at Cork University Hospital (CUH) delivers healthcare infrastructure in line with the National Cancer Strategy 2017-2026.
- The Radiation Oncology Department's Glandore Centre was constructed between 2018 and 2019.
- The total cost of the project was €51.2 million.

Objectives

- To support two principal health objectives outlined in the National Cancer Strategy 2017-2026, namely:
- To take all measures possible to reduce rates of illness and death from cancer, in line with Strategy targets, and,
- To ensure that those who develop cancer receive the most effective care and treatment, and that their quality of life is enhanced to the greatest extent possible.

Impacts

- The Radiation Oncology Department at CUH serves Cork, Kerry, Waterford and South Tipperary, and CUH provides cancer care to circa 2,000 patients annually.
- Approximately 150 people were employed during construction of the Centre.
- The use of new linear accelerators reduces treatment times for patients from 12-15 minutes to just 2.5 minutes.

Case Study 2:

Hooke Bio Ltd., Shannon, Co. Clare



Disruptive Technologies Innovation Fund (DTIF)



Location:

Southern Region - Clare, Cork

Northern and Western Region
- Galway

Project Completion:

Research ongoing

Cost:

€1.9 million

Approving Authority:

Department of Enterprise,
Trade and Employment

Sponsoring Agency:

Enterprise Ireland

Overview

- The Disruptive Technologies Innovation Fund (DTIF) was established as part of Project Ireland 2040 and the NDP. €500 million has been allocated through the fund up to 2027 for co-funded collaborative projects.
- Hooke Bio Ltd in partnership with Munster Technological University (MTU) and NUI Galway (NUIG) is working on a project for High Throughput Microfluidic Drug Screening Platform Realisation.

Objectives

- To develop a fully integrated end-to-end high throughput drug screening platform.
- Reduce the need for animal testing for pharmaceutical safety screening.
- Provide more accurate pre-clinical testing models increasing the success of drug candidates going for clinical testing.
- Provide a platform that can be scaled to include other tissue types; and
- Be usable for screening of environmental and other non-pharmaceutical compounds.

Impacts

- The firm has six FTEs (Full-Time Equivalent) and two PTEs (Part-Time Equivalent) working on the DTIF project. There are three FTEs in NUIG (PhD students), as well as two FTEs and two PTEs in MTU also involved.
- This project will create further highly-skilled jobs in a regional location.
- To date Hooke Bio has successfully met its technical, strategic and cost milestones while adapting to the changing market environment.
- Hooke Bio's prototype device has attracted €2.2 million of seed funding and has won numerous awards including the 2017 Enterprise Ireland's 'Big Ideas One to Watch'.

Case Study 3:

Letterkenny and Creeslough Water Supply



Irish Water



Location:

Northern and Western Region
- Letterkenny

Main Contractor Procurement:
2017

Project Completion:
2019

Cost:
€24.1m

Approving Authority:
Department of Housing, Local
Government and Heritage

Irish Water

Sponsoring Agency:
Irish Water

Overview

- The water supply schemes at Letterkenny and Creeslough were listed on the EPA's Remedial Action List for inadequate treatment for Cryptosporidium and exceedances of Trihalomethane (THM) parametric values.
- Construction was completed on the two new water treatment plants (WTPs) in Q3 2019.
- The total cost of the project was €24.1 million.

Objectives

- To provide clean safe drinking water for the approximately 31,300 people supplied from the schemes.
- To enable the removal of the water supplies from the EPA's Remedial Action List.
- To progress trunk watermain upgrades and a new interconnector from Illies WTP to Letterkenny.

Impacts

- Both water supply schemes were removed from the EPA's Remedial Action List in Q4 2019.
- An estimated 34 direct jobs were sustained during the construction of the project.
- In addition to the water quality benefits, the Letterkenny project is supporting social and economic development in the region through the provision of additional water supply treatment capacity. Further works will be identified to cater for the 2040 population growth targets for Letterkenny.

Case Study 4:

Luas Cross City, Dublin City



Location:

Eastern and Midland Region – Dublin City

Main Contractor Procurement:

2015

Project Completion:

2017

Cost:

€382.5 million

Approving Authority:

Department of Transport

National Transport Authority (NTA)

Sponsoring Agency:

Transport Infrastructure Ireland (TII)

Overview

- Luas Cross City (LCC) was a significant extension of the existing Luas Green Line from its terminus at St. Stephen's Green, through the centre of Dublin city, to a new terminus at Broombridge train station.
- LCC commenced operation on programme on 9 December 2017 at a cost within 4 per cent of its budget, which was set in 2012.
- The construction contract outturn cost was €382.5 million (2019).

Objectives

- Connect the capital's two main shopping streets, Henry Street and Grafton Street.
- Create a Luas Network.
- Increase penetration of the Luas system into the city centre.
- Provide a high quality public transport service to the new Technological University campus at Grangegorman (TUD) that will cater for 20,000 students.
- Interchange with the Maynooth / Sligo mainline rail at Broombridge.

Impacts

- In terms of employment, Luas Cross City supported up to 800 jobs during the construction period. Over 100 jobs created to operate and maintain the extended line.
- The LCC provides enhanced tram passenger capacity to 6,400 passengers between Sandyford and St Stephen's Green.
- Luas provided tram services to over 48 million passengers in 2019 (increase of 15.6% over 2018; Pre-COVID-19).
- Enhanced public realm, traffic signal controllers, public lighting, and untangling and renewal of services.

Case Study 5:

Waterford Greenway



Location:

Southern Region – Waterford

Various Contractor

Procurements:

2014 – 2017

Project Completion:

2017

Cost:

€21 million

Approving Authority

Department of Transport

Sponsoring Agency:

Waterford City and County Council

Overview

- The Waterford Greenway is a 46km off road cycling and walking trail along the old railway line between Dungarvan and Waterford City.
- The Greenway was constructed in phases between 2014 and 2017.
- The total cost of the Greenway was €21 million; €16 million funded by Waterford City & County Council, and €5 million from the Department of Transport.

Objectives

- To attract more visitors to Waterford and key attractions such as the Viking Triangle in Waterford City, Mount Congreve Gardens, the Suir Valley Railway, and towns along the route such as Kilmacthomas and Dungarvan.
- To strengthen the rural communities and economies along the Greenway.
- To provide a sustainable mobility route for commuters.
- To contribute to the population growth targets in the National Planning Framework.

Impacts

- Over 280,000 trips by the public each year, supporting social and economic enterprises.
- Approximately 30-40 direct jobs were sustained over the three years of its construction.
- Economic benefits linked to the Greenway include increased demand for accommodation (1 new hostel, 8 new B&Bs), food (8 new restaurants), bike hire (5 new firms), and at least 139 new jobs.

Case Study 6:

Grangegorman Development



Location:

Eastern and Midlands Region – Dublin City

Various Contractor Procurements:

2010 – Ongoing

Project Completion:

Construction in progress

Cost:

Circa €500m (to date)

Approving Authority:

Department of Further and Higher Education, Research, Innovation and Science (DFHERIS) and other bodies, dependent on funding source and nature of project

Sponsoring Agency:

Grangegorman Development Agency

Overview

- Grangegorman is a 30 ha (73 acres) site in Dublin's North Inner City, just over 1km from the city centre.
- Two significant buildings, the East and Central Quads were completed under a PPP contract in December 2020 and March 2021 respectively.
- Other projects completed to date include major site infrastructure works, amenity spaces, conservation and repurposing of protected structures, the Greenway Hub research and innovation building, the HSE Phoenix Care Centre and a primary care centre.
- Investment in the site to date and projects currently in planning and procurement amount to almost €1 billion.

Objectives

- Redevelopment of a brownfield site close to Dublin city centre.
- Conservation and protection of the site's rich architectural heritage.
- Construction of a purpose-built city campus for TU Dublin, bringing some 22,000 students and 2,000 staff together at a single location.
- Provision of high quality mental health and community health care services.

Impacts

- Grangegorman will be directly used in 2021 by upwards of 15,000 people for education and health services, and as a place of employment.
- Approx. 700 jobs are supported per month through construction, including an average of 35 local persons in line with the Grangegorman Employment Charter.
- The development of the site has been strongly complemented by the completion of LUAS cross-city, making the site very accessible by public transport.

Case Study 7:

gteic@An Spidéal, Co. Galway

Digital and Innovation Hub



Location:

Northern and Western Region
- Galway

Main Contractor Procurement:
2019

Project Completion:
2019

Cost:
€847,508

Approving Authority:
Department of Rural and
Community Development

Sponsoring Agency:
Údarás na Gaeltachta

Overview

- The Rural Regeneration and Development Fund (RRDF) was established as part of Project Ireland 2040 and the NDP.
- The gteic@AnSpidéal project was approved for funding of €548,887 from the first call for applications to the RRDF.
- The gteic digital hub was built by Údarás na Gaeltachta (An tÚdarás). The total cost was just over €847,000. The gteic opened in October 2019.

Objectives

- To stimulate job creation, assist remote working, encourage and enable the return of Diaspora na Gaeltachta, facilitate concept development and new business.
- Provide a vibrant, modern, high speed broadband facility for start-up and established enterprises.
- Support employment in the local area both directly and indirectly.
- Emphasis on the creative and digital media sectors.

Impacts

- There are currently seven companies, employing a total of 18 workers utilising the facility. A further seven remote workers are working out of the Hub as of May 2021.
- Some of the businesses using the premises include HiTech Health, Fíbin Media, ROSG, and Epiteal.
- gteic@An Spidéal is managing the effects of the Covid-19 pandemic, but there has been an impact on the expected initial growth of the Hub.

Case Study 8:

Lord Edward Street Social Housing, Limerick City



Location:

Southern Region – Limerick City

Main Contractor Procurement:

2015

Project Completion:

2017

Cost:

€19.6 million

Approving Authority:

Department of Housing, Local Government and Heritage

Sponsoring Authority

Limerick City & County Council

Overview

- The Lord Edward Street regeneration project in Limerick City was the site of the former Tait Clothing Factory, which opened in the 1850s and at one time was the largest clothing manufacturer in the world.
- The main construction project started on site in 2016 and was completed in 2017.
- The total cost of the regeneration was €19.6 million.

Objectives

- To deliver an aesthetically pleasing development that tackles urban dereliction
- To restore a historic area of the city
- To provide social housing
- To create a sustainable community

Impacts

- Lord Edward Street was officially opened in January 2018. The site provides high quality social housing and community facilities for its residents.
- Significant local employment generated, specifically targeting long term and youth unemployment.
- A total of 81 units have been built on this brownfield site close to Limerick city centre, comprising of 57 units for elderly residents (1 and 2 bed apartments, and 2-bed houses) with 24 units being family homes (3 beds).

Case Study 9:

Coláiste Chiaráin, Athlone



Photo: Corin Bishop Photography

Location:

Northern and Western Region
- Athlone

Main Contractor Procurement:
2018

Project Completion:
2020

Cost:
€24 million

Approving Authority:
Department of Education

Sponsoring Agency:
Department of Education

Overview

- This is a new 1,000 student post-primary school building project for Coláiste Chiaráin in Athlone. It includes facilities for a two classroom special education needs suite at the school.
- The project was delivered as part of the Department’s Design & Build Programme.
- The project commenced construction in April 2019, and the school building was completed and ready for occupation for September 2020. Some external landscaping works were completed in February 2021.
- The overall cost was €24m (incl VAT) which was within 5% of the approved tender for the project.

Objectives

- Future proof the town through supporting the NPF Objective of Athlone as a regional growth centre through the provision of modern school facilities and additional capacity to cater for increasing demographics.
- Provide new and modern school facilities for Coláiste Chiaráin which was set up following the amalgamation of St. Aloysius College and Summerhill College.
- Improve special education provision in Athlone through the incorporation of facilities for two special classes in the new school building.

Impacts

- Better and modern school facilities to support the education of students attending Coláiste Chiaráin - which include the full suite of school laboratories and other specialist rooms, and also a new large PE Hall facility.
- Contributes to the Climate Action agenda through the provision of a modern energy efficient new school building.
- Scope for facilities at the school to be made available for local community usage.
- Improved future proofing of Athlone from a capacity and special education needs perspective.



Chapter 3:

Climate Action and the Environment

3.1 Introduction

This chapter details the climate and environmental assessment of the NDP Review and, how the funding arising from the increases in the carbon tax will be allocated, sets out the Department of Public Expenditure and Reform's ongoing development of the Public Spending Code and assesses the allocations made in the National Development Plan Review against international best practice principles for a green recovery plan.

3.2 Context

The publication of the National Development Plan (NDP) in 2018 represented a step change in the Government's commitment to tackle climate change. In the three years since the plan's publication, the urgency of the climate and biodiversity emergency the world faces has only grown starker. The UN's Intergovernmental Panel on Climate Change's (IPCC) sixth assessment report was published on the 9th of August 2021 and makes the unequivocal conclusion that climate change is widespread, rapid, and intensifying.

However, the IPCC report also offers hope. It notes that if deep reductions in CO₂ and other greenhouse gas emissions are made rapidly enough, then temperature rises will remain limited and the worst damage can be avoided. The Irish Government is fully committed to playing its part to ensure that this future is the one the world looks forward to.

This commitment is underpinned by international agreements, action at EU level and through domestic legislation. Since the publication of the last NDP the enactment of the Climate Action and Low Carbon Development (Amendment) Act 2021 sets out a legislative requirement to achieve a climate resilient, biodiversity rich and carbon neutral economy in Ireland by no later than the end of 2050. This is accompanied by a further legislative commitment to reduce total greenhouse gas emissions by 51 per cent by 2030 (as compared to 2018 levels). This is fully aligned with the EU's commitment to reduce greenhouse gas emissions from the continent by at least 55 per cent by 2030.

The specific targets Ireland must reach on the path to these commitments will be set out in a series of carbon budgets to be proposed by the Climate Change Advisory Council. From these national carbon budgets, the Government will set specific emissions ceilings for sectors of the economy. The actions that must be taken to reach these sectoral emissions ceilings will be detailed in Climate Action Plans, which will now be published on an annual basis. Ministers will be accountable directly to the Oireachtas for performance towards their respective sectoral targets.

The allocations made in the NDP Review were made in this context. It is a plan that provides for the development of a compact, connected and sustainable Ireland. The investments planned will provide for the decarbonisation of society, while meeting the needs of a population that will be 1 million larger by 2040, compared to 2016. High level summaries of the measures that Departments will implement with the available NDP resources are outlined under each National Strategic Objective.

However, it is not the role of the NDP Review to set out a specific blueprint for the achievement of Ireland's climate targets. Rather, the Departments in receipt of the capital investment allocations for the climate and environmental strategic priorities they have identified are now directly responsible for developing a detailed suite of policies and measures to maximise the impact of this planned investment. It is the effective implementation of these policies, which will need to blend regulation, behavioural change and taxation measures with direct Government investment that will lead to the achievement of Ireland's climate ambitions.

This must be done in a manner that is fair and just, with costs shared equitably. Climate policies should seek to protect the most vulnerable and avoid exacerbating existing inequalities.

Decarbonising the economy will open up new employment and enterprise opportunities. This will mean new jobs, new skills, new investment opportunities and a chance to create a more productive and resilient economy. It will also necessitate targeted supports to help citizens, communities and regions to realise the benefit of these opportunities and supports for particularly impacted groups, regions and communities. This commitment to achieving a Just Transition is core to Government climate policy.

3.3 Climate and Environmental Assessment of the NDP Review

As an integral part of the NDP Review, for the first time ever, an assessment has been undertaken of the impact that each of the Exchequer-funded measures contained in the NDP is likely to have on climate and environmental outcomes.

When developing measures for inclusion in the NDP, Departments were asked to undertake a qualitative self-assessment of the impact each measure is likely to have on seven specified climate and environmental outcomes. These outcomes are:

- **Climate Mitigation** – the likely impact of the measure on greenhouse gas emissions;
- **Climate Adaptation** – the contribution the measure will make to Ireland's climate resilience;
- **Water Quality** – any difference the measure may make to pollution levels in waterways;
- **Air Quality** – any difference the measure may make to air pollution levels;
- **Waste & Circular Economy** – what change in waste levels might be expected of the measure;
- **Nature & Biodiversity** – what impact the measure may have on biological diversity;

- **Just Transition** – will the measure contribute to employment that is compatible with Ireland’s long term climate and environmental objectives?

Each measure was assigned a score against each outcome (with the exception of Just Transition), ranging from +3 to -3, based on the projected impact the measure would have on the outcome. Based on the sum of these scores, the measure was then assigned a category depending on whether the cumulative score the measure received was positive, zero or negative. The category each measure falls into is highlighted at the end of each National Strategic Outcome.

Category A indicates that the measure in question is likely to have, on balance, a favourable impact on climate and environmental outcomes. Category B indicates that the measure will likely have no significant impact on climate and environmental outcomes, or that any favourable impacts may be offset or balanced by some unfavourable impacts. Finally, Category C indicates that the measure may have a net unfavourable impact on climate and environmental outcomes.

An accompanying paper to this review provides a thorough explanation of the process that was engaged in to reach conclusions on the expected impact of each measure. It also summarises the overall results of this assessment and offers guidance on the interpretation of the results. Finally, to illustrate how the process worked in practical terms, the assessment paper notes how rankings for certain thematic areas of capital expenditure were arrived at.

This is the first time the Government has attempted to undertake a systematic climate and environmental assessment of all capital expenditure plans. The national approach to assessments of this nature will be continually refined based on international best practice, which is emerging through Irish participation in initiatives like the OECD Paris Collaborative on Green Budgeting and the Coalition of Finance Ministers for Climate Action. It is however necessary to start by engaging in a systemic process for this NDP review. This encourages Departments to consider the wide climate and environmental impacts of all their spending plans and builds a base which can be built upon.

This review is by no means definitive. A net favourable categorisation does not mean that a measure will have no unfavourable impacts on climate and environmental outcomes. Similarly, measures that are categorised as potentially having an unfavourable net impact may still deliver very significant benefits to wider societal objectives. These assessments are not intended to signal that favourably categorised measures should be prioritised or that unfavourably categorised measures should not proceed.

Supporting the growth projected in the NPF requires capital investment. Ireland needs to prepare to support an additional 1 million people living in the country by 2040 compared to 2016 and with that, there is a need to create 660,000 additional jobs and at least 550,000 more homes. Some of the investment required to enable this will likely have unfavourable impacts on climate and environmental outcomes. Assigning these investments an unfavourable categorisation merely acknowledges the reality of the likely climate and environmental impacts of this expenditure.

However, eliminating these investments and hence, failing to provide for the infrastructure needs of our current and future populations, will not solve the climate and biodiversity emergency. Rather, inadequate infrastructure may hold back the country’s ability to finance the very significant climate investments that will be required right across the economy. In addition, it is possible that investment in infrastructure that is today assessed as likely to have an unfavourable impact on greenhouse gas emissions, may change over time as the sectors of the economy this infrastructure supports decarbonise. The adverse impact of a new road on greenhouse emissions for example, will be mitigated, to some degree, once vehicle fleets are fully transitioned to electric vehicles powered by fully decarbonised electricity supplies.

An unfavourable assessment is a signal that there should be an increased focus on ensuring that the climate and environmental impact of this investment is minimised in so far as is possible. Where feasible, Departments should go beyond the minimum requirements imposed by legislation and put in place complimentary measures that can offset or negate any potentially unfavourable impacts that have been identified. Where this is not possible, it demonstrates the need to have regard to specific additional measures which can offset the unfavourable climate and environmental consequences of these expenditures.

It should also be noted that many of the measures included in the NDP Review are under development and all measures will still be subject to the full rigour of the Public Spending Code. This requires, amongst other matters, a detailed quantitative assessment of the specific impact on greenhouse gas emissions a measure will have.

3.4 Carbon Tax Allocation

Placing a price on carbon is universally regarded as one of the most important tools for fighting climate change. The 2018 Citizen’s Assembly on climate change gave unequivocal support to the implementation of a gradually rising carbon tax, with 80 per cent of participants willing to pay higher taxes on carbon intensive activities. This view was endorsed

by the Climate Change Advisory Council, who have called a rising carbon tax an “essential component of achieving decarbonisation.”

The Programme for Government committed to a gradually raising carbon tax over the next decade to reach €100 a tonne by 2030. This commitment was given a legislative basis in the Finance Act of 2020. A predictable schedule of carbon tax increases allows households and businesses to plan for increases in carbon tax. The idea that carbon will become steadily more expensive over time will change investment decisions made today, ahead of the implementation of these increases.

A carbon tax is not and will never be the Government’s only response to climate change. It is one tool in the arsenal and it is a particularly important tool in the context of this review, because all of the revenues raised by the planned increases in the carbon tax will be used to support increased Government spending.

Over the period 2021 – 2030 the planned carbon tax increases may allow for €9.5 billion in additional revenue. Placing the commitment to raise the carbon tax into legislation allows for multi-annual planning on the use of the resulting funds. This is spending that could not have been made were the carbon tax not increased.

€5 billion of the expected €9.5 billion in additional carbon tax receipts will be invested in energy efficiency. This funding will underpin the forthcoming National Retrofit Plan which is an integral part of the Climate Action Plan that will be published later this year. As noted in NSO 8, this Plan will lead to an enhanced and modernised system of grant schemes that will support householders to improve the energy efficiency of their homes. This investment in energy efficiency will have multiple benefits for society. It will make homes warmer, healthier and more comfortable to live in. It will permanently reduce greenhouse gas emissions and it will create thousands of additional jobs.

Within the retrofit plan there will be a particular emphasis on inclusion, equity and fairness to ensure that all parts of society can reap the benefits associated with the transformation of the built environment.

The remaining €4.5 billion in additional carbon tax receipts will be used to boost the Government’s current expenditure levels. This means that the specific allocation of these funds is outside the function of the NDP Review, which deals with Government capital spending plans.

However, as per the Programme for Government, €1.5bn of additional current funding will be made available over 2021-2030 for new schemes that will incentivise farmers to farm in a green and more

sustainable way. This funding will be additional funding to the Common Agricultural Policy. The specific use of the funds arising over the period 2022 – 2027 will be detailed in the Government’s implementation programme for the new Common Agricultural Policy 2023 – 2027, which will be published later this year and will take effect from 2023 onwards.

The remaining €3 billion in funding will be explicitly used to ensure that increases in the carbon tax are progressive by tackling fuel poverty and providing for a Just Transition. Already, ESRI research has demonstrated that recycling just one third of the revenue raised from the carbon tax increases leaves the lowest income fifth of households on average better off and reduces poverty.

Indeed, analysis of Budget 2021 found that half of all households in 2021 would see increases in their disposable income arising from the carbon tax increase and the offsetting measures implemented by Government, including increases to the fuel allowance, the qualifying child payment and living alone allowance.

The Government will continue to be guided by the latest emerging research on how to protect the vulnerable from the impacts of the rising carbon tax. As such, decisions on specific compensatory measures will be made as part of the annual budgetary cycle.

3.5 Reform of the Public Spending Code

The Public Spending Code is the tool that the Government uses to evaluate the consequences of the capital investment decisions it faces. Every public investment project with a value above €20 million must conduct a full analysis on all the potential costs and benefits associated with that project, using rules set by the Department of Public Expenditure & Reform.

Every measure in the NDP Review will have to undergo the rigour of the full application of the code. This means that it is critical that the Public Spending Code provide a realistic assessment of the likely climate and environmental consequences of Government investment decisions.

Each cost benefit analysis is required to incorporate a quantitative assessment of the net impact on greenhouse gas emissions the proposal will have. These emissions are then priced according to a schedule of values that are based on the estimated marginal cost society will incur to reach specific climate targets.

In other words, any project that results in greenhouse gas emissions must price these emissions at what it will likely cost society to reach our climate targets

by adopting an offsetting measure that will reduce emissions. Hence, the more greenhouse gas emissions a project may give rise to, the less cost effective that project is likely to be, while projects that reduce greenhouse gas emissions are assessed to have benefits that might offset the cost of the investment.

In 2019, the Department of Public Expenditure & Reform tripled the price of carbon that is applied in the Code. This re-appraisal of the cost of carbon was based on the estimated costs associated with achieving a 30 per cent reduction in greenhouse gas emissions by 2030. Since then, the Government's climate ambitions have been considerably strengthened. Now Ireland intends to cut greenhouse gas emissions by 51 per cent by 2030 and to reach a carbon neutral economy by 2050, with any remaining emissions balanced by the removal of greenhouse gas emissions from the atmosphere.

This means that the Public Spending Code must be updated to reflect this enhanced ambition. The Department of Public Expenditure & Reform has a full programme of works for the evolution of the Public Spending Code to ensure that it is compatible with the Government's enhanced climate ambition.

In the first instance, the priority will be on significantly increasing the cost associated with any release of additional greenhouse gases into the atmosphere. This will require primary research to estimate the marginal abatement cost that will be faced by Ireland to reduce an emissions reduction of 51 per cent by 2030. This is highly specialised work that is progressing in the development of a revised Climate Action Plan, building upon the modelling work undertaken in support of the previous Climate Action Plan and the National Mitigation Plan.

In addition, the Department of Public Expenditure & Reform has commenced work with the Organisation for Economic Co-operation and Development (OECD), funded by the EU Commission through DG REFORM's Technical Support Instrument, on evolving two further aspects of the Public Spending Code.

Firstly, work will be progressed on a new model for assessing the emissions impact of infrastructure investment. This is to ensure that the full range of potential consequences for this type of investment are captured and valued appropriately.

For example, the greenhouse gas emissions associated with a new road investment are not just the emissions attributable to the construction work and the materials used in that but rather should incorporate some assessment of the emissions consequences of the future usage of the road, including induced traffic. This work will entail considering how such assessments are performed at the moment and what reforms might be implemented to improve these assessments.

Secondly, the work will examine how Government should consider and appraise investments that may be vulnerable to the impacts of climate change. Global temperatures are already estimated to have risen by 1.1 degrees above pre-industrial levels and despite the commitments made in the Paris Agreement, further increases in temperature are unavoidable. The changing weather patterns that emerge from these temperature increases will impact on Ireland. Certain capital investments, particularly investments like infrastructure that have long useful lifetimes, may be vulnerable to these effects or may even 'lock-in' the potential for future climate risks that are more expensive to deal with as time goes by. Developing an approach to dealing with and valuing this uncertainty will be critical to understanding how best to protect infrastructure from the effects of climate change.

Over the longer term, the Department will examine the role that the Public Spending Code can play in the achievement of broader environmental objectives. In particular, it will investigate whether the Code can play a positive role through the development of central guidance on valuing biodiversity or ecosystem services. This will be informed by the results from Government-supported work underway on natural capital accounting, such as the INCASE project and the Government's Biodiversity Action Plan. The Government is committed to reviewing the Public Spending Code on an ongoing basis, which can include consideration of the issue of appropriate timescales for project appraisal and the use of appropriate discount rates that could support the consideration of climate impacts. Such flexibility is built into the current Public Spending Code as these can be agreed with the Department of Public Expenditure and Reform on a project or programme basis.

Finally, work will be progressed on understanding the role of an instrument like the Code, in a scenario where net zero greenhouse emissions must be achieved by 2050. The marginal value for a tonne of greenhouse gas emissions in 2050 should be based on the estimated cost of eliminating the last tonne of carbon or, more likely, the estimated cost of a measure that will sequester or capture this carbon. This cost is subject to considerable uncertainty but is likely to be considerably higher than the figure in use today.

Ultimately, the objective of this programme of work is to allow Government to take decisions that are fully informed by the best possible evidence on the consequences of these decisions.

3.6 The NDP Review as a Green Recovery Plan

The Covid-19 pandemic has had many consequences for society. The Government's response to the pandemic was multi-fold and involved the investment of very significant additional sums in the economy to support incomes, provide for expanded healthcare and meet other critical immediate priorities. The cost of this fiscal response has been estimated at €38.16 billion over 2020-2021. However, as the pandemic fades, calls have been ubiquitous for Governments around the world to build back better, to achieve a world that is greener, smarter and fairer.

The purpose of the NDP Review is to set out capital spending levels and priorities for the next decade. It has been developed as a plan that demonstrates the Government's unequivocal commitment to securing a sustainable Ireland.

To assess whether the intentions of NDP Review meet the ideal of a green recovery plan, the Department of Public Expenditure and Reform has assessed the review against principles of a green recovery. There are many templates from international organisations that outline what a green recovery plan might look like. For the purposes of the NDP Review, the Department of Public Expenditure & Reform has assessed the review against the best practice template set by the OECD.

In 2020, the OECD produced "Building back better: A sustainable, resilient recovery after COVID-19". This document sets out key 5 key dimensions that Government recovery and investment plans should be evaluated against to determine if the plans will lead to a resilient economic recovery.

The five key dimensions identified by the OECD are:

1. Investing for low-carbon, resilient electricity systems;
2. Energy efficient housing as part of compact, resilient and sustainable cities;
3. Catalysing the shift towards accessibility-based mobility systems;
4. Enhancing biodiversity while ensuring a resilient supply of food; &
5. Improving resilience of supply chains while accelerating the shift towards circular economy principles.

3.7 Investing for low-carbon, resilient electricity systems

The NDP Review commits to increasing the share of renewable electricity up to 80% by 2030. This is an unprecedented commitment to the decarbonisation of electricity supplies. To put this figure in some perspective, onshore wind generation capacity in Ireland stood at 4.1GW at end 2019.

In tandem with this grid-scale renewable electricity, the NDP Review commits to the creation of a Microgeneration Support Scheme whose primary aim is to incentivise citizens and businesses to produce and consume their own electricity. It will include a guaranteed payment for the export of excess electricity to the grid.

The reliability of electricity supplies will be strengthened through investment in the electricity transmission and distribution grid and through further interconnection with other electricity markets, including the Celtic Interconnector to France and further interconnection to the UK. This will be complemented by measures such as investment in energy storage and the rollout of smart meters.

These investments will do more than reduce greenhouse gas emissions from the electricity sector. As a growing number of the vehicles we drive and the homes we heat are powered by electricity, increasing renewable electricity will drive down greenhouse gas emissions right across the economy.

The investments in the NDP Review will hence make a critical contribution to the achievement of a low carbon and resilient electricity system.

3.8 Energy efficient housing as part of compact, resilient and sustainable cities

The National Planning Framework (NPF) underpins the NDP Review. This framework projects that an additional 550,000 homes will be required to cater for Ireland's increasing population by 2040. This is in addition to the existing stock of 1.7 million inhabited homes identified in the last census.

There are three key aspects to managing this growth while meeting the key dimension of a green recovery plan. Ensuring that the location in which new homes are built supports compact urban growth, ensuring that the building regulations applied to these homes means that they do not add significantly to greenhouse gas emissions and implementing measures to improve the energy efficiency of the existing housing stock.

The NPF explicitly commits that 50 per cent of the overall national growth will be concentrated in five cities (Dublin, Cork, Limerick, Galway and Waterford),

with Ireland's large and smaller towns, villages and rural areas accommodating the other 50 per cent. At least 40 per cent of all new housing will be delivered within the existing built up areas of cities, towns and villages on infill and/or brownfield sites. This will be achieved by the re-development and repurposing of sites that can achieve effective density and consolidation, while still providing jobs, amenities and services.

These homes will be constructed to an extremely high standard. Since 2019, all new homes are required to be constructed to meet a "nearly zero" energy performance standard. This standard requires energy consumption and carbon dioxide emissions to be minimised in so far as is possible and that the energy used comes from renewable sources, including energy from renewable sources produced on-site or nearby.

The net effect of this regulation can already be seen in the number of new homes that are completed using renewable energy technologies, such as heat pumps, for heating. Over the next decade the vast majority of new homes will be heated by heat pumps or waste heat from district heating as the regulations that apply to new homes will be further tightened.

Improving the energy efficiency of our homes is a critical climate priority and a major focus of the funding provided in the NDP Review. This will deliver wider benefits than just a reduction in greenhouse gas emissions. An energy efficient home is a home that is warmer, more comfortable and much cheaper to heat. This leads to improved health outcomes, higher disposable incomes and reduced poverty, as well as significant reductions in greenhouse gas emissions and the creation of new employment.

The NDP Review provides funding to support this commitment through the upgrade of at least 500,000 homes to a Building Energy Rating of B2/cost optimal or carbon equivalent by 2030, and the installation of 400,000 heat pumps in existing homes to replace older, less efficient heating systems. The specific measures to achieve these targets and the supports available to households will be published in the National Retrofit Plan which will be completed later this year.

Collectively, these measures support the development of compact and sustainable energy efficient housing in a heretofore unprecedented manner and scale and hence meet the dimension identified by the OECD.

3.9 Catalysing the shift towards accessibility-based mobility systems

The transport sector is responsible for 20 per cent of Ireland's greenhouse gas emissions and emissions from the sector were growing consistently pre-pandemic, despite the mitigation efforts undertaken. Major progress in decarbonising the sector is therefore a prerequisite for achieving Ireland's 2030 climate targets. Such is the priority this is afforded, an entire National Strategic Objective is dedicated to "Sustainable Mobility" and a range of policies and measures to promote the achievement of sustainability mobility are detailed in the NDP Review.

Sustainable mobility is defined in Ireland as:

- comfortable and affordable journeys to and from work, home, school, college, shops and leisure;
- travelling by cleaner and greener transport; and
- a shift away from the private car to greater use of active travel (walking and cycling) and public transport.

The NDP Review contains a range of investments and measures which will be implemented over the coming years to facilitate the transition to sustainable mobility. These measures include significant expansions to public transport options, including capacity enhancements on current assets and the creation of new public transport links through programmes such as MetroLink.

The greenhouse gas emissions associated with public transport will be addressed by replacing diesel buses with lower emitting alternatives under the BusConnects programme, by expanding the reach of the DART network and by encouraging and incentivising commercial bus services to switch to lower emission alternatives in their fleets.

Encouraging people to adopt more sustainable mobility options, particularly cycling and walking, also forms a major element of the NDP Review. Significant new investments in this area are outlined in NSO 4 which give effect to the Programme for Government commitment to focus investment in this area.

Finally, the transition of the vehicle fleet to electricity will continue to be supported by Government, including through a regulatory backstop that will prohibit the sale of non-zero emission vehicles from 2030 onwards and will be underpinned and complemented by further Government support for electric vehicle charging infrastructure.

The policies and measures outlined above will achieve the twin aims of reducing greenhouse gas emissions from the transport sector and providing more affordable, accessible, healthier and cleaner transport alternatives to citizens. In this regard, the NDP

Review meets the third dimension of a green recovery plan as identified by the OECD.

3.10 Enhancing biodiversity while ensuring a resilient supply of food

Ireland depends on nature to provide clean air and water, food and the raw materials to produce many medical treatments. All of this requires a functioning ecosystem and biodiversity, the variety of animal and plant life, is fundamental to maintaining a healthy ecosystem. Biodiversity is declining, both globally and in Ireland. Most Irish habitats listed in the Habitats Directive have an unfavourable status and almost half are demonstrating ongoing declines. This must be addressed to protect our economy, security, health and wellbeing.

To address this crisis, the Government has set seven key objectives on Biodiversity in the National Biodiversity Action Plan 2017-2021. That Plan contains 119 actions under a framework of seven strategic objectives. These encompass mainstreaming biodiversity into decision making across all sectors; strengthening the knowledge base for the conservation; increasing awareness and appreciation of biodiversity and ecosystem services; conserving and restoring biodiversity and ecosystem services in the wider countryside; the marine environment; expanding and improving management of protected areas and species; and strengthening international governance for biodiversity and ecosystem services.

Funding for these objectives is allocated from a variety of sources, including capital spending by Government Departments with responsibilities in this area but also through investments made by State bodies, Local Government and EU funds. Indeed, the EU Recovery and Resilience Facility and the Irish Government are currently supporting the rehabilitation of 33,000 hectares of peatlands to sequester greenhouse gas emissions and improve biodiversity levels. The funding for this scheme is provided through the capital allocations made in this plan.

Under the National Biodiversity Action Plan, the National Parks and Wildlife Service (NPWS) have been tasked with the development of a financial plan to address biodiversity finance challenges in a comprehensive manner. As part of this research novel finance mechanisms will also be reviewed, including payment for ecosystem services and biodiversity offsets. In addition, a review will be undertaken on the remit, status and funding of the NPWS, to ensure that it is playing an effective role in delivering its overall mandate and enforcement role in the protection of wildlife. This will be complemented by action at EU and international level. The forthcoming UN Convention on Biological Diversity's COP15 in China will agree a post-2020 Global Biodiversity

Framework. Ireland's 4th National Biodiversity Action Plan will be published next year and will reflect these international developments and the need to deal with the biodiversity emergency.

The Government's vision for ensuring a resilient supply of food that is complementary to biodiversity has been set out in Food Vision 2030. This is the new ten year strategy for the Irish agri-food sector which was published in August 2021, following a public consultation. The strategy commits to the achievement of a carbon neutral food system by 2050, with verifiable progress made towards this goal by 2030 within the sectoral emissions ceiling under Ireland's climate legislation.

Specific environmental goals within the strategy include the prioritisation of at least 10 per cent of farmed area for biodiversity, improvements to water quality and air quality and a reduction in greenhouse gas emissions. The programmes which will give specific effect to these commitments will be detailed in the Government's implementation of the next Common Agricultural Policy.

This programme will operate from 2022 to 2027 and will have an increased focus on improving climate and environmental outcomes. Indeed, it is a requirement that the national implementation of the CAP must contribute to achieving the following general objectives:

1. to foster a smart, resilient, and diversified agricultural sector ensuring food security;
2. to bolster environmental care and climate action and to contribute to the environmental- and climate-related objectives of the Union, and;
3. to strengthen the socio-economic fabric of rural areas.

The funding of these programmes will also be bolstered by an additional €1.5bn of expected carbon tax receipts over 2021-2030, the specific use of the funds arising over the period 2022-2027 will, as noted, also be detailed in the national implementation plan for the Common Agricultural Policy 2023-2027 and subsequent plans to 2030.

3.11 Improving resilience of supply chains while accelerating the shift towards circular economy principles

In a circular economy, resources are kept in use for as long as possible, the maximum value is extracted from them and then, at the end of their life cycle, they are recovered to regenerate new products and materials. These processes involve sharing, reusing and reinventing materials, and using fewer material resources to sustain our communities, homes and economy. Meeting climate targets will require a

transition to a more circular economy, which protects and restores our environment through sustainable resource use. Ireland is fully committed to such a transition, and to embracing the opportunities that it can bring. This policy is set out in the government's Waste Action Plan for a Circular Economy, and will be further elaborated upon in the forthcoming Whole-of-Government Circular Economy Strategy. The Strategy aims to position Ireland as an EU leader in the Circular Economy by 2030.

This transition to a circular economy will also require a whole of society effort. Government support will be provided to help communities make the transition to a circular economy. Examples of such schemes are already in operation. The Circular Economy Innovation Grant Scheme (CEIGS) provides grants of up to €50,000 for circular economy projects by social enterprises, voluntary and community organisations and businesses with less than 50 employees.

The Circular Economy Bill, the general scheme of which was published in June 2021, places the Circular Economy Strategy on a statutory basis and also provides for the reconfiguration of the Environment Fund to become Ireland's Circular Economy Fund, ring-fenced to support environment and circular economy projects and initiatives. The National Waste Prevention Programme (NWPP) is a Government initiative, led by the Environmental Protection Agency (EPA), which supports national-level programmes to prevent waste and drive the circular economy in Ireland. The NWPP is currently being re-configured to become Ireland's National Circular Economy Programme (NCEP). The NCEP will provide funding to support the development of novel solutions for the circular economy and will be placed on a statutory basis by the passage of the Circular Economy Bill. The Bill will also ensure all households have access to and use segregated waste services and will incentivise the commercial sector to increase waste separation, as well as providing new tools to tackle illegal dumping. Funding for circular economy principles and measures along these lines has been made available in the NDP Review, through the total funding provided to the Department of Environment, Climate and Communications, who are responsible for the sector.

3.12 Conclusion

A large proportion of greenhouse gas emissions in Ireland are determined by where we live, where we work, how we travel and, in particular, how we heat and power our homes, businesses and vehicles. The investments outlined in the NDP Review are intended to enable fundamental and systemic changes to these factors.

An energy efficient home, powered by low carbon electricity, in a location with convenient access to amenities, jobs and services and/or public transport links to these, will mean the almost complete

elimination of that household's direct greenhouse gas emissions.

Achieving this will require unprecedented investments in renewable electricity, in the infrastructure required to enable the safe and secure connection of this electricity to the grid, in the supports available for householders to upgrade the energy efficiency of their homes and the enhanced supports for those who cannot afford to make those investments.

It will require further unprecedented investment in expanding, upgrading and decarbonising our public transport systems and providing attractive sustainable mobility options. All of this will need to be underpinned by regulatory measures and complementary incentives that can result in effective policies and measures.

Achieving these changes will not be easy. The path towards their implementation will necessitate trade-offs and difficult choices will have to be made. There is no avoiding these choices. The latest scientific evidence from the IPCC demonstrates that global temperatures are increasing by 0.2 degrees C per decade. The risks a continuation of this trend poses are unacceptable.

However, any short term pain that may be felt will be offset by long run gains. Reductions in air pollution, warmer homes and more sustainable mobility travel options will lead to health and wellbeing gains across society in the longer term.

Where difficult choices must be made Government will do so in integrated, structured, and evidence-based manner that meets the principles of a Just Transition.

The NDP provides the framework and the capital investment levels necessary to enable these policies to be developed. From here, it will be the responsibility of the relevant Government Departments to proceed with the work necessary for their development and implementation. Progress on this will be detailed in the annual Climate Action Plans, which will detail the specific actions underway sector by sector to achieve the Government's climate objectives.

On the basis of the alignment of the capital investment plans outlined in this chapter with the five key dimensions of best practice identified by the OECD, it can be determined that there is an extremely strong commonality and hence the conclusion can be reached that the NDP Review meets all of the criteria necessary to be considered a green recovery plan.

As noted and acknowledged in this chapter, this is not to say that every measure will lead to improved climate and environmental outcomes but rather that when considered holistically, the allocations will place the country firmly on the track towards the achievement of our national climate obligations.



Chapter 4: Funding

4.1 National Strategic Outcomes

This National Development Plan will incorporate a total public investment of €165 billion over the period 2021-2030. This will bring public investment to 5 per cent of GNI*, well above the EU average. Exchequer funding as approved by the Government and voted by the Oireachtas will account for €136 billion or approximately 80 per cent of the total funding. Non-Exchequer funding by State-backed enterprises and bodies will amount to almost €29 billion or 20 per cent of the total funding.

This chapter outlines the long-term capital expenditure framework which is being maintained and enhanced with this National Development Plan over the period 2021-2030.

The annual expenditure ceilings are detailed alongside a breakdown of the agreed allocations across each Department for the period 2021-2025.

In addition, the significant EU funding being made available over the period of the plan is set out in the chapter.

Potential additional sources of funding are noted, including PPPs and Energy Performing Contracts. The role of independently regulated private sector investment over the period will be detailed.

The chapter concludes by noting capacity and inflation risks as well the measures being taken to mitigate and monitor these.

4.2 Background

Project Ireland 2040 (PI2040) was launched in February 2018 and set out ten year public capital investment ceilings incorporating €91 billion of Exchequer investment and €25 billion of non-Exchequer investment including the commercial semi-state sector. This brought total planned public investment to €116 billion over the 10 years to 2027. This incorporated public investment reaching a target of 4 per cent as a share of GNI*. Capital expenditure saw its largest ever increase in 2020. While there was a pre-Covid-19 increase planned in 2020, there were direct once-off increases related to Brexit, the Covid-19 response (e.g. health and enterprise) as well as counter-cyclical stimulus measures announced in July 2020. This amounted to an additional increase of €1,706 million in 2020, bringing the overall capital investment to €9,887 million or 4.8 per cent of GNI*. This was an unprecedented year on year increase of 38 per cent.

Budgeted capital expenditure in 2021 will be more than double the 2017 pre-NDP level of €4,601 million. Exchequer capital investment increased by 30 per cent, 19 per cent and 38 per cent in the years 2018, 2019 and 2020 respectively. This was significantly higher than general increases in public expenditure over that period and significantly higher than economic growth over that period.

4.3 Level of Public Investment

A Macro-Economic Analysis was conducted by IGEEES staff in the National Investment Office in DPER as part of Phase 1 of the NDP Review in order to inform Government of the appropriate level of public investment out to 2030 to be adopted in the new NDP.

In the context of the review of the NDP, it should be noted that given the achievement of high levels of public investment in Ireland in more recent years, coupled with a Government commitment to protecting capital investment levels going forward, this paper finds a clear economic and social case for preserving and sustaining this level of commitment into the future, with sustainable increases at an aggregate level.

This will provide the confidence required for multi-annual planning and associated benefits including the attraction of international delivery capacity. This places Ireland in a fundamentally different arena to the previous recession in 2008/2009 following which capital expenditure was reduced significantly in order to lower the deficit.

The macro-economic analysis considered the latest data and projections available relating to a range of factors including the:

- supply side capacity constraints
- drivers of demand for investment
- medium term fiscal strategy
- international comparisons

Target Level of Investment

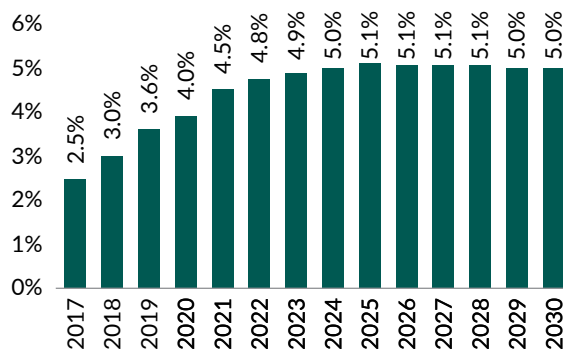
Taking into account all the factors referenced above, the Government has decided to maintain the average level of investment in the new NDP at approximately 5 per cent of GNI* over the period 2021-2030 with an annual average increase of investment of approximately 5 per cent.

This will result in a total Exchequer Gross Voted Capital Expenditure in the new NDP of approximately €136 billion compared to the existing €91 billion. This represents an increase of 49 per cent. When combined with Non-Exchequer Investment of €28.6 billion, this will bring the entire investment plan under the new NDP to approximately €165 billion compared to the existing €116 billion NDP.

The delivery of public capital investment benefits from long-term planning and stability. However, due to Covid-19, there is significant uncertainty relating to many of the different factors which need to be considered when setting public capital investment levels. It will therefore be critical to ensure developments are monitored closely and some flexibility is maintained in capital ceilings if adjustments or additional measures are necessary.



Figure 4.1: Ireland's Core Exchequer Investment as a share of GNI*



Source: DPER

4.4 Capital Ceilings 2021-2030

The Exchequer capital ceilings set out below are informed both by the Macro-Economic Analysis produced in Phase 1 of the NDP Review as well as by the level of demand indicated in the submissions from Departments, and the subsequent engagement at official-level and Ministerial bilaterals involving each Department.

These Exchequer capital ceilings do not include the once-off Covid-19 and Brexit funding in 2020/2021, however the ceilings are otherwise comprehensive in that they are sufficient to incorporate carbon tax funding in relation to Programme for Government commitments on residential retrofit over the 10-year period, as well as European funding from the National Recovery and Resilience Plan and the European Regional Development Fund. While capital carryover of up to 10 per cent may take place between years, it is accounted for in the year it was originally allocated.

Another key Programme for Government commitment is the Shared Island Fund, being led by the Department of An Taoiseach. A total of €50 million has been made available in 2021 for joint North-South projects, with a total of €500 million to be made available out to 2025. Further details about the Shared Island Fund are set out in Chapter 18 of this report.

Table 4.1: Public Capital Expenditure Split between Exchequer and non-Exchequer for 2021-2030

€ billion**	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Exchequer	9.8	11.1	11.9	12.8	13.6	14.2	14.9	15.4	15.9	16.4	136
Non-Exchequer	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	29
Total Capital Expenditure	12.7	14	14.8	15.7	16.5	17.1	17.8	18.3	18.8	19.3	165
Exchequer as % of GNI*	4.5%	4.8%	4.9%	5.1%	5.1%	5.1%	5.1%	5.1%	5.0%	5.0%	5.0%

**Rounding effects

4.5 Departmental Capital Allocations 2021-2025

As agreed in the Government decision of 27th July 2021 (S180/20/10/2207D), the table below sets out the Gross Voted capital allocations for the period 2021-2025, with subsequent years to be added on a rolling basis.

Table 4.2: Departmental Gross Voted Capital Allocations (in € millions)

	2021	2022	2023	2024	2025
Agriculture, Food and the Marine	271	281	284	287	290
Children, Equality, Disability, Integration and Youth	32	33	40	50	100
Defence	131	141	141	142	142
Education	740	792	860	940	1,040
Enterprise, Trade and Employment	432	523	558	584	611
Environment, Climate and Communications	579	700	850	950	1,100
Finance	18	22	22	22	23
Foreign Affairs	13	25	25	25	25
Further and Higher Education, Research, Innovation and Science	500	538	579	620	652
Health	905	1,010	1,127	1,255	1,360
Housing, Local Government and Heritage	2,766	3,400	3,516	3,866	4,016
Justice	258	270	272	274	278
Office of Public Works	206	270	270	288	310
Public Expenditure and Reform (less OPW)	15	33	30	20	20
Rural & Community Development	169	192	196	200	205
Social Protection	16	16	16	16	17
Tourism, Culture, Arts, Gaeltacht, Sport and Media	172	202	206	210	214
Transport	2,511	2,547	2,614	2,664	2,665
Shared Island Fund	50	50	100	150	150
European Regional Development Fund	-	70	100	115	115
Annual Priority Reserve	-	-	51	148	269
Government Expenditure Ceiling	9,784	11,115	11,857	12,826	13,600
Share of GNI*	4.5%	4.8%	4.9%	5.1%	5.1%

An annual priority reserve is included in the plan and will be allocated each year during the Estimates process. Retaining this element of flexibility is an important principle of efficient public expenditure management. The reserve is not intended as a resource to meet any potential overspends or cost inflation, but rather to maintain the Government's ability to continue to effectively recalibrate investment plans if priorities develop or change over the course of the Government. It is anticipated that there will be substantial Capital Carryover from 2021 into 2022 on account of the construction restrictions in 2021, adding to the considerable delivery challenge in 2022. The NDP will need to use an agile approach to funding allocations and in-plan reprioritisation of funding, particularly where underspends and policy changes are apparent.

4.6 European Union Funding

NextGenerationEU

In July 2020 the European Council, approved an historic €750 billion recovery package for Europe. This package, NextGenerationEU, is Europe's shared response to the public health and economic and social crisis caused by Covid-19. NextGenerationEU is

an ambitious and common recovery package that will complement and support each Member State's own national response to the crisis.

At the heart of the NextGenerationEU is the Recovery and Resilience Facility. The aim of the Facility is to address the economic and social impact of the pandemic and make European economies and societies more sustainable, resilient and better prepared for the challenges and opportunities of the green and digital transitions.

Ireland will receive approximately €990 million in grants from the Recovery and Resilience Facility. These grants will be used to support investments between now and mid-2026. Each Member State is required to prepare a National Recovery and

Resilience Plan in order to avail of funding from the Recovery and Resilience Facility.

Ireland's Plan has been developed by the Government over recent months, taking into account the requirements for the Recovery and Resilience Facility for a minimum of 37 per cent of expenditure to be on climate and 20 per cent on digital investments and reforms. On 28 May 2021, the Government submitted Ireland's draft National Recovery and Resilience Plan to the European Commission. A total of 25 projects and reforms are set out in the plan, comprising of 16 investments and 9 reform measures.

In July 2021, the Commission completed its evaluation of the Irish Plan and made a positive recommendation to the Council of the European Union. Between now and the autumn the Council of the European Union will consider the Plan and the Commission's assessment before making a decision allowing Ireland receive support from the Recovery and Resilience Facility.

The requirement to meet future sustainability challenges in green transitioning and digitisation are centre to the EU Recovery and Resilience Facility. This has guided the development of Ireland's Plan, along with the economic and social need for recovery through upskilling and reskilling.

The reforms and investments to be supported by the Plan will comprise the following three priorities:

- **Priority 1:** Advancing the Green Transition (7 investments and 2 reforms; €518 million of NRRP funds)
- **Priority 2:** Accelerating and Expanding Digital Reforms and Transformation (6 investments and 1 reform; €291 million of NRRP funds)
- **Priority 3:** Social and Economic Recovery and Job Creation (3 investments and 6 reforms; €181 million of NRRP funds)

Each priority contains a set of impactful and reinforcing investments and reforms that will be measurable and for which the Government will be accountable. The achievement of milestones and targets for these investments and reforms, in line with EU regulatory requirements, will enable Ireland to access its allocation under the Recovery and Resilience Facility.

EU Cohesion Policy Funds

Programming of EU Cohesion Policy Funds for the 2021-2027 period provides an opportunity to maximise synergies and complementarities through alignment with national investment plans including the National Development Plan (NDP) through PI2040, the Regional Spatial and Economic Strategies, and the Climate Action Plan 2021.

Ireland will receive a total of €1.3 billion in Cohesion Policy Funds for the 2021 – 2027 period, comprising of:

1. €396 million for the European Regional Development Fund;
2. €508 million for the European Social Fund+;
3. €294 million for European Territorial Cooperation (including PEACE PLUS); and
4. €77 million under the EU Just Transition Fund.

When the requirement for match funding is included the full value of the programmes supported by these allocations amounts to almost €3.5 billion.

In addition, the European Maritime Fisheries and Aquaculture Fund (EMFAF) will receive €142 million with smaller amounts available for the Asylum, Migration and Integration Fund (AMIF) and the Internal Security Fund (ISF).

These funds will support SMEs, will reskill and upskill our workforce, and will provide investment in research and development and emerging technologies ensuring that Ireland is well placed to take advantage of the opportunities arising from a green and digital Europe, while the EU contribution for PEACE PLUS underscores the commitment of the European Union to peace and economic prosperity on the Island of Ireland.

1. European Regional Development Fund

The European Regional Development Fund (ERDF) aims to strengthen economic, social and territorial cohesion in the EU by correcting imbalances between its regions. In 2021 – 2027, it will enable investments of almost €900 million in Ireland to progress the aims of a smarter, greener, more connected and more social Europe that is closer to its citizens. This will be comprised of ERDF receipts of €396 million from the European Union, and 40-60 per cent from national resources match funding of approximately €500 million. The Regional Assemblies have been appointed as Managing Authorities for ERDF, to ensure alignment with the Regional Spatial and Economic Strategies. The ERDF funding stream under the NDP also aligns with the National Planning Framework, which recognises the crucial importance of balanced regional development, clustered and compact growth, and improved connectivity to deliver economic prosperity and environmental sustainability.

Three main priorities have been identified for Ireland's ERDF Programme:

- Smart cities, smart regions: ERDF should support innovation, digitisation and economic transformation in small and medium-sized businesses in keeping with smart specialisation strategies to support sustainable economic development and offer the population places where they can live and work
- Low-carbon and climate resilience: ERDF should help Ireland and its regions fight against climate change and protect the environment which will improve the overall quality of life
- Urban dimension: ERDF should support the development of Irish towns and cities through an integrated approach combining green, smart and people-focused dimensions.

2. European Social Fund+

The European Social Fund+ (ESF+) is the EU instrument dedicated to investing in people. Its aim is to achieve high employment levels, fair social protection and a skilled and resilient workforce for the future world of work, in line with the principles set out in the European Pillar of Social Rights.

For the 2021-2027 period, the ESF+ has merged with the Youth Employment Initiative (YEI), the Fund for European Aid to the most Deprived (FEAD) and the directly managed Employment and Social Innovation (EaSI) Programme, to become the ESF+. Ireland will receive €508m in ESF+ funding in 2021-2027. This funding will focus on improving access to employment, investing in upskilling, reskilling and lifelong learning and tackling poverty and social exclusion. ESF+ will also support social innovation, finding and scaling new approaches to difficult social problems.

The High-level themes identified for Ireland's ESF+ Programme are:

1. Access to employment, including for underrepresented groups,
2. Increasing female labour market participation and enhancing access to affordable, quality childcare,
3. Skills and lifelong learning for all, with a focus on green and digital transition,
4. Tackling poverty and social exclusion,
5. Food and basic material assistance to the most deprived, and
6. Social innovation

3. European Territorial Cooperation

The EU PEACE PLUS Programme, is worth over €1 billion. The programme is a cross-border EU funding programme, designed to further peace and prosperity across the island and will positively transform the lives of many thousands of citizens. It has been designed following a comprehensive stakeholder engagement process and will fund projects across Northern Ireland and the border counties of Ireland. It also allows for organisations and institutions, not based in these areas, to get involved by linking in with project partners that are based in the programme area. PEACE PLUS has six core themes, with multiple investment areas designed to have an impact and leave a positive lasting legacy.

In addition to PEACE PLUS, Ireland will participate in three Transnational Interreg Programmes (North West Europe, Northern Periphery and Arctic and the Atlantic Area) with those three Programmes having an ERDF contribution of approximately €469 million, bringing the estimated combined value of the Programmes estimated to be over €730 million after co-financing. While the individual priorities of each programme will reflect the agreed specific identified needs of the territories involved they will focus on:

1. A smarter Europe by promoting innovative and smart economic transformation.
2. A greener, low-carbon Europe, promoting clean and fair energy transition, green and blue investment, the circular economy, climate adaptation and risk prevention and management.
3. Better Cooperation Governance.

4. EU Just Transition Fund

The EU Just Transition Fund (JTF) is Pillar 1 of the European Green Deal Just Transition Mechanism. Pillar 2 is a just transition scheme under InvestEU and Pillar 3 is a Public Sector Loan Facility.

Ireland is set to receive up to €84.5 million from the EU Just Transition Fund in 2021-2027. This consists of €37 million from the EU Multi-Annual Financial Framework MFF (2021-2027) and €47.5 million from the Next Generation EU Recovery Instrument (2021-2023).

The purpose of the EU Just Transition Fund is to assist the most affected territories in transitioning to a low carbon emissions economy. For Ireland, the purpose is to improve the labour market in regions facing particular difficulties due to the phasing out of peat production. Activities that may be supported include the re-skilling of workers and helping SMEs to create new economic opportunities.



4.7 Public Private Partnerships and Energy Performance Contracts

As part of the new NDP, a targeted review of the existing treatment of PPPs will be undertaken. This will build upon the analysis already conducted in the context of Phase 1 of the NDP, examining the possible disincentives currently in policy around the uptake of further PPP commitments, in circumstances where they would nevertheless represent value for money. This work will be progressed with the existing PPP Steering Group with a series of recommendations to be finalised by Q2 2022.

An additional financing opportunity exists in the form of Energy Performance Contracts (EPCs) which are a form of Public Private Partnership, but are significantly different from 'traditional' PPPs. Under an EPC, an Energy Service Company (ESCO) takes responsibility for undertaking the energy efficiency upgrade of a building. In return, an agreed proportion of the resulting energy bill savings accrue to the ESCO rather than to the building owner. For EPCs to be worthwhile, it would need to be established that delivery capacity exists to actually achieve the desired volume of retrofit, in addition to all other NDP funded investments.

4.8 Independent Regulation of Private Sector Investment

Outside of the Exchequer, an additional funding source for economic infrastructure in particular is through private sector investment as overseen by an independent economic regulator. The fundamental principle of such regulation is to ensure efficient, sustainable and reliable investment in this infrastructure at least cost to the consumer. In circumstances where infrastructure is operated in a commercial environment, revenue from user charges may provide funding for the operator to carry out maintenance and capital investments. This form of infrastructure funding takes place across a range of sectors in Ireland, with a number of notable cases detailed here in transport, energy and broadband.

There are currently eleven toll roads in the Republic of Ireland. Where a toll road is operated through a public-private partnership, the private partner may be contractually responsible for upkeep of the road using the revenue generated from tolls.

Airport charges are collected by Dublin Airport Authority in order to cover the cost of operating the airport and for required capital expenditure. The Commission for Aviation Regulation (CAR) sets the maximum level of airport charges to be levied by Dublin Airport. The 2021 price cap at Dublin Airport is €7.50 per passenger. This maximum revenue per passenger is subject to DAA achieving certain quality of service targets. In addition, it could either increase or decrease if triggers for capital projects are reached.

Further information on how the price is calculated, the quality of service targets and triggers for capital projects can be found on the CAR website.

Over 92 per cent of Ireland's population are served by broadband infrastructure which is delivered and maintained by private sector telecoms companies and paid for through user charges as regulated by ComReg. Public investment in broadband is generally limited to subsidising the service to households in rural and dispersed locations where it is not economically viable for the private sector to do so due to the significant costs. The National Broadband Plan which is currently being rolled out will subsidise broadband in these locations through public expenditure.

In the electricity sector, major elements of capital expenditure requirements over 2021 -2030 will come from the private sector in the area of grid scale electricity generation and storage. The Commission for Regulation of Utilities (CRU) is Ireland's independent energy and water regulator whose role is to ensure safe, secure and sustainable energy and water supplies at a reasonable cost.

While private sector investment plans are typically not as transparent as the public sector, one example of potential future private investment is the proposed 500MW Greenlink Interconnector to the UK. There is also very significant potential for private investment in the offshore wind sector to substantially contribute to meeting our renewable energy and climate ambition. Investment required to meet the 5GW target by 2030 is estimated to be of the order of €10 billion primarily from the private sector, with some involvement of state-owned enterprises as part of various project consortia. A further estimated €5 billion investment will be required in offshore grid infrastructure, initially funded by private development with greater involvement of state-owned enterprise over the course of the decade. The focus is on the creation of the right investment environment together with an enhanced regulatory framework.

At a private household level there will also be significant investment over the coming years in Electric Vehicles, heat pumps, retro-fitting as well as in microgeneration primarily through solar panels.

Finally, user charges can in certain limited circumstances be used as a means of ensuring the efficient use of infrastructure through demand management e.g. congestion charges. However, careful consideration needs to be given to simultaneous impacts on the equality of access to the infrastructure based on the ability to pay. Creating an efficient fit between the demand and supply of infrastructure can result in a fairer distribution which is based on meeting need rather than historical norms of access to such infrastructure. The savings made from such an approach can also help address

alternative infrastructure needs in a progressive manner and which cannot be met through demand management e.g. social services.

4.9 Risks

There is a risk that investing too much over a given period could add to inflationary pressures in the construction sector and crowd out some desirable private sector investment e.g. in housing.

As highlighted in the Build 2019 and Build 2020 reports by the National Investment Office, such risks and elevated inflationary pressures were already observable in the Irish construction sector before Covid-19.

Inflationary pressures cannot be met through additional expenditure as this would simply add to the effect.

The inflation risk can be mitigated by increasing supply side capacity, and a number of initiatives which are already underway in this regard are outlined in the final chapter of this report. However, these will take time to come to fruition.

Alternatively, investment levels could be temporarily reduced or measures to reduce demand could be considered.

On the demand side there is the possibility that there could be a structural decline in activity in some elements of the non-residential construction sector due to Covid-19 impacts (e.g. offices, hotels & retail), however there is a lower level of visibility of the private sector pipeline and it is too early to tell at this point, the degree to which demand in that sector will change over the coming years.

Continued monitoring of inflation and capacity constraints by the National Investment Office in conjunction with the Construction Sector Group will be necessary to inform policy decisions related to this going forward.

Regardless of the level of public investment, it will be essential that there remains a robust focus on prioritisation of the investments which provide the highest level of social and economic return and value for money; and on strengthening the capability of the public sector to deliver fully on these priorities. Additional measures related to this are detailed in the final chapter of this report.



Chapter 5: Investment Framework

5.1 Introduction

This chapter sets out the framework through which investments are selected, appraised and monitored under Project Ireland 2040. In the following chapters an overview is then given of the relevant sectoral strategies and subsequent strategic investment priorities across each of the ten National Strategic Outcomes (NSOs) set out in the National Planning Framework (NPF).

5.2 Expenditure Management Framework

The National Development Plan (NDP) is a high-level financial and budgetary framework, which sets out the framework and broad direction for investment priorities over the period 2021 to 2030. It includes indicative Exchequer allocations to support the delivery of the ten NSOs identified in the NPF. Within these objectives, the NDP also contains expenditure commitments to secure a wide range of strategic investment priorities which have been determined by the relevant Departments as central to the delivery of the NPF vision.

Under the NDP 2018-2027, five year capital allocations were put in place to facilitate Department's capital planning process for the period from 2018 to 2022. New five year allocations for the period 2021-2025 are now set out in this NDP. This includes a priority reserve which will provide Government with an annual opportunity to review the allocations in light of any implementation issues arising and/or new priorities which may emerge as the NDP is implemented.

A full mid-term review of the NDP will be undertaken in 2025, to allow Government to:

- take stock of progress in terms of delivery of the planned projects and programmes; and
- review and reaffirm investment priorities of Government.

The review will be carried out in order to prepare and publish a new updated 10-year plan for public capital investment in 2026, covering the period 2026 to 2035.

5.3 Investment Priorities and the Planning Process

The NDP, as a budget and financial plan, is not part of the physical planning process.

Projects funded under the NDP will be subject to planning law and may require Strategic Environmental Assessment. These requirements do not arise in relation to the National Development Plan itself. Each Government Department is responsible for ensuring that its proposed projects meet the appropriate regulatory requirements including those related to planning laws and environmental impact assessments.

The fact that specific projects or types of projects are being referred to in this document is for illustrative purposes only. In all cases the allocation of resources is subject to planning approval and compliance with all other applicable environmental law, regulatory and public expenditure requirements for the project concerned.

Departments must also ensure that individual projects and investment proposals meet all of the relevant appraisal processes and value-for-money tests required under the Public Spending Code, before Exchequer resources are ultimately expended on the relevant projects. In addition, under the Public Spending Code, all capital-investment projects and programmes with an estimated cost in excess of €100 million are subject to a further level of scrutiny, requiring specific Government approval before final contracts are agreed.

Box 5.1: How are projects selected?

It is important to note that the NDP is fundamentally a high-level financial and budgetary plan, which sets out the framework and broad direction for investment priorities. It includes Exchequer allocations for Departments for the period 2021-2025 to support the delivery of the ten national strategic outcomes identified in the National Planning Framework.

The NDP is not a comprehensive list of all the public investment projects that will take place over the next ten years. However, where sufficient planning and evaluation has already taken place the NDP contains expenditure commitments for a range of strategic investment priorities which have been determined by the relevant Departments as central to the delivery of the NPF vision. All of these commitments require evaluation along with the development of business cases in line with the requirements of the Public Spending Code before they are formally approved for implementation.

It should be noted that DPER, in carrying out its role in coordinating the NDP Review, does not consider the merit of individual projects or sectoral policy strategies as this is primarily a matter for individual Departments and Agencies.

Individual projects are generally selected by Departments or Agencies based on a detailed process which begins with setting their own sectoral strategy and goals, and then subsequently identifying specific needs or challenges to be addressed, whether that be through regulation, taxation, education or potentially expenditure on an investment project. Appropriate options are then assessed in line with the Public Spending Code.

5.4 Applying the Public Spending Code to Investment Priorities

Background

DPER published the updated 'Public Spending Code: A Guide to Evaluating, Planning, and Managing Public Investment' in December 2019. This updated Public Spending Code (PSC) came into effect on 1 January 2020.

The PSC sets out the value for money requirements for the evaluation, planning and management of public investment projects in Ireland. These requirements apply to all public bodies and all bodies in receipt of Exchequer capital funding.

The PSC is rooted in the need to obtain maximum value for money through disciplined project evaluation, preparation and implementation.

Project Lifecycle

Subject to approval each project must work its way through the project lifecycle. For a project which is successfully delivered from concept to completion, this would entail:

1. Prepare a Strategic Assessment Report;
2. Develop a Preliminary Business Case;
3. Complete a Detailed Project Brief and Procurement Strategy as part of the Final Business Case Stage;
4. Prepare tender documents and conduct the required public procurement in compliance with relevant procedures, and where applicable the Capital Works Management Framework;
5. Update the Final Business Case to take into account information from the tender process;
6. Award the appropriate contract, actively implement the project, and regularly report to the Approving Authority;
7. Complete and disseminate a Project Completion Report incorporating lessons learned as required into sectoral guidance; and
8. Complete and disseminate an Ex-Post Evaluation report incorporating lessons learned as required into sectoral guidance.

These stages can occur over a significant time period meaning that active management of the project is required throughout to ensure the project outcomes are achieved and value for money secured.

The project lifecycle is designed to function as and complement project management tools, aiding public bodies as they work to address specific policy problems and deliver identified outcomes.

Project management principles set out in existing guidance, such as the Capital Works Management

Framework and the Civil Service Project Management Handbook, and best practice models for the direction and management of portfolios, projects and programmes should be utilised to ensure the successful, timely and cost effective delivery of policy outcomes.

Roles and Responsibilities

As detailed in the PSC, it is the responsibility of the relevant Accounting Officer/Accountable person (typically a Secretary General of a Government Department) to ensure compliance with the relevant requirements of the PSC. This is part of the overall Accounting Officer role in terms of accountability, delivery, regularity, propriety, and ensuring value for money.

Government approval is required for proposals with an estimated cost over €100 million. Government approval should be sought through a Memorandum for Decision. The day-to-day Approving Authority functions in those instances remain the responsibility of the relevant public body which is funding the proposal. Government approval is required at:

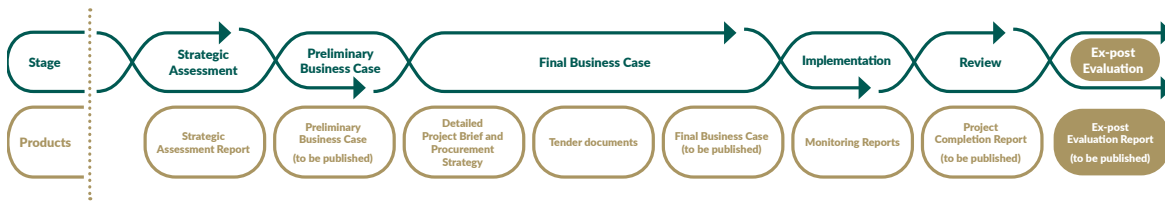
- Preliminary Business Case – Government approval must be secured at Decision Gate 1
- Design & Planning and Procurement - Government approval must be secured at Decision Gate 2 to proceed to tender
- Final Business Case - Government approval must be secured at Decision Gate 3 to award the contract.

It is the responsibility of the Approving Authority to notify the Government should adverse developments occur, including unforeseen cost increases or changes to the project scope, which call into question the desirability or viability of the project. This should be routed through the parent department if necessary.

The Approving Authority should submit a report at the earliest possible moment to Government detailing the necessary measures to rectify the situation.

Further details on all elements of the PSC can be found in the document itself which is published on gov.ie.

Figure 5.1: PSC Project Lifecycle



5.5 The Investment Tracker

The investment projects and programmes tracker provides the public, businesses and other stakeholders with reliable information about current and future infrastructure investments in Ireland under Project Ireland 2040 (PI2040).

The Tracker provides a composite update on the progress of all major investments that make up PI2040. It focuses mainly on projects with estimated costs greater than €20 million.

The Tracker was first published in September 2017. A further innovation in 2019 was the development of MyProjectIreland (below), a new citizen-focused interactive map which allows the user to navigate public investment projects across the country and to find out what is happening in their local area in an accessible way.

MyProjectIreland has also been updated alongside the Tracker and is accessible via gov.ie/2040.

Figure 5.2: MyProjectIreland Mapping Tool

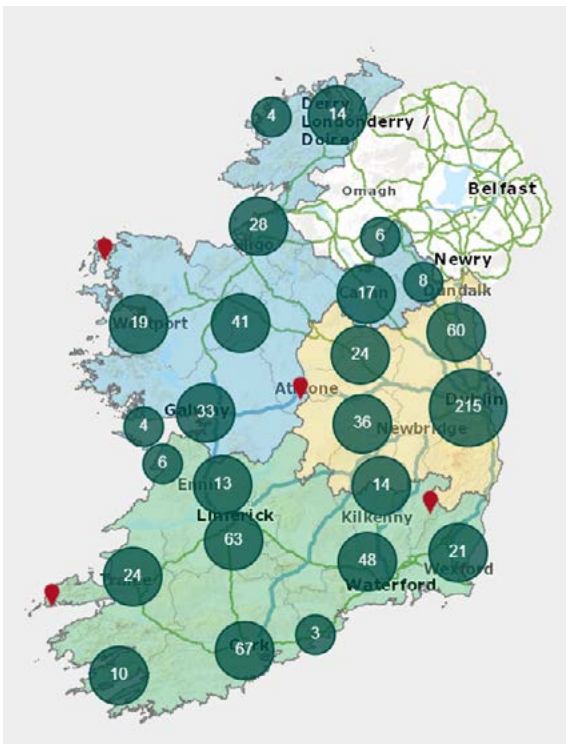


Figure 5.3: The Investment Tracker

Project Ireland 2040 Reference	Name of Project	Department/body responsible for Delivering Project	Location	Region	Type of Investment	Primary National Strategic Outcome
PI090	M11 Capacity Enhancement (Phase 1 & Phase 2)	Department of Transport	Wicklow	Eastern and Midland	Rural Development	NSO 3 (Strengthened Rural Economy) and NSO 2 (Enhanced Regional Accessibility)
PI091	M50 Enhancing Motorway Operation Services (EMOS)	Department of Transport	Dublin	Eastern and Midland	National Road Network	NSO 2 (Enhanced Regional Accessibility)
PI092	M7 Naas to Newbridge Bypass Widening	Department of Transport	Kildare	Eastern and Midland	National Road Network	NSO 2 (Enhanced Regional Accessibility)
PI093	M8/N25 Dunsilette Interchange	Department of Transport	Cork	Southern	National Road Network	NSO 2 (Enhanced Regional Accessibility)
PI097	N2 Slane Bypass	Department of Transport	Meath	Eastern and Midland	National Road Network	NSO 2 (Enhanced Regional Accessibility)
PI098	M20 Cork to Limerick	Department of Transport	Multi-County	Southern	National Road Network	NSO 2 (Enhanced Regional Accessibility)

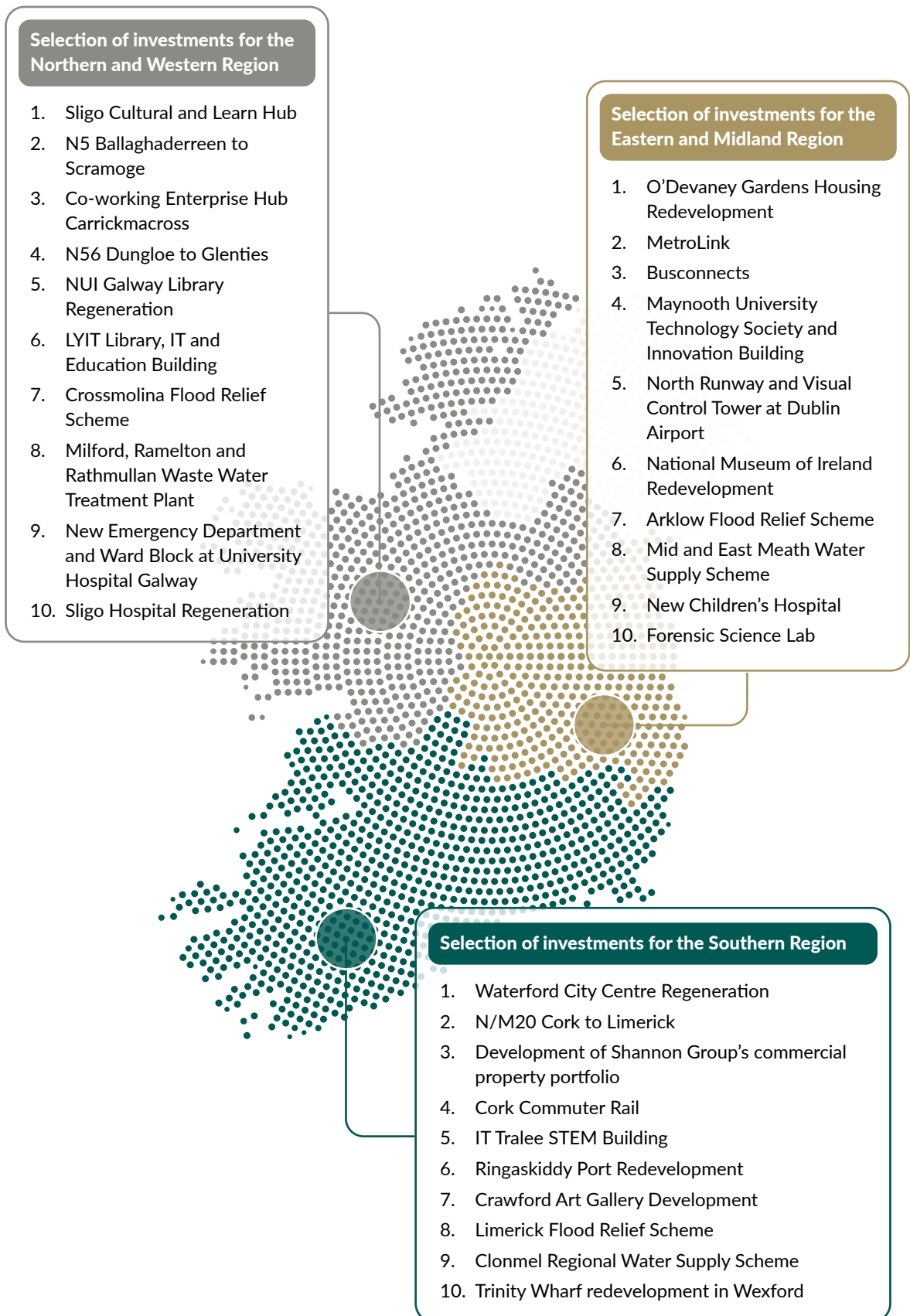
To facilitate the monitoring and analysis of the investment portfolio within the tracker there are six categories of estimated project cost ranges as detailed in Key 5.1. Projects are grouped into these categories based on their latest cost estimates. Projects which are further along the project lifecycle would be expected to have more accurate cost estimates.

Key 5.1: Categories of Estimated Project Cost Ranges

Category	Cost Range
A	€20m-€50m
B	€50m-€100m
C	€100m-€250m
D	€250m-€500m
E	€500m-€1bn
F	€1bn+

The following chapters set out the sectoral strategies and strategic investment priorities relevant to the ten NSOs in PI2040.

Figure 5.4: Selection of Major Regional Investments Planned in the National Development Plan



(All investments must meet the requirements of the Public Spending Code. Details of all projects over €20 million planned under the NDP can be found at gov.ie/2040)



NSO 1

Chapter 6:
Compact Growth

This outcome aims to secure the sustainable growth of more compact urban and rural settlements supported by jobs, housing, community services and amenities, rather than sprawl and unplanned, uneconomic growth.

Carefully managing the sustainable growth of compact cities, towns and villages will add value and create more attractive places in which people can live and work. All our urban settlements contain many potential development areas, centrally located and frequently publicly owned, that are suitable and capable of being developed to provide housing, jobs, amenities and community services, but which need a streamlined and co-ordinated approach to their development, with investment in enabling infrastructure and supporting amenities, to realise their potential. Activating these strategic areas and achieving effective density and consolidation, rather than more sprawl of urban development, is a top priority.

This requires streamlined and co-ordinated investment in urban, rural and regional infrastructure by public authorities to realise the potential of infill development areas within our cities, towns and villages. This will give scope for greater densities that are centrally located and in many cases publicly owned, as well as bringing life and economic activity back into our communities and existing settlements. Creating critical mass and scale in urban areas with enabling infrastructure, in particular increased investment in public and sustainable transport and supporting amenities, can act as crucial growth drivers. This can play a crucial role in creating more attractive places for people to live and work in, facilitating economic growth and employment creation by increasing Ireland's attractiveness to foreign investment and strengthening opportunities for indigenous enterprise.

Sectoral Strategies

A central underpinning of Project Ireland 2040 (PI2040), the National Planning Framework (NPF) and the National Development Plan (NDP) is the alignment of spatial and investment plans to deliver, on a timely basis, the investment required to provide the housing, jobs and infrastructure of the present population, and also to provide for the projected increase in population of 1 million between 2016 and 2040. The NPF reflects a balanced approach to regional development, including the growth of regional cities, and policies intended to secure the sustainable growth of more compact urban and rural settlement supported by jobs, services and amenities.

The NPF housing supply target has been refined to reflect recent (2020) ESRI research based on NPF population growth, taking into account both existing

demand and a legacy of undersupply to date. There is now a need to accommodate around 600,000 new households by 2040, with the Department of Housing planning to deliver an average of 33,000 homes per annum to 2030.³

Public capital investment must, as a top priority, support the delivery and location of the homes that society will need over the next decade and beyond, while also ensuring that in the future the pattern of housing development underpins the development of more compact higher-density cities, towns and other areas. It is also a priority to enable infill development, with up to 50% of future housing in our cities and major urban centres and 30% elsewhere to be provided within existing built-up areas serviced by existing facilities and along high-capacity public transport corridors. A transport-led housing development approach will allow for the emergence of sustainable and well-connected communities where active travel is feasible and attractive for many localised journeys and good quality public transport is available to facilitate longer journeys into the major urban centres. Urban, compact growth will be supported under this NDP through investment in high quality integrated active travel and public transport systems and supporting amenities. This transport investment will be guided by the metropolitan area transport strategies which have been developed, or are in development, for the five cities. These multi-modal twenty year strategies are integrated within metropolitan land use strategies and allow for a holistic approach toward transport and land-use planning.

NDP Investment will need to be complemented by a range of activation and support measures to ensure that the balance of required housing outside the scope of social and affordable is forthcoming.

Statutory Ministerial guidance has issued to local authorities regarding housing supply targets to inform the review/variation of county and city development plans and this will also feed into work underway on the development of Housing Needs and Demand Assessment (HNDA) which will provide an evidence based rationale for the different tenure mixes to be reflected in local authority housing strategies.

The emerging data from the HNDA provides detailed information on households who will require social housing supports and households who face an affordability constraint to secure their own. This evidence has supported the development of strategy and targets to deliver the necessary housing solutions. Details of these measures are set out in the Government's new Housing Strategy, *Housing for All*. This strategy was published in September 2021.

Overall, *Housing for All* will deliver 33,000 new homes on average in the nine years to 2030 including

³ Economic & Social Research Institute, 2020. Regional Demographics and Structural Housing Demand at a County level. p.34.

an average of 10,000 new social homes each year and an average of 6,000 affordable homes each year.

The government is committed to provision of significant resources to address the impact of disintegration of concrete blocks in dwellings due to excessive amounts of deleterious materials in the aggregate used to manufacture the concrete blocks. Following consideration of the working group report proposals in regard to changes to the Defective Concrete Blocks Grant Scheme will be considered by the Government.

Strategic Investment Priorities

Social Housing

Under Rebuilding Ireland from 2016-2021, there were significant increases in the level of local authority social housing, with significant increases in the level of social housing stock achieved under the Plan. Under Rebuilding Ireland, over 39,000 social homes were delivered from 2016 – 2020 through Build, Acquisition and Leasing delivery mechanisms.

Housing for All includes annual targets for the delivery of social homes, informed by the HND. Social housing performs a key function in society, ensuring that households who do not have sufficient resources to meet their housing needs, either on the open market or with State affordability supports, are provided with social homes. Over the next 10 years, the focus will be on the delivery of new build social homes, with a target to deliver an average of 10,000 new social homes in the period to 2030. New build social homes will be supplemented by a reduced level of housing acquisitions (200 per annum) and long term leasing, which will be ended by 2025 as the level of new build social homes increases.

From the end of 2021, local authorities will develop Housing Delivery Action Plans, setting out details on how and when the local authority will deliver its social housing targets. The Plans will ensure that housing is delivered in line with the objectives of the NPF, in particular compact growth objectives.

The increased ambition of the social housing build programme, will be supported by increased staffing to ensure the establishment of enhanced local authority housing teams. We will strengthen the capacity of local authorities to initiate, design, plan, develop and manage housing projects and to engage in the range of activities to promote living cities and towns, by tackling vacancy and dereliction and supporting regeneration. This requires the resourcing of both the housing and planning services of local authorities. Key supports are being provided through the Housing Delivery Co-Ordination Office (HDCO) which has been established in the Local Government Management Agency, to provide co-ordination of local authority

housing activities. The Housing Agency will also provide technical support and services to the Sector.

There will be a central role for Approved Housing Bodies (AHBs), in delivering new social homes, in partnership with local authorities, with a strategic long-term approach to the AHBs role in housing delivery set out in the local authority Housing Delivery Action Plans.

Building on the successful model of providing social housing through Public Private Partnerships (PPPs) introduced in recent years, which will deliver in the region of 1,500 social homes across three bundles nationally, we will increase the use of PPPs to deliver social housing on local authority land. The PPP model provides a delivery structure whereby social housing units remain in State ownership throughout. The PPPs will be focussed in cities, in particular Dublin, to support the acceleration of delivery from current levels to the required levels.

Capital envelopes have been set for the period 2022-2025 and will deliver an increasing number of new build homes each year for this period.

In response to the Climate Action Plan and Programme for Government commitment of retrofitting over 500,000 homes to a B2/Cost Optimal Equivalent BER standard by 2030, of which it is expected that approximately 36,500 of those will be local authority owned homes, a new ten year Energy Efficiency Retrofitting Programme was launched in 2021 that will see local authorities move from a 'shallow' to a 'deeper retrofit' programme. The improvements in the thermal efficiency of homes under the programme will greatly benefit householders in many ways, as their homes will be warmer, easier to heat and more comfortable, air quality will be enhanced and fuel bills will be reduced.

A principal objective of this new social housing retrofitting programme is to contribute to Ireland's commitments in relation to carbon emissions reductions and energy reduction targets, the energy retrofitting of buildings in the private and public sector holds the greatest potential for energy savings, increasing the numbers of homes retrofitted will reduce greenhouse gas emissions from the residential sector and will help Ireland reach its greenhouse gas emissions targets over the next decade.

Covid-19 has also placed a focus on the need for improved ventilation in our homes, schools and other buildings. Therefore it is important that we improve the energy efficiency and build quality of our buildings. This will improve our living standards by making our buildings more comfortable, healthier, safer and less costly to heat.

The programme has the capacity to play an important role in our economic recovery over the next decade as retrofitting homes is a highly labour-intensive sector

and can create high-quality, sustainable jobs in local communities throughout the country.

The investment set out in this NDP will also support the continued operation of the Capital Assistance Scheme which provides funding to support the development of housing and accommodation for a range of vulnerable individuals and families. This includes the development of age-friendly housing for individuals with a disability and accommodation for homeless households.

In line with the government's commitment to tackle sexual, domestic and gender based violence in all its forms, we will support the development of new accommodation / refuges for victims of sexual, domestic and gender based violence. This will ensure that the needs of victims can be met. This investment will align with the Third Strategy to Tackle Sexual, Domestic and Gender based Violence, an all of government plan being developed by the Minister for Justice, and which will include actions to improve services and supports for victims, as well as developing specialist training, and implementing a plan for future refuge space which addresses the complex range of needs, geographic spread and number of clients.

Affordable Housing

Following the enactment of the Affordable Housing Act 2021 in July 2021, there will be significant State investment under the NDP to support the delivery of affordable homes. In the period to 2030, some 54,000 affordable homes will be made available for purchase or rent. This will include an average of 4,000 Affordable Purchase homes each year, where State investment will support people on lower incomes to buy their own home. A new form of affordable housing will also be provided for following the introduction of Cost Rental, where rents are based on the cost of the provision of housing, rather than on purely commercial terms. An average of 2,000 Cost Rental Homes will be provided each year.

Taken together these affordable measures will make homeownership achievable for more individuals and families in the near-term and will reduce the rental pressures on middle income earners. The State is significantly increasing its investment in affordable housing.

The Serviced Site fund has been replaced by the new "Affordable Housing Fund". Launched in July 2021 it is responsive, flexible and delivery focussed. The State will recoup and re-cycle its investment in affordable housing so that people are helped when they need it most. This will move us away from an over-reliance on annual Exchequer funding in an economically counter cyclical manner. The affordable housing measures will contribute to a more developed, responsive and

appropriate housing system that offers people real choice at affordable levels when they need it.

Urban Regeneration and Development

The Urban Regeneration and Development Fund has proved to be a game changer in the promotion of co-ordinated investment in the renewal and redevelopment of our cities and towns. Launched as part of the last NDP with an investment of €2 billion, it will be extended to 2030 with an associated level of additional investment targeted in an integrated, dynamic and responsive way to underpin the NPF by supporting the regeneration and rejuvenation of our towns and cities with particular focus on compact growth. In addition, the Covid-19 pandemic has highlighted the importance of the quality of our urban living spaces and in this context the role of URDF has gained an increased importance as a catalyst for post-Covid-19 economic recovery, social renewal and regeneration of our cities and towns.

To date there have been two Calls for proposals under the URDF with over €300 million allocated to date in respect of the 87 projects approved under Call 1, while in March this year further URDF funding support of €1.3 billion was announced in respect of 45 projects approved under Call 2. This funding is supporting the co-development of the NPF's growth enablers for the five cities. Land mark projects include the development of the Cork Docklands, Limerick 2030, the development of SDZ's in Waterford and Dublin, a number of key infrastructure projects in Galway and the regeneration of Dublin's Inner City. Some of the projects approved to date involve URDF support exceeding €100 million.

Box 6.1: Shanganagh Housing Development

Current Status: Project approved to tender by Government and tendering has begun.

Estimated Cost Category: Not available, tendering in progress.

Estimated Completion Date: The scheme will be delivered in phases with all phases planned to be complete by mid-2025

Shanganagh is the first project to be backed by the LDA, which was established by the Government to unlock State land for new homes and improve the supply of new homes throughout Ireland.

The project is a large mixed-tenure housing development expected to deliver c.600 residential units of Affordable Purchase homes, Cost Rental apartments and Social homes.

Table 6.1: Projects with Provisional funding support from the Urban Regeneration and Development Fund

Local Authority	Project	Provisional URDF funding support	PSC Status
Cork City	Cork City Docklands	€353,407,500	Preliminary Business Case
Cork City	Grand Parade Quarter	€46,050,000	Preliminary Business Case
Dublin City Council	North Inner City	€121,285,388	Preliminary Business Case
Dublin City Council	South Inner City	€53,015,166	Preliminary Business Case
Dún Laoghaire-Rathdown County Council	Cherrywood Public Access, Permeability and Amenity	€40,361,115	Preliminary Business Case
Dún Laoghaire-Rathdown County Council	Dundrum Community, Cultural and Civic Hub	€4,000,000	Preliminary Business Case
Fingal County Council	Balbriggan Rejuvenation	€25,438,875	Preliminary Business Case
South Dublin County Council	Adamstown SDZ	€9,725,000	Preliminary Business Case
South Dublin County Council	Clonburriss	€176,598,057	Preliminary Business Case
Galway City Council	Galway City Council Transport Connectivity Project	€40,304,000	Preliminary Business Case
Galway City Council	Galway Public Spaces and Streets project	€8,635,000	Preliminary Business Case
Galway City Council	Galway – Innovation and Creativity District	€4,300,000	Preliminary Business Case
Limerick City and County Council	Living Limerick City Centre Initiative	€42,616,690	Preliminary Business Case
Limerick City and County Council	World-class Waterfront	€73,400,000	Preliminary Business Case
Waterford City and County Council	Waterford City Centre Regeneration	€27,661,564	Preliminary Business Case
	Total	€1,026,798,355	

Further funding will be targeted across a number of strands, which will separately address the needs of cities and towns, reflecting both the experience of the funding calls to date, and the objectives of Housing for All in terms of accelerating new supply and tackling vacancy in towns, which is reflective of the Town Centres First approach. These strands will involve;

- **Cities** – funding will reflect the major and complex investment proposals for the transforming of key areas of cities and also the particular needs for investment required to accelerate residential development on brownfield sites;
- **Towns** - aligned with the Town Centre First Approach will seek to provide a toolkit for the enablement of specific visions for towns, specific criteria will be included in the URDF to encourage the activation of vacant properties, and to bring stock back into productive use.

While the majority of funding has been allocated through a competitive bid process, the time is now opportune, particularly with the enabling focus under “Town Centre First” for the Department to work with local authorities to ensure a steady pipeline of projects for consideration for URDF funding rather than a competitive bid process. Through this innovative, crosscutting programme tangible additionality is being delivered in terms of improving the liveability of cities and towns, making a real difference to their social and economic sustainability and development.

Croí Cónaithe

Aligned with the overall objective for compact growth, vibrant, and liveable cities must offer options for both owner occupiers and renters, at all income levels. A key focus of Housing for All is to ensure that those who wish to purchase a home, have sufficient location choice. This is particularly the case for the core of our cities, towns and villages. This new fund, is intended to ensure that, aligned with the objectives of the NPF, additional choices are made available to home buyers in our urban cores, and town centres. It will do this by expanding home ownership options, where the choice is currently limited:

- In urban areas, for apartment living in blocks of four stories or more.
- In towns, where options for building new private dwellings has been constrained by the lack of serviced sites.
- to support the refurbishment of vacant properties where the level of vacancy / dereliction is high.

Firstly, it is clear that in higher density locations, there is insufficient apartments being built for sale. To overcome this viability challenge particularly for apartments of four storeys or more, a new Fund is being established, which through a competitive bid process, will ensure that these developments can be built at lower cost for sale to owner occupiers. This measure is based on activating the planning permissions already in place for such homes over the coming five years. It will be managed by the Housing Agency on behalf of the Department of Housing, Local Government and Heritage, and will require open book accounting, to ensure that financial support provided feeds through in reduced costs to the homebuyers. It is envisaged that measures in Housing for All to support greater construction productivity and reduce the cost of land through changes to planning and taxation law, will encourage a more sustainable market for such housing thereafter.

Secondly, separate challenges arise for living in smaller towns and villages, where there are no viable sites available to purchase for building of new homes. There is significant potential for local authorities to support homeownership in these areas by making available serviced sites at a reduced cost. A pathfinder programme will be initiated as part of this fund, to facilitate making available some 2,000 sites for homes by 2025, depending upon demand. This will be complemented by investment by Irish Water in servicing of small towns and villages, from a water and waste water perspective.

Land Development Agency

Since the previous NDP was launched, the Land Development Agency (LDA) has been established through secondary legislation, with the Land Development Agency Act passed in July 2021. In broad terms, the LDA has two main functions:

- Coordinating appropriate State lands for regeneration and development, opening up key sites which are not being used effectively for housing delivery; and
- Driving strategic land assembly, working with both public and private sector land owners to smooth out peaks and troughs of land supply, stabilising land values and delivering increased affordability.

By assembling land packages ahead of the planning and infrastructure stages, the LDA can lower development land costs and tackle upward pressure on house prices. The LDA will enable Government to address volatility in land prices as a result of land speculation, as well as delays in delivering housing and strategic urban redevelopment generally, as a result of delays in delivery due to disparate land ownership and cost allocation for infrastructure.

In line with Housing for All, the LDA will be funded through borrowing and Ireland Strategic Investment Fund investment up to €3.5 billion, and will have ambitious targets for the delivery of affordable housing. This will include arrangements with local authorities to support them in the delivery of mixed tenure developments, delivery of housing on State lands, acting as a development agency for major urban sites of mixed land ownership, and potentially acquiring private lands. The first of the major arrangements with local authorities, in Shanganagh, Co. Dublin is being tendered as set out in Box 6.1.

Table 6.2: Climate and Environmental Assessment

Investment	Assessment
Compact Growth	B
Local Authority Retrofit	A

Note: See Chapter 3 and separate paper for further detail.



NSO 2

Chapter 7:

Enhanced Regional Accessibility

This National Strategic Outcome seeks to enhance intra-regional accessibility through improving transport links between key urban centres of population and their respective regions, as well as improving transport links between the regions themselves.

This NDP sets out details of a new National Active Travel Programme which will complement the active travel investments in cities, towns and villages as described in NSO 3: Strengthened Rural Economies and Communities and NSO 4: Sustainable Mobility and deliver significant additional walking and cycling infrastructure around the country by 2025. The development of a new National Cycling Network Strategy by end-2022 which will map existing cycling infrastructure in both urban and rural areas, including Greenways, and will serve to inform future planning and project delivery decisions in relation to walking and cycling infrastructure for the remainder of the decade.

In rail, funding is being provided to conduct an all-island *Strategic Rail Review* which will specifically consider the potential for enhanced inter-urban and inter-regional rail connectivity over the period to 2040, including the opportunities for higher speeds on the network. In the interim funding will be provided to support a range of interventions across the network to improve journey times and service reliability, as well as maintaining the optimal levels of maintenance and renewal of the existing network. The NDP will also support delivery of a new Dublin-Belfast Enterprise fleet, which will significantly improve accessibility between the two largest cities on the island of Ireland and will primarily be funded through the European Union's PEACE PLUS programme along with Exchequer contributions.

In the period 2018 to 2021 significant investment took place in new inter-urban roads, strengthening the connection between regions and urban centres. Investment will continue in new inter-urban roads, having regard to the potential for carrying public transport services and better integrating public transport and active travel networks on the approaches to urban areas. A key priority will be to maintain the existing national road network to a robust and safe standard and a significant percentage of national roads expenditure over the course of this NDP will relate to maintenance works, in order to protect and renew existing assets. The national roads programme will also seek to support NSO 1: Compact Growth through targeted investments in by-passes of regional town centres and key growth centres, enabling the rejuvenation and revitalisation of urban centres in line with the principles of the new 'Town Centres First' strategy as is currently being finalised.

Sectoral Strategies

Sustainable Mobility Policy

The Department of Transport is currently finalising a new *Sustainable Mobility Policy* centred upon three overarching principles – Safe and Green Mobility, People Focused Mobility and Better Integrated Mobility. The new policy will be closely aligned with the NPF and in particular support NSO 1: Compact Growth; NSO 2: Enhanced Regional Accessibility; NSO 3: Strengthened Rural Economies and Communities; NSO 4: Sustainable Mobility and NSO 8: Transition to a Low Carbon and Climate Resilient Society. It will also support the actions in the *Climate Action Plan* to reduce transport emissions in line with necessary EU and Irish targets in respect of active travel and public transport.

National Investment Framework for Transport in Ireland

The Department of Transport's forthcoming National Investment Framework for Transport in Ireland (NIFTI) will set out the prioritisation for future investment in the land transport network to support the delivery of the NPF. To make best use of the existing national networks, NIFTI prioritises the maintenance of the systems, followed by maximising the value of the network through optimising its use. Where appropriate, upgrades to existing infrastructure or investment in new road or rail networks will be considered where other interventions have been demonstrated to be inadequate to address the problem or opportunity at hand.

Strategic Investment Priorities



Active Travel

Public Transport

National Roads

Active Travel: National Active Travel Programme

The Government is firmly committed to encouraging the use of walking, cycling and other active travel methods, and this has been signalled by the recent increase in the active travel budget. Whole-of-Government funding equivalent to 20% of the 2020 transport capital budget, or €360 million, has been committed annually for the period 2021-2025. In 2021, the NTA allocated just over €240 million to active travel infrastructure projects in Dublin, the Greater Dublin Area and regional cities. Among the projects progressing are the Mahon to Marina Greenway in Cork, the Castletroy Greenway in Limerick and the Broadmeadow Way Greenway in north Dublin. The aim of this funding is to provide a safe and connected network to those who wish to commute to work or school or make other journeys through healthy and sustainable means.

This investment will help support the delivery of significant levels of new and improved walking and cycling infrastructure by 2025, as well as additional investment in Greenways. It will also fund the deployment of almost 250 additional staff resources in Local Authorities and National Roads Offices around the country to increase the capacity of these organisations to roll-out these active travel infrastructure projects. Delivery of dedicated infrastructure schemes such as the Safe Routes to School Programme will also continue throughout this period, as well as behavioural change programmes such as Green Schools Travel and Smarter Travel Workplaces and Campuses, administered by the National Transport Authority (NTA). Successful delivery of planned projects and programmes should serve to encourage a shift in the population towards walking, cycling and scooting as transport modes as the decade progresses.

The Galway to Dublin Greenway will be completed by 2026 whilst 2021 will see the commencement of construction on a Greenway Bridge in Athlone. We will also see the completion of the Royal and Grand Canal Greenways (including the Dublin sections) by 2025. Greenways around the country will link in with Active Travel infrastructure in our towns and cities as we develop a National Cycle Network strategy (to be

published in 2022). Nine greenway projects financed under the first call under the Strategy for the Future Development of National and Regional Greenways in 2019 and 2021 should be opened between 2022 and 2024.

Public Transport: Protection & Renewal

Investment in the regional and commuter bus fleet will continue with the purchase of up to 400 new vehicles. These new vehicles are low emission EUROVI vehicles and comprise low floor single deck coaches and low floor double deck coaches. The double deck coach vehicles will increase capacity on key interurban routes, replacing high floor single deck coaches. The fleet size will be increased to accommodate additional services supporting the Connecting Ireland programme.

Investment in bus stops including upgraded poles and live timetable information and provision of wheelchair accessible bus stops, including on interurban routes, will continue to improve the accessibility of the bus network for all users, and especially for persons with disabilities, reduced mobility and older people.

Additionally, the National Disability Inclusion Strategy (NDIS) 2017-2022 and the Comprehensive Employment Strategy for People with Disabilities (CES) 2015-2024, commit to the provision of public transport services that are accessible for all, and especially for persons with disabilities. This includes the retrofitting of older, (legacy) infrastructure as well as the ongoing maintenance of existing facilities, such as lifts and transport fleets. The Department of Transport funds a multi-annual, ring-fenced programme, managed by the NTA, towards meeting these commitments.

Funding for the protection and renewal of the railway network is provided for under the NDP and detailed in the legally required Infrastructure Manager Multi-Annual Contract (IMMAC). The current IMMAC covers the period 2020 to 2024 and the next IMMAC will be agreed during 2024 for the period 2025 to 2030. Allocations under this NDP mean that the railway network will be appropriately funded over the entire period and that funding will benefit passengers across the rail network through increased service reliability and punctuality, improved journey times and ensuring continued safety of rail services. In addition, over the next ten years an extensive programme of coastal protection works is planned between Dublin and Rosslare to address erosion issues in the area and improve the climate resilience of the railway.

Public Transport: New Infrastructure

Inter-urban and inter-regional public transport connectivity comprises of both bus and rail networks.

Inter-urban bus travel is provided by commercial operators operating without State subsidy who utilise the NDP funded inter-urban road network, and inter-regional bus travel is largely also operated by commercial bus operators, although there are some State subvented services supported by NDP funded bus fleets. In respect of such subvented services, over the lifetime of this NDP there will be investment in fleet replacement and fleet expansion to ensure continued enhancement of inter-regional subvented bus services.

A Strategic Rail Review has recently been launched which will examine all aspects of the inter-urban and inter-regional rail network including decarbonising the railway, the feasibility of higher speeds, increased capacity, improved connectivity to the North-West and the enhancement of the Dublin to Mullingar railway line and the creation of a strategic plan for freight. The Western Rail corridor has the potential to revitalise the West of Ireland and the Strategic rail review will examine how it would be delivered. The strategic plan for freight will look at the capacity of routes from major ports such as the Rosslare to Dublin line. The Review will also provide an opportunity to reflect on the strategic potential of currently lightly used lines such as the Waterford to Limerick Junction line, disused lines such as the Wexford to Waterford line, the Western Rail Corridor or the Navan to Kingscourt line and indeed the potential of possible new alignments or corridors that may warrant consideration. Uniquely this Review is being conducted on an all-island basis in full co-operation with the Northern Ireland Executive's Department for Infrastructure with a final report due in 2022. Funding under this NDP will allow for the completion of the National Train Control Centre building which will be constructed by end 2022 with final transition to the new train management system scheduled for 2026, as well as line speed improvements along the main Dublin-Cork line and some targeted improvements planned on regional lines as well. The NDP will also support the purchase of new and additional fleet for the Dublin-Belfast Enterprise service which will be funded through the European Union's PEACE PLUS Programme and the Exchequer and will allow for the service to move to an hourly frequency when the new fleet is introduced by 2027. A new train protection system will also be funded which will maintain and enhance safety on the network, while the indicative allocations also support the implementation of a number of initiatives to support the development of rail freight.

Additionally, investment in the DART+ programme will address some of the constraints on the Dublin City Centre rail network and provide for additional services for intercity rail services. Similarly, as part of the Cork Metropolitan Area Transport Strategy, signalling improvements to rail stations and development at Kent Station will facilitate increased services and avoid delays and conflicts on line interactions.

Box 7.1: Dublin – Belfast Enterprise

Current Status: Strategic Assessment

Estimated Cost Category: C

Estimated Completion Date: 2027

The 'Enterprise' is the flagship cross-border intercity train service operating between Dublin and Belfast, jointly operated by Iarnród Éireann (IÉ) and Northern Ireland Railways (NIR). It is the only cross-border rail service on the island of Ireland and the brand is recognised as providing a vital public transport link serving the two main cities on the island.

Approximately 3.3 million people live within a 40-mile commute distance from the Dublin-Belfast corridor. This is projected to grow to 4 million by 2030 and represents half the island of Ireland's population. Both the Governments of Ireland and Northern Ireland support improved rail services and reducing journey times for the Enterprise service. In response, IÉ and NIR propose a major enhancement of the cross-border Enterprise rail service, to include the introduction of an hourly service frequency, a reduction in journey time to 1h45min, and ultimately the electrification of the Belfast/Dublin line in its entirety.

The current rolling stock utilised on the flagship cross-border service will require replacement at the end of its serviceable life in 2027, a key element of the investment is the replacement of the Enterprise fleet. The current fleet will be replaced by 9 new sets in order to provide an hourly service with modern, attractive and sustainable trains. The replacement of old rolling stock with new, modern technology delivers an enhanced and more attractive cross-border transport option, between Belfast and Dublin and the Border Counties. Critically, newer, more sustainable technology moves both NIR and IÉ towards their goal of zero emissions.

National Roads

To ensure a high degree of accessibility for all regions and urban areas, to other regional centres and to our cities, developing and supporting regional connectivity is also a focus with respect to many roads' projects. The revised NDP will be aligned with the National Planning Framework with a particular focus on ensuring that our regional cities are enabled to become centres of appropriate scale and that their growth is compact and sustainable.

National Roads: New Infrastructure

In Ireland, the national roads network is circa 5,300km in length, of which almost 1,000km are motorways. This is a key backbone network for both sustainable mobility (for example buses) and private transport provision across the country. This revised NDP can provide a strong signal to society with regard to the desirability of compact growth, through programmes such as the Urban Regeneration and Development Fund and the Town Centres First schemes which are aimed at attracting people to live and work in urban areas.

Since 2018, a number of important national road projects have been built and completed under the National Development Plan:

- M11 Gorey to Enniscorthy (PPP) bypass, opened Quarter 3 2019
- M7 Naas to Newbridge road widening scheme, opened Quarter 3 2019
- N25 New Ross bypass (PPP), opened Quarter 1 2020
- N56 Mountcharles to Inver improvement scheme, opened Quarter 1 2021
- N4 Collooney to Castlebaldwin improvement scheme, opened August 2021

There are also a number of National Road projects currently under construction;

- M50 Traffic Control and Management including Variable Speed Limits, expected to be complete in early 2023
- N5 Westport to Turlough new road construction, expected to be complete in Quarter 4 2022
- N56 Dungloe to Glenties new road construction, expected to be complete in 2023
- N22 Ballyvourney to Macroom bypass project, expected to be complete in early 2024
- M8/N40 Dunkettle Interchange upgrade, expected to be complete in Quarter 4 2024

In addition, the following projects are fully approved and earmarked to start construction within the next six months:

- N5 Ballaghaderreen to Scramoge road project is due to commence construction in Quarter 4 2021, and is expected to be complete in 2024
- N59 Moycullen bypass is expected to commence construction within a few months and be complete by 2024
- N69 Listowel bypass is expected to commence construction within a few months and be complete by 2024

The following proposed national road projects were part of the previous NDP and are subject to further approvals:

- N2 Ardee to South of Castleblaney
- N2 Clontibret to the Border
- N2 Slane Bypass
- N2 Rath Roundabout to Kilmoon
- N3 Virginia Bypass
- N3 Clonee to M50
- N4 Carrick on Shannon to Dromod
- M4 Leixlip to Maynooth
- N4 Mullingar to Longford
- N6 Galway City Ring Road
- N/M11 Capacity Enhancement
- N11/N25 Oilgate to Rosslare Harbour
- N15/N13 Ballybofey/Stranorlar Bypass
- N56/N13 Letterkenny to Manorcunningham
- N14 Manorcunningham to Lifford/Strabane/A5
- N17 Knock to Collooney
- N/M20 Cork to Limerick
- N21 Abbeyfeale Bypass
- N21 Newcastlewest Bypass
- N21/N69 Limerick to Adare/Foynes
- N22 Farranfore to Killarney
- N24 Cahir to Limerick Junction
- N24 Cahir to Waterford
- N25 Waterford to Glenmore
- N25 Carrigtwohill to Midleton
- N28 Cork to Ringaskiddy
- M50 - Dublin Port South Access Road
- N52 Ardee bypass
- N52 Tullamore to Kilbeggan
- N59 Clifden to Maam Cross
- N72/N73 Mallow Relief Road

The overall level of investment in transport infrastructure has been significantly increased in this revised NDP. This funding will improve transport infrastructure in every part of the State, for all modes of travel in both urban and rural areas. Regional connectivity and facilitating compact urban growth are Government priorities. When evaluating the progression of the above list of projects and in order to deliver on strategic objectives, prioritisation will be required within the new funding envelope. That prioritisation will be in line with the 2:1 Programme for Government commitment on new public transport and new roads, the NIFTI framework, the National Planning Framework and the requirements of the Climate Action Plan.

As this document details considerable investment will also be identified for Active Travel with prioritisation then focussed on Public Transport and then Private Transport. The budget for National Roads will also consider the balance of maintenance, optimisation and improvement of existing road stock before decisions can be approved for new projects.

Investment in these projects contribute to the National Strategic Objectives of Enhanced Regional Accessibility and Compact Growth, connecting communities and encouraging economic activity. The improvement in these transport links provides better journey times and reliability as well as safer routes for road users. For example, the N56 and N4 projects have contributed to the Strategic Investment Priority of improving accessibility to the North-West, while the ongoing Dunkettle interchange project in Co. Cork will enable both compact development and sustainable transport in Cork city, while also improving regional and national connectivity.

Under the revised NDP, the National Roads programme will continue to provide for improved connectivity across the years 2021-2030. The Department and Transport Infrastructure Ireland are working to continue to provide continued protection and renewal of the existing National Roads network as well as progressing new National Road projects which will improve compact growth and regional connectivity across the country. Accordingly, there will be significant investment in the national road network across the next 10 years. As part of this the feasibility of bypasses will be considered for towns and villages throughout the country that are experiencing major congestion issues.

While regional connectivity remains a NSO which the Government is committed to, there will be an increased focus on the delivery of infrastructure which facilitates compact growth in our towns and cities. This will allow for more compact urban and rural communities supported by jobs, houses and services by facilitating public transport and active travel options.

National Roads: Protection & Renewal

Current Status: Ongoing

Estimated Cost Category: F

Estimated Completion Date: Ongoing programme of protection and renewal on National Roads

A key sectoral priority is maintaining Ireland's existing national road network to a robust and safe standard for users. Significant funding over the course of the revised NDP will be provided for capital maintenance works, to maintain and ensure the resilience of existing national road assets. This will be augmented by retrofitting/ improving some national road assets, for example to provide for greater use by public transport (e.g., bus lanes), the potential adoption of Intelligent Transport Systems and other traffic enhancement measures to improve the efficiency/capacity of the existing road network.

An example of a project that will help to use existing road assets more efficiently and safely is the implementation of Variable Speed Limits on the M50 by 2023, which will help improve the flow of traffic on the motorway at peak times.

Table 7.1: Climate and Environmental Assessment

Investment	Assessment
National Roads Programme	C
Bus Investment Programme	A
Heavy Rail Investment Programme	A
Heavy Rail Infrastructure Protection and Renewal	A
Greenways	A
Active Travel	A
Light Rail/metro Investment Programme	A

Note: See Chapter 3 and separate paper for further detail.

Box 7.2: M8/N40/N25 Dunkettle Interchange

Current Status: Under Construction

Estimated Cost Category: C

Estimated Completion Date: Q1 2024

The existing Dunkettle Interchange is a strategically important intersection, and this project will promote enhanced regional accessibility, by improving connectivity between Cork, Dublin and Waterford. The project allows improved access via a link road to Little Island, a strategic resource of national importance for manufacturing, jobs and exports. There will be a bus corridor provided on this link road, encouraging the transition to road-based public transport. The project will also facilitate economic growth and result in improved journey times for road users and quality of life benefits for residents of Cork.

The project aims to remove the traffic light system currently in place, allowing a free flow junction that will provide considerable time saving benefits for passenger and freight traffic using the network. Improvements in journey time certainty will encourage the use of public transport in the area, with the project proposing to link to a possible Park and Ride in Dunkettle. The project enhances the connectivity between the two largest cities in Ireland, promoting economic growth and facilitating

the long-term development of the Atlantic Corridor. In addition, the project will see the provision of cycling and walking facilities on the existing Interchange, providing a safer environment for vulnerable road users.

Transport Infrastructure Ireland (TII) awarded the Design and Build contract on 14 October 2020. A section of cycleway constructed as part of advance works was opened to the public in mid-November 2020. Cork City Council is planning to connect to this cycleway in order to provide a more comprehensive network of cycleways. The main contractor is progressing design, structures and earthworks.

The Cork City Northern Transport Project (formerly called the Cork North Ring Road in the National Development Plan 2018-2027) is a complementary project to the N/M20 Cork to Limerick project and is part of the Cork Metropolitan Area Transport Strategy. Consultants have been appointed by Cork City Council to carry out early appraisal and examine route selection options.



NSO 3

Chapter 8:

Strengthened Rural
Economies and
Communities

The participation of rural communities in the strategic development envisaged under the NPF is imperative to successfully achieving the full potential of the strategic outcomes detailed in the National Development Plan. This applies both in terms of the traditional pillars of the rural economy, as well as those emerging from such developments as improved transport connectivity, national broadband delivery, climate action and rural economic development.

Sectoral Strategies – Rural and Community Development

The funding available through overall Government investment in rural Ireland (provided through the National Development Plan) will support the achievement of the ambitious objectives set out in “Our Rural Future” (ORF) over the lifetime of the policy to 2025. In doing so it will deliver on key priorities for rural Ireland and communities committed to in the Programme for Government.

The Rural Regeneration and Development Fund (RRDF), will continue to support ambitious investments of scale which will deliver on key Our Rural Future objectives and Programme for Government commitments, delivering the necessary facilities and infrastructure – to revitalise our rural towns and villages, addressing vacancy, dereliction and driving town centre residency, remote working and enterprise development - which will play a part in making rural areas attractive places to live and work. The Fund will also assist in supporting the objectives of the Town Centre First and Housing for All policies and deliver balanced regional development.

The NPF objectives will also be supported by the Town and Village Renewal Scheme which will provide funding for small and medium scale projects which will assist in the development of rural areas, and generate greater activity in town and village centres to deliver economic and social benefits for the communities who live there.

The schemes effectiveness will also be enhanced in the future through strategic targeting of funding for key areas, in line with Programme for Government priorities and the forthcoming Town Centre First Policy in particular. Town Centre first policy will be key to providing a pathway, underpinned with the necessary resources, for individual towns to identify and deliver the tailored interventions required to ensure that they are vibrant, attractive and sustainable places for people to live, work and socialise, while addressing issues associated with vacancy and decline.

The Outdoor Recreation Infrastructure Scheme will continue to support the further development of the outdoor recreation sector with funding for new infrastructure (walking routes, blueways etc.)

and the enhancement of existing facilities. The scheme will also support, as appropriate, the delivery of the requirements emerging from the National Outdoor Recreation Strategy, as committed to in the Programme for Government.

The funding in the NDP will ensure that the LEADER programme, which has been a critical programme for rural development in Ireland since its inception in the early 1990s, continues to improve the quality of life in rural areas by providing the resources necessary to rural communities in supporting their own development. It will ensure that the LEADER Programme can continue to provide support in the areas of economic development, job creation, social inclusion and the sustainable development of our rural communities at the necessary level for the next programme period and the transition between this period and the next programme. It will also ensure that commitments in the Programme for Government regarding the rate of aid available to private enterprises for capital projects can be delivered upon.

As set out in the Programme for Government, NDP funding will also allow continued investment in supporting broadband connectivity in rural areas, including through the continued development of the Broadband Connection Point (BCP) network, and supports to improve the remote working hub network across Ireland. This investment will complement the work which will be supported through the Rural Regeneration and Development Fund and the Town and Village Renewal Scheme to put in place infrastructure which will assist in greater levels of remote working and facilitating people to live and work in rural areas.

The CLÁR funding programme will continue to support small scale infrastructural projects that assist some of our most remote rural communities, and specific areas that have previously experienced population decline.

The Local Improvement Scheme will also maintain funding levels to help local authorities carry out improvement works on private and non-publicly maintained roads in rural areas.

As committed to in the Programme for Government, DRCD’s community development funding programmes will continue their important work in providing small-scale capital support for community development infrastructure, which play a vital role in community cohesion and support across the country. This funding will also meet a commitment to support the delivery of Our Public Libraries 2022 and continue capital support for our library network across the country and facilitate further progress on the rollout of My Open Library. The new PEACE PLUS Programme will use NDP support to further consolidate and build upon the peace dividend in border counties, supporting key projects over the

coming years to promote cross-community bonds and drive prosperity.

Included in the Programme for Government is a commitment for the development of a new Islands Policy, the central objective of which will be to ensure that sustainable vibrant communities continue to live on the offshore islands. The policy will be supported by 3 year action plans with key objectives being supported by capital funding under the revised NDP with a view to improving connectivity, transport links, education, job creation and fully exploiting the potential for sustainable tourism on our islands.

Strategic Investment Priorities – Rural and Community Development

Under this theme, the National Development Plan is supporting the delivery of and building on the progress achieved through:

- Our Rural Future – Rural Development Policy 2021-2024, which provides a framework for the development of rural Ireland over the next 5 years, setting out to address the challenges facing rural areas and the opportunities which rural areas and communities can benefit from in the coming years;
- Sustainable, Inclusive and Empowered Communities: A five year strategy to support the community and voluntary sector in Ireland 2019-2021 which sets out a vision to create vibrant, sustainable, inclusive, empowered and self-determining communities.

In March 2021, the Government launched its new five year policy for rural development, Our Rural Future 2021-2025. The policy sets out a list of key deliverables and actions which will seek to make a real and lasting impact on improving the lives of people who live and work in rural Ireland and to recognise the integral role that rural areas play in our national development.

This main objectives of the policy are to help more people to live in rural Ireland, settling in our towns, villages and on the islands and help reverse population decline, to facilitate more people to work in rural Ireland, for rural areas to contribute to, and benefit from, the transition to a low-carbon and more sustainable society and for rural towns to be vibrant hubs for commercial and social activity.

The ambitious agenda set out in Our Rural Future will be supported by the investment set out in the revised NDP to build on the existing strengths presented in rural areas and to avail of the opportunities which have now arisen, most notably in terms of remote

working and the potential for more people to live and work in rural areas.

The objectives of Our Rural Future fully complement the vision set out in the National Planning Framework and the Regional Spatial and Economic Strategies. The investment provided by the revised NDP and delivered through the Department's funding programmes will support job creation and lay the foundations for contributing to the regional population and employment targets in the NPF and the RSEs. Funding will also support the delivery of the Housing for All policy, including development of our towns and villages for greater residential occupancy, assist in the provision of housing in the regions.

The objectives of Our Rural Future are further supported in the Government's Economic which seeks to support recovery through a balanced, sustainable and inclusive approach. This includes addressing regional disparities, as well as the impacts of Brexit and the green and digital transitions, and leveraging the substantial opportunities that technology and digital tools provide. The Department's funding programmes, such as the NBP's Broadband Connection Point (BCP) Initiative, will seek to deliver on these objectives and also leverage our investment to ensure that economic growth assists in reducing inequality.

The publication of Our Rural Future was also a key objective in the current Programme for Government, along with a number of other commitments including: building upon the Town and Village Renewal Scheme, continuing to support libraries development, producing a new Outdoor Recreation Strategy, establishing a transitional LEADER Programme to bridge the gap to the next EU Framework Programme and the development of the next LEADER Programme from 2023 to 2027

Another key commitment, which will be supported across the Department's funding programmes, is supporting the delivery of remote working facilities, with the Department leading on the development of the National Remote Working Hub network which will be key to supporting coordinating the strategic use of existing and future remote working facilities across the country in both rural and urban areas.

The forthcoming Town Centre First policy is an initiative involving a strategic approach to town centre regeneration by utilising existing buildings and unused lands for new development, as well as the promotion of residential occupancy in our rural towns and villages. The Department's funding programmes, most notably the Rural Regeneration and Development Fund and the Town and Village Renewal Scheme, will play a key part in helping to deliver this initiative in rural towns and villages,

assisting in driving regeneration through utilising existing buildings and addressing dereliction in town centres.

Our coastal islands are an integral part of the state's heritage. Around 30 of these islands are inhabited and hold a wealth of cultural heritage. Good transport services and a developed infrastructure are important prerequisites for maintaining island populations. To support this objective, funding is provided for 4 major capital projects, these include pier developments and the provision of a ferry vessel. In addition and with the co-operation of the local authorities an annual programme for minor capital works is being delivered. This programme includes investment in vital island infrastructure such as road improvements, repairs to slipways or coastal defences. Such works have a major impact on these small communities as it enables them to have safe access to and from the islands.

There is a particular challenge in delivering climate action and carbon reduction measures in rural Ireland given the dispersed nature of the population. The Department is working with stakeholders to drive the preparation of small-scale climate-friendly and sustainability measures as part of capital regeneration or rural development projects.

Finally, capital support for communities will be enhanced by the provision of funding to upgrade community centres. This will be accompanied by the small scale capital investments for community development infrastructure right across the country, including libraries investment and the Community Enhancement Scheme are an important aspect of Government support for this area. The NDP will ensure these supports can be maintained, helping to ensure the community and voluntary sector can continue their important work for communities throughout Ireland.

Table 8.1: Summary of Rural and Community Development Schemes or Programmes

Scheme/Programme	Summary
<p>Rural Regeneration and Development Fund</p>	<p>The Rural Regeneration and Development Fund was established as part of Project Ireland 2040 and seeks to provide investment to support the objectives of Our Rural Future, most notably in terms of strengthening and building resilience in rural communities and assisting in the regeneration, development and growth of towns and villages with a population of less than 10,000 and outlying areas. The RRDF will also be central to supporting key Government priorities including Town Centres First and improving access to remote working hubs.</p> <p>RRDF Major Projects (Category 1) supports ambitious and strategic projects, which are ready to deliver, that can drive sustainable rural regeneration and development. Grants awarded have been in the range of €0.5 million to €10 million, enabling large scale investment with long term benefits for rural economies and communities. RRDF Seed Funding (Category 2) generally provides smaller grant funding to enable the development of project proposals suitable for future applications to the RRDF Major Projects strand.</p>
<p>LEADER Programme</p>	<p>LEADER forms part of Ireland's extended Rural Development Programme 2014-2022. LEADER is programmed to provide €320 million in capital funding to support projects aimed at economic development and job creation, social inclusion and environmental protection in rural areas. It is expected that the LEADER programme will provide investment in 3,000 rural communities and contribute to the creation of 3,100 jobs. The programme is co-financed by the EU and approximately 63% of the €300 million for the programme will be recouped from the European Commission with the remaining €20m, European Union Recovery Instrument funding, which is funded under the EU Recovery and Resilience Facility, fully financed by the EU.</p> <p>The next LEADER Programme will begin in 2023 and will form part of Ireland's CAP Strategic Plan 2023-2027. The plan is currently being drafted, the current draft outlines that the LEADER Programme will continue to provide capital funding, supporting bottom up approach to rural development, economic development, and job creation. There will be a larger focus on climate change and the sustainability of the rural environment, thereby supporting a stronger green ambition.</p>

Rural Regeneration and Development - Town and Village Renewal Scheme	The Town and Village Renewal Scheme aims to support the revitalisation of rural towns and villages across Ireland, in order to increase their attractiveness as places in which to live and work. The particular focus of the scheme, founded on the objectives of 'Our Rural Future', is to address vacancy and dereliction in town and village centres, encourage town centre living and support remote working hubs. Funding will also continue to be provided for public realm enhancements and recreational amenities in our towns and villages. As with the RRDF, the Town and Village Renewal Scheme will be an important support for Government policies such as Town Centres First and enhancing access to remote working facilities throughout Ireland.
Rural Regeneration and Development - Outdoor Recreation Infrastructure Scheme	In light of the huge potential to develop the economic value of Activity and Recreational Tourism by Local Authorities, State Agencies and communities, the Outdoor Recreation Infrastructure Scheme supports the development and necessary maintenance, enhancement or promotion of outdoor recreational infrastructure. Initiatives funded cover a broad spectrum, and range from walking trails to blueways to facilities for outdoor pursuits and adventure activities such as canoeing/kayaking, swimming, surfing and sailing.
Local Improvement Scheme	The Local Improvement Scheme supports improvement works to non-public roads which are not subject to normal maintenance by Local Authorities. The scheme provides up to 90% funding for works and is delivered through Local Authorities.
CLÁR Programme	The CLÁR programme is a targeted investment programme which provides funding for small scale infrastructural projects in rural areas that have suffered the greatest levels of population decline. The aim of CLÁR is to support the sustainable development of identified CLÁR areas by making them attractive for people to live and work there. The funding works in conjunction with local funding and on the basis of locally identified priorities.
Islands Capital Programme	Key activities under this programme include ensuring safe and secure access for island communities. Under this programme a number of major capital works on the islands are being progressed, these projects will include development of piers and the commissioning of a new passenger ferry to Tory Island, Co. Donegal. In addition, an annual programme for minor capital works is funded in conjunction with the relevant local authorities with the aim of developing and upgrading infrastructure on the islands.
Community Enhancement Programme	The Community Enhancement Programme provides small grants to community groups to enhance facilities in disadvantaged areas. The programme is administered by Local Community Development Committees in each Local Authority area.
Libraries Investment	Capital funding for libraries will support the continued implementation of the Public Library Strategy (2018-2022) and its successor, and strengthen libraries as essential community facilities, providing services that underpin the attractiveness, liveability and sustainability of communities. Funding supports new buildings, renovations and extensions, technology investment, continued roll out of My Open Library Services, and new initiatives that seek to increase user numbers.
PEACE PLUS Programme	PEACE PLUS is a new €1 billion cross-border EU funding programme for the period 2021-27, designed to support peace and prosperity across Northern Ireland and the border counties of Ireland. The programme which is an amalgamation of the current PEACE and INTERREG programmes, will build on the work of these previous programmes.

Sectoral Strategies - Transport

Across rural Ireland, the regional and local road network connects communities and supports public transport services. The network requires significant annual funding to ensure resilience to the impacts of climate change and access for rural communities to critical services such as education, healthcare and employment. This NDP will also support the expansion of sustainable mobility options, both in the context of improved public transport and expanded active travel infrastructure, with the aim of offering citizens in rural areas a sustainable alternative to the private car. Expanding sustainable mobility options in rural areas, in particular through the provision of increased PSO supported services, can help realise the NPF’s objectives of improving connectivity between towns and villages and revitalising and rejuvenating these areas.

The highest priority for investment in regional and local roads is to maintain the asset through the protection and renewal of the existing network of some 96,000 km. This network links towns and villages across the country. It is used by cars, taxis, buses and cyclists. It is also used by trucks and vans delivering goods to shops, businesses, distribution centres and manufacturers. It facilitates tourism, education, local travel, the provision of services and farming and forestry activities.

Maintaining this network in good condition is of the utmost importance to the social fabric and economy of the country. In addition to maintaining the network in good repair a number of targeted improvement schemes have been identified for progression during the course of the NDP.



The ‘Our Rural Future’ Rural Development Policy launched in 2021, contains a number of commitments in relation to transport in rural and regional areas. It commits to the provision of improved and accessible public transport services for people of all ages and abilities, the piloting of new transport initiatives in rural areas and exploring the potential integration with other state funded transport services.

Additionally, the National Disability Inclusion Strategy (NDIS) 2017-2022 and the Comprehensive Employment Strategy for People with Disabilities (CES) 2015-2024 commit to the provision of public transport services that are accessible for all, and especially for persons with disabilities. This includes the retrofitting of older (legacy) infrastructure as well as the ongoing maintenance of existing facilities, such as lifts and transport fleets. The Department of Transport funds a multi-annual, ring-fenced programme, managed by the NTA, towards meeting these commitments.

Strategy for the Future Development of National and Regional Greenways

The Strategy, published in 2018, set out the ambition to “increase the number and geographical spread of Greenways of scale and quality around the country over the next 10 years with a consequent significant increase in the number of people using Greenways as a visitor experience and as a recreational amenity”. The Programme for Government requires Greenways to also provide connectivity to our towns and villages and to pivot to also provide for everyday journeys to work and school, as well as for leisure purposes.

As part of this, Greenways in rural Ireland will be examined such as the Bandon to Innishannon Greenway, the Clonakilty to Inchydoney Greenway and the possible linking of the North and South Kerry Greenways.

Strategic Investment Priorities - Transport

Active Travel in Towns and Villages

Whole-of-Government funding of €360 million has been committed to the development of walking and cycling infrastructure all over Ireland, including in towns and villages in more rural areas of the country as well as rural Greenways. In 2021, over €70 million was allocated by the National Transport Authority (NTA) to local authorities outside the Greater Dublin Area (GDA) and the regional cities. This constitutes the first ever major Active Travel investment programme for rural Ireland. The investment in these counties is a sign of the Government’s commitment to the development of a sustainable mobility system which will provide a viable alternative to private car use, where feasible, not only in our major urban centres but across the country.

Public Transport

Connecting Ireland

The NTA's 'Connecting Ireland Rural Mobility Plan' is a national public transport initiative that will increase connectivity, particularly for people living outside the major cities and towns. The Plan aims to provide better connections between villages and towns through enhanced and new local routes. These local routes will be integrated with an enhanced regional network connecting cities and regional centres nationwide. The key principle will be to provide access to opportunities (employment, education, healthcare, retail, etc) at the closest point available, or connections to higher level centres further away that offer those opportunities. As these will be mainstream public transport services, they will open to all, and all vehicles will be wheelchair accessible.

The delivery of Connecting Ireland will require additional current PSO funding to cover the operating costs of the new and enhanced services. Separately this NDP will fund the capital expenditure requirements associated with the delivery of additional bus stops and vehicles to support the roll-out of the overall Plan.

Regional and Local Roads

In addition to maintaining the regional and local road network in good repair, it is a priority to carry out targeted improvements to sections of the network. The first category of targeted works are Safety/ Minor works projects which are designed to address sections of road with poor safety characteristics and poor safety records, and also minor projects where the appraisal demonstrates a significant benefit in areas such as support for the local economy and the Town Centre First policy, improved accessibility (including areas remote from the major national road network), protection of lifeline routes, and traffic management. The second category are Strategic projects which would have a significant and quantifiable economic impact, particularly as regards employment and on industry, tourism, agriculture, rural development, and urban regeneration.

Projects completed to date under the NDP include the Sallins Bypass, Bettystown to Laytown regional road, approach roads to Grange Castle Business Park, Portlaoise Southern Distributor Road, Dingle Relief Road and Sligo Western Distributor Road.

The Carrigaline Western Relief Road and the Coonagh to Knockalisheen project are under construction, while other projects where the main construction work is due to commence shortly include Tralee Northern Relief Road, Shannon Crossing/ Killaloe Bypass/ R494 Upgrade, and Athy Southern Distributor Road.

Other regional and local road projects are at earlier stages of planning / design and include the Eastern Garavogue Bridge and approach roads in Sligo, the realignment of the R498 at Latteragh in County Tipperary, the Thurles Relief Road and the Carlow Southern Relief Road. These projects are subject to the appropriate approvals.

Local Authorities may also consider bringing forward proposals for further locally important road infrastructure projects to deal with particular safety and access issues.

Box 8.1: Regional and Local Road Protection and Renewal

Current Status: Annual programme of works

Estimated Cost Category: F (2021-2025)

Estimated Completion Date: Annual

The highest priority for investment in regional and local roads is to maintain the asset through the protection and renewal of the network of some 96,000 km. This network links towns and villages across the country. It is used by cars, taxis, buses and cyclists. It is also used by trucks and vans delivering goods to shops, businesses, distribution centres and manufacturers. It facilitates tourism, education, local travel, the provision of services and farming and forestry activities. Maintaining this network in good condition is of the utmost importance to the social fabric and economy of the country.

The investment is delivered through a series of targeted Department of Transport funded programmes to local authorities which include:

- Restoration Maintenance (resealing)
- Restoration Improvement (strengthening)
- Discretionary (repairs & routine maintenance)
- Drainage works
- Climate Adaptation & Resilience Works
- Safety related works
- Training
- Winter Maintenance.

National Broadband Plan

A digitally connected Ireland will enhance our competitiveness, enabling more quality jobs in both urban and rural communities, and providing an improved quality of life for citizens and communities across the country. Over the lifetime of the NDP, every home, school and business in Ireland, regardless of how remote or rural, will be provided with high-speed broadband. This will be achieved through a combination of Exchequer investment of €2.7 billion under the National Broadband Plan (NBP) complemented by multi-billion euro investment programmes by commercial operators primarily in cities, towns and villages.

Under the NBP, 1.1 million people living and working in over 544,000 premises, including almost 100,000 businesses and farms along with almost 700 schools will receive access to high-speed broadband.

The NBP will play a major role in promoting balanced regional development as part of a sustainable and equitable post-pandemic recovery. Citizens and businesses in remote areas will enjoy the same opportunities to benefit from a connected and digital economy as those in urban areas.

With close to 300 connected hubs being provided in remote rural locations, the NBP will give citizens greater choice in where to live and work and will allow for emergence and growth of small enterprises, regardless of location.

The NBP will enable citizens to benefit from advances in technology including eHealth and eEducation initiatives regardless of their location. It will also bring new opportunities to rural areas in smart farming and tourism and will support remote working, e-commerce and other online opportunities.

The Programme for Government set out a clear ambition to accelerate the NBP network rollout. The Department of the Environment, Climate and Communications is engaging with the NBP operator with a view to bringing forward premises which are currently scheduled for years 6 and 7 of the deployment plan to an earlier date.

Box 8.2: National Broadband Plan

Current Status: Under construction – network rollout commenced in 2020

Estimated Cost Category: F

Estimated Completion Date: Contract awarded for 25 years – completion of network build within 5 to 7 years

High speed broadband being provided to 1.1 million people living and working in over 544,000 premises, including almost 100,000 businesses and farms along with almost 700 schools.

The NBP network will operate as a wholesale, open access network, ensuring equal access for retail providers and providing consumers with access to high-speed broadband services at prices comparable with more urban areas.

The NBP has stimulated commercial telecommunications investment in high-speed broadband infrastructure. Commercial operators have invested over €3.3 billion in network upgrades and enhanced services since 2012, and further significant investments are planned across the sector, mainly in urban areas. As a result, 1.87 million premises, representing 77% of the premises in Ireland, had access to a high-speed broadband service at the end of 2020. This figure will increase significantly as the NBP network is deployed throughout the country.

Table 8.2: Climate and Environmental Assessment

Investment	Assessment
Rural Regeneration and Development Programme - Rural Regeneration and Development Fund/Town and Village Renewal Scheme/Outdoor Recreation Infrastructure Scheme	A
LEADER and Rural Supports Programme - LEADER Programme/CLÁR/Broadband Supports/Islands Programme/Local Improvement Scheme	A
Community Development Programme - Community Development/Libraries Development/Peace Programme	B
Regional & Local Road (RLR) - Protection and Maintenance of Network	A
Regional and Local Roads - New Road Projects (including by-passes)	C
National Broadband Plan	A

Note: See Chapter 3 and separate paper for further detail.

Sectoral Strategies - Agriculture, Food and the Marine

The Government has published a new strategy for the agri-food sector, 'Food Vision 2030 – A World Leader in Sustainable Food Systems'. This was developed by a Committee of agri-food stakeholders and envisages a transformational pathway to a position of world leadership in “Sustainable Food Systems” by 2030. Food Vision adopts an integrated food systems approach and consists of 22 Goals, grouped into four high-level Missions:

1. A Climate Smart, Environmentally Sustainable Agri-Food Sector
2. Viable and Resilient Primary Producers with Enhanced Well-Being
3. Food that is Safe, Nutritious and Appealing, Trusted And Valued at Home and Abroad
4. An Innovative, Competitive and Resilient Agri-Food Sector, Driven by Technology And Talent.

Investment in the agri-food sector is required to fulfil this ambition. Public capital investments in the agri-food sector will seek to support the sustainable development of the sector in accordance with the ambition in the Food Vision 2030. These objectives will be aided by the EU Common Agricultural and Common Fisheries Policies operating after 2020 which are expected to focus on these sectors in a way that delivers enhanced economic, environmental and social sustainability, with a particular emphasis on climate change mitigation and adaptation actions.

Strategic Investment Priorities - Agriculture, Food and the Marine

Food Company Investment Support

Continued support for food companies adapting and optimising their production facilities will maximise the contribution the sector makes to the rural and national economy.

Rural Development Programme and On-Farm Investment

Ireland's Rural Development Programme (RDP) 2014-2020 which has been extended to 2022 will provide some €5.6 billion of support to rural communities in Ireland over its lifetime. Ireland's CAP Strategic Plan (CSP) for the period 2023-2027 will underpin the sustainable development of Ireland's farming and food sector by supporting viable farm incomes and enhancing competitiveness, by strengthening the socio-economic fabric of rural areas, and by contributing to the achievement of environmental and climate objectives at national and EU levels.

The On-farm Capital Investment Scheme under Ireland's 2023-2027 CSP is expected to provide support to farmers looking to invest in capital projects on their farms. It will aim to

- increase environmental efficiency in the agricultural sector through on farm investment and the adoption of new technologies;
- support young farmers in accessing finance so they are in a better position to invest in and develop their farm enterprise; and
- improve animal health and welfare, and farm safety on farms.

Fishery Harbour Centres

Major development projects in Castletownbere, Howth and Killybegs have commenced, and while all have been delayed somewhat due to Covid-19 restrictions they are expected to be complete in early 2022. Preparatory work is ongoing for other projects including a major dredging project in Howth which is currently at planning stage. Overall, a capital investment programme of up to €180 million across all six Fishery Harbour Centres, at Howth, Dunmore East, Castletownbere, Dingle, Ros an Mhíl and Killybegs, encompassing ongoing safety and maintenance and necessary new developments is envisaged for commencement by 2025. Ongoing improvements will be required thereafter.

Local Authority Harbours

Capital projects will also be considered in Local Authority owned Harbours such as Greencastle, Fenit and Union Hall for activities associated with the Fishing and Aquaculture sectors.

Seafood Development Programme

Ireland's European Maritime and Fisheries Fund Programme 2014-20 will award the last of its €240 million budget in 2021. The new Seafood Development Programme 2021-27 will be launched in 2022 with €142 million EU funds from the European Maritime Fisheries and Aquaculture Fund (EMFAF) and matching funds from Government. The Seafood Development Programme will:

- Assist seafood enterprises in the fisheries, aquaculture and seafood processing sectors to adapt to the impacts of Brexit and Covid-19, grow seafood output, add value to seafood products, enhance the competitiveness of seafood enterprises and develop their markets.
- Support the conservation of fish stocks, the protection and restoration of marine habitats and biodiversity and climate change mitigation and adaptation in the seafood sector.
- Fund the development and dissemination of knowledge and technology in the seafood sector to address challenges and avail of opportunities for the sustainable growth of the seafood sector.
- Assist coastal communities in diversifying and growing their economies.

Research and Innovation Facilities

Greater innovation both inside and outside the farm gate to enhance both economic and environmental efficiency will be central to achieving the ambition of Food Vision 2030. The Marine Institute has commissioned a new specialist replacement marine vessel (in 2019) which is scheduled to be delivered and fully operational by Autumn 2022.

Access to Finance

The agri-food sector will require the appropriate access to finance to fulfil the ambition set out in Food Vision 2030. Government will continue to monitor the access to finance market and consult with stakeholders on their requirements in this regard.

Forestry Programme

Forestry is a vital resource for the Irish economy. In addition to their economic, social and recreational role, Ireland's forests play an essential role in helping with climate change mitigation, through carbon sequestration in forests and the provision of renewable fuels and raw materials.

The Climate Action Plan 2019 outlines 34 high level actions with associated sub measures specifically for the forestry sector, including a target of an average of 8,000 ha of afforestation per year. The targets set out in the Climate Action Plan are aligned with the level of ambition for afforestation specified in the current Forestry Programme 2014-2020, with targets for afforestation rising incrementally to 8,100 hectares per annum to 2020. The Forestry Programme 2014-2020 is 100 per cent exchequer funded and received approval to be extended to the end of 2022 by the European Commission, in accordance with State aid transition requirements. The programme represents State investment in the forestry sector of some €482 million over its lifetime.

A publicly funded capital programme for afforestation beyond the lifetime of the current Forestry Programme 2014 - 2020 will be provided for under this NDP.

Table 8.3: Climate and Environmental Assessment

Investment	Assessment
Forestry	A
Rural Development Programme and On-Farm Investment	A
Seafood Development Programme 2021-27	A
National Agricultural Sustainability Research and Innovation Centre (NASRIC) Johnstown Castle Wexford	A
Redevelopment of Irish Equine Centre	A
Development of Regional Laboratories	A
AD pilot project to supply biomethane	A

Note: See Chapter 3 and separate paper for further detail.

Sectoral Strategies – Tourism, Culture, Arts, Gaeltacht, Sport and Media

The full participation of rural communities in the strategic development as envisaged under the NPF is imperative to achieving the full potential of the strategic outcomes detailed in the National Development Plan. The NDP recognises that investing in enhanced amenity and place-making underpins social cohesion and supports strong, sustainable economic growth. Cultural and sporting infrastructure can make a significant contribution to place-making in rural areas while investment in rural economic development opportunities including through sustainable tourism, the audiovisual sector, and opportunities in Gaeltacht communities supported by Údarás na Gaeltachta will help to drive regional economies and the communities that contribute to them.

The Department's investment strategy is informed by a broad range of sectoral policies and is set out in the following strategy documents:

- Investing in our Culture, Language and Heritage – 2018 to 2027 (ICLH) which guides investment in the Culture, Arts and Gaeltacht Sectors;
- The Department's investment priorities for the tourism sector are currently set out in Linking People and Places (LPP). Under NSO 3, LPP highlights that employment in tourism is regionally dispersed and capital investment in sport and tourism infrastructure acts as a source of economic activity and employment.

- The National Sports Policy 2018-2027 (NSP) outlines the Department's priorities for investment in sport facilities at local, regional and national level.

The investment programme will be underpinned by a commitment to the regional objectives and NPF targets for growth, ensuring that there is meaningful management of delivery in support of the NPF and RSES. It will also align with the national and sectoral objectives of the Government's Climate Action Plan.

Given the success of ICLH, LPP, and NSP in guiding and monitoring the Department's capital programme to date, it is intended to continue to implement these plans, in tandem with existing and emerging policies e.g. the new tourism policy which will set out the roadmap for the social, economic and environmental sustainability of the sector in the coming years.

In broad terms, the Department's sectoral programme of investment will:

- Support economic recovery and promote resilience within our sectors;
- Enhance well-being at individual and community level and promote social cohesion; advance an agenda for social, economic and environmental sustainability within the Department's sectors while also supporting and enhancing guardianship of our unique cultural, linguistic and sporting heritage.

Economic Recovery and Resilience

Capital investment in the tourism, media, and audiovisual sectors, underpinned by the Economic Recovery Plan, can help to secure and enhance the contribution of these sectors, including in rural communities, to Ireland's wider economy. The Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media supports these efforts through its economic development agencies; Fáilte Ireland, Screen Ireland, the BAI/Media Commission and Údarás na Gaeltachta, as well as through its work across Government to deliver on a range of policies including Global Ireland and the Roadmap for the Creative Industries. The Department is increasingly focusing on promoting creative industries and skills, one of the fastest growing economic sectors worldwide. Recovery from the COVID -19 pandemic will also impact the capital investment programme in these sectors over the next decade.

Wellbeing and Social Cohesion

The Department of Tourism, Culture, Art, Gaeltacht, Sport and Media also leverages its considerable sectoral remit, including through its Creative Ireland programme and through partners in Sport Ireland, the Arts Council and in the National Cultural Institutions, to improve the wellbeing of citizens by investing to promote creativity, social interaction, participation in sport and physical activity, individual potential and community cohesion. Investment in our linguistic, sporting and cultural infrastructure as well as in the tourism sector will positively impact wellbeing in rural areas by improving amenity resources that will benefit people and communities across the country.

Guardianship and Sustainability

Guardianship and sustainability are central to the Programme for Government, National Economic Recovery Plan, National Planning Framework and Climate Action Plan, and the TCAGSM capital investment includes measures to protect Ireland's tangible and intangible culture, sport and language across the country, including investment to ensure the sustainability of Gaeltacht areas as vibrant communities and a reservoir for the Irish language.



Strategic Investment Priorities – Tourism, Culture, Arts, Gaeltacht, Sport and Media

Support and grow tourism in rural communities through investment in the Tourism Ireland Marketing Fund, as well as delivering enhanced amenity delivered through Tourism Product Development.

Support place-making through investment in Cultural Regional Infrastructure, with a focus on sustainable and energy efficient infrastructural investment.

Develop the Creative Industries and a vibrant Media Production and Audio Visual Sector through investment in Screen Ireland and the Media Commission (which is to replace Broadcasting Authority of Ireland)

Sustain Gaeltacht Communities through investment in Údarás na Gaeltachta, and Promote the Irish Language through Gaeltacht and Irish Language Support Schemes and through the Media Commission.

Enhance sports facilities throughout Ireland through the Sports Capital and Equipment Programme.

Strategic Investment Priorities - Tourism, Culture, Arts, Gaeltacht, Sports and Media

Economic Recovery and Resilience

Support and grow Tourism in rural Communities

Capital expenditure helps support the creation of future jobs and will allow the transition of the tourism industry to a more sustainable model. Investment also strengthens Ireland's tourism offering, international reputation and attractiveness as a 'must visit' tourism destination. In 2019, there were 9.69 million overseas visitors to Ireland, spending €5.1 billion. Capital expenditure on our tourism offering enables the sector to attract a greater number of tourists, both from overseas and domestically. Investment in our international tourism marketing infrastructure also helps to stimulate business from overseas markets. This is critical when every 1,000 additional overseas tourists supports 20 jobs in the domestic tourism industry. The economic benefits of tourism to the development of rural Ireland, particularly in regions that lack an intensive industry base or are economically fragile are considerable.

Out of an estimated 260,000 jobs supported by tourism in 2019, 70% were outside Dublin and 1 in 5 people in the west of Ireland are usually employed in tourism and hospitality.

Fáilte Ireland's Tourism Investment Strategy, which is funded by TCAGSM, will be underpinned in the coming years by the development of a new National Tourism Policy which will mainstream sustainability into tourism development. Priority areas identified for tourism capital investment include the development and enhancement of tourist attractions as well as activity-based tourism, in order to provide the type and quality of experience that visitors are seeking. This will help to deliver sustainable growth in the tourism sector, providing a positive economic impact across the country, and, particularly importantly, in remote and rural areas. Prior to the development of a new tourism policy, the Tourism Recovery Plan 2020-2023 articulated the role of essential support in the recovery and growth of the sector in a sustainable manner.

This is particularly important as we emerge from the challenges posed by the COVID-19 pandemic, which had a devastating impact on the Tourism industry. As we rebuild this vital sector, investment in a sustainable model of tourism becomes even more important. As we rebuild this vital sector from the worst effects of the COVID-19 pandemic we must build back in a way that ensures the contribution of the Tourism sector to our economic recovery, providing sustainable employment across Ireland.

In addition, the Department, in co-operation with Údarás na Gaeltachta, aims to develop a network of Gaeltacht tourist attractions based around the unique linguistic richness of the Gaeltacht and its social history and natural resources. The development of this network will bring added value to the Wild Atlantic Way initiative with a view to increasing tourism spend in the Gaeltacht.

Box 8.3: Fís Éireann/Screen Ireland

Screen Ireland is the national development agency for Irish filmmaking and the Irish film, television and animation industry. Screen Ireland supports and promotes Irish film, television and animation through fostering Irish artistic vision, growing Irish and international audiences and attracting filmmakers and investment into the country. Its key priorities are for a sustainable, inclusive and vibrant industry, advocating for cultural diversity and gender parity within the film and TV industry in Ireland.

This sector has been recognised as a key part of our economic recovery, in particular following the resilience shown in the face of the challenges posed by the COVID-19 pandemic. Key measures will include actions such as increased investment in high-end TV drama, as well as a strong emphasis on training and skills development in the sector.

The Audiovisual Action Plan continues to set high-level, strategic priorities to develop a vibrant media production and audiovisual sector and to bring new economic opportunities, including those which will help to ensure that Ireland's economic development is felt across all regions.

The Screen Ireland investment programme contributes to the NPF objective for enhancing social cohesion by investing in improving the representation of women, people of colour, members of the travelling community and LGBTQ individuals, both on and off screen, in film. Initiatives such as mentorship programmes and shadow directing opportunities have helped to improve diversity and equal access in film.

Screen Ireland also provides a 'Green Production Toolkit', offering producers useful information to create a more environmentally-friendly film production.

Develop the Creative Industries and a vibrant Media Production and Audio Visual Sector

In line with the Programme for Government, this National Development Plan will continue to support the delivery of the Audiovisual Action Plan through a programme of investment in the development of the audiovisual sector. Screen Ireland with its mandate is to support Irish film, TV drama, animation and Irish creative talent will deliver the programme to ensure the continued development of the industry in Ireland and will particularly work to identify new growth opportunities, including the development of the gaming industry and further investment in high-end TV drama that would allow Ireland to take full advantage of the exponential global demand for screen content observed in the past two years. In addition, the broader media sector has a critical economic and social role to play in Irish society. The Media Commission which will be established to replace the Broadcasting Authority of Ireland will have a strong remit to support an economically sustainable, innovative and independent media sector. A draft Roadmap for the Creative Industries is in development with the Department of Business, Enterprise and Innovation, focusing on design-based, digital creative and content creation industries as part of the 'Future Jobs' strategy.

Wellbeing and Social Cohesion

Invest in Cultural Regional Infrastructure

The programme is successfully delivering ongoing investment in regional arts and culture infrastructure across the country through a variety of capital schemes. The Department continues to develop the parameters of cultural schemes to ensure strategic alignment with policy and the goals of the National Planning Framework, National Development Plan and Climate Action Plan. As the current programme rolls out, it will focus on the following key objectives:

- Climate action and culture – the Department intends to further develop its programme of investment in enhancing climate action by cultural providers including through decarbonisation and retrofitting initiatives etc. This programme will seek to balance regional NPF targets with supports having regard to the importance of ensuring equality of access to cultural infrastructure throughout the country;
- Flexible cultural infrastructure – recent research has highlighted the need for flexible cultural spaces that can meet a broad range of local cultural demands including for presentation, performance or production activities. The Arts and Culture Capital Schemes will be expanded to support this objective. These schemes support the maintenance and development of an extensive network of

regional arts infrastructure and provide funding to regional arts centres, theatres, regional museums, galleries, archives, multi-use facilities, artist studios etc. in all parts of Ireland. This investment has a very important role to play in improving access to and participation in arts and culture for communities across all parts of the country, in line with the policy objectives set out in Culture 2025, the first national policy framework for arts and culture published in January 2020, as well as future proofing the existing cultural infrastructure to ensure it remains relevant and responsive to local and regional needs.

Box 8.4: Sports Capital and Equipment Programme

Funding through this programme will continue throughout the period covered by the NDP, to help sporting communities to recover from these challenging times. The 2020 round of the SCEP received a record number of applications, with over 3,100 applications submitted seeking a total of €200m in funding. The equipment-only applications have been assessed first with €16.6m being allocated to the top 95% of local applications by score. The substantially larger part of this programme, which is the allocation of grants for capital projects under the Programme, will be announced later this year. Rounds of the SCEP typically occur every two years. In 2018 over €56 million was awarded to 1,648 different projects.

The SCEP will continue to support clubs and organisations to provide the facilities necessary to achieve our objectives of increased participation in sport; and help realise the immense benefits that physical activity can bring to our lives. The SCEP grants will assist both sports clubs and National Governing Bodies of Sport to purchase the sports equipment to hopefully develop our sporting heroes and Olympians of the future. Amongst the organisations to benefit under the 2020 round are Rowing Ireland, Swim Ireland, Paralympics Ireland and Special Olympics Ireland as well as dozens of others.

In terms of choosing the successful projects, priority is given to projects that will increase participation - especially amongst women, that are located in areas with higher levels of socio-economic disadvantage and to organisations that did not receive significant funding under the Programme previously. Amongst the successful grantees in 2020 are a number of county ladies football associations, and the Irish Homeless Street leagues.

Enhance sports facilities throughout Ireland

Capital investment in sports is driven by policy and strategic objectives that fundamentally aim to increase sports participation. The benefits of sport and physical activity to physical and mental health are well proven - there is an estimated €1.5 billion cost to our annual health budget due to physical inactivity and this inactivity is estimated to be responsible for 14.2% of all-cause mortality in Ireland. Enhanced sports facilities represent a significant improvement to community infrastructure across the country making rural places more attractive to live in, work in and visit.

The Department's sports investment programme for the coming years supports the National Sports Policy goal of enhancing the health and well-being of the nation.

The Sports Capital and Equipment Programme (SCEP) delivered by the Department, is the primary vehicle for Government support for the development of sports and physical recreation facilities and the purchase of non-personal sports equipment throughout the country. Under the Programme, sports clubs, community groups, National Governing Bodies of Sport, local authorities and schools receive support for their projects. The SCEP targets areas of disadvantage in particular, while also focusing on improving female participation and supporting projects utilised by people with a disability and/or minority groups. In addition, Gaeltacht-based sports clubs will also benefit from the Department's Community and Language Supports Programme through the availability of supports for the development of community-based sports facilities in the Gaeltacht.

Guardianship and Sustainability

Sustaining Gaeltacht Communities and Promoting the Irish Language

Investment by Údarás na Gaeltachta in the Gaeltacht regions is critical to the long-term sustainability of the Gaeltacht regions, whereby supporting jobs and inward investment brings clear economic benefits and aligns with the Department's responsibility to help preserve and safeguard the Irish language. Údarás na Gaeltachta has a significant building stock (546 individual buildings) located in Gaeltacht areas throughout the country which it uses to attract and support enterprise development.

Údarás na Gaeltachta discharges a wide range of development functions and its development and investment programme forms an integral part of the economic, linguistic, cultural and social sustainability of the Gaeltacht. Key projects and programmes for



the coming period of implementation under this NDP will involve:

- Establishing new and sustainable projects, infrastructure and strategic initiatives (i.e. establishment of a network of high-speed broadband innovation digital hubs) that deliver jobs or investment to Gaeltacht regions
- Establishing and develop Gaeltacht companies, attracting new investment in the Gaeltacht and developing and promoting new sectors.
- Significant investment in order to retrofit and bring Údarás' property and infrastructure portfolio to an appropriate standard to attract new enterprise and opportunities.

In respect of Gaeltacht regions and the Irish language, while investment to support jobs and the local economy is mostly channelled through Údarás na Gaeltachta, the Department also supports the cultural importance of the language to maintain it as the spoken vernacular of communities in the Gaeltacht regions but also to increase the number of Irish speakers outside of the Gaeltacht. The programme will include investment in support of the Gaeltacht Language Planning process, in recreational facilities, and in the Irish Summer Colleges sector. Outside of the Gaeltacht, the Department will continue to support the development of Irish Language Networks and Gaeltacht Service Towns with a particular focus on delivering Irish language and cultural hubs in recognition of the growing demand for language-related infrastructure. A flagship project will be the delivery of an Irish Language and Cultural Hub at Harcourt Street, Dublin, in partnership with Dublin City Council, Conradh na Gaeilge and other stakeholders.

In addition, in recognition of the critical role that Irish language media plays in sustaining vibrant Irish speaking communities, the Media Commission will support the production of innovative Irish language content and services across a range of media sectors.

In addition to investment in TG4 and other Irish-medium platforms, in recognition of the critical role that Irish language media plays in sustaining vibrant Irish speaking communities, the Media Commission will support the production of innovative Irish language content and services across a range of media sectors.

Table 8.4: Climate and Environmental Assessment

Investment	Assessment
Tourism Marketing Fund	C
Culture	
Cultural Regional Infrastructure	A
Screen Ireland	B
Gaeltacht	
Gaeltacht Language Planning Process	A
Irish language Support Schemes	A
Údarás na Gaeltachta - Assessment and upgrading a portfolio of 550+ buildings located in 7 different counties	A
Sports	
Sports Capital and Equipment Programme (SCEP)	C

Note: See Chapter 3 and separate paper for further detail



NSO 4

Chapter 9: Sustainable Mobility

Sustainable Mobility

The National Planning Framework (NPF) recognises the importance of significant investment in sustainable mobility (active travel and public transport) networks if the NPF population growth targets are to be achieved. Investing in high-quality sustainable mobility will improve citizens' quality of life, support our transition to a low-carbon society and enhance our economic competitiveness.

Improved and expanded sustainable mobility services and infrastructure can also act as an enabler of the NPF's commitment toward the compact growth of the cities, towns and villages within their existing urban footprint. As noted in the Housing for All Strategy, aligning strategic land use planning with transport-led development can support the delivery of large-scale housing development at key strategic locations. This type of alignment has significant positive potential for both housing and transport policy and transport-led development will become an increasingly important area of investment focus for the sustainable mobility programme over the period of the NDP.

Allocations provided under the National Development Plan (NDP) largely support the development, or protection and renewal, of infrastructure assets such as cycle-tracks, rail infrastructure or bus fleets; however, it is clearly the case that capital investment in public transport infrastructure requires associated investment in public transport services in order to maximise the benefit of investment made under the NDP. Over the lifetime of this NDP expanded public transport infrastructure will be complemented by increased and expanded public transport services as supported under the Public Service Obligation transport programme.

This NDP provides for significant investment in active travel, bus and rail infrastructure over the next ten years in terms of expanding sustainable mobility options in our cities, towns and villages, supporting our ambition for compact growth and seeking to develop our regional cities as centres of scale in line with the NPF targets.

In the previous NDP, the Transport sector had an allocation of approximately €21 billion for the period 2018-2027. The revised NDP sets out further ambitious plans to enhance public transport, active travel options and the connectivity of communities throughout Ireland. Transport projects by their nature are delivered over a multi-year horizon. The scale of the Transport-related requirements under the revised NDP amounts to c. €35 billion in total over 2021-2030.

Given the long term planning necessary to give effect to these plans the Government is committed to putting in place the necessary long-term funding to deliver on these requirements. The proposed new disaggregated annual capital ceilings out to 2025 and

overall capital ceilings to 2030 are fully in line with the profiling that the Department of Transport has indicated as being necessary.

The funding allocated under this NSO supports the sustainable mobility investments described in NSO 1: Compact Growth, NSO 2: Enhanced Regional Accessibility and NSO 3: Strengthened Rural Economies and Communities; however, for the ease of reference the descriptions provided here largely relate to the five metropolitan areas of Cork, Dublin, Galway, Limerick and Waterford.

Sectoral Strategies

Climate Action Plan

The *Climate Action Plan (CAP)* recognises that Ireland must achieve a significant modal shift from car to active travel and public transport if we are to achieve our target of a 51% reduction in Green House Gas emissions by 2030 and ultimately net zero by 2050. CAP sets a target for 500,000 additional daily active travel and public transport journeys by 2030 and investment planned under this NDP will be directed toward achieving that challenging target.

Sustainable Mobility Policy

The Department of Transport is currently finalising a new *Sustainable Mobility Policy* centred upon three overarching principles – Safe and Green Mobility, People Focused Mobility and Better Integrated Mobility. The new policy will be closely aligned with the NPF and in particular support NSO 1: Compact Growth; NSO 2: Enhanced Regional Accessibility; NSO 3: Strengthened Rural Economies and Communities; NSO 4: Sustainable Mobility and NSO 8: Transition to a Low Carbon and Climate Resilient Society. It will also support the actions in the *Climate Action Plan* to reduce transport emissions in line with necessary EU and Irish targets in respect of active travel and public transport.

National Investment Framework for Transport in Ireland

The Department of Transport's forthcoming National Investment Framework for Transport in Ireland (NIFTI) will set out the prioritisation for future investment in the land transport network to support the delivery of the NSOs. NIFTI will guide transport investment to support the delivery of the National Planning Framework, enable the Climate Action Plan and promote positive social, environmental, and economic outcomes throughout Ireland. NIFTI will establish modal and intervention hierarchies which, in conjunction with the priorities, will ensure that the most environmentally sustainable feasible solution to a transport need or opportunity is used on a given project.

Metropolitan Area Transport Strategies

All five cities have developed, or are developing, metropolitan area transport strategies which set out programmes of proposed transport investment in active travel, bus and rail for each metropolitan area over a twenty-year period. This evidence based, planned transport planning is in line with international best practice and will allow our cities to grow in a sustainable and compact manner as informed by the NPF and the Regional Spatial and Economic Strategies.

The statutory basis on which these strategies are developed differs currently, with an explicit statutory basis to that in the Greater Dublin Area (GDA) and a specific statutory role for the National Transport Authority (NTA), while outside the GDA the NTA develops the strategies on a non-statutory basis in co-operation with relevant local authorities.

The Transport Strategy for the Greater Dublin Area and the Galway Transport Strategy were both published in 2016 with the former currently subject of its statutorily required review and the latter to be subject to a review next year. The Cork Metropolitan Area Transport Strategy was published in 2020, while an initial public consultation on the Limerick-Shannon Metropolitan Area Transport Strategy took place in late 2020 and preliminary work has commenced on the Waterford Metropolitan Area Transport Strategy.

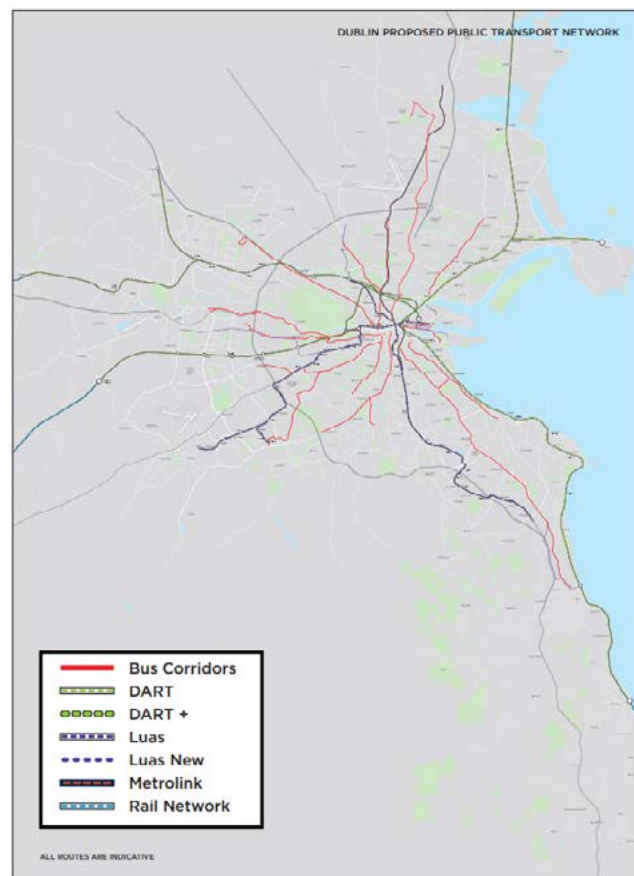
National Cycling Network Strategy

Transport Infrastructure Ireland will work with key stakeholders, including the NTA, to develop a National Cycling Network Strategy which will both map existing cycling infrastructure and identify gaps where future investment could be focused in order to establish a comprehensive and connected cycling network around Ireland. Given its national focus, this Strategy will encompass both urban and rural areas, and will be a valuable resource in relation to active travel connectivity around Ireland.

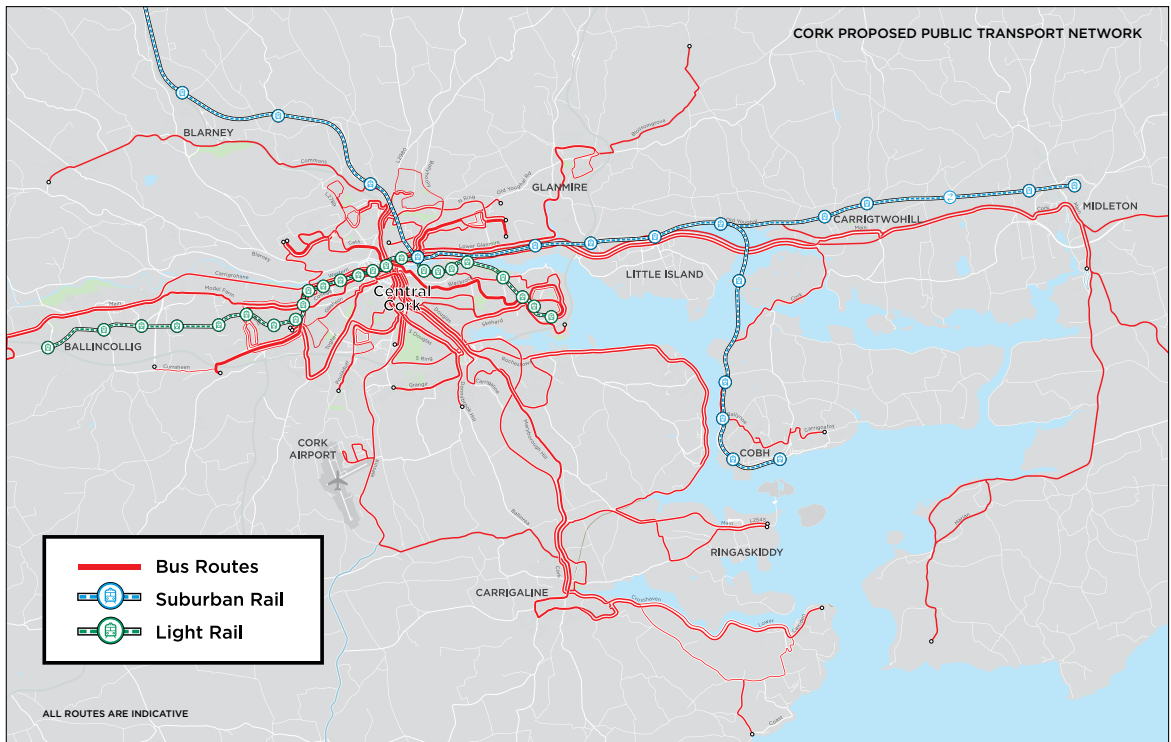


The following maps show the proposed public transport networks in Dublin, Cork, Galway, Limerick and Waterford, details of which are set out, or will be set out, in their respective metropolitan area transport strategies.

Map 9.1: Proposed public transport network in Dublin



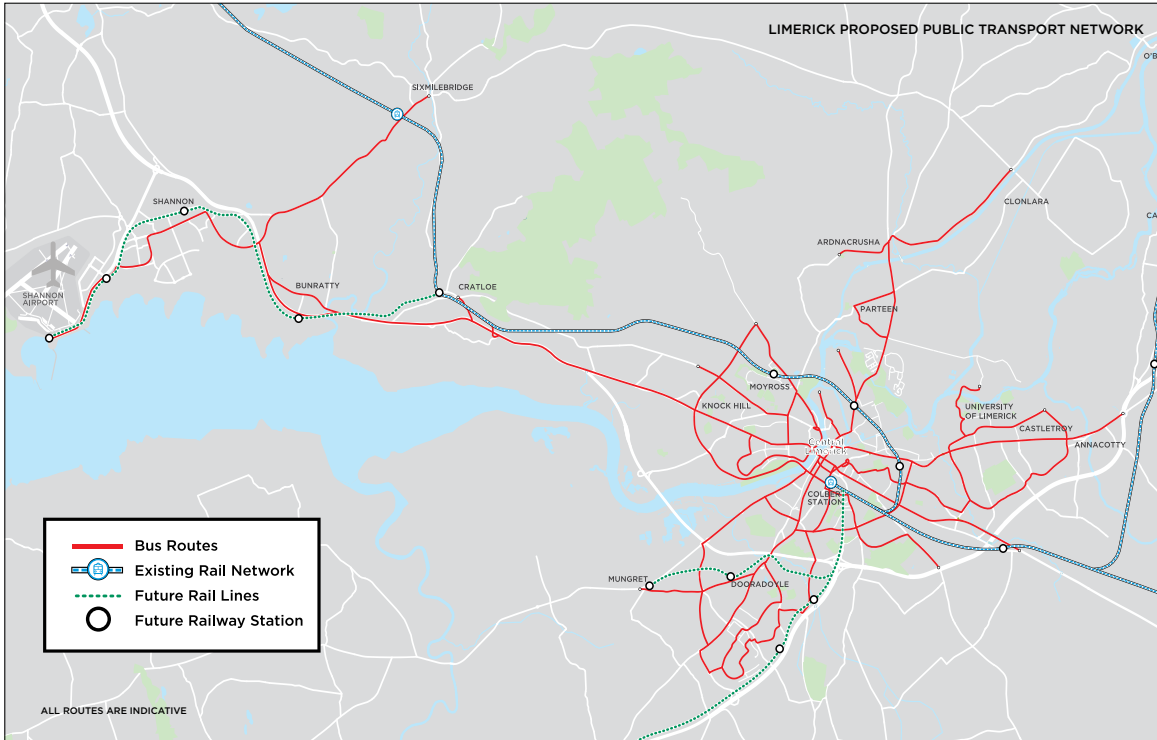
Map 9.2: Proposed public transport network in Cork



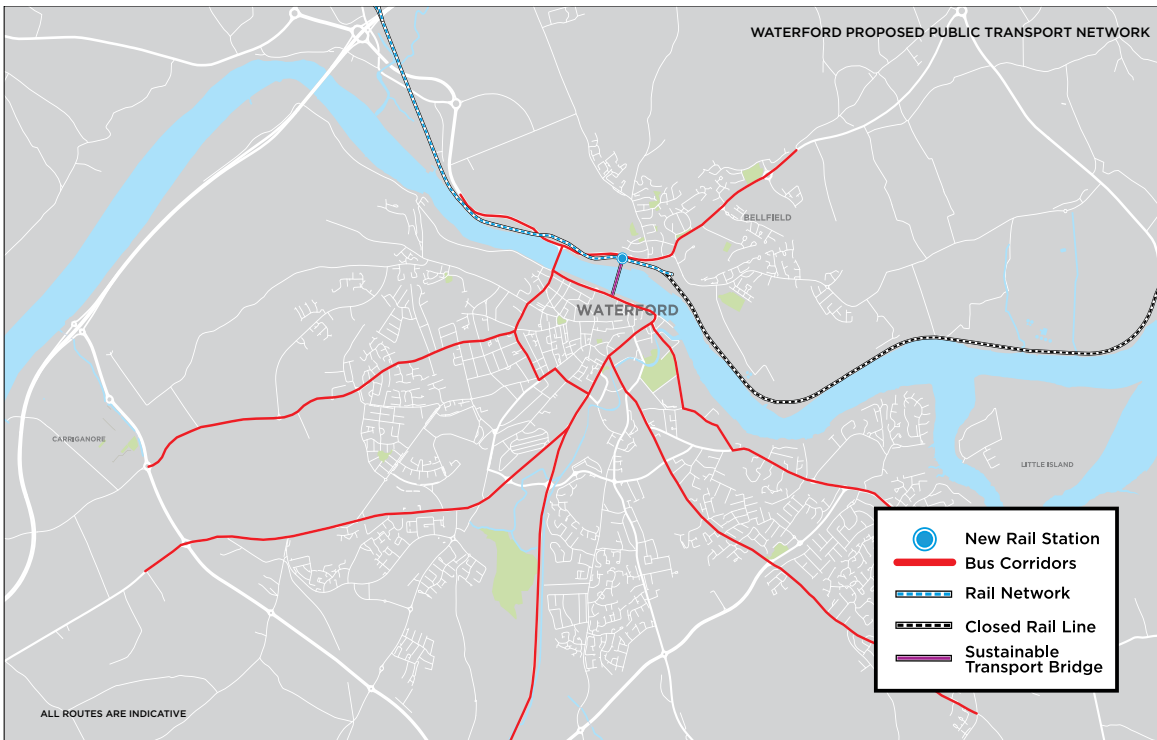
Map 9.3: Proposed public transport network in Galway



Map 9.4: Proposed public transport network in Limerick



Map 9.5: Proposed public transport network in Waterford



Strategic Investment Priorities

Active Travel

This NDP represents a step-change in the approach towards funding active travel in Ireland. Over the next 10 years approximately €360 million per annum will be invested in walking and cycling infrastructure in cities, towns and villages across the country, including Greenways. This investment has a transformative potential to substantially increase the numbers choosing to make active travel part of their daily life, improving personal health and mental well-being, making our city, town, and village centres more vibrant and people focused spaces, and significantly addressing our climate action challenge.

The investment proposed for the major urban centres over the next 5 years will target over 700km of improved walking and cycling infrastructure delivered across the five cities.⁴ To support delivery of this improved infrastructure, additional staff will be funded in the metropolitan area local authorities to increase their capacity to roll out these infrastructure projects.

The funding will also support the newly launched Safe Routes to School Programme which seeks to create safe walking and cycling routes within communities, to alleviate congestion at school gates and to increase the number of students who walk, scoot or cycle to school. Cycle training will be expanded across the country throughout the period with a target of five thousand additional children per annum participating in Cycle Right training for the period to 2025 as compared to 2019. In addition, the funding will also support behavioural change programmes such as Green Schools Travel and Smarter Travel Workplaces and Campuses.

BusConnects

Transformed active travel and bus infrastructure and services in all five of Ireland's major cities is fundamental to achieving the overarching target of 500,000 additional active travel and public transport journeys by 2030.

BusConnects will overhaul the current bus system in all five cities by implementing a network of 'next generation' bus corridors (including segregated cycling facilities) on the busiest routes to make journeys faster, predictable and reliable. BusConnects will enhance the capacity and potential of the public transport system by increasing and replacing the bus fleets with low emission vehicles and introducing a new system of ticketing known as Next Generation Ticketing and cashless payments. Increasing the attractiveness of the bus systems in the cities will encourage modal shift away from private car use, leading to a reduction

in congestion and associated costs in the major urban areas. Over the lifetime of this NDP, there will be significant progress made on delivering BusConnects with the construction of Core Bus Corridors expected to be substantially complete in all five cities by 2030.

DART+

The DART+ programme will be a cornerstone of rail investment within the lifetime of Project Ireland 2040 and represents the single biggest investment in the Irish rail network. The programme comprises a number of infrastructural projects – DART+ West, DART+ South West, DART+ Coastal North to Drogheda via Balbriggan, and DART+ Coastal South – and also a significant expansion of fleet, both battery-electric (BEMUs) and electric multiple units (EMUs).

Public consultation has already taken place in relation to DART+ West and DART+ SouthWest, while the procurement process has been completed in respect of DART+ Fleet and a preferred bidder identified. A Preliminary Business Case has been submitted for analysis and will be presented shortly to Government for its approval as required under the *Public Spending Code*. Approval will allow DART+ West move into the statutory planning process (known as a Railway Order application) and also allow for finalisation of the fleet contract. Other project elements of the programme will be submitted for Government approval in due course over the lifetime of the NDP.

In 2022 the additional 41 carriages purchased for the Greater Dublin Area commuter rail network will arrive and these carriages will be deployed in 2023. These 41 carriages will significantly expand the existing GDA fleet capacity and will allow for the introduction of additional services in the short term on the Northern and Maynooth Lines prior to the introduction of DART+.

A review of the *Transport Strategy for the Greater Dublin Area* is underway, and allocations provided under this NDP will allow for the commencement of planning and design of rail projects that might emerge from that review, including options for the proposed Navan rail line and DART Underground.

MetroLink

MetroLink is likely the largest ever public investment project in the history of the State and this Government is committed to its funding and delivery as quickly as possible. The MetroLink project will consist of a 19km north-south, carbon-neutral railway service that will run between Swords and Dublin City Center, connecting key destinations including Dublin Airport and the City Centre, serving 15 stations, with a journey time of approximately 25 minutes from

⁴ See NSO 3: Strengthened Rural Economies and Societies for details of investment elsewhere

Swords to the City Centre. MetroLink will provide passengers interchange opportunities with commuter rail, DART, LUAS and numerous bus services along its route and support the development of a truly integrated public transport system in Dublin.

Since publication of the last NDP there has been significant progress in terms of non-statutory public consultations and planning & design of the scheme. A Preliminary Business Case has been submitted for analysis and will be submitted shortly to Government for its approval as required under the Public Spending Code. Approval of the Preliminary Business Case will permit the project to enter the statutory planning process in the first half of 2022 and the funding this NDP delivers will allow the project move off the drawing board and into construction.

Box 9.1: MetroLink

Current Status: Preliminary Business case

Estimated Cost Category: F

Estimated Completion Date: TBC

MetroLink is the largest investment project in this NDP and likely the largest ever public investment project in the history of the State.

Once completed MetroLink will provide a sustainable, safe, efficient, integrated and accessible public transport service between Swords, Dublin Airport and Dublin City Centre. This new link will form a key spine of the overall integrated public transport system for Dublin, alongside BusConnects and DART+, and facilitate compact, transport-led development at key locations. During peak periods MetroLink will operate every three minutes in its early years and is ultimately designed to operate every 90 seconds when demand levels require this frequency.

During construction it is estimated that MetroLink will support approximately 8,000 direct construction jobs, while once in operation it will carry around 53million passengers in its opening year and create new connections between 127 schools, three Third Level institutions and five hospitals.

Since 2018 the project has undergone two extensive non-statutory public consultation processes, during which thousands of submissions were received and considered. Those public consultation periods have helped inform the development of the Preferred Route, which is now being readied for submission to An Bord Pleanála for statutory planning approval, subject to Government approval in the coming months.

Box 9.2: Safe Routes to School

Current Status: Implementation - As the various projects are yet to be finalised for the first round of schools, the cost of the Safe Routes to School is yet to be estimated. The completion date of the Programme will depend on the types of projects selected for delivery.

Estimated Cost Category: TBC

Estimated Completion Date: TBC

The Safe Routes to School (SRTS) Programme, launched in March 2021, aims to create safer walking and cycling routes within communities, alleviate congestion at the school gates and increase the number of students who walk or cycle to school by providing safe infrastructure to do so. The improvements to the school commute could range from an upgraded footpath or new cycle lane to a complete reworking of a school's entrance.

The SRTS Programme is funded by the Department of Transport through the National Transport Authority (NTA) and is coordinated by An Taisce's Green Schools team. Funding will be made available to local authorities who will play a key part in delivering the infrastructure along access routes and at the school gate.

By the deadline, 932 expressions of interest were received from schools in every county in Ireland. 170 schools were selected for inclusion in the first round of the Programme; however all schools who submitted an expression of interest will receive funding under subsequent rounds of the Programme. Schools will not be required to reapply and will instead come into the Programme on a rolling basis.

Based on the progress of infrastructure delivery for the 932 schools who expressed an interest in this Programme, the potential to reopen applications to the schools who did not apply in 2021 will be kept under consideration in the coming years.

Light Rail

In relation to light rail generally, the Luas Green Line Capacity Enhancement project was completed earlier this year with the extension of all existing 26 trams and the purchase of eight new trams. In terms of other light rail projects, the Luas Finglas is the most advanced with approval recently received under Decision Gate 0 (Strategic Assessment) of the Public Spending Code and the NDP will permit the

project continue to progress in the coming years, with work already underway in relation to developing its Preliminary Business Case. As stated in the last NDP, appraisal and planning will continue in relation to Luas Lucan and Luas Poolbeg, while the forthcoming Transport Strategy for the Greater Dublin Area will set out additional proposals for the development of other Luas lines across Dublin to better connect communities and enable transport-led development.

In Cork, the Cork Metropolitan Area Transport Strategy proposes a new east-west transport corridor to be served by light rail and this NDP will fund the continued development and design of that proposal, while the feasibility of light rail in Galway will be considered again as part of the review of the Galway Transport Strategy (which will commence in 2022).

Regional Cities Commuter Rail

The Cork Commuter Rail Programme, running from Mallow to Midleton and Cobh, targets a 10-minute all-day frequency on electrified rail services in the Cork metropolitan area. Phase 1 of the Programme will be funded through the European Union's Recovery and Resilience Facility and is scheduled for completion by 2026. Phase 2 of the Programme will commence during 2022 with early development, and delivery will continue over the latter period of this NDP.

Funding provided over the next ten years will also support the further development of commuter rail in Galway and Limerick, with significant track and station works proposed for Oranmore and Athenry as well as the development of a new Limerick commuter rail network including new stations on each of the historical rail lines, the detail of which is to be set out in the Limerick-Shannon Metropolitan Area Transport Strategy.

Through the construction of additional stations and the provision of new fleet, this NDP will significantly expand sustainable mobility capacity on the metropolitan area commuter rail network, supporting sustainable compact urban development as outlined in the relevant regional and metropolitan planning strategies. The consolidation of land use on the commuter corridors will support the future population growth, in a compact, sustainable high density manner as envisioned for the metropolitan areas in the NPF.

Over the lifetime of this NDP upgrade works will take place at the three of the four major regional rail termini – Ceannt Station (Galway), Colbert Station (Limerick) and in Waterford a new train station and transport hub will be built as part of the North Quays redevelopment project which will replace Plunkett station. These projects will be funded through both NSO 4: Sustainable Mobility and also the Urban

Regeneration and Development Fund in some instances.

Box 9.3: Cork Commuter Rail Programme

Current Status: Strategic Assessment

(Phase 1 of the programme forms part of Ireland's National Recovery and Resilience Plan as submitted to the European Commission.)

Estimated Cost Category: C (Phase 1)

Estimated Completion Date: Phase 1: 2026

As envisaged under the Cork Metropolitan Area Transport Strategy (CMATS), this investment will develop a 10-minute all-day frequency on an electrified Cork suburban rail network.

Phase 1 of the investment will cost €185million and will address the existing bottleneck in the city centre by enabling the creation of a suburban rail network between Mallow, Midleton and Cobh by 2026. This project will improve signalling to support increased frequency and future electrification and ensure a comparable level of track infrastructure by double tracking current single tracks at the eastern end of the corridor between Glounthaune and Midleton.



Box 9.4: Greener and Cleaner Bus Fleets

Current Status: Implementation

Estimated Cost Category: E (until 2025)

Estimated Completion Date: 2021-2025

In line with the commitment in the Project Ireland 2040: National Development Plan and Action 85 of the Climate Action Plan 2019, the NTA has commenced the transition of the urban PSO bus fleet from diesel only vehicles to lower emission vehicles.

As of July 2021, the status of the transition of the urban PSO fleet includes:

- Orders for 280 Hybrid Electric Buses have been placed with 89 buses now in service in Galway and Dublin.
- A framework for the delivery of up to 200 single deck electric buses has been procured. An initial order of 45 buses has been placed for operation in Athlone and Dublin. It is intended to convert the entire urban bus fleet in Athlone to zero emission electric buses by Q2 2022.
- A framework for the delivery of up to 800 double deck electric buses is currently being procured and will be awarded in Q3 2021 with vehicles coming into operation in 2023.
- Three hydrogen fuel cell double deck buses have been procured for the purposes of a hydrogen pilot. The buses are currently in passenger services on Bus Éireann routes. Hydrogen has the potential to provide extended range over battery electric buses.

Under the NDP, by 2025 it is expected that over 50% of the urban PSO bus fleet will be converted from diesel to low and zero emission vehicles, with 30% of the bus fleet being zero emission.

Box 9.4: Accessibility

Current Status: On-going Annual Investment Programme

Estimated Cost Category: B (over 2021-2025)

Estimated Completion Date: Ongoing (2021-2025)

The Accessibility Programme over the period of the NDP will involve addressing the accessibility needs of people across both new and existing infrastructure including:

- a retrofit programme of accessibility improvement grants to upgrade existing older infrastructure and facilities such as:
 - » upgrading train stations
 - » the installation of accessible bus stops; and
 - » the introduction of more wheelchair accessible vehicles into the taxi fleet
- Ensuring that accessibility features, such as wheelchair access and audio and visual aids, are built into all new rail public transport infrastructure projects, bus vehicles and other projects from the design stage.

Table 9.1: Climate and Environmental Assessment

Investment	Assessment
National Roads Programme	C
Bus Investment Programme	A
Heavy Rail Investment Programme	A
Heavy Rail Infrastructure Protection and Renewal	A
Greenways	A
Active Travel	A

Note: See Chapter 3 and separate paper for further detail.



NSO 5

Chapter 10:

A Strong Economy,
supported by
Enterprise, Innovation
and Skills

A competitive, innovative and resilient enterprise base is essential to provide high-quality jobs and employment opportunities for people to live and prosper in all regions. The next decade will see a number of profound changes in our economy and society. While the impacts of Brexit and the Covid-19 pandemic will continue to challenge businesses in the first part of the decade, the digitalisation of entire sectors and the transition to a low-carbon economy will be even more transformative. The National Development Plan (NDP) is part of a future-focussed strategy to ensure that Ireland's enterprise base is resilient, innovative, and dynamic, to deliver on the ambition to grow employment by 660,000 by 2040 as set out in the National Planning Framework (NPF).

Ireland's further and higher education and research system is a strategic national asset which supports a knowledge-based, innovative, creative society and economy across all regions and for all citizens. The development of human capital and knowledge must be at the heart of our response to the key challenges facing the country, including economic transformation fuelled by technological change, the transition to a low-carbon society and greater international competition for investment.

Research and innovation (R&I) have been a critical element underpinning the success of all modern advanced countries. Two thirds of EU productivity growth over the last decade has been driven by R&I investments. Overall, research and innovation is gaining in significance as a key economic and social differentiator. Continued public investment in R&I, coupled with a new national Research and Innovation Strategy, will support Ireland's ambition to position itself as a global innovation leader, underpinning a sustainable and resilient economic model economy that is truly knowledge-based. We will also, as a society, be better equipped and more resilient in the face of current and future challenges.

Over the coming decade, we will intensify our commitment to leveraging the role of further and higher education institutions as anchors for enterprise and for regional growth. Investments in this sector will directly support the target in the NPF of ensuring that jobs growth in the Eastern and Midland Regional Assembly area is at least matched by that of the Northern and Western and Southern Regional Assembly areas combined.

The establishment of the Department of Further and Higher Education, Research, Innovation and Science (DFHERIS) in 2020 was a recognition by Government of the centrality of knowledge, talent and skills to our national and regional ambitions, and provides the opportunity to take a whole-of-system approach to the development of infrastructure and research capacity.

Sectoral Strategies – Enterprise, Trade and Employment

The Economic Recovery Plan published in June 2021 sets out our ambition to build a sustainable and resilient economic recovery, underpinned by the National Recovery and Resilience Plan (NRRP). New programmes, designed to enhance the resilience and productivity of our enterprise base as it addresses the challenges and opportunities of our transition to a low carbon economy and pervasive digitalisation, will be delivered through Enterprise Ireland (EI) and Industrial Development Authority (IDA) Ireland.

Enterprise and innovation strategy will be aligned to the NPF with a particular focus on regional economic and employment growth to secure competitive and innovative regional enterprises. Continued investment in higher education and further education and training (FET) in each region will have a crucial role to play in achieving this objective of providing the pipeline of skills and talent that sustains enterprise clustering and new investments. This will be achieved under the NDP by:

- assisting entrepreneurialism and building competitive clusters in strategic sectors and activities;
- collaborative actions at regional and local level, driven by the Regional Enterprise Plans, aided through the Regional Enterprise Development Fund, the Regional Enterprise Transition Scheme, leveraging European Regional Development Funding and other strategic investments;
- realising a significant uplift in the performance of enterprises in terms of innovation, export potential and productivity; and
- attracting further investment to regions outside Dublin.



Strategic Investment Priorities - Enterprise, Trade and Employment

Green Transition Fund – driving decarbonisation and enterprise resilience in the transition to a low carbon economy

Digital Transition Fund – building a future-focussed SME base.

Establishing the network of European Digital Innovation Hubs.

Future Manufacturing Ireland – developing Ireland's capabilities in advanced manufacturing and Industry 4.0.

Advanced Manufacturing Measures – linking centres and capacity across all regions.

Brexit Business Transformation through firm level assistance – including delivery of the Agri-Food Transformation Fund.

Expanding Enterprise Ireland's budget for research and development.

Expanding IDA Ireland Regional Property Programme – attracting investment to regional locations.

A National Design Centre – assisting market-led innovation in Irish-based enterprises to grow international sales.

Seed and Venture Capital Funding - assisting regional start-ups and growth.

Delivery of the Disruptive Technologies Innovation Fund – spurring innovation and investment in cutting-edge technologies and future-focussed solutions.

Space Technologies Programme – benefiting firms in the regions.

Expansion of the National Institute for Bioprocessing Research and Training – scaling up capacity for a focus on personalised medicines.

New Regional Enterprise Development funding calls.

Strategic Investment Priorities – Enterprise Trade and Employment

Investing in Regional Growth and Resilience

A comprehensive and integrated programme of measures will be initiated to strengthen growth and employment potential with a particular focus on balanced regional development and smart specialisation by building competitive and innovative enterprises through the following initiatives.

The Regional Enterprise Development Fund (REDF) is aimed at accelerating economic recovery in all regions of the country by delivering on the potential of local and regional enterprise strengths. To date, through an allocation of €100 million over three competitive calls, the fund has co-financed significant collaborative and innovative local and regional initiatives to build on specific industry sectoral strengths, improve enterprise capability, and drive job creation. The REDF is an important enabler of the Department of Enterprise, Trade and Employment's (DETE's) Regional Enterprise Plans (being updated in 2021).

The goal of achieving a one-third increase in levels of entrepreneurship and survival of start-ups that are trading in all regions will be pursued through the Local Enterprise Offices (LEOs) and EI, through new eHubs, mentoring and collaborative initiatives at sector level and through the REDF.

The work of the LEOs has been critical to regional and national SME resilience throughout the Covid-19 pandemic. The LEOs' grant programme has further played an integral role in the ambitions of regional initiatives such as the Action Plan for Rural Development and the Regional Enterprise Plans to 2020. Regional Enterprise Plans fosters a collaborative approach within each region, bringing together the Local Authorities, Enterprise agencies, LEOs, the business community and institutes of further and higher education, to work together toward a resilient and prosperous future for each region.

The Regional Technology Cluster Fund (RTCF) is focused on enhancing the capacity of the Institutes of Technology (IOTs)/ Technological Universities (TUs) as drivers of regional enterprise-academic collaboration and clustering. The RTCF comprises a number of regionally focused initiatives linking SMEs and IOTs/ TUs to build regional sectoral clusters to scale and internationalise enterprise in all regions.

DETE is developing a National Clustering Policy in 2021 which will set out Ireland's approach to promoting the emergence and further growth of large scale, self-sustaining, business led clusters, whose

scale and influence in an international context can help strengthen the performance of enterprises in Ireland. Clusters can develop organically through agglomeration dynamics, but their growth, and the extent of productive interrelationships within them can be accelerated within a collaborative ecosystem.

DETE is also developing a Smart Specialisation Strategy in 2021, to boost regional innovation, contributing to growth and prosperity by helping and enabling regions to focus on their strengths. The preparation of the strategy presents an opportunity to assess Ireland's regional competitive advantages, future market opportunities, solutions to societal challenges, and the effectiveness of the current suite of enterprise innovation measures.

Increasing the scale and internationalisation of indigenous enterprise, through EI measures for productivity growth, innovation and market diversification will aim to increase export intensity of agency assisted firms from half of sales to over two-thirds. There will be a specific focus on upgrading the industrial base and increasing new product and service innovation and productivity in all regions to underpin the transformation of Irish enterprise to compete and grow in a post-Brexit era.

As part of the Government's Brexit response, DETE has worked with the Department of Agriculture, Food and the Marine since 2018 to provide an Agri-food Transformation Fund, a capital grant scheme for the food processing industry. The Irish agri-food sector, while having diversified significantly in recent decades, continues to have a high dependence on the UK market. Foodwise 2025, Ireland's 10-year strategy for the Irish agri-food sector, identified the need for Ireland to further develop market opportunities to deliver continued growth. While the sector faces significant challenges such as Covid-19, Brexit, general trade uncertainty, climate change and European policy reform, it also has many opportunities to develop further and prosper. This programme is in place to assist Ireland's agri-food sector reach its potential for sustainable growth and compete successfully in global markets.

European Digital Innovation Hubs (EDIHs) are an initiative under the European Commission's Digital Europe Programme (2021-2027) to build the strategic digital capacities of the EU and to facilitate the wide deployment of digital technologies, including the adoption of the latest advances in cybersecurity, Artificial Intelligence (AI) and High-Performance Computing (HPC). These hubs will play a critical role in facilitating the digitalisation of Irish SMEs across industries and regions through services such as "test before invest", innovation and financing advice, and training and skills development. The Irish EDIH network will be co-funded by the Digital Europe Programme and will be administered by DETE and EI.

IDA business and technology parks, strategic sites, advance building solutions and grants in all regions will deliver new foreign direct investment and high-quality jobs. Since it is more challenging to win new investment outside the major metropolitan areas, advanced planning and provision of property solutions will be expanded in all regions with a particular focus in the near term on the Border and Midland Regions. Ireland's ability to secure significant new large-scale capital investment in regions is partly dependent on the ready availability of serviced sites of scale with appropriate zoning and capacity for required utilities to match the needs of large capital-intensive projects. The current IDA strategy to 2024 will see the delivery of 19 buildings across 15 regional locations together with land acquisitions, infrastructure, and services delivery. The property programme will be complemented with IDA grants programmes across the regions. The expansion of financial and other measures for Advanced Manufacturing across all regions is intended to develop Ireland as a leader in advanced manufacturing technological innovation, application and training including pilot lines and demonstration facilities to build on the capacity throughout the country.

Capacity in research, development and demonstration has been funded by Science Foundation Ireland (SFI) in the Confirm centre at UL and the I-Form centre at UCD, and by EI in the Irish Manufacturing Research (IMR) in Dublin and Mullingar. These investments will be supplemented by the addition of the Advanced Manufacturing Centre (AMC) which is a national facility currently under development by IDA Ireland. The AMC is an industry led centre that will enable Irish based manufacturers to access, adopt and accelerate digital technologies which solve real world challenges and drives further competitiveness. The centre is located in the National Technology Park in Limerick and is due to open in Q1 of 2022. The AMC will complement existing Advanced Manufacturing centres which will enable a full spectrum of resources to serve the manufacturing sector from fundamental and applied research to the commercial development and deployment of digital technologies.

Under Ireland's Industry 4.0 Strategy 2020-2025 there is a commitment to establish a new structure to coordinate the key Research and Development (R&D) Centres involved in the promotion, development, adoption and use of advanced manufacturing technologies. To meet this commitment, DETE has established a new unit; Future Manufacturing Ireland (FMI). FMI will be a national coordination structure for advanced manufacturing assistance, which will be engaged with and responsive to industry, open to collaboration and of the scale required to offer the broad spectrum of technology readiness level (TRL) measures required by industry.

Ireland's vision is that by 2025 we will be a competitive, innovation-driven, manufacturing hub at the frontier of the Fourth Industrial Revolution and at the forefront of Industry 4.0 development and adoption. Ireland intends to develop a global reputation for advanced manufacturing arising from State funded and industry co-funded research in the country's R&D Centres. These investments will drive the transformation of Irish manufacturing through the uptake and deployment of digital technologies and enable the sector to become more efficient and sustainable.

Design-led innovation is essential in creating competitive advantage and in accelerating the pace of innovation across different sectors. We have an opportunity to accelerate the pace of design-led innovation by improving the ecosystem, financing and resources available in Ireland. A National Design Centre will be established as an incubation, training and demonstration capacity in the regions to assist market-led innovation in Irish-based enterprises to grow international sales.

The National Institute for Bioprocessing Research and Training (NIBRT) is a globally recognised centre of excellence for training and research in bioprocessing, located in a world class facility on the grounds of University College Dublin (UCD). NIBRT is a key resource to the biopharmaceutical sector in Ireland as it provides a unique learning experience for trainees in an environment that replicates the most advanced industrial bioprocessing facilities. This state-of-the-art facility has transformed Ireland's capacity to train and educate a highly skilled workforce to attract and enable major biopharmaceutical investment in Ireland. This planned expansion will enable NIBRT to scale-up its research and training capacity in cell and gene therapy to prepare Ireland for this new wave of innovation focused on personalised medicines.

Market failures in financing and working capital for enterprise will be responded to through a range of innovative measures including EI's direct equity investments and Seed and Venture Funds (SVCFs). The SVCFs will continue to assist early-stage companies with high growth potential and global ambition.

Loan schemes will be designed in consultation with stakeholders to improve access to finance for SMEs at an affordable cost and with attractive terms and conditions. These will address Emergency responses to shocks such as Brexit (upcoming Brexit Impact Loan Scheme) and Covid-19, and address market failures in the availability of longer-term financing (the potential development of a new loan scheme to incentivise investment) and availability of microfinance through Microfinance Ireland.

Box 10.1: New Regional Enterprise Development Funding (REDF) calls

The 68 projects assisted under the REDF, administered by Enterprise Ireland, to date demonstrate its ability to bring regional stakeholders together with a focus on enterprise development in the regions. Creating added value for enterprises and addressing gaps in provision are at the core of the REDF. Projects variously combine enterprise infrastructure developments (i.e., hubs/start-up/co-workspace); applied R&D regional facilities; and business interventions, e.g., key personnel, equipment, training). A targeted Border funding call was undertaken as part of the Border (Brexit) Economic Stimulus in 2020 which allocated €17.4m across 11 projects in that region. Future calls will align with the forthcoming updated Regional Enterprise Plans and new Smart Specialisation Strategy for Ireland.

The kind of projects envisaged for financing under future Regional Enterprise development funding will include (but are not confined to):

- Driving increased productivity performance and capability strengthening in a group of companies in a region(s), through for example, new or expanded Applied Innovation and Development Centres involving product, service and platform R&D, technology adoption and access to expertise/ consultancy,
- Specialised/sectoral incubators and enterprise scaling projects, testbed/ proto-typing space, or multi activity digital enterprise hubs in key sectors.
- Enabling the development of co-working and e-working within regions to relocate work activities in less advantaged/geographically remote regional areas,
- Projects to stimulate and foster entrepreneurship and an entrepreneurship culture locally or regionally, including initiatives specially targeted at under-represented groups (e.g., female entrepreneurship) and social enterprise,
- Scaling existing regional projects that would lead to a significant change in the impact of the project. And support enterprises negatively affected by Covid-19, Brexit, and those seeking to transition in the context of climate action and digitisation.

Box 10.2: Enterprise Green Transition Fund

Tackling climate change will be the defining global business challenge of the next decade. The Enterprise Transition Green Fund is targeted at both foreign and indigenous enterprises with the aim of assisting them in achieving carbon abatement and thereby building their resilience, competitiveness and environmental sustainability.

For the enterprise sector to build its resilience in the transition to a low carbon economy, businesses will need to develop management capacity and skills to assess the likely changes to their cost base, regulatory environment, market standards and customer preferences.

This Fund will build on the leaning and implementation of the Climate Enterprise Action Fund launched by EI in April 2021. It will add further strands in line with the objectives of the forthcoming Climate Action Plan 2021, and carbon abatement opportunities in the manufacturing combustion sectors through process transformation, specific technological interventions, fuel-switching and manufacturing innovations.

The Fund will drive industrial sectors to play their part in the national decarbonisation objective, while building resilience in businesses that are particularly exposed to future increases in carbon pricing or further regulations.

The Fund will be designed to facilitate early adoption of technologies to deliver on CO₂ abatement in the manufacturing combustion sector – identifying and focusing on those businesses using fossil fuels that could install new technologies that will lead to significant reductions in CO₂ and funding which will reduce the payback period to justify the installation of these technologies.

Part funded under the National Recovery & Resilience Plan.

Table 10.1: Investment in regional innovation – EI and IDA Technology Centres

Investment in Regional Innovation – EI and IDA Ireland Technology Centres

Funded by the DETE, Trade and Employment, the Technology Centres' programme is an EI and IDA Ireland initiative that assists industry-led technology development agendas, with a focus on close to market activities. Examples from the existing portfolio of 8 centres include those listed below.

- Meat Technology Ireland (MTI): focusing on applied areas such as genomic predictions, meat safety, meat characterisation and health, involving University College Cork (UCC), Dublin City University (DCU), TU Dublin and Teagasc.
- Irish Manufacturing Research: Manufacturing 4.0 agenda, for example, collaborative robotics, Augmented Reality/Virtual Reality, informatics, cyber security, in Dublin and Westmeath. Research Partners include DCU, Trinity College Dublin (TCD), Limerick Institute of Technology (LIT), National University of Ireland, Galway (NUIG), Munster Technological University (MTU), University College Cork, University of Limerick (UL), University of Ulster and Maynooth University (MU).
- Microelectronics Circuits Centre Ireland (MCCI): with focus on Analogue, Radio Frequency and Mixed-Signal circuit research, hosted by Tyndall National Institute with MTU and MU.
- Learnovate: focusing on e-learning technologies including corporate, school, higher education and non-formal learning, hosted by TCD with a regional spread of industry and academic partners.
- Pharmaceutical Manufacturing Technology Centre (PTMC): research across the pharmaceutical manufacturing chain, continuous and powder processing, advanced rapid micro-analytical techniques, partners include UCC, UL, IT Sligo, MTU, Waterford IT and TU Dublin.
- Construction Technology Centre: currently under development, this centre will facilitate and encourage collaboration between construction companies and the research community and help increase the level of R&D investment, innovation and productivity across the construction sector.

Research, Development and Innovation

Research, development and innovation capacity is central to sustaining and building competitiveness in international markets. Therefore, focus on maintaining and improving standards of research is critical.

EI's, Research, Development and Innovation (RDI) Funding and other measures for Irish businesses are designed to help companies grow their sales and employment. This includes the Exploring Innovation Grant; the Agile Innovation Fund; the Research and Development (R&D) Fund and the Intellectual Property (IP) Strategy. Due to the availability of R&D grants, indigenous SMEs have become increasingly internationally competitive and technology leaders and it has also enabled large indigenous companies to engage in significant expansions based on their R&D activity. It has also been central to the growth of some of Ireland's most successful mid-cap companies. The suite of measures, designed to address many of the key in-company challenges of engaging in RDI, will continue to expand to make innovation and R&D an expected and accepted part of normal business activity and to equip companies to remain competitive and ready to adapt to new technologies.

Driving the increase in the transfer and commercialisation of research by enterprise across the regions, with stretch targets for new products and services launches, licence and collaboration agreements, spin-out and jobs created through Knowledge Transfer Ireland.

Engagement in the Space Technologies Programme continues to deliver enhanced Irish participation in European Space Agency (ESA) Programmes. Through co-funded contracts, investment in ESA contributes directly to increases in R&D intensity across businesses and higher education. Ireland has seen significant success to date from participation in this programme. Investment in space applications can enable and enhance public service delivery across areas such as marine management, land use (including emissions to air and water, carbon capture), climate adaptation, smart agriculture and health service delivery.

Disruptive Technologies Innovation Fund

The impact of technological innovation is enabling significant transformation across the global economy and the pace is expected to accelerate. These technologies are transforming business models in a broad range of areas including healthcare, financial services, energy and food production, and business services.

The Disruptive Technologies Innovation Fund (DTIF) was established in 2018, with €500 million in funding committed over the period to 2027 for co-funded collaborative projects involving the enterprise and research sectors. DTIF projects focus on the development, deployment and commercialisation of disruptive technologies to deliver new solutions through investment in the development and implementation of innovative products and services that will alter markets, or the way business operates.

Since 2018, DTIF invested €235 million in 72 collaborative disruptive innovation projects with strong commercialisation potential under the first three calls of the Fund. These projects cover areas such as life sciences, medical devices, ICT, artificial intelligence, manufacturing and environmental sustainability. Funding to each project is allocated over three years subject to reaching agreed milestones.

Each project is a collaborative partnership of between 3 and 13 research and enterprise partners. Small and medium enterprise participation in every project is a requirement and SMEs constitute the largest grouping of partners within the consortia. They also represent the majority of lead applicants, 72 per cent of all projects. While there isn't a targeted regional dimension to the fund the 270 partners in the 72 projects to date are located across 15 counties, with over half of all collaborations operating outside Dublin.

Box 10.3: Digital Transition Fund

The Economic Recovery Plan has set out the ambition of a step change in the adoption of digital technologies by Irish businesses over the next five years as a critical driver of productivity and competitive advantage.

A 2019 EIB report on the digitalisation of SMEs in Ireland found unbalanced digitalisation among firms, with 40 per cent of companies (mainly SMEs) completely lacking digital technologies and a further 30 per cent having few digital assets.

This competitive fund will incentivise businesses to progress along a digital transition ladder, from going online to digitalisation of products and business processes, to facilitate exporting and to using digital technologies to develop new markets and business models.

The objectives of the fund will include:

- Increasing digitalisation of all businesses across products, processes, supply chains and business models thus bringing about productivity gains, access to new markets, increased innovation and improved competitiveness.
- Maximising the development and adoption of data analytics and AI by Irish enterprise.
- Driving digital transition of SMEs.
- Building resilience in SMEs and driving growth
- Incentivising collaboration and clustering to maximise innovation and spill-overs.

Part funded under the National Recovery & Resilience Plan.

The planned future direction of the FET sector is set out in Future FET: Transforming Learning – the National Further Education and Training Strategy, published in 2020. New capital investments will position the FET system as a driver of both economic development and social cohesion. Aligned to this strategy is the Action Plan for Apprenticeships 2021-2025 which sets a target of 10,000 new apprentice registrations per annum by 2025.

A new National Strategy for Research and Innovation for the period to 2027 is being developed which will build on the progress made under Innovation 2020. The next national Strategy provides the opportunity in the next phase to greatly strengthen our R&I ecosystem. The Strategy will have the ambition of placing research, development and innovation at the heart of addressing Ireland's economic and societal challenges, while also building capacity and capability to ensure we have a fit for purpose research and innovation system which can deliver research excellence and a pipeline of talent to meet the needs of a knowledge-based economy and society. A key focus of the new Strategy will be to strengthen the foundations that support the research and innovation system including through enhanced national coordination and collaboration across the research and innovation landscape.

The further and higher education and research system is critical to the delivery of Ireland's climate action ambitions. The transition to a green economy will require a sustained focus on ensuring that the necessary skills are being developed right across the further and higher education system, including reskilling and upskilling of those already in the workforce; this in turn requires investment in the supporting education and training infrastructure and equipment. Equally, as some skills become redundant in the new economy, we will rely on our further and higher education system to ensure that individuals can transition to new opportunities and that nobody is left behind.

We will look to our research and innovation system as part of the global effort to identify new approaches and technologies that help us tackle the climate emergency; this will require targeted and long-term investments. The transition to a carbon neutral economy will require significant investments in the further and higher education estate to move away from fossil fuels. We are at the beginning of that journey and efforts will continue over the coming decade.

Sectoral Strategies – Further and Higher Education, Research, Innovation and Science

There are a number of key strategies that will underpin our investment approach and bolster the role of further and higher education providers as anchors for enterprise and regional growth.

The National Strategy for Higher Education to 2030 continues to provide the framework for far-reaching changes in the higher education landscape. One of the most significant changes is the development of multi-campus technological universities, an agenda which is central to regional development ambitions and is now well advanced.

Strategic Investment Priorities – Further and Higher Education



Strategic Investment Priorities – Further and Higher Education

Expansion to cater for demographics

Investments to support skills development, including through deployment of digital technologies

Development of technological universities

Maintaining and enhancing existing infrastructure

Energy efficiency and decarbonisation

Step up in investment in further education and training infrastructure, including FET Colleges of the Future and apprenticeship delivery

and online learning, and therefore in achieving the target of an 18 per cent lifelong learning rate by 2025.

The development of high level knowledge and skills is among the most significant outputs of public investment in research and innovation. Creating and sustaining high-quality jobs in industry in a green/digital future will increasingly require technical knowledge and skills at PhD level. The pipeline of qualified researchers is critical to attracting high-value foreign direct investment in a globally competitive context, and for encouraging the development of R&D-orientated indigenous small enterprise. A mix of approaches is required, including investment in early-career programmes based on individual excellence, and research training centres of scale.

Infrastructure projects currently being advanced to support expansion for demographics and skills development include:

- Maynooth University Technology Society and Innovation Building
- UCD Future Campus Project
- Cork University Business School
- NUI Galway Learning Commons
- IT Sligo Central Campus Extension
- LIT Coonagh Engineering Campus

Expansion to cater for demographics

A key priority in the further and higher education sector is to support the necessary infrastructure expansion to address increasing enrolments arising from demographic growth, and to ensure that infrastructure development aligns both with spatial planning targets and skills needs in the economy.

In the higher education sector, full-time enrolments grew by one third between 2007 and 2017 and will continue to grow until at least 2030.

The response of further and higher education institutions to the pandemic highlighted the significant potential of online and blended learning, but equally emphasised the importance of the physical campus to the student experience and skills development. Support will be provided for the construction of campus infrastructure that is adaptable, digitally enabled, and supports evolving best practice in teaching and learning.

Investments to support skills development

Investments will seek to ensure that the right infrastructure and equipment are in place to match skills development with the needs of our economy and of society, across the regions and nationally. The importance of an agile approach to reskilling and upskilling has never been more important, and all regions must be positioned to provide continuous and pre-emptive workforce development, fostering and sustaining resilient enterprises. Investments in digital technologies will be essential to support part-time

Development of technological universities

TUs have a key role to play in driving the rebalancing of regional growth and development, as envisaged in the NPF. Investments in the new and planned multi-campus TUs will strengthen their role as anchors of enterprise, will further develop research and innovation capabilities that are aligned with regional specialisation, and will help attract and retain talent in the regions. The Higher Education Public Private Partnership (PPP) Programme will significantly enhance TU infrastructure, with other projects in the pipeline.

Maintaining and enhancing existing infrastructure

Upgrading the existing further and higher education building stock will be prioritised, alongside development of additional capacity. There will be synergies between the upgrades required for teaching and learning, and climate-related investments, and this will be factored into programme design. Annual devolved capital grant funding for minor works and equipment renewal will also be prioritised to support a more proactive approach to maintenance of the existing further and higher education estate.

Projects currently being advanced in this category include:

- IT Sligo, Refurbishment of Block L
- Dundalk Institute of Technology, Upgrade of North and South Buildings
- MTU Cork Campus, refurbishment of 1974 building

Energy Efficiency and Decarbonisation

The achievement of the 2030 climate targets will require significant investment in further and higher education buildings to improve energy efficiency and promote decarbonisation. The Energy Efficiency and Decarbonisation Pathfinder Programme, which is co-funded with Sustainable Energy Authority of Ireland (SEAI), will continue in the higher education sector, with a similar programme to be initiated in the FET sector. Over the period of the NDP, this will transition to larger scale investments, informed by the evidence from the pathfinder programmes, and with a clearly prioritised approach based on carbon reduction potential and operational considerations.

Pathfinder projects, which will test a range of retrofit and decarbonisation measures, are currently being progressed in relation to the following buildings:

- DCU Marconi building
- NUI Galway Áras de Brún
- TCD Moyne Institute
- Letterkenny Institute of Technology main campus building
- MU John Paul II library
- Institute of Art, Design and Technology, Dun Laoghaire, Atrium Building
- UCC O’Rahilly building
- UCD Belfield Campus district heating system

A second round of projects will be announced shortly.

Capital investment in funding for Further Education and Training

Infrastructure investments are a critical enabler of a strong FET system. A significant step up in funding for FET infrastructure is envisaged under this NDP. Support will be provided for the development of FET Colleges of the Future, both through targeted investments in existing buildings and the development of a small number of strategic new campuses aligned with regional needs.

Investments in the expansion of apprenticeship provision across further and higher education providers will also be prioritised in line with targets for new registrations. A key focus of current investments is expansion of capacity for electrical and plumbing apprenticeships.

Public Private Partnerships

The Higher Education PPP programme will be progressed through procurement and construction. The eleven new buildings in the programme will support the role of TUs and ITs in driving economic growth, particularly at regional level. The projects will significantly expand student enrolment capacity across the participating institutions, with a focus on areas of key skills needs, particularly in the STEM area.

Unitary charge payments will continue on four operational PPP buildings, two recently completed buildings in TU Dublin Grangegorman and two in MTU (MTU). One of the two MTU buildings, the National Maritime College of Ireland, will reach the end of its contract period during this lifetime of this NDP and will be handed back to the State.

Non-Exchequer investments

Non-Exchequer finance will continue to play an important role in the delivery of infrastructure in the higher education sector, such as borrowing by the university sector, including from the European Investment Bank (EIB), and philanthropy. Recently, there have been significant and very welcome announcements of philanthropic donations to support infrastructure development in the university sector.

Proceeds from the disposal of properties by TU Dublin will be the main source of finance for the next programme of construction at Grangegorman.

In total, some €2 billion of non-Exchequer finance is expected to be invested in the sector over the period of the NDP.

Box 10.4: Capital investment to support the development of Technological Universities

The creation of TUs is a key commitment within the Programme for Government and will deliver significant advantages in relation to national priorities for higher education access, research-informed teaching and learning, skills and employment creation and retention, as well as supporting enterprise and regional development.

Capital investment in the new and planned TUs under this NDP will also strengthen the role of TUs in the rebalancing of regional growth and development targeted through the NPF.

Ongoing and planned investments in new and proposed multi-campus TUs include:

- The Higher Education PPP programme targets the delivery of 11 high quality buildings across the regions, with a strong focus on enhanced STEM provision. The programme is divided into two bundles, with six projects in Bundle 1 and five projects in Bundle 2.
- The Central and East Quad at Grangegorman were recently completed for TU Dublin, facilitating the move of 10,000 students to the campus this year. The next phase of development work is now continuing, funded primarily by the sale of TU Dublin properties.
- The refurbishment and upgrade of existing building stock is a priority for the TU sector.

Projects currently approved in this sector include major fabric upgrades on the MTU main Cork Campus and in IT Sligo, part of the Connacht-Ulster Alliance (CUA). It is expected that additional refurbishment and upgrade projects will be prioritised in the technological sector under further funding calls.

- The technological sector is specifically targeted in the latest round of the Energy Efficiency and Decarbonisation Pathfinder Programme, which is co-funded with SEAI. Successful projects will be announced in Q1 2022.
- Research funding is being provided to SFI to support partnerships between the TUs and the university sector. The key goal of these partnerships is to support excellent, impactful research which benefits from the unique strengths of both sectors.
- Further campus development and expansion will be supported where required to meet demographic, skills and regional development needs. For example, work is progressing to identify campus development needs for the proposed Technological University for the South East of Ireland, including an expanded campus footprint in Waterford and a new campus in Wexford.

Strategic Investment Priorities – Research, Innovation and Science

Continued investment in research and innovation will support Ireland's economic and societal transformation.



Strategic Investment Priorities – Research, Innovation and Science

Implementation of new national strategy for research and innovation

Support for talent and research, including individual and early career research & research centres

Development of a framework for investment in research infrastructure

Challenge based awards, including the National Grand Challenges Programme

Continued involvement with international research bodies

Support for individual and early career researchers

Public investment in individual researchers to conduct frontier basic research across all disciplines is required to ensure diversity and strength in our research-performing institutions. Critically, diversity in terms of people and disciplines provides resilience and responsiveness so that as new challenges or opportunities emerge the research system is well positioned to 'ramp-up', respond promptly to new circumstances, including in the teaching of new skills informed by cutting-edge research. The Covid-19 crisis has demonstrated the value of rapid mobilisation of expertise, facilities and resources. Greater investment will be required to support the research base in the emerging technological university sector and to provide opportunities for individual researchers to establish themselves within these institutions.

Box 10.5: Centres for Research Training

The SFI Centres for Research Training (CRT) programme was established to provide for future skills needs by increasing the number of PhDs under the area 'Data and ICT Skills for the Future'. This first topic was selected due to skills demand as our society is increasingly dependent on data technologies, integrated into so many areas of our daily life, from healthcare to agriculture, recreation, banking, sport, weather, etc.

The CRT will help to meet the data skills needs of industry and will support and nurture early-career research talent, preparing postgraduate students for a multitude of career pathways.

In March 2019 6 CRTs launched with a Government investment of €100m. These will provide cohort-based PhD training for a total of 719 postgraduate students under the theme of Data and ICT skills for the future. Students will be recruited in 4 cohorts, with the first intake of students in Sep/Oct 2019, and second intake in Sep/Oct 2020. The six centres are:

- Machine Learning
- Foundations of Data Science
- Artificial Intelligence
- Digitally Enhanced Reality
- Genomics Data Science
- Advanced Networks for Sustainable Societies

Investment in Principal Investigator (PI)-led programmes such as the Irish Research Council (IRC) Laureate awards generates new PhD and postdoc positions also. The IRC's Early Career Researcher programmes include awards made in partnership with enterprise and employers, such schemes are an important part of provision with an industry focus.

Achieving missions will call for national investment in high-quality research along the spectrum from frontier basic to applied. The development of new ideas and new thinking required to tackle complex societal challenges requires a diversity of perspectives and interdisciplinary approaches. Engaging leading researchers from both Arts, Humanities and Social Sciences (AHSS) and STEM can often generate more innovative solutions and new ways of approaching and thinking about problems. Interdisciplinary must be grounded in a platform of excellent frontier research in individual disciplines.

Supporting talent and research through Science Foundation Ireland

The world-class research and talent SFI supports will prepare Ireland to lead in tackling persistent and new challenges; drive progress towards new technologies such as AI, and enable Ireland to gain first-mover advantage in entirely new areas, such as quantum, and other areas key to foresight/future scanning.

Reimagining SFI Research Centres

The SFI Research Centres Programme was launched in 2012 with the objective of positioning Ireland as a global knowledge leader through the development of world-leading, large scale Research Centres to provide major economic and societal impact for Ireland. There are currently sixteen SFI Research Centres, established through a cumulative investment of €684 million from Government through SFI, and a further €466 million committed by industry. SFI Research Centres have drawn also down approximately €172.6 million in cumulative Horizon 2020 funding. The SFI Research Centres link scientists and engineers in partnerships across 910 research bodies across the globe. The Centres have signed 1,033 collaborative research agreements (CRAs) with 527 companies around the world (272 in Ireland) and attract industry which make important contributions to Ireland's economy, and expand STEM educational and career opportunities. SFI Research Centres generate an additional €2 in leveraged funding for every €1 invested by the Irish Government.

Ten SFI Research Centres have been internationally peer reviewed and have now commenced Phase Two funding. When these centres were initially awarded funding, 70 per cent of their total funding was provided by SFI. As the SFI Research Centres mature, they become less reliant on SFI funding. SFI Research Centres that have been awarded Phase Two funding will be required to scale to secure 66 per cent of the funding from other sources, so only 34 per cent of their funding will now be from SFI.

Over the coming years, the next evolution of the Research Centre model will be reimagined by introducing all-island Research Centres; seeding new proto-centres; and merging existing centres, where warranted, into larger scale independent research institutions.

Programme for Research in Third Level Institutions

The Programme for Research in Third-Level Institutions (PRTLII) was launched in 1998, with five cycles of expenditure to date supporting the provision of top-class research infrastructure and significant investment in human capital development. Cycle 5 projects have now been completed, with the final payments made in 2021.

DFHERIS will scope out a successor to PRTLII to direct new investment in research infrastructure to preserve and develop the progress achieved under previous programmes, which will be pursued as resources permit.

Challenge Based Awards

Challenge-based funding is a solution-focused approach to research funding that uses prizes, strict timelines, teamwork and competition to direct research activities at ambitious societal problems.

The SFI Future Innovator Prize is a challenge-based prize funding programme that seeks to support Ireland's best and brightest, to develop novel, potentially disruptive, technologies to address significant societal challenges.

Under the NRRP the National Grand Challenges Programme will use a challenge-based approach to coordinate national research and innovation capacity to address a range of issues. The funding will support research and innovation projects to develop solutions in the areas of Climate and Digital, including Agriculture and Health. Complex problems call for novel approaches that embrace transdisciplinarity, agility and acceptance of risk. Challenges will be carefully curated by SFI teams working with Government Departments and agencies. Approaches will be outcome-focused, maximising the opportunity for research translation. This resource should be considered as a necessary enabler of national reform objectives.

International Research Organisations (IROs)

Under the remit of DFHERIS, Ireland is a member of a number of leading IROs including the European Southern Observatory (ESO), the European High Performance Computing Joint Undertaking (EuroHPC), the Centre European de Calculi Atomiques et Molecular (CECAM), EOSC (European Open Science Cloud) and I-LOFAR (Irish Low Frequency Array Telescope).

Membership of ESO for example enables Irish researchers to participate in some of the largest astrophysics projects in the world, collaborating with world-leading researchers and working at the frontiers of scientific knowledge. Since joining ESO, Irish astronomers have been competing successfully for time on ESO's telescopes in order to conduct their research. This in turn leads to scientific breakthroughs and publications. Membership also brings economic return, with Irish companies now eligible to compete for ESO contracts.

Euro HPC

Ireland is a founding member of EuroHPC, a multi-billion euro initiative to develop a world class supercomputing ecosystem in Europe.

The Irish Centre for High End Computing (ICHEC) leads on Ireland's efforts to secure some of the anticipated €8 billion matching funding which will be available from EuroHPC under the next European multiannual financial framework. ICHEC have already successfully bid for a number of co-funded projects, including one for the establishment of a national EuroHPC Competence Centre that will provide access to HPC facilities and training for Irish academics and industry.

EuroHPC encompasses Quantum Computing as a rapidly-emerging area of technological development. The acquisition of a Quantum Learning Platform in 2020, hosted by the Irish Centre for High-End Computing, will facilitate application development, research and innovation, training and education in the field of Quantum Computing, contributing to Ireland's smart economy.

Table 10.2: Climate and Environmental Assessment

Investment	Assessment
Decarbonisation of the Enterprise Sector	A
Digital Transformation of Enterprise in Ireland	A
Disruptive Technologies Innovation Fund (DTIF)	A
Enterprise Ireland Research, Development and Innovation Programme	A
Enterprise Ireland Non-R&D Grant Programmes	C
National Design Centre	A
IDA Ireland Grants to Industry	C
IDA Ireland Regional Property Programme	C
European Digital Innovation Hubs	A
Future Manufacturing Ireland	A
LEO Grants Programme	B
North South Programme	A
NSAI Metrology, Facilities and ICT	A
Space Technologies Programme	A
Sectoral Transformation (Food and Pharma)	C
Higher Education Capital A (climate specific investments)	A
Higher Education Capital B (other capital investments)	C
Higher Education Public Private Partnerships (PPPs)	B
Digital Transformation	A
Further Education and Training Capital A - Climate specific investments	A
Further Education and Training Capital B - other capital investments	C
PRTL (Programme for Research in Third Level Institutions)	A
Research Capability	B
Grand Challenges	A
Natural Infrastructure and Programmes	A

Note: See Chapter 3 and separate paper for further detail.

Sectoral Strategies – Cyber Security

The scale of investment set out in the NDP will be transformative for Irish society and the delivery of public services. To safeguard this investment, it will be necessary for all public bodies, and particularly those providing services essential to human life, or in key social or economic functions like energy, water, transport and financial services sectors to continue to improve their cyber security and their overall resilience, by investing both in their people and systems. Ireland is a highly digitalised society and is also home to a large proportion of Europe's data (upwards of 30 per cent according to some industry assessments) and the European headquarters of several of the world's largest technology firms. Cyberattacks on digital infrastructure in Ireland could potentially have disruptive effects on infrastructure or business across the EU and globally.

The National Cyber Security Centre (NCSC) provides expert advice and guidance to strengthen cyber security and build resilience across Government and the private sector and acts as a central contact point in the event of a Government- or nation-wide cyber security incident affecting the State. Recognising that there has been a steady increase in the number of significant cyber incidents in Ireland and internationally in the past number of years, and with the impact of these incidents becoming more severe, the Government in July 2021 agreed to a near trebling of the NCSC staff complement from 25 to 70 within five years.



Strategic Investment Priorities – Cyber Security

In addition to the investment in staffing resources, capital investment in the NCSC will be supported through the NDP allocations to the Department of the Environment, Climate and Communications (DECC). A five-year technology strategy will be prepared for the NCSC and future capital funding will be aligned with this strategy. The expanded NCSC will be housed in a secure facility in the Department's new headquarters in Beggars Bush, the construction of which is being undertaken by the Office of Public Works (OPW) and funded by way of a €60 million investment under the NRRP. Since the construction of the headquarters at Beggars Bush is being undertaken by the OPW, the climate assessment for cyber security is reflected in OPW's Climate Assessment under 'Investment in Plant and Equipment & ICT'.



NSO 6

Chapter 11:
High- Quality
International
Connectivity

As an island, continued investment in our port and airport connections to the UK, the EU and the rest of the world, is integral to underpinning international competitiveness. It is also central to responding to the challenges as well as the opportunities arising from Brexit.

Sectoral Strategies

While investment will continue to support international connectivity and competitiveness, it will also target the 'greening' of airports and ports.

In relation to airports, a new National Aviation Policy will be developed to provide a framework for the sustainable recovery and development of the Irish aviation sector over the course of the next decade. Similarly, in order to position our port network to address any future capacity constraints and address the global trend towards green and smart ports, a review of National Ports Policy will commence by the end of 2021.

In line with the European Green Deal, airports and ports are already identifying pathways towards achieving net zero carbon emissions by 2050. Measures include improved energy efficiency of airports and port infrastructure and related services, on-site generation of the renewable energy, and alternatives to carbon-based fuels as technology improves, including supports for sustainable aviation fuels (SAF), taking account of the Fit for 55 package, which was announced by the Commission in July 2021.

Plans for strengthening surface connectivity to ports and airports will continue to be prioritised, with a particular focus on rail freight connectivity to the Ports of National Significance and improved sustainable mobility connections to the State Airports.

The importance of ports and airports in the context of regional connectivity continues to be of strategic importance, particularly the need to improve connectivity to State airports and ports in the North-West. In respect of airports, such connectivity will be supported under a new Regional Airports Programme for the period 2021-2025. As well as supporting safety and security projects and activities at eligible airports, investment aimed at reducing emissions and building climate resilience will also be supported under this new Programme.

As the strategic gateways of Ireland, airports and ports will play a central role in helping to restore international connectivity and economic activity as Covid-related travel restrictions continue to lift from 2021. While investment will assist in the recovery from the impacts of Covid, it will also support the continued development and improvement of Ireland's ports and State airports by the relevant responsible

commercial State-Owned Enterprises (SOEs), consistent with sectoral priorities already defined through National Ports Policy and National Aviation Policy, in addition to continued Exchequer support for the small regional airports.

Significant investment in Ireland's airports and ports will play a major role in safeguarding and enhancing Ireland's international connectivity which is fundamental to Ireland's international competitiveness, trading performance in both goods and services and enhancing its attractiveness to foreign direct investment. The importance of this objective cannot be understated in the context of the UK's exit from the EU.

Maritime services programmes will support aids to navigation, and Coast Guard search and rescue and pollution prevention activities.

Strategic Investment Priorities

Airports

- daa is progressing the delivery of a new runway for Dublin Airport at an estimated cost of €320 million. The new North Runway is a key strategic infrastructure project for the State and will ensure that expected future demand can be met. The runway is due to enter service in 2022.
- The Irish Aviation Authority has continued its work on the new €50 million visual control tower at Dublin Airport. The technical fit-out of the tower, which is required to facilitate operations at the airport on the new North Runway, was completed on budget in 2020. Full operations are planned for the tower towards the end of 2021.
- In line with the 2015 'National Aviation Policy for Ireland', Cork and Shannon Airports will continue to be supported in their roles as key tourism and business gateways for their regions, particularly with regard to the development of niche markets. Airports will be encouraged to develop measures to foster sustainability and to meet regulatory requirements including likely future targets for cleaner infrastructure, which form part of a proposal to revise the Alternative Fuels Infrastructure Directive. Continued Exchequer support for smaller regional airports is planned under the Regional Airports Programme (RAP). Airports that facilitate international connectivity, and handle less than 1 million annual passengers, are eligible to apply for grant aid under the new 2021 – 2025 Programme. Eligible airports include Donegal, Kerry and Ireland West (Knock). However, given the impacts of Covid on passenger numbers, Shannon and Cork airports are likely to be eligible for funding under this Programme in 2022 and potentially 2023. A number of sizeable

projects are proposed over the lifetime of the RAP including a significant apron safety enhancement project at Ireland West Airport. As above, airports will be encouraged to move away from using fossil fuels, where possible, including a move from diesel to electric Ground Power Units (GPUs) in line with any new requirement under a revised Alternative Fuels Directive. Electrical GPUs allow aircraft to plug directly into an electricity powered energy source while parked on the airfield. Currently, aircraft at regional airports plug into small, mobile, diesel-powered engines. These are noisy and emit pollutants. Removing diesel-powered units would have significant operational and environmental benefits for all airport users. In response to the impacts of Covid, in addition to the capital envelope for regional airports in the NDP, €16.3m is being provided to the airports of Cork and Shannon in 2021 under a one-off Regional State Airports Programme. Of this, €10 million is supporting a significant runway reconstruction project at Cork Airport.

Ports

Three major capital infrastructure programmes are currently ongoing in Tier 1 Ports, namely Dublin, Cork and Shannon Foynes. These will enhance national and international connectivity, provide for future increases in trade and national port capacity requirements by facilitating more vessels, larger sized vessels and increased tonnage and throughput. None of these projects receive exchequer funding. The Masterplan for Rosslare Europort was granted planning permission in Q4 2020 and has identified a number of key infrastructure investments to make better use of available capacity, improve efficiencies and target specific sectors, while promoting the benefits of congestion-free access to European and UK markets. The Masterplan envisages capital investment of €42m over the planning period 2021 to 2026.

Strengthening access routes to Ireland's ports through investment to upgrade and enhance the road and rail transport network to improve journey times is and remains a government priority. Examples of such investments include the ongoing development of the M11, in terms of improving connectivity to Rosslare in the southeast; the planned N28 Cork to Ringaskiddy Road, in terms of improving access to the Port of Cork; and the N21/N69 Limerick to Adare to Foynes Road, and Foynes rail link to improve access to Shannon Foynes Port. The UK's exit from the EU in 2019 highlights the importance of this NSO and the importance of continuing investment to further improve the quality of port facilities, particularly those in the South-East such as Rosslare and the Port of Waterford given their role in maintaining transportation linkages with crucial EU markets. As

noted in NSO 2, a *Strategic Rail Review* has recently been launched and will examine a range of relevant issues including rail connectivity to our international gateways and the potential role of rail freight.

Offshore Renewable Energy

While the primary function of our state ports is to facilitate maritime transport, which is the most important means of connecting Ireland to international markets, accounting for more than 90% of Ireland's international trade in volume terms, ports are also enablers of other activities.

The significant role that ports can play in the facilitation of the development of the Irish offshore renewable energy sector going forward is recognised and will be factored into the work undertaken in reviewing our National Ports Policy. The Department in conjunction with the Irish Maritime Development Office is currently engaging with the ORE sector and international ports to assess options for our ports facilitating the ORE sector.

It is crucial that all potential avenues for investment in port infrastructure are explored, particularly as ports do not receive Exchequer funding. The Department of Transport has this year successfully negotiated with the European Commission to make funding for ORE infrastructure at ports eligible under the Connecting Europe Facility programme in the next 2021-2023 funding stream. There will be three calls for applications in this period. The Department of Transport is engaging with ports on the Trans European Network for Transport (Ten-T) to assist where appropriate in applying for this funding.

Maritime Services

The Commissioners of Irish Lights is a maritime organisation delivering an essential safety service around the coast of Ireland, protecting the marine environment, and supporting marine industries and coastal communities. Irish Lights provides maritime aids to navigation services to meet the State's legal obligations under Safety of Life at Sea (SOLAS) Chapter V, Regulation 13. Through the provision and maintenance of lighthouses, buoys and beacons plus electronic aids to navigation, data and advisory services, Irish Lights enhances safety of navigation for all seafarers, including the merchant fleet, the fishing sector and the leisure sector. These aids to navigation are required at high availability (99.8% available) under SOLAS requirements, necessitating a dedicated response vessel to deal with service outages, wreck response and reacting to new dangers to navigation.

In delivering these services Irish Lights relies on the capability of its dedicated buoy tender vessel, the ILV Granuaile. Built in 2000 and now entering its third decade of service life, the current Granuaile

has delivered excellent value for money for the State and will continue to operate successfully in the short term. In parallel, planning for a new vessel will commence in early 2022, with an expected delivery date of early 2028 in estimated cost category A including design work.

Box 11.1: Ringaskiddy Redevelopment – Port of Cork

Status: Commenced

Estimated Cost Category: B

Estimated Completion Date: 2021

The Port of Cork is investing to redevelop the port's existing facilities at Ringaskiddy. Planning permission was granted in 2015 towards this development. Delays due to Covid 19 have pushed the completion date out to Q3 2021 with the new facility operational in Q4 2021. The development will enable the Port to accommodate larger vessels and further develop it as an international gateway for trade. The project will alleviate the physical constraints (for example, water depths) of current operations at City Quays and Tivoli, allowing the Port to increase capacity and throughput, diversify customers, cater to the trend of increasing vessel sizes and free the City Quays and Tivoli properties for development and/or divestment.

Box 11.2: Dublin Port Phase 2 of its Masterplan

Dublin Port has received planning permission for the second project under its Masterplan namely the MP2 project. This project will see the construction of two berths with an overall length of 545 meters. The works are currently being planned with construction expected to commence in 2022.

The company has commenced the first stage of stakeholder and public consultation in respect of the third and final masterplan project the 3FM project. The company anticipates commencing pre-application consultation with An Bord Pleánála in 2022.

Box 11.3: Capacity Extension Works -Shannon Foynes Port Company

Status: Commenced

Estimated Cost Category: A (over next five years)

Estimated Completion Date: 2022

Shannon Foynes Port Company's Infrastructure Development Programme is well underway and will consist of a jetty expansion program, the joining of the East and West Jetties and the infill behind, land purchase and site development at Foynes in light

of the land bank shortage at Foynes Port and the Foynes Rail Reinstatement. Phase 1 of part of this development has been completed, Planning Permission for Phase 2 of the Project was obtained in 2018. Procurement work for a contractor for the work on joining the jetties has been completed. Work will commence once foreshore consent has been received. The investment programme will improve international connectivity and increase capacity through the construction of new quay wall and associated port infrastructure and external connectivity.

Sectoral Strategies – Communications

As stated in the Telecommunications chapter of the National Marine Planning Framework, guaranteeing existing and future international telecommunications connectivity is critically important to support the future needs of society and enterprise in Ireland. Arising from developments at European level as part of "Shaping Europe's Digital Future" - there is an increased ambition to further strengthen the international connectivity of the EU including in respect of subsea telecommunications connectivity and to develop the EU into a world-class data hub. Ireland supports the principle of boosting the telecommunications subsea connectivity of the EU as a whole and also Ireland's telecommunications subsea connectivity, and will be advocating at European and national level for a pro-investment approach to be taken to encourage the development of high capacity subsea telecommunications networks within the EU, including Ireland, and between the EU and third countries.

Box 11.4: Second Parallel Runway Project at Dublin Airport

Current Status: Project Commenced

Estimated Cost Category: D

Estimated Completion Date: 2022

In 2007, An Bord Pleanála granted Dublin Airport planning permission to build a 3110 m runway, 1.6 km north of the existing main runway. Due to the economic downturn, the project was put on hold.

However, the subsequent recovery in the economy prior to Covid led to record levels of passenger numbers, with 32 million travelling through Dublin Airport in 2019 to over 180 destinations worldwide.

North Runway will be delivered within the airport's existing land bank, a result of careful planning which has allowed this land to be safeguarded for over 40 years.

Construction works on the runway are expected to be completed with operational readiness and testing due to take place before the runway enters service in 2022. In the short term, daa estimated that the project will support over 500 construction jobs and support a further 31,000 jobs over the next two decades, contributing €2.2 billion to GDP.

Box 11.5: Alexander Basin Redevelopment Project – Dublin Port

Status: Commenced

Estimated Cost Category: C

Estimated Completion Date: 2022

Dublin Port received planning in 2015 in respect of the first phase of its Masterplan, the Alexander Basin Redevelopment Project. This is an infrastructural investment at the port, along with conservation works related to the port's Victorian industrial heritage. The redevelopment comprises significant landside restructuring to quays and berths etc. to facilitate larger vessels and also enhance the port's current cruise vessel experience. The works also involve significant elements of capital dredging alongside the newly reconstructed berths as well as the port's navigable channel deepened from its current 7.8 m draught to 10 m draught. The investment will help future-proof the port in terms of being able to facilitate larger sized vessels into the future (in terms of both length and draft) and provide for increased capacity.



Strategic Investment Priorities – Communications

High quality, secure and reliable connectivity to global telecommunications networks is of significant strategic importance to the Irish State.

By strengthening international connectivity and developing an agile and resilient digital infrastructure, it will allow Ireland to embrace digital transformation enabling sustainable economic growth and positive social dividends.

A recent examination of Ireland's international connectivity infrastructure highlighted that:

- 60 per cent of cables towards the UK and 33 per cent of cables towards North America were ageing and reaching end of life;
- a number of new cables were being deployed to meet the capacity requirements along these routes but care must be taken to encourage commercial investments;
- no direct EU connectivity exists, although two projects are currently being deployed; and
- additional connectivity to the EU is needed to serve Ireland's future requirements.

In the first instance, Ireland must secure the capacity requirements that the State is likely to require. The forthcoming Maritime Area Planning legislation provides a new regulatory framework for developments in the marine environment, including subsea cables in the Irish territorial sea. A robust and coherent marine planning system is regarded as a key enabler to encourage and support future investment in high-speed submarine telecommunications infrastructure.

Secondly, in line with the EU's ambition to strengthen the international connectivity of the EU, there is a strategic opportunity to position Ireland as a central connectivity hub in Europe and act as a gateway to Europe for all transatlantic cables from North America. This can be achieved by ensuring Ireland develops high capacity and diverse connectivity routes directly to mainland Europe, whilst continuing to encourage investment in cable projects from North America to Ireland.

EirGrid's Celtic Interconnector project between Ireland and France, which includes a fibre telecommunications cable, represents an important connectivity route for Ireland that can help to realise this strategy.

Further measures may be required over time in order to leverage the private investment required to further develop international connectivity to mainland Europe and to ensure that Ireland becomes a central connectivity hub.



NSO 7

Chapter 12: Enhanced Amenity and Heritage

Ireland's heritage – built, natural, cultural and linguistic, tangible and intangible – is of fundamental importance to all aspects of our society, our identity, our well-being and our economy. The heritage programmes align closely with NDP, NPF and PfG objectives and, in more broadly relatable terms, our heritage is a lifeline in providing fresh air and space in which to safely exercise and experience nature. Our heritage faces many challenges including those stemming from land-use change, climate change and biodiversity loss, dereliction and a lack of awareness of the value of heritage.

Investment in our heritage has the dual benefit of protecting our natural and historic built environment while improving health, wellbeing and providing a catalyst for the economy through the development of recreational activities and the expansion of tourism as appropriate within heritage sites. Keeping this national tourism product intact, enhanced, developed and promoted will help secure the long-term viability of sustainable tourism incomes and will need to be a priority going forward.

Sectoral Strategies - Heritage

The State's heritage portfolio represents a significant tourism asset, as well as reflecting Ireland's past, its identity and the sense of place it creates. The State's natural heritage, biodiversity and built heritage will be protected and enhanced as part of this ten-year plan. Substantial investment will take place to enhance Ireland's Natural Heritage through the national parks and reserves, and outdoor recreation facilities.

Ireland's 6 national parks and 74 nature reserves currently attract four million visitors every year and are a focal point for tourism and enterprise in local communities. Their dispersed location bring economic and employment opportunities to rural communities across the State. The balance between nature conservation, biodiversity and visitor amenity will be carefully managed by prudent investment.

A significant investment in visitor facilities, with a strong emphasis on conservation and protection of biodiversity, is a priority in this plan. Specific projects within the plan include the improvement of visitor facilities at Connemara and Glenveagh National Parks, the delivery of new walking and cycling trails in Wild Nephin National Park, investment in outdoor recreational facilities in Killarney National Park, investment in interpretation at Coole Park and other Reserves, visitor improvements at the Burren National Park and the enhancement of the visitor experience at Wicklow National Park. We will also invest in county biodiversity action plans and peatlands restoration.

The quality of Ireland's tourism and recreation sectors is fundamentally dependent on Ireland's natural heritage and biodiversity. Investment is being provided to support the objectives of the *National Biodiversity Action Plan 2017-2021*, and the successor plan, including accelerating measures to conserve and restore peatlands and wetlands, combat the spread of invasive alien species, implement Local Biodiversity Action Plans and invest in agri-environment schemes.

Other heritage and waterways investment priorities, consistent with objectives of Our Rural Future, Ireland's Rural Development Policy 2021-2025 include critical investment in national parks and waterways, further supports to deliver compliance with the Habitats' Directive as well as measures to mitigate the impact of Brexit in border areas.

Investment in our historic environment will see the expansion of the Built Heritage Investment Scheme and the Historic Structures Fund which assist the owners and custodians of our heritage buildings in protecting our valuable built heritage and ensure that vital traditional building skills are not lost. Increased support to the Heritage Council, including to the Historic Towns Initiative, delivered in conjunction with the Department, will see the benefits of heritage investment extending to more towns and communities across the country.

Heritage funding will also support the high-quality care conservation and promotion of our national heritage estate of 1,000 monuments and 32 historic properties in state care. Where feasible, additional sites and monuments will be acquired and access improved. Funding will support sensitive refurbishment and development of OPW visitor infrastructure and enhanced animation at key heritage sites across the country, including at the Hill of Tara, Céide Fields, Clonmacnoise, Skellig Michael, Valentia Cable Station and the Rock of Cashel and 14-17 Moore Street, providing significant economic stimulus and job creation. Strengthening of investment in the recently established Community Monuments Fund will protect and promote archaeological heritage, supporting community development, traditional skills and jobs and tourism and regional and rural development, while building resilience against the most extreme impacts of climate change. To address climate impact at a policy level, further investment will ensure implementation of Ireland's *Sectoral Adaptation Plan for Built and Archaeological Heritage*, the first such plan in Europe aimed at addressing impacts.

Strategic Investment Priorities - Heritage

Strategic Investment Priorities - National Heritage



Resourcing Experiencing the Wild Heart of Ireland, the guide to the development of our National Parks and Nature Reserves

Safeguarding Ireland's Historic Environment through Built Heritage Investment Scheme and Historic Structures Fund and the Community Monuments Fund

Conservation and Preservation of National Monuments

Continued investment in the Heritage Council and the Irish Heritage Trust

Building resilience in our historic environment through the implementation of the Climate Adaptation Plan for Built and Archaeological Heritage

Natural Heritage and Biodiversity – implementation of the National Biodiversity Action Plan 2017-2021, including Peatlands Restoration and Conservation

Protecting Ireland's rare and endangered plants, animals and their habitats

Continued investment in the restoration of the Ulster Canal

- Peatland and other habitat conservation, restoration and management, contributing to reduced carbon emissions, carbon storage and supporting employment and biodiversity.
- Ongoing maintenance and development of the 87,000 hectare National Parks and Nature Reserves Network across 80 sites, servicing over 4m visitors annually, including continued development of infrastructure, per Experiencing the Wild Heart of Ireland.
- Restoration of the Ulster Canal, stimulating the local economy and mitigating impacts of Brexit on the central border area.
- Implementation of the current and future National Biodiversity Action Plan, delivery of National Parks and Wildlife Service Farm Plans and LIFE projects, enhanced wildlife crime investigation capacity and identification and delivery conservation measures

at designated sites as identified in the Prioritised Action Framework for Ireland (2021-2027).

- Investment in nature and biodiversity, to improve the quality of natural habitats and support native plants and animals, including those under threat, and to bolster broader societal wellness and sustainability goals.
- Future-proofing obligations under the Biodiversity Strategy 2030, including potential national designations and the preparation and delivery of a National Restoration Plan.
- Completion of the conservation of the Moore Street National Monument, along with the provision of visitor and exhibition facilities on site.
- Continued investment in the Heritage Council and its programmes.
- Growing built heritage capital grant schemes providing grant aid to historic buildings in our local communities and creating thousands of hours of local, skilled employment, skilled employment.
- Supporting the care and conservation of our national heritage estate of monuments and historic properties in state care, including visitor infrastructure.
- Increased support for the Community Monuments Fund, protecting heritage and supporting community development, local tourism, traditional skills and jobs.
- Funding Heritage Ireland 2030, our new 10-year national heritage plan.
- Implementing the Climate Change Adaptation Plan for Built and Archaeological Heritage, protecting this heritage from the effects of climate change.
- Delivery of the Cork event centre is key commitment of the government under this plan. The project represents a major contribution to urban regeneration, enhanced amenity and heritage and increased quality of life for Cork. It will also aid the wider economic potential and balanced regional development of the southern / Midwestern region. Following a review of the project in 2019 the procurement process was completed abs planning permission has been granted. While there were some unavoidable delays due to Covid 19 the project is now proceeding to the next stages which are the finalisation of the funding agreement, the completion of detailed design and the commencement of construction. The project will be delivered by way of a partnership between Cork City Council and the successful bidder, with funding provided by the department of Housing local government and heritage under the NDP. Cork City Council will also deliver significant and complementary public realm enhancements in the city centre.

- The GPO will remain in public ownership. The rich cultural heritage of the building will be preserved through continued operation of the historic post office and the museum on the ground floor. Sympathetic to development elsewhere on O’Connell Street, the upper floors will be refurbished to provide office accommodation for civil servants. The renovations will serve as an exemplar for improved energy efficiency in heritage-sensitive public sector buildings. A full assessment of the works necessary will be performed and the associated investment cost agreed before the current occupants of the existing office accommodation (An Post) vacate the premises. The refurbishment will be carried out in line with best practice and the value for money provisions of the Public Spending Code, with funding met primarily by DECC. On completion of all necessary due diligence, the title of the building will transfer to the OPW.

Box 12.1: Built and Archaeological Heritage Capital Grant Schemes

Current Status: Ongoing
Estimated Cost Category: B
Start Date: Summer 2022
Completion Date: Autumn/Winter 2026

The Department will continue to safeguard Ireland’s Historic Environment through its capital grant schemes – the Built Heritage Investment Scheme and the Historic Structures Fund and the Community Monuments Fund. The grant schemes invest essential capital in our built and archaeological heritage, helping owners and custodians of historic structures to safeguard them for the benefit of communities and the public. It is a commitment under the Programme for Government to ‘Build on community-led schemes’ such as these. This will include Investment in a landmark restoration project to help to safeguard the iconic 18th-century Old Library at Trinity College Dublin, and its precious collections, by addressing environmental and structural challenges. The works will create employment for craftspeople and conservators from across the country and beyond, protecting the Library and its contents for future generations. The built heritage schemes represent an excellent returns on investment by leveraging private capital and creating employment opportunities. For example, approximately 5,600 days’ employment is created right across the country for skilled tradespeople for every €1m invested. The Community Monuments Fund supports community engagement, job creation and building resilience against the impact of climate change.

Table 12.1: Climate and Environmental Assessment

Investment	Assessment
Peatland and other habitat conservation, restoration and management	A
Growing built heritage capital funding	A
National Monuments	A
Investment in our National Parks and Nature Reserves	A
Biodiversity Plan	A
Restoration of the Ulster Canal	A

Note: See Chapter 3 and separate paper for further detail

Sectoral Strategies – Tourism, Culture, Arts, Gaeltacht, Sports and Media

The NPF recognises the value of cultural, linguistic, tourism and sporting amenity as a key component of, and contributor to, the attractiveness and sustainability of our cities, towns, villages and rural areas in terms of developing cultural creative spaces, private inward investment, and attracting and retaining talent and enterprise. Investment in our National Cultural Institutions, regional cultural, linguistic and sporting infrastructure, including large-scale sporting infrastructure, provides a significant contribution towards this goal in respect of cities and population growth centres under the NPF. Additionally, investment in tourism and recreation infrastructure through Fáilte Ireland’s Tourism Investment Strategy, including its Platforms for Growth Tourism Investment Programme, as well as through investment programmes for cultural, linguistic and sporting infrastructure, enhances the sustainability of towns and villages across the country.

The Department’s Investing in our Culture, Language and Heritage 2018-2027 (ICLH) capital plan continues to guide investment in the Culture and Gaeltacht sectors with a renewed focus now on meeting the objectives of the National Planning Framework, Culture 2025, the Climate Action Plan, Our Rural Future, the Action Plan for the Irish Language, and other cross-Government and sectoral policies. The Department’s priorities for the audiovisual sector are further specified in the *Audiovisual Action Plan*.

Similarly, the Department continues to deliver on the commitments of *Linking People and Places* for the tourism sector and the *National Sports Policy 2018-2027* for the sport sector further informed by the Programme for Government and evolving policy context for climate action, among others.

Within the context of these investment strategies and their evolution to meet the objectives of the NPF, Climate Action Plan, Programme for Government and other emerging policies, the Department continues to work to ensure that its programmes support economic recovery and promote resilience within its sectors, enhance well-being at individual and community level and advance an agenda for social, economic and environmental sustainability. Central to this is a commitment to supporting and promoting guardianship of our unique cultural, linguistic and sporting heritage for communities and visitors alike.

Economic Recovery and Resilience

The Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media undertakes capital investment to ensure that key sectors like the tourism sector and creative and cultural sectors can play an important role in supporting and contributing to Ireland's wider economy. This includes investment in the audio-visual sector, increasingly with a focus on promoting creative industries and skills, one of the fastest growing economic sectors worldwide. Recovery from the COVID-19 pandemic will also impact the Department's capital investment programme over the next decade.

The Department seeks to secure and enhance the contribution made by these sectors and supports these efforts through its economic development agencies; Fáilte Ireland, Screen Ireland and Údarás na Gaeltachta, as well as through its work across Government to deliver on Global Ireland and the Roadmap for the Creative Industries.

Wellbeing and Social Cohesion

The Department also leverages its considerable sectoral remit, including through its partners in Sport Ireland and the National Cultural Institutions, to improve the wellbeing of people and communities across the country through investment to promote creativity, social interaction, participation in sport and physical activity, individual potential and community cohesion. Important capital investment in cultural and sporting infrastructure across the country will continue to improve and provide new spaces within communities, allowing people to come together and participate in our rich cultural and sporting heritage. This in particular is achieved through increased participation in sport and enhancement of sporting facilities, as well as upgrading and providing new spaces where cultural, creative and artistic endeavours can be showcased and enjoyed. Investment in our tourism sector, in addition to clear economic impacts, can also positively impact wellbeing by improving amenity resources that benefit citizens directly.

Guardianship and Sustainability

The Department aims to protect and manage our cultural and amenity resources in a sustainable manner to ensure a future that will allow for their continued enjoyment and enhancement for generations to come, as well as facilitating sustainable economic growth.

Strategic Investment Priorities – Tourism, Culture, Arts, Gaeltacht, Sports and Media



Strategic Investment Priorities - Tourism, Culture, Arts, Gaeltacht, Sports

Strengthen Ireland's reputation as a leader in the cultural arena through the development of a world-class network of cultural infrastructure through the National Cultural Institutions Investment Programme, which will deliver major redevelopment projects to increase capacity, deliver improved visitor experience, and address longstanding infrastructural issues, future-proofing our NCIs for generations to come.

Safeguard our important cultural heritage through Digitisation of the National Collections, which will provide new ways to interact with our rich collection of artistic works and important historical artefacts, as well as providing increased opportunities to access the collections. Global Ireland 2025 recognises that Irish people are citizens of the world as well as Ireland, and this digitisation will enable our diaspora to participate in our rich cultural heritage and engage in genealogical research.

Enhance sports facilities throughout Ireland, including major sporting infrastructure development through the Large Scale Sport Infrastructure Fund as well as continued investment in the Sports Capital and Equipment Programme.

Support and grow tourism, delivering enhanced amenity through investment in Tourism Product Development, including through Platforms for Growth – Fáilte Ireland's capital investment strategy to target project categories that have the greatest potential to grow tourism.

Deliver key infrastructure to support the development of world-class sporting facilities at the Sport Ireland Campus.

Economic Recovery and Resilience

Tourism Product Development

The NDP will continue to support an ambitious programme of investments in our national tourism product over the period to 2026 with a particular focus on the delivery of Fáilte Ireland's Tourism Investment Strategy, including its Platforms for Growth Tourism Investment Programme, as well as responding to priorities identified in the Programme for Government and the Climate Action Plan. The Tourism Recovery Plan 2020-2023, in particular, outlines how supporting the recovery and growth of the sector in a sustainable manner is essential. A new tourism policy will be developed which will aim for a sustainable sector and this will be a key influence on how we develop tourism product into the future, minimising negative environmental and community impacts, while safeguarding our natural cultural assets. Capital expenditure helps support the creation of future jobs (260,000 jobs in 2019) and will allow the transition of the industry to a more sustainable model.

This investment programme for Tourism will continue to evolve based on the forthcoming Tourism Policy which seeks to ensure the social, environmental and economic sustainability of the sector into the future. This investment will also align with Global Ireland 2025 and will serve to strengthen Ireland's, international reputation and attractiveness as a 'must visit' tourism destination. In 2019, there were 9.69 million overseas visitors to Ireland, spending €5.1 billion. Capital expenditure enables the sector attract further visitors, with every 1,000 additional overseas tourists supporting 20 jobs in the domestic tourism industry.

Investment priorities for the short term will include the further development and promotion of the regional tourism experience brands (*Wild Atlantic Way, Ireland's Ancient East,; Dublin, and Ireland's Hidden Heartlands*), the development and enhancement of tourist attractions across the country, including in Gaeltacht and other rural areas, and activity and language-based tourism to provide the type and quality of experience that visitors are seeking.

Wellbeing and Social Cohesion

Sports Capital Investment

Capital investment in sports is driven by policy and strategic objectives that fundamentally aim to increase sports participation in all parts of the country by enhancing sporting infrastructure under the Sports Capital and Equipment Programme, as well as through the Large Scale Sport Infrastructure Fund. In addition to the well-established health benefits for individuals, enhanced sports facilities

serve communities by making places more attractive to live in, work in and visit.

TCAGSM, with Sport Ireland, is working to deliver key infrastructure to support the development of world-class sporting facilities at the Sport Ireland Campus. A key project under this programme will be a state of the art Velodrome and Badminton Centre with other projects being identified under the recently completed Campus Masterplan.

Box 12.2: Large Scale Sports Infrastructure Fund

The Large Scale Sport Infrastructure Fund (LSSIF) aims to provide Exchequer support for larger sports facility projects, where the investment needed is greater than the maximum amount available under the Sports Capital and Equipment Programme. Funding through this programme will continue throughout the period covered by the NDP, to help sporting communities to recover from these challenging times. The LSSIF was created in the context of the National Sports Policy and shares the same objectives of:

- Increased active participation and quality of participation in sport from adults and children across all sectors of society;
- Elimination of active sport participation gradient between men and women;
- Increased number of Irish athletes and teams achieving world class results at high level international competitions;
- Increased social participation in sport, and improved quality of social participation in sport;
- Increased active participation in sport by people with a disability and disadvantaged groups; and
- Improved quality of sports infrastructure.

There are two streams to the LSSIF. Stream One applications were designed for projects that were at an early stage of planning, while Stream 2 application were for projects at the delivery stage. In January 2020 seven projects were awarded grants under Stream one (amounts up to €1.7m were awarded), and 26 projects were awarded grants under Stream two (amounts up to €10m). These projects are all at different stages of development, and will be progressed under the NDP.

The Sports Capital and Equipment Programme (SCEP) delivered by the Department, is the primary vehicle for Government support for the development



of sports and physical recreation facilities and the purchase of non-personal sports equipment throughout the country. Under the Programme, sports clubs, community groups, National Governing Bodies of Sport, local authorities and schools receive support for their projects. The SCEP targets areas of disadvantage in particular, while also focusing on improving female participation and supporting projects utilised by people with a disability and/or minority groups.

NCI Investment Programme

This National Development Plan, supported by the Programme for Government, commits to a once-in-a-generation investment in the renovation and redevelopment of our National Cultural Institutions. This investment is aligned with the NPF objective of ensuring that Ireland has a creative, innovative and culturally attuned society, whose people, businesses and communities are equipped to further our national economic output and creative endeavour.

Building on the work commenced under Project Ireland 2040, the coming five years will see the following projects advanced through the public spending code phases:

- National Archives – converting the Bishop St warehouse to a secure environmentally controlled Archival Repository and providing additional storage.
- National Library of Ireland Redevelopment, which includes an upgrade of the West Wing to provide modern shelving, controlled atmosphere, fire suppression and improved retrieval facilities.
- Crawford Art Gallery, which has recently had a design team appointed and will deliver a significantly enhanced visitor experience and expanded gallery space.
- Phase 4(a) of the National Gallery of Ireland renovation - refurbishment of existing office space to modern standards and to include enhanced facilities for the Gallery's education department.
- National Museum of Ireland – Phase 4 (a) of the Master Development Plan will see the refurbishment of the Natural History Museum to address structural and environmental issues and provide a fit for purpose set of galleries and ancillary facilities. Phase 4 will see the establishment of new, purpose built gallery, circulation and storage areas, completing the Master Development Plan.
- National Concert Hall - a redevelopment project at its Earlsfort Terrace campus, which will provide upgraded and modernised facilities and visitor experience.
- Abbey Theatre - an ambitious project that will deliver a landmark building to house the National Theatre.

- Chester Beatty Library - an expansion project that would provide an increase in exhibition space and improved visitor experience.
- The National Museum of Ireland is preparing for design procurement of the History of Ireland Galleries will offer visitors an opportunity to explore the key events in Irish history leading up to, and including, the momentous events of 1912-23, currently being commemorated under the Decade of Centenaries 2012-2023 Programme, as a key legacy to the commemorations programme.
- Investment in other National Museum of Ireland sites will continue to be considered on the basis of appraisal of discrete projects, which will seek to develop the National Museum of Ireland in line with its master vision statement and strategic plan.
- Irish Museum of Modern Art – A project to provide an exciting re-presentation of the national collections at IMMA.

Box 12.3: Natural History Museum

Current Status: Preliminary Business Case

Estimated Cost Category: A

Estimated Completion Date: 2027

The National Museum of Ireland (NMI) is Ireland's largest cultural institution and is responsible for collecting and preserving objects and knowledge relating to the history and culture of Ireland and its place in the wider world.

A separate masterplan has been developed for each National Museum of Ireland site. The National Museum of Ireland – Natural History project plans for the first significant refurbishment of that museum and historic building since its founding with the aim to address structural and environmental issues while providing a fit for purpose set of galleries and ancillary facilities.

Phase 1 plans for the refurbishment and redevelopment of the museum with priority actions in relation to safeguarding the collection, increasing accessibility to the collection, increasing the environmental sustainability of the museum and improved health and safety standards within the historic building.

Box 12.4: National Concert Hall

Current Status: Preliminary Business Case

The National Concert Hall (NCH) has an ambition to be one of the world's great centres for music, a centre which will be a symbol of national pride for Irish people everywhere. But above all a centre for music which will enable the NCH to best deliver on its statutory remit for music, the arts, for culture and for our nation.

Located on Earlsfort Terrace in Dublin's city centre and next door to the picturesque Iveagh Gardens, it hosts over 1000 events per annum. The NCH is home to the National Symphony Orchestra, Chamber Choir Ireland, Irish Baroque Orchestra, Music Network, Music Generation and Crash Ensemble. Its mission is to foster and celebrate the appreciation, knowledge, enjoyment and pure love of music as an integral part of Irish life.

Sustainable Tourism

In line with the Programme for Government commitments, work has commenced on the development of a new national tourism policy that aims to put sustainability at the heart of tourism investment. The development of this new policy will be informed by and build upon the work undertaken by the Sustainable Tourism Working Group and be consistent with our sectoral climate change targets and commitments as well as the UN's Sustainable Development Goals.

The traditional model of tourism is changing and the development of this new policy provides an opportunity to set out a path for the coming years, as we rebuild from the COVID-19 pandemic, which will support a sustainable recovery and subsequent regrowth in the sector. This new policy will be underpinned by the Guiding Principles for Sustainable Tourism in Ireland and in particular the commitment that "As custodians of our natural landscape and of our historic and cultural assets, we will protect them for the next generation". This principle envisages tourism activity that contributes to the preservation and enhancement of Ireland's environment, culture and heritage.

Box 12.5: Crawford Art Gallery

Status: Final Business Case

Estimated Cost Category: A

Estimated Completion Date: 2025

The Crawford Art Gallery, Cork is the only National Cultural Institution located in its entirety outside of Dublin. It is also the regional art museum for Munster, dedicated to the visual arts, both historic and contemporary. The permanent collection comprises almost 4,000 works, ranging from eighteenth century Irish and European painting and sculpture, through to contemporary video installations. At the heart of the collection is a collection of Greek and Roman sculpture casts, brought to Cork in 1818 from the Vatican Museum in Rome.

Located in the heart of Cork city, the gallery is a critical part of Ireland’s cultural and tourism infrastructure, welcoming almost 200,000 visitors a year. The Gallery is housed in a beautiful early 18th-century building which, unfortunately, has significant infrastructural deficits.

The aim of this project is to increase access to the collections, safeguard and future-proof the collections and protect the historic building housing the collections, alongside increasing the environmental sustainability of the gallery and ensuring that the gallery complies with contemporary health and safety standards. As the sole National Cultural Institution outside of Dublin, the Crawford plays an important role in strengthening the cultural and artistic offering of Cork City.

Grafton architects have been chosen as the design team, and work is underway on the design brief, planning and procurement stages of the Public Spending Code process.

Climate Action

Building on the research and engagement work underway, the Department intends to pivot its investment programmes in cultural and sporting infrastructure, as well as in Gaeltacht and other linguistic infrastructure to support the objectives of the Climate Action Plan including decarbonisation and retrofitting initiatives. Again, the programme will seek to balance regional NPF targets with supports having regard to the importance of ensuring equality of access to amenity infrastructure throughout the country. Recommendation no. 10 of the *Life Worth Living* report, Addressing the Environmental Impact of Arts, Cultural and Event Activities, has brought forward the vision of a greener arts & culture sector for which the foundations are being laid in the current Cultural Capital Scheme 2019 – 2022. In line with the Government’s action on climate change, this scheme will prioritise projects that reduce an organisation’s carbon footprint to make a real and positive impact on the environment. Projects that provide additional capacity for artists and artistic production particularly in arts centres will also be favoured.

Table 12.2: Climate and Environmental Assessment

Investment	Assessment
Tourism Product Development	A
Culture	
National Cultural Institutions Redevelopment Programme	A
National Cultural Institutions Maintenance Programme	B
Sports	
Large Scale Sport Infrastructure Fund	C
Sport Ireland National Sports Campus projects	C

Note: See Chapter 3 and separate paper for further detail.



NSO 8

Chapter 13:

Transition to a Climate-Neutral and Climate-Resilient Society

The next 10 years are critical if we are to address the climate crisis and ensure a safe and bright future for the planet, and all of us on it. In Ireland, we have significantly stepped up our climate ambition. The Climate Action and Low Carbon Development (Amendment) Act 2021 commits us to a 51% reduction in our overall greenhouse gas emissions by 2030, and to achieving net zero emissions no later than by 2050. This landmark legislation sets a legally-binding framework for Ireland to achieve the national climate objective of a *climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy no later than 2050*. Under the new legislation, the Climate Action Plan must be updated every year so that our actions keep step with the trajectory required to achieve our targets. In addition, a national long-term climate action strategy will be prepared at least every five years specifying the manner in which it is proposed to achieve the national climate objective.

Our climate commitments are fully in line with the European Union's similarly ambitious targets. As part of the European Green Deal, the EU has committed to reduce its emissions by at least 55 per cent by 2030 and to achieve climate neutrality by 2050.

The NPF highlights the centrality of this NSO to all other elements of spatial policy. The themes highlighted in the NPF are focused on the role of spatial policy in influencing where we live, where we work, and how we travel. These are all directly relevant to the pattern of energy use and in particular the current level of harmful greenhouse gas emissions to which Ireland is committed to achieving substantial reductions.

The investment priorities included in this chapter must be delivered to meet the targets set out in the current and future Climate Action Plans, and to achieve our climate objectives. The investment priorities represent a decisive shift towards the achievement of a decarbonised society, demonstrating the Government's unequivocal commitment to securing a carbon neutral future. To assist the Department of Environment, Climate and Communications to fund its obligations under the Climate Action Plan, to deliver the National Broadband Plan and in allocating the additional €5 billion from 10 years of Carbon Tax receipts, it will receive a total indicative allocation of €12.9 billion over the 2021-2030 period. Further annual ceilings for the Department beyond 2025 will be agreed on a rolling 5 year basis from 2022.

This future will be secured in a manner that is just, fair, where costs are shared equitably and people are equipped with the right skills to be able to participate in and benefit from the future net zero economy.

Sectoral Strategies - Energy

Public capital investment choices over the next 10 years must not only contribute to the objective of a 51% reduction in greenhouse gas emissions by 2030 but also lay the pathway to achieve the national climate objective of net-zero greenhouse gas emissions by 2050. Our climate ambitions require very significant Exchequer investment, combined with further household, private sector and State-Owned Enterprise (SOE) investment. A radical restructuring of our society and economy will be required to reduce fossil fuel use and move rapidly to a climate-neutral economic model by 2050. The NDP is just one element of the State intervention required to deliver on our climate ambitions, and the required transformation of the energy system. Alternative approaches to the design and delivery of incentivised schemes such as taxation and regulatory measures, behavioural change and research and development also have a role to play in delivering sufficient investment.

Strategic Investment Priorities – Renewable Energy



Regular Renewable Electricity Support Scheme (RESS) auctions will deliver competitive levels of onshore wind and solar electricity generation which indicatively could be up to 2.5 GW of grid-scale solar and up to 8 GW of onshore wind by 2030

The RESS will also support the delivery of up to 5 GW of additional offshore renewable electricity generation by 2030

Strategic Investment Priorities – Energy Efficiency



Support investments in the retrofitting of 500,000 homes to a Building Energy Rating of B2/cost optimal or carbon equivalent and the installation of 600,000 heat pumps, 400,000 of which will be in existing homes by 2030

Support investments in energy efficiency and renewable energy in the existing commercial and public building stock to contribute to emissions reduction in the built environment



Strategic Investment Priorities – SOE Investment

Completion of the National Smart Energy Metering programme commenced in 2019, with 2.25 million meters to be installed by end 2024

Significant expansion and strengthening of the electricity transmission and distribution grid onshore and offshore, including transmission cables and substations, to link renewable electricity generation to electricity consumers and to accommodate higher levels of renewables on the electricity system and reinforcement of the natural gas network by our system operators EirGrid, ESB Networks and Gas Networks Ireland



Strategic Investment Priorities – SOE and Commercial Sector Investment

Enhanced electricity interconnection, including the Celtic Interconnector to France and further interconnection to the UK

Delivery of circa 2 GW of new conventional (mainly gas-fired) electricity generation capacity to support the operation of a predominantly wind/solar electricity system and provide security of supply for when variable electricity generation (wind/solar) is not sufficient to meet demand



Strategic Investment Priorities – Research

Energy research funding to accelerate diversification away from fossil fuels to green energy, including wind, wave, solar, biomass, biofuels, biogas and hydrogen

Climate Action Fund to leverage investment by public and private bodies in climate action measures

Strategic Investment Priorities - Energy

Decarbonising Energy

Energy powers our daily lives -the way we live at home, how we work in business and how we move people and goods. The use of energy for the purposes of electricity, heat and transport generates almost 60% of Ireland's greenhouse gas emissions. Action in the energy sector will be critical to the achievement of Ireland's climate targets and the transformation to a high-renewable, net-zero emissions future. This will require a fundamental shift in the means by which we supply, store and use energy. We need to plan our energy system as a whole to create greater links between different energy carriers (such as electricity and hydrogen); infrastructures; and consumption sectors (such as transport and heating). The long-term objective is to transition to a net-zero carbon, reliable, secure, flexible and resource-efficient energy services at the least possible cost for society by mid-century.

At the same time, rapidly increasing electricity demand from large energy users, as well as the electrification of end user sectors such as transport and heating, presents a significant challenge. Electricity demand from large energy users, including data centres is forecast to grow to up to 27% of total power demand in 2030.

The target of delivering up to 80 per cent of Ireland's electricity from a combination of onshore and offshore renewable sources by 2030 will play a central role, not only in reducing emissions in the electricity sector itself, but in enabling emissions reductions in the transport sector through electrification of vehicles and in our homes, industry, and public and commercial buildings through electrification of heat. This will require a coordinated programme of investment in:

- grid-scale renewable electricity generation and storage;
- an expanded and strengthened electricity transmission and distribution network;
- conventional electricity generation capacity to support the operation of the electricity system and provide security of supply for when variable generation (wind/solar) is not sufficient to meet demand;
- replenishing and electrifying our vehicle stock;
- retrofitting our homes to improve their energy efficiency and replace fossil-fuel heating systems;
- micro-generation to empower citizens to produce their own electricity.

This investment in renewable energy sources will be complemented by measures to reduce and manage energy demand, including investment in new technologies to manage and moderate energy usage in our homes, businesses and across the electricity grid, such as energy storage and smart meters, as well as measures to reduce growth in overall electricity demand, particularly from large energy users.

These measures will be financed through a variety of mechanisms in combination with private investment: direct Exchequer capital supports; market mechanisms; the Public Service Obligation (PSO) Levy; regulatory requirements; and, in respect of investment in the regulated gas and electricity networks by the system operators, through network charges.

The Government will continue to support the deployment of additional electricity generation through the auction-based Renewable Electricity Support Scheme (RESS). It is estimated that the RESS will provide €7.2bn to €12.5bn in supports, financed by the PSO Levy, over the lifetime of the Scheme which will incentivise private capital investment to deliver on the target to generate up to 80 per cent of our electricity from renewable sources by 2030. As an integral part of this investment, the Government will support community ownership of renewable electricity generation assets through a dedicated 100%-owned community category in each onshore RESS auction.

The Government will establish a Microgeneration Support Scheme whose primary aim is to incentivise citizens and businesses to produce and consume their own electricity. It will include a guaranteed payment for the export of excess electricity to the grid.

The Commission for Regulation of Utilities and EirGrid will also ensure the delivery of circa 2 GW of conventional (mainly gas-fired) electricity generation capacity to support the operation of the electricity system and provide security of supply for when variable generation (wind/solar) is not sufficient to meet demand.

Offshore Renewable Energy

Ireland has one of the best offshore renewable energy resources in the world. With a sea area of 490,000 square kilometres, which is approximately seven times its landmass, Ireland has considerable, but as yet undeveloped, offshore renewable energy (ORE) potential. As highlighted by the Government's target of achieving 5 GW of installed offshore wind generation by 2030, meeting the ambitious goal of up to 80 per cent renewable electricity by 2030 and further future decarbonisation objectives will require development of significant ORE and associated grid infrastructure over the coming decade.

Ireland's ORE ambitions will entail investment of tens of billions of euros, which will deliver long-term, high-value indigenous jobs relating to the installation and maintenance of generation assets and associated infrastructure and services, and development of indigenous supply chains and port infrastructure. The significant role for ports, and need for associated infrastructure development in Irish ORE development is recognised. The Department of Transport continues to engage with the ORE sector, with a review of national ports policy due to commence in 2021 allowing a new Ports Policy to take account of required port infrastructure development to facilitate Ireland's future ORE sector.

Ireland's ambitions for the ORE sector require an up-to-date licensing and regulatory regime to provide certainty to project promoters and provide a pathway to realising the necessary investment. The legislative basis for this new regime will be provided for by the Maritime Area Planning (MAP) Bill, published in July 2021. The Bill provides for a modern, efficient and Aarhus compliant regulatory and marine planning framework for ORE developments. The Bill proposes the establishment a new agency to regulate development in the Maritime Area – the Maritime Area Regulatory Authority (MARA). MARA's functions will include assessing and granting all Maritime Area Consents, granting licences for a number of activities in the Maritime Area (including environmental surveys), ensuring robust compliance through enforcement measures, and managing the existing State Foreshore portfolio of leases and licences.

Owing to the specific scale and nature of typical offshore wind farms, dedicated offshore RESS auctions are initially required to support the longer-term potential of this technology in Ireland, with at least three auctions planned this decade, the first two of which should facilitate meeting the 5GW target by 2030.

A new framework and associated policy for Ireland's future offshore electricity transmission system approved by Government in April 2021 provides for the future development, operation and ownership of Ireland's offshore electricity transmission system. The policy includes a phased transition from the current decentralised offshore transmission system model to a centralised model over the course of this decade, to take place in line with three scheduled offshore RESS auctions. The enduring centralised model, with transmission system assets to be planned, developed, owned and operated by EirGrid, has been identified as delivering maximum societal benefits.

Work has commenced on the development of Ireland's second Offshore Renewable Energy Development Plan (OREDPII). The goals of OREDPII include quantifying the ORE resource potential, facilitating the identification of candidate areas for

future ORE development and prioritising data gaps to be addressed.

A cross-departmental Offshore Renewable Energy Team, chaired by DECC, is being established to capture wider economic and business opportunities associated with the development of offshore renewables in Ireland. This will include the identification of supporting infrastructure development and supply chain opportunities as Ireland's offshore wind industry is developed.

Security of supply energy supply

Energy supply is vital for the proper functioning of society and the economy. Over two million customers rely on the electricity grid and 700,000 customers on the natural gas grid to heat and power their homes and businesses. Ensuring continued security of energy supply is considered a priority at national level and within the overarching EU policy framework in which our energy markets operate.

In the short-to-medium-term, conventional (mainly gas-fired) electricity generation capacity will be critical to support the operation of the electricity system and provide security of supply for when variable generation (wind/solar) is not sufficient to meet demand. In this regard, circa 2 GW of new conventional electricity generation capacity will need to be delivered over the course of the coming decade with much of this needed by mid-decade. This conventional generation will spend much of its time in reserve for when needed i.e. when required to balance the system in times of high demand and low wind/solar generation. Therefore, although there will be significant investment in new generation capacity, the proportion of electricity generated by natural gas is expected to decrease from circa 50% to circa 30% by 2030. Ensuring security of electricity supply will also require investment in grid infrastructure, interconnection and storage (such as batteries).

The gas network will continue to have a vital role in providing energy to heat homes and businesses and to generate electricity. By 2030, over 90% of the natural gas used in Ireland will come from a single source in Scotland. Gas Networks Ireland (GNI) will continue to invest in the natural gas network to ensure it is operating safely, efficiently and providing security of supply. This will include investment in the interconnector system both in Scotland and Ireland.

A review of the security of energy supply of Ireland's electricity and natural gas systems is currently underway. This review, once completed, will inform future Government policy in relation to security of supply and the potential need for further investment.

Making our Residential Built Environment Energy Efficient

Reducing emissions from our homes can contribute significantly to achieving national emissions reduction targets and meeting our international obligations. Climate action in this area can also bring significant co-benefits, for example, household savings, reduced energy poverty, improved asset values and better physical and mental health.

Following the introduction of new energy efficiency standards for dwellings in 2019, all new housing units will be built to NZEB standards. This means they will have a very high energy performance, requiring nearly zero or a very low amount of energy to run. As such, the energy required for new dwellings will not add significantly to greenhouse gas emissions. However, addressing the greenhouse gas emissions of the existing housing stock remains a significant challenge.

Through the Climate Action Plan and the Programme for Government, Ireland has committed to upgrading 500,000 homes to a Building Energy Rating of B2/ cost optimal or carbon equivalent by 2030, and installing 600,000 heat pumps; 400,000 of which will be in existing premises to replace older, less efficient heating systems. These targets represent an increase in home renovation activity in Ireland on a scale not seen before. It is estimated that the total cost of the retrofit programme of work will be up to €28 billion to 2030.⁵

The Government is making the retrofit of residential buildings a cornerstone of Ireland's economic recovery. Building retrofits present unrivalled economic opportunities thanks to heavy dependence on labour. Investing in energy upgrades of homes can boost employment in communities across the country and can have positive impacts on the recovery and resilience of the supply chains – contractors, tradesmen and enterprises. It will enhance productivity and competitiveness of businesses in the construction sector as well as unlock new business models associated with the transition to a low-carbon economy.

The development of a comprehensive retrofit plan capable of achieving these targets will be completed in 2021. There will be a particular emphasis on inclusion, equity and fairness to ensure that all parts of society can reap the benefits associated with the transformation of our built environment. Initially, the programme will enable the development of the retrofitting supply chain capacity, including retrofitting enterprises and the workforce and skills development, followed by a further scaling up of activity.

The NDP will provide an unprecedented level of investment in retrofit. The planned allocations to

⁵ This estimate of the total cost is highly sensitive to the mix of total houses retrofitted and should therefore be viewed as indicative.

2025 are set out in the table below. These allocations are based on a number of key assumptions including in relation to market demand, market supply capacity and the project delivery timelines.

Table 13.1: Planned Exchequer Allocation for Residential Retrofitting 2022-2025

Year	2022	2023	2024	2025
Planned Allocation	€202m	€291m	€380m	€469m

These allocations will primarily be used to fund the expansion and enhancement of SEAI retrofit schemes including energy poverty schemes as well as other initiatives to support retrofit.

The Housing for All plan commits to the retrofitting of 36,500 local authority houses by 2030. Local authority retrofits are funded the Department of Housing, Local Government and Heritage.

Whilst Exchequer funding will be key to scaling up residential retrofit activity, private funding from other sources will also be required to meet the full cost of the retrofit programme over the decade.

The Government is already taking initiatives to mobilise private capital and develop financial models that are suitable for a wide range of householder groups. For example, a new Residential Retrofit Loan Guarantee Scheme is being developed to improve access to low cost finance in order to make investing in home energy upgrades more affordable for households. This scheme is part of Ireland's National Recovery and Resilience Plan (NRRP) and is co-funded by the EU recovery and Resilience Facility.

Beyond financing, there are other important measures that will help to drive continued delivery of climate action in the residential sector across the relevant Government Departments and bodies, for example:

- Publishing the National Retrofit Plan
- Reviewing the existing and launching new SEAI grant schemes
- Resourcing the SEAI as our National Retrofit Delivery Body
- Launching a redesigned Energy Efficiency Obligation Scheme
- Developing alternative funding mechanisms to support residential retrofit

Improving the energy efficiency of our homes will not only reduce Ireland's dependence on fossil fuels, but will improve our living standards by making our homes more comfortable, healthier, safer, and less costly to heat.

Energy Efficiency and Renewable Energy in Public Sector and Commercial Sectors

The National Development Plan will also provide support for investments in energy efficiency in the commercial and public building stock. These supports focus on advice services, education and, in some cases, capital supports. Examples include SEAI's Energy Academy which provides online training which is free to access and the Support Scheme for Energy Audits which funds experts to carry out energy audits to inform businesses how best to reduce their energy use.

Capital support schemes include the Excellence in Energy Efficiency Design and Support Scheme for Renewable Heat which are available to the commercial and public sectors. In the public sector, SEAI's Pathfinder Programme works with key Government Departments and agencies to develop retrofitting projects which identify solutions that can be scaled up and build the capacity needed to do so.

Commercial State Sector Investments

SOEs will play a central role in decarbonising the energy sector over the next decade. Over the period 2021 to the end of 2030, the collective spend by the SOEs in energy related projects is projected to be in excess of €16 billion, reflecting an increased level of ambition over the coming decade.

The electricity system operators, EirGrid and ESB Networks, will invest in the electricity transmission and distribution grid to enable a higher percentage of variable wind and solar renewables onto the grid, support the security of electricity supply, and to meet rising electricity demand. Investment by ESB Networks, the electricity distribution system operator, will be vital to enabling the further electrification of the heat and transport sector and in ensuring greater demand-side flexibility on the electricity grid. The completion of the roll-out of the smart meter programme to 2.25 million homes and businesses by end 2024 will provide consumers with greater control over their energy bills and facilitate their participation in the energy market through the sale of excess self-generated electricity.

The focus of investment in regulated network infrastructure is to:

- ensure that Ireland's network infrastructure is maintained to the highest international safety standards;
- ensure that it meets the challenge of integrating world-leading levels of renewable wind and solar electricity whilst ensuring security of supply; and
- ensure that it is fit for purpose in the medium- to longer-term in order to meet projected demand levels.

The ultimate objective of the investment is to contribute to a long-term, sustainable and competitive energy future for Ireland. This investment in the networks will deliver positive benefits for the overall economy. It is a fundamental component in providing the energy to support new investment and jobs in an affordable way, to ensure that Ireland remains competitive from an energy perspective. Investment in these assets is acknowledged as an important enabler of economic growth and the sector has a critical role to play in meeting priority infrastructural needs.

In March 2021, EirGrid, who manage, develop and operate the transmission grid, launched a public consultation on the future of the island of Ireland's electricity system, '*Shaping our Electricity Future*'. A study of the transmission network changes, power system operation changes and electricity market design required to achieve a 70% renewable share in electricity generation was published for review. The responses to the consultation will inform the future investment in a transmission grid to secure a substantially decarbonised electricity system and contribute to the operation of the all-Island Integrated Single Electricity Market (I-SEM) including the construction of the North-South Interconnector. EirGrid will continue to progress key international interconnection projects, for example the Celtic Interconnector, to better integrate and operate the I-SEM and to connect the Irish electricity system with the remainder of the EU energy market. Additional interconnection capacity is necessary to diversify our sources of electricity supply and provide additional flexibility to our electricity system.

In addition to its role in developing the new offshore network, EirGrid will continue to progress a number of important onshore projects within the All-Island Electricity Market.

Research

Research is a key national resource in informing both Ireland's action on climate change and the development of climate and energy policy. Energy research will focus on the goals of reducing electricity emissions, expanding the deployment of renewable energy technology, protecting security of energy supply and maintaining competitiveness. Our increased climate ambitions require dedicated world-class research for both energy and climate change policies.

Investment in clean energy is a prerequisite for the development of the technologies required and to overcoming technical implementation issues that may arise. The Sustainable Energy Authority of Ireland (SEAI) administers the Energy Policy Research, Development and Demonstration (RDD) programme whilst research is also commissioned to support the

implementation of specific energy policy programmes, for example in the cases of energy efficiency, RESS and offshore energy.

Environmental policies must be underpinned by an in-depth level of knowledge that needs to be delivered through a systematic programme of environmental research and assessment. The Environmental Protection Agency (EPA) Research Programme is funded by the Department of the Environment, Climate and Communications (DECC), with the objective of producing actionable science to inform policy decisions on sustainability.

DECC also leads a cross-Departmental Climate Action Modelling Group (CAMG), to provide the technical capacity necessary to underpin Ireland's policy development in the context of the transition to net zero emissions. The group is supported with expertise and research from a range of external experts involved in economic, energy and environmental modelling and technical analysis.

Climate Action Fund

The Climate Action Fund was established to provide support for projects, initiatives and research that contribute to the achievement of Ireland's climate and energy targets. It also supports projects and initiatives in areas, and sectors of the economy, impacted by the transition to net zero emissions.

The Fund is resourced from the NORA levy, which is an existing levy on most oil products placed on the market. Surplus NORA levy funds, after the needs of the National Oil Reserves Agency have been met, are paid to the Climate Action Fund. At least €500 million is expected to accrue to the Climate Action Fund to 2027. This will ensure that substantial funding is available to provide support for relevant projects, initiatives and research over that period.

To date, almost €186 million in support has been committed for relevant climate projects.

Box 13.1: Enhanced Rehabilitation of Bord na Móna Peatlands previously harvested for commercial purposes

Current Status: Planning

Estimated Cost Category: C

Estimated Completion Date: 2026

This investment relates to the enhanced rehabilitation of approximately 33,000 hectares of Bord na Móna peatlands. The peat on these lands has been industrially extracted for energy production and they represent some of the most degraded peatlands in the State. Degraded peatlands are a source of carbon emissions rather than a sink as they would be in their natural state.

The investment will deliver benefits, such as, reducing carbon emissions; transition the lands towards carbon sequestration and enhancing their carbon storage potential. In addition it will provide natural capital opportunities, increasing biodiversity, supporting peatland amenity and eco-system services, as well as improving water quality and attenuation. Furthermore, the project will add to our knowledge and evidence base for peat and wetland rehabilitation in Ireland.

This project represents an opportunity to progress the EU goals of greater biological diversification, climate action, better water resource management and a more just transition. The projected outcomes from this project are compatible with the objectives of the EU Biodiversity Strategy for 2030, the EU Green Deal and Just Transition.

Providing a positive and enduring social impact in a region that has been impacted by the transition to a green economy, the project will provide jobs for over 300 workers, the majority of whom are existing Bord na Móna staff.

These objectives, as well as specific proposals for their implementation, will be included in more detail in the forthcoming revision to the Climate Action Plan.

The Midlands region is the first region in Ireland to directly experience the negative impacts of the transition away from fossil fuels with the ending of peat extraction for power generation. The peat industry and related power generation have been hugely significant for the Midlands region economically, culturally and socially.

The Government has committed significant financial resources, supported by carbon tax revenues, to supporting the region through this transition and will continue its programme of investment in the region over the coming years. This includes the largest programme of bog rehabilitation in the State's history to a value of €108 million, matched with a contribution of €18m from Bord na Móna, a Just Transition Fund to assist local communities and businesses to adjust to the low carbon transition, and a €20m fund to deliver a new model of targeted social housing upgrades in the region.

A key focus of this investment is to support the transition of the existing workforces and the creation of new enterprise and employment opportunities so that the region remains vibrant, innovative and makes the most of the opportunities that decarbonisation will bring.

The Government has appointed a Just Transition Commissioner for the region and his extensive engagements within the region have informed the Government's approach to date. The further implementation of the Just Transition in the Midlands will build on the recommendations that have been made by the Commissioner.

Ireland has also secured an allocation of €77 million (€84.5 million current prices) from the new EU Just Transition Fund for investments over the period 2021 to 2027. This EU finding will be matched by the Exchequer. The funding will be used to alleviate the impacts of the low carbon transition, for example by supporting the re-skilling of workers, helping SMEs to create new opportunities, and the diversification of economic activity. It will concentrate on the areas most impacted by the transition away from fossil fuels to generate power, and in particular will consider the needs of the Midlands region. The Government is currently preparing a Territorial Just Transition Plan, for approval by the European Commission. The plan will set out the sectors and regions and the proposed investment priorities that will be targeted with this funding.

A Just Transition

The Programme for Government commits to a just climate transition. This means achieving a decarbonised society in which people are equipped with the right skills to be able to participate in and benefit from the future net zero economy. Where costs are shared so that the impact is equitable and existing inequalities are not exacerbated and where social dialogue is used to ensure impacted citizens and communities are empowered and are core to the transition process.

Box 13.2: The Celtic Interconnector

Current Status: Planning

Estimated Cost Category: F

Estimated Completion Date: 2026

The Celtic Interconnector is a proposed 700 MW electricity interconnector between Brittany and East Cork, promoted and developed by the Irish electricity Transmission System Operator, EirGrid, and its French counterpart, Réseau de Transport d'Électricité (RTÉ). Upon scheduled completion in 2026, it will represent Ireland's largest electricity interconnector.

Following the UK's departure from the EU, the Celtic Interconnector will result in the return of direct electricity interconnection between Ireland and the remainder of the EU Internal Energy Market, as well as enhanced market competition and security of electricity supply, to the benefit of Irish and French electricity customers. Celtic will also provide for the direct export of surplus Irish renewable energy to mainland Europe, and a reduction in curtailment of wind generation in Ireland, including costs associated with this curtailment for Irish consumers.

As an EU Project of Common Interest, the Celtic Interconnector was awarded a €530m grant under the Connecting Europe Facility (CEF) in 2019, which will cover approximately 50% of the project's total estimated costs. Strong political support for the development of the Celtic Interconnector was emphasised in the Ireland France Joint Plan of Action signed by Irish and French Foreign Ministers in August 2021.

Sectoral Strategies - Transport

The NPF highlights the centrality of this NSO to all other elements of spatial policy. The themes highlighted in the NPF are focused on the role of spatial policy in influencing where we live, where we work, and how we travel. These are all directly relevant to the pattern of energy use and in particular the current level of harmful greenhouse gas emissions to which Ireland is committed to achieving substantial reductions.

However, as highlighted in strategies such as the Climate Action Plan and the National Adaptation Framework: Planning for a Climate-Resilient Ireland, Ireland's ambition must increase and accelerate if we are to achieve compliance with domestic and international climate action commitments. It is imperative that a detailed and coherent roadmap is put in place containing an integrated set of actions with the objective of achieving a low-carbon, climate-resilient and environmentally sustainable economy and society by no later than the end of the year 2050 as detailed in the Climate Action and Low Carbon Development (Amendment) Act 2021.

The delivery of the investment priorities included in this chapter, building on the approach set out in the Government's *Climate Action Plan*, would support the step-change required to achieve our national climate-action objectives of delivering a significant reduction in carbon emissions over the period to 2030. They would comprise a decisive shift in the direction of the achievement of a decarbonised society demonstrating the Government's unequivocal commitment to ensuring that Ireland is on a sustainable trajectory towards securing the National Policy Position.

Strategic Investment Priorities - Transport

The national objective of transitioning by 2050 to a competitive, low-carbon, climate-resilient and environmentally sustainable economy and society must influence public capital investment choices.

On account of the inherently cross-sectoral and integrated nature of the decisions required in such areas as transport, energy, agriculture and the built environment, addressing climate change is a unique challenge for public policy. Investment choices across different sectors must, therefore, be coherent and highly integrated with each other requiring a strong co-ordinated approach between the relevant responsible State bodies and SOEs. They must also be closely aligned and mutually reinforcing in terms of the critical role of complementary taxation and regulatory measures, as well as private investment.

Table 13.2: Climate and Environmental Assessment

Investment	Assessment
Residential Energy Efficiency	A
Public Sector Energy Efficiency	A
Business Energy Efficiency	A
Onshore Renewable Generation	A
Just Transition	A
Research & Development	A

Note: See Chapter 3 and separate paper for further detail.

Strategic investment priorities - Transport



Nearly one million electric vehicles on the road by 2030 with additional charging infrastructure to cater for growth

An additional 500,000 sustainable mobility journeys per day by 2030

Transition to a low or zero emission public bus fleet

Expand the refuelling network for alternately fuelled vehicles to address freight emissions

Sustainable travel measures, including delay of a comprehensive National Infrastructure network and expanded Greenways

Comprehensive integrated public transport network for Ireland's cities connecting more people to more places (see NSO 4)

NSO 4: Sustainable mobility deals with the decarbonisation of transport in order to secure Ireland's climate action goals. Transport accounts for c. 20 per cent of Ireland's overall emissions with 52 per cent of land transport emissions coming from private cars, 20 per cent from freight and 4.5 per cent from public transport. The *Climate Action Plan* highlights as a priority the necessity to progressively electrify transport systems making a shift away from polluting and carbon intensive propulsion systems.

The main actions planned to achieve this are securing an early transition to zero/low emission vehicles in the private and public fleets and setting targets for substantial progress in phasing out the Internal Combustion Engine (ICE) and replacing it with electric vehicles/other alternative fuels through schemes to incentivise Low Emission Vehicles. Specific measures are set out below:

- Transitioning the passenger car fleet to electricity and providing additional charging infrastructure.
- Delivering priority public transport programmes including BusConnects, DART+ Expansion Programme and MetroLink so that increased transport demand is met by greener public transport.
- Replacing existing diesel public buses with lower emitting alternatives under the BusConnects programme, while promoting commercial bus services and small public service vehicle industry to use low-emission fleet.

- Encouraging a significant modal shift through greater levels of investment and further development of meaningful alternatives to private car uses under the following three major environmentally sustainable mobility schemes:
 - » additional cycling and walking infrastructure which will provide additional sustainable mobility options to complement increased capacity and faster, higher quality public transport in our main cities;
 - » travel demand management measures in the five cities; and
 - » pilot initiatives for low emitting technologies in the transport sector.

There is also the need to make the road network more resilient to the effects of climate change. This would include the following measures which would be undertaken under national, regional and local road programmes:

- improved road drainage systems;
- strengthened road pavements and bridges which can resist the effects of increased rainfall and the effects of scour damage; and
- raising of roads in certain instances in order to prevent roads becoming impassable after heavy rainfall.

Sectoral Strategies - Flood Risk Management

The Catchment Flood Risk Assessment and Management (CFRAM) Programme studied the flood risk from the main sources of flooding in Ireland, our rivers and sea, and identified solutions that can protect 95 per cent of that risk.

The existing flood capital investment programme, including new schemes being progressed on foot of the Flood Risk Management Plans, launched in 2018 developed under the CFRAM process, are also helping to reduce the vulnerability of the country to the negative effects of climate change through effective adaptation measures.

Investment of €440 million since 1995 has already delivered 48 major flood relief schemes around the country, which provide protection to over 10,000 properties and an economic benefit to the State in damage and losses avoided estimated to be in the region of €1.8 billion.

Investment of €186m since the start of 2018 underpinning the commitment of the NDP to 2027 of €1bn, has allowed the investment in work on flood relief schemes to almost treble from 33 to 92 in that time. This is part of a programme of investment in some 150 schemes to be progressed over the lifetime of the NDP, identified by the Flood Risk Management



Plans to protect approximately 23,000 properties in threatened communities from river and coastal flood risk.

All flood relief schemes are designed to be adaptable to the impacts of climate change scenarios, in line with the Government's Climate Change Sectoral Adaptation Plan for Flood Risk Management 2019 – 2024. Scheme design now also includes identifying locations in the scheme's contributing catchment where there may be opportunity to implement Natural Water Retention Measures, which can comprise a broad range of multi-functioning measures that use natural processes and features to reduce flood risk, improve water quality and create habitats.

In addition to major schemes, the investment programme continues to support the OPW Minor Flood Mitigation Works schemes. To date this scheme has delivered 616 projects directly by Local Authorities nationwide that provide local solutions to prioritised flooding issues. These projects provide flood protection to over 7,300 properties.

Strategic Investment Priorities - Flood Risk Management

This funding is supporting the development and implementation of a significant existing flood relief investment programme, which includes schemes across all counties and in urban and rural areas including:

- Lower Lee (Cork City) Flood Relief Scheme (in development);
- Limerick City and Environs Flood Relief Scheme (in development)

- Enniscorthy Flood Relief Scheme (Planning Stage under the Arterial Drainage Acts);
- Kings Island Flood Relief Scheme (Planning)
- Clonakilty Flood Relief Scheme (substantially complete);
- Athlone Flood Relief Scheme (under construction)
- Skibbereen Flood Relief Scheme;
- Bantry Flood Relief Scheme;
- Portumna Flood Relief Scheme.

This funding has ensured the completion of critical flood relief schemes in Bandon and Clonakilty.

The largest flood relief investment project ever proposed in Ireland is the Lower Lee Flood Relief Scheme for Cork City, with a cost category of C. The OPW scheme encompasses:

- Flood defences along the River Lee downstream of Inniscarra dam and through Cork city, to protect against both fluvial and tidal flooding
- Changes to the operating procedures for the Carrigadrohid and Inniscarra reservoirs for the purposes of flood risk management, as may be facilitated by the above flood defences
- A flood forecasting system to help guide decision-making on dam discharges and, if necessary, the erection of temporary / demountable defences downstream and in Cork City.



NSO 9

Chapter 14:
Sustainable
Management of
Water and Other
Environmental
Resources

In a Circular Economy, the inherent value of products, materials and our natural resources is maintained for as long as possible.

Additionally, the NPF highlights the centrality of our sustainable water resources to the implementation of the NPF to underpin our environmental and economic well-being into the future which is against the backdrop of the significant deficits in water services capacity and quality reflecting historic underinvestment.

Sectoral Strategies

Circular Economy and Sustainable Resource Management

The whole-of-government Circular Economy Strategy sets out the national policy framework to support the transition to a circular economy and encourage investment in re-use, remanufacturing, repair and refurbishment, and eco-design. This will be supported by the EPA's National Circular Economy Programme, funded through the Environment Fund. The EPA Circular Economy Programme will be a driving force for Ireland's move to a circular economy by businesses, householders and the public sector. Through the programme the EPA will provide insights and data to support national circular economy policy and behavioural change campaigns.

Private investment will be critical to effect the transition and embed circularity across all sectors. To support the circular use of critical raw materials, private investment will also facilitate a sustainable supply of minerals necessary for the development of solar, wind and battery technologies as well as supporting the greater use of geothermal energy. Investment in deepening our understanding of Ireland's geology can support Ireland's transition to a circular economy and significantly de-risk and encourage private investment in the geoscience sector which is valued at €3.8bn with total employment of over 24,000 (An Economic Review of the Geoscience Sector, 2017).

Completion of both the Tellus and INFOMAR mapping programmes by 2028 will be important components in this work. The data and knowledge gathered under INFOMAR, Ireland's national marine mapping programme, is used in a range of areas including: marine safety and charting; offshore energy; aquaculture; coastal protection; environmental protection; shipwreck heritage; marine tourism, emerging Blue Carbon analyses and research. Tellus, which is a national geological and environmental baseline mapping programme, is supporting a range of initiatives, including; groundwater supply, smart agriculture, land-use studies, radon mapping, resource mapping and soil carbon evaluation.

While the overall focus of Government waste policy is on prevention and waste minimisation, investment in indigenous waste treatment capacity remains critical to our environmental and economic well-being. The introduction of a Deposit and Return Scheme (DRS) in 2022 for plastic bottles and aluminum beverage cans will require considerable investment by beverage producers, supporting new and sustainable job creation in recycling. The Government's *Waste Action Plan for a Circular Economy* provides a clear roadmap to support continued private sector investment in waste treatment infrastructure, including anaerobic digestion, recycling, and recovery infrastructure that will be needed to ensure Ireland continues to meet our EU targets. Part of Ireland's continuing journey of improving waste performance requires that we invest in remediating legacy sites through the landfill remediation programme. To date, over €170m has been invested with further investment planned over the period of the NDP.

Strategic Investment Priorities

Over the period of the NDP, there will be significant investment by DECC to support the transition to a circular economy and the sustainable management of environmental resources.

This investment includes projects and programmes committed to in the forthcoming whole-of-government Circular Economy Strategy, the Waste Action Plan for a Circular Economy and DECC's Statement of Strategy:

- Remediation of legacy sites under the landfill remediation programme;
- Delivering on commitments under the Circular Economy Strategy;
- Supporting the roll-out of the Circular Economy Programme, which will be delivered through the EPA;
- Incentivise private investment in the circular economy through the Circular Economy Innovation Grants Schemes;
- Completion of the INFOMAR and Tellus programmes by the GSI.

Sectoral Strategies – Water

Water Infrastructure (Irish Water)

The *Water Services Policy Statement 2018-2025* outlines the Government's expectations for the delivery and development of water and waste water services in the years ahead against the strategic objective themes of Quality, Conservation and Future Proofing. In its *Strategic Funding Plan*, Irish Water has identified its business planning priorities for capital

investment in line with the Water Services Policy Statement. The Plan sets out expected expenditure, income and funding requirements over a multi-annual period, while also meeting environmental requirements such as obligations under the Urban Waste Water Treatment Directive, the Drinking Water Directive and the EU Water Framework Directive mandated River Basin Management Plans.

Irish Water has also worked to gather data on all public water and waste water assets including capacity and resilience. This in turn has allowed it to plan for population and economic growth and to better understand and identify the investment needed to address statutory compliance requirements and asset maintenance.

Irish Water's *National Water Resources Plan* sets out how it will balance the supply and demand for drinking water over the short, medium and long term. It is a 25-year strategy to ensure Ireland has a safe, sustainable, secure and reliable drinking water supply for all users of public water schemes, whilst also safeguarding the natural environment. This national plan allows Irish Water to review all of its water supplies in a consistent way and to develop a clear approach to resolving issues. This in turn will allow it to prioritise investment in water services.

Significant continued investment in water and waste water infrastructure and services will also involve increased delivery of new connections, co-ordinated with the planning process to support economic growth and meet the needs of priority housing developments and urban renewal areas, while at the same time supporting implementation of national strategies in relation to public health, safety and environmental compliance.

Strategic Investment Priorities – Water

In the period from 2021-2025 almost €6bn investment will be undertaken by Irish Water of which over €4.5 billion will be Voted Exchequer funded.

This investment includes the projects and programmes committed to in Irish Water's *Capital Investment Plan 2020-2024* approved by the Commission for Regulation of Utilities under Revenue Control 3.5, including major projects such as the Water Supply Project – Eastern and Midlands Region (WSP-EMR) and the Greater Dublin Drainage Project (GDD).


This valuable investment in public water infrastructure will deliver critical outcomes for customers and communities across the strategic objective themes of Quality, Conservation and Future Proofing. Investment will continue to be prioritised to improve water and waste water quality through

significant capital projects and delivery of national programmes. This investment is also needed to meet changing legislative and regulatory requirements such as the recast Drinking Water Directive.

Alignment with the National Planning Framework (NPF), Regional Spatial and Economic Strategies and County Development Plans has also resulted in a better definition of the investment needed to meet future strategic growth.

This investment will be delivered in parallel with the continued transformation of the delivery of water services to ensure the consistent application of maintenance standards; the achievement of significant operational changes and operating cost savings; and embedding water conservation and sustainable water resource management into water policy.

Some of the water and waste water projects and programmes to be progressed across the country are detailed in the following table.

Strategic Investment Priorities – Water Quality 
Works to address issues with public water supplies on the EPA's Remedial Action List
Completing projects mandated under the ECJ cases for Urban Waste Water & THMs in Drinking Water
Ending the discharge of untreated sewage at the locations identified under the Urban Waste Water Treatment Directive
Undertaking waste water upgrades at EPA designated Priority Areas
Delivering on commitments under the River Basin Management Plans
Increasing water quality through national programmes such as the National Disinfection Programme and the Lead in Drinking Water Plan
Delivering Significant Infrastructure Development projects to meet future economic, housing and population demands such as the Water Supply Project – Eastern and Midlands Region and the Greater Dublin Drainage Project
Delivery of other nationwide water and waste water capital projects and programmes listed in Irish Water's Capital Investment Plans

Strategic Investment Priorities – Water Conservation



Continue with activities to reduce leakage on the network through:

- The “Find and Fix” scheme to detect and fix leaks on the public network
- “First Fix Free” scheme to assist homeowners to find leaks on their property and to fix qualifying leaks
- Pressure management of the public network
- Replacement of old and leaking watermains, backyard services and lead service connections
- District meter and property meter maintenance

Water Infrastructure (Non-Irish Water)

Over €243 million funding has been allocated over the period 2021 to 2025 for (non-Irish Water) investment in rural water infrastructure, including:

- €175 million for the Rural Water Programme;
- €68.5 million for legacy issues in relation to lead pipe remediation; and,
- Developer Provided Water Services Infrastructure Resolution Programme - the first multi-annual programme was launched in 2020.

The increase in the Rural Water Programme reflects the need for additional investment in the rural water sector, to improve and sustain the quality of rural water and waste water services. It is also to provide for a new targeted fund for waste water treatment facilities in villages and similar settlements.

The priorities for the next rural water multi-annual programme will continue to focus on the infrastructure deficits that impact on the provision of safe and secure drinking water supplies for those not serviced by Irish Water. This will be developed through a review of the existing programme, and consultation with relevant stakeholders through the Rural Water Working Group.

Waste Management and Resource Efficiency

Investment in waste management infrastructure is critical to our environmental and economic well-being for a growing population and to achieving circular economy and climate objectives.

Strategic Investment Priorities – Water Future Proofing



Delivering Significant Infrastructure Development projects (each with a spend of over €100m) to improve the quality of water and waste water. These include the Vartry Water Supply Scheme and the Cork Lower Harbour Main Drainage Scheme (both due for completion in 2021); the upgrade to the Ringsend Waste Water Treatment Plant; and a new Arklow Waste Water Treatment Plant

Supporting rural development through the Small Towns and Villages Growth Programme

Supporting housing and economic growth through

- strategic network reinforcement projects to ensure there is adequate capacity in cities (and surrounding metropolitan strategic areas), regional centres and key growth centres;
- new connections; and
- expanding capacity through new water and waste water plants and upgrades such as the Ballymore Eustace to Saggart Trunkmain, the Galway City Waste Water Treatment Plant and Network upgrade, and the Cork City Waste Water Network Drainage Area Plan;

Delivering one single publicly-owned national water services utility for Ireland

Delivering on sustainability goals through activities such as energy efficiency initiatives and sludge management

Capacity will continue to be built in waste facilities, including anaerobic digestion, hazardous waste treatment, plastics processing, recycling, waste to energy, and landfill and landfill remediation, to meet future waste objectives. The infrastructure to deliver waste management policy has been, to date, largely delivered through private investment with some public sector investment. Significant infrastructure capacity development will be required to separate and process various waste streams at municipal and national levels to achieve new EU legally-binding targets and the additional investment may include a potential role for public investment.

Table 14.1: Climate and Environmental Assessment

Investment	Assessment
Water Services Investment	A

Note: See Chapter 3 and separate paper for further detail.

Box 14.1: Water Supply Project – Eastern and Midlands Region

Current Status: Pre-Planning and Design Stage
Estimated Cost Category: F*
Estimated Completion Date: 2030*

** This is a preliminary estimate compiled in accordance with the guidelines set out in the Public Spending Code with allowances for known risks. This estimate will be reviewed and refreshed as the project progresses through the planning and procurement processes to account for any unforeseen planning/legal challenges or delays.*

The Water Supply Project – Eastern and Midlands Region (WSP-EMR) is a strategic national project to help meet the future water supply needs for housing, commercial, and industrial growth in an area comprising 40 per cent of Ireland’s population. The project comprises an abstraction of water from the lower River Shannon at Parteen Basin in Co. Tipperary, with water treatment nearby at Birdhill. Treated water will then be piped 170km to a termination point reservoir at Peamount in County Dublin, connecting into the Greater Dublin Area.

The project will also facilitate options to reinforce supplies of treated water to communities such as Newport, Borrisokane, Cloughjordan, Mullingar, Carlow, Portlaoise, Navan and Drogheda in the future. This will ensure that the long-term (2050 and beyond) water supply requirements of the region are met in a sustainable manner.

The project has already gone through extensive non-statutory public consultation and there will be a further round of statutory public consultation before it is submitted to An Bord Pleanála for planning permission.

Box 14.2: Greater Dublin Drainage project

Current Status: Planning and Design Stage
Estimated Cost Category: E*
Estimated Completion Date: 2029*

** This preliminary estimate assumes that Irish Water can commence construction in 2024/2025 and has been compiled in accordance with the guidelines set out in the Public Spending Code with allowances for known risks. This estimate will be reviewed and refreshed as the project progresses through the planning and procurement processes to account for any unforeseen planning/legal challenges or delays.*

The GDD project is a key part of Irish Water’s investment in new waste water infrastructure for the Greater Dublin region, where the volume of waste water generated is projected to increase by more than 50 per cent by 2050.

The GDD project includes the development of a new regional waste water treatment facility and associated infrastructure to serve Dublin and parts of the surrounding counties of Kildare and Meath.

The project is vital for residential and commercial development across north Dublin and south Fingal as new homes and businesses can only be built when there is adequate waste water infrastructure in place to support them. The project will also alleviate pressure within the existing wider waste water network and help to ensure that the waste water generated is treated safely, in compliance with the EU and national waste water treatment regulations.



NSO 10

Chapter 15:

Access to Quality Childcare, Education and Health Services

Access to quality primary education, health services and childcare, relative to the scale of a region, city, town, neighbourhood or community is a defining characteristic of attractive, successful and competitive places.

Whilst this NDP provides public investment in education and health infrastructure, the estimated population growth of one million and Ireland's changing demographic profile will present a significant challenge, especially in the area of health. Since 2018, requirements and learnings from Covid-19 and the cyber-attack on the health system have had, and will continue to have, a significant impact on health infrastructural requirements.

The co-ordination of primary and post-primary schools places and health infrastructure with the spatial development of cities and regions is consistent with the objectives of the NPF. Support will also be provided to ensure quality of supply of childcare places.

Sectoral Strategies - Education

Primary and Post-Primary Schools

Over the years ahead, the delivery of additional permanent school places to meet demographic demand will continue to be prioritised. This is important to ensure alignment with the Housing for All Strategy.

This will be achieved via the Large Scale Projects Programme, as well as via the Additional Accommodation Programme. In this regard, some of the most urgent capacity requirements will be addressed via a Modular Accommodation Framework that has been put in place to assist with delivery of high quality accommodation solutions and has the benefit of being future proofed from a climate perspective through the use of decarbonised heating strategies.

During the NDP period 2018-2020, there was 526 completed building projects under the Large Scale and Additional Accommodation Scheme. There are approximately 1,200 school building projects within the current pipeline across the various stages of planning, design, tender and construction - most of which are expected to be either under construction or completed in the period 2021 to 2025. It is envisaged that an average of 150 to 200 school building projects will be delivered annually over the period 2021 to 2025 to provide necessary additional capacity and support the modernisation of existing school facilities including as much as possible future proofing from a climate action perspective.

The Department's Geographic Information System and associated National Inventory of School Capacity, together with engagement with relevant stakeholders, is used to identify and forward plan school accommodation requirements including for special needs provision.

In this regard, the school building programme will align with NPF objectives in delivering, over time, more compact growth and a rebalancing of growth between the regions. Maximising the utilisation of existing school sites will assist in achieving alignment with the NDP compact growth objective.

In the interim period, the school building programme will continue to respond to existing and previously planned demographic growth, with the objective of ensuring modern school facilities for every child.

The focus of the school-building programme is progressively shifting from primary to post-primary level reflecting the fact that post-primary enrolments at the national level are not projected to peak until 2025. However, additional primary level provision will continue to be required to support housing provision, and will be essential to achieving the growth targets for the five cities.

In addition to providing for demographic growth, the resources available under the NDP will support delivery of a number of key priorities in the schools sector:

- Proactively catering for special needs requirements with a particular emphasis at post-primary level
- A strengthened focus on refurbishment of existing school stock as part of underpinning the transition of the school system to an era of Net Zero carbon by 2050
- A strategy for improving Asset Management/Maintenance regime

While the national enrolment trends projected a peak enrolment at primary level of 2018/19 and post primary level at 2024/25, the 2020 demographic analysis exercise undertaken by the Department in 2020, forecasted significant regional and local variation between School Planning Areas (SPA) at both primary and post primary level for the period up to 2024 and 2027 respectively which will impact on requirements for additional capacity in those areas. Increased enrolment as per the 2020 demographic exercise is projected in 36 per cent of SPA's at primary level and 90 per cent at post-primary level.

The strengthened focus on refurbishment of existing school stock will have different strands to include those listed below.

- A school laboratory build and modernisation programme that will enable students in post-primary schools to have access to appropriate laboratories and other facilities and equipment to support delivery of the reformed science curricula and the roll-out of Computer Science as a leaving-certificate subject.
- A PE build and modernisation programme will enable students in post-primary schools to have access to appropriate facilities to support PE provision, particularly also in the context of the

roll-out of PE as a leaving-certificate subject. Enhanced and modernised PE facilities will also provide important amenities for local communities.

- The commencement and progression of a deep energy retrofit of schools built prior to 2008, to deliver on 2030 and 2050 Climate Action targets. This will draw from the experience gained from the programme of pilot projects and progressive and in-depth energy research programme undertaken by the Department of Education, in conjunction with the SEAI, aimed at establishing innovative delivery models as well as a menu of best-practice retrofit options.

Digital Strategy for Schools

The Digital Strategy for Schools is a priority initiative which seeks to further embed digital technology teaching, learning and assessment in primary and post-primary schools. Capital investments in connectivity and equipment, alongside teacher upskilling, are essential to the embedding of digital technologies in education across all classrooms.

The ongoing embedding of the use of digital technologies in teaching, learning and assessment underpinned by this strategy is being supported over the period of the NDP Investment in appropriate ICT infrastructure will support curricular developments such as Computer Science at senior cycle, the planned review of the primary maths curriculum (to include computational thinking), and the implementation of the STEM strategy. Investment is also required to ensure that availability of high speed broadband in all areas, as envisaged under the National Broadband Plan, can be optimised through appropriate connectivity in schools.

A recent example of a major investment is the Carrigaline Campus project in Cork featured in Figure 15.1 which involves the provision of 3 schools - a 24-classroom Gaelscoil, a 500-student Gaelcholaiste and a 42 pupil special school. The Cork ETB led project went on site in June 2019 with the Gaelscoil and special school buildings completed for September 2021 and the Gaelcholaiste shortly thereafter.

Figure 15.1: Carrigaline Campus project, Cork



The Department's school building programme involves in excess of 200 school building projects currently at construction - most of which are scheduled for completion in 2022. All of these projects at construction will, when completed, deliver over 30,000 school places.

Strategic investment Priorities - Primary and Post Primary School buildings



Build a modern and sustainable school infrastructure that provides a place in a safe and inspiring learning physical environment for all students, now and in the future: The school building programme will align with NPF objectives in delivering, over time, more compact growth and a rebalancing of growth between the regions. Maximising the utilisation of existing school sites will assist in achieving alignment with the NDP compact growth objective.

Supporting the Climate Action Agenda by transitioning the school system to an era of Net Zero Carbon by 2050, and to meet 2030 public sector targets, informed by an innovative energy research programme.

Underpinning the ongoing embedding of the use of digital technologies in teaching, learning and assessment

Continuing the school modernisation programme by providing additional capacity to meet demographic demand, catering for special needs requirements and supporting curricula reform through delivery of modern ancillary accommodation; this is important to ensure alignment with the Housing for All Strategy. The Department has put in place a Modular Accommodation Framework to assist with delivery of additional capacity. It is envisaged that an average of 150 to 200 school building projects will be delivered annually over the period of 2021 to 2025 to provide necessary additional capacity and support the modernisation of existing facilities, including as much as possible future proofing from a Climate Action perspective.

Table 15.2: Climate and Environmental Assessment

Investment	Assessment
Large Scale Capital Programme	A
Additional School Programme	C
Contingency (incl EWS & SRP)	A
MWG, Maintenance & Asset Management	A
Climate - Deep Energy Retrofit ,incl. Pathfinder/Research)	A
Climate heating decarbonisation glide paths	A
Climate -Summer Works	A
Digital/ICT Schools	A
PPP - Schools	B
Other Programmes	B

Note: See Chapter 3 and separate paper for further detail.

Sectoral Strategies - Health

The overarching vision and long-term policy direction for Ireland's healthcare system is set out in the Sláintecare Report (2017). The Sláintecare Implementation Strategy identifies capital investment as a critical enabler of the reform proposed in Sláintecare, acting as a catalyst for implementation of a revised model of care and the modernisation of service delivery. A major principle of Sláintecare is that best health outcomes and value for money can be achieved by re-orienting the model of care towards primary and community care where the majority of people's health needs can be met locally in a high-quality integrated system.

Capital investment has a key role to play in enhancing service provision, ensuring the delivery of high quality and safe health and social care, and as an enabler of the reforms set out in Sláintecare. Key policies and strategies in the sector include:

- The Health Capacity Review (2018) identifies capacity requirements for the period to 2031 in the areas of acute hospitals, primary care (including diagnostic facilities), and in step down, transitional and long-stay facilities. The report also makes clear that in the absence of major reforms, the demand on our hospital system will become unsustainable. The Strategic Plan for Expansion of Critical Care Capacity (2020) supports the ambitious long-term strategic goal of increasing overall critical care capacity thus fully addressing the critical care recommendations of the Health Service Capacity Review.
- The eHealth Strategy for Ireland (2013) (and supported in the Sláintecare report) identifies digital health services as key to enabling the right information about the right patients being

available securely to clinicians, in the right health care setting at the right time.

- The National Maternity Strategy 2016-2026 - Creating a Better Future Together represents a significant development in the delivery of national maternity policy that will fundamentally change how maternity care is delivered in Ireland.
- The National Model of Care for Paediatric Healthcare Services in Ireland envisages the right care, in the right place, at the right time, for children and adolescents throughout Ireland.
- The National Cancer Strategy 2017-2026 and the National Programme for Radiation Oncology provide the strategic direction for the provision of cancer services across Ireland.
- The National Residential Care Standards for Older People (2016) incorporate the learning from HIQA's inspection of designated centres for older people, significantly upgrading accommodation standards. The Covid-19 Nursing Homes Expert Panel Report (2020) examines the impact of the pandemic on older people living in residential care.
- Time to Move On from Congregated Settings (2011), the Regulations on residential centres for children and adults with disabilities (S.I. No. 366/2013 and S.I. No. 367/2013), HIQA's 'National Standards for Residential Services with Disabilities' (2013) and the public health risks of disease transmission identified since Covid-19 provide the basis for the capital programme for people with disabilities currently living in congregated settings.
- Sharing the Vision; a Mental Health Policy for Everyone (2020) supports a broad based, whole system mental health policy for the whole of the population.
- The Trauma Strategy (2018) provides a direction for optimal care of patients with injuries through the introduction of an inclusive trauma system that will reduce the incidence and burden of trauma and significantly increase the survival rate of major trauma patients by ensuring that each patient receives the highest possible standard of care in the most appropriate healthcare facility.
- National Ambulance Strategy Vision 2020 aims to transition to a service that is clinically-led and treating more patients away from the hospital setting. A new strategy which will run until 2026 and will continue the policy of reorienting healthcare away from a "hospital centric" model is currently being developed by the NAS.
- The Medical and Diagnostic Equipment Replacement Programme is based on a risk analysis of the existing medical devices (medical, diagnostic and radiology equipment). A condition

survey is underway (2021) to identify areas that require the most immediate investment to address infrastructural risk.

- The development of a model for care infertility as committed to in the Programme for Government, “Our Shared Future”. It is intended that, in line with available resources, this model of care will be rolled out on a phased basis over the course of the coming years. The underlying aim of the policy is to improve accessibility to assisted human reproduction treatments, while at the same time embedding safe and appropriate clinical practice and ensuring the cost-effective use of public resources.

Strategic Investment Priorities - Health

Looking at the full term of the NDP, the strategic direction of health capital investment in the period 2021 – 2030 will be based on needs to enhance service provision, enable reform in the sector and the ongoing need to address patient safety and regulatory requirements. In the capital planning process, and working with key delivery partners, a rigorous prioritisation process will require to be applied in the selection of projects to progress, to ensure that available resources are strategically targeted. Development of a Strategic Framework for the delivery of Health Infrastructure is underway in the Department and will be a vital tool in undertaking this prioritisation. The delivery of these important projects is dependent on the availability of resources, the pace of implementation and the capacity of the system to deliver.

In the period 2021 – 2025 NDP funding will support projects and programmes focused on patient safety, regulatory requirements and will provide the foundations for reform in the sector. The progression of these projects will be dependent on factors including availability of funding and their advancement through the Public Spending Code. Key priorities and programmes in this period are set out in the table below.

Strategic Investment Priorities 2021-2025 – Health



eHealth and ICT investment programmes will focus on three key areas: critical infrastructure & cybersecurity, existing national and mobilised priorities and new & emerging priorities. Some of the key projects include the enhancement of critical infrastructure & cybersecurity (Estimated cost category D), CHI EHR & ICT (Programme in progress, Estimated Cost Category B) and the Integrated Financial Management System (Programme in progress, Estimated Cost Category B).

New Children’s Hospital at St James’s campus and the second Outpatient Department and Urgent Care Centre at Tallaght Hospital, Dublin (Construction Stage with Commissioning completion 2024, Estimated Cost Category F)

National Cancer Strategy developments including the National Programme for Radiation Oncology with radiation oncology units being progressed at Galway (Estimated Cost Category B, Construction completion 2024) and Dublin Beaumont Phase 2 (Construction completion 2025, Estimated Cost Category B), and St James (Preliminary Design, Estimated Cost Category B)

Acute bed capacity projects across the country to progress delivery of requirements set out in the capacity report (Programme in progress, Estimated Cost Category E) and with dedicated Elective Centres in Dublin, Cork and Galway currently being progressed for consideration through the Public Spending Code as set in the recent Sláintecare mid-year Progress Report for 2021.

Primary Care Centre construction programme delivering primary care centres, which are a cornerstone of the community-based model of care, across the country through a combination of HSE own build and operational lease (Programme in progress, Estimated Cost Category C to D)

The Enhanced Community Care Programme provides for capital works (nationwide) required to meet the accommodation requirements of the teams serving older persons and those with chronic disease (Programme in development, Estimated Cost Category C to D until 2025).

Replacement and refurbishment of 88 Community Nursing Units across the country to achieve regulatory compliance (Programme in progress, Estimated Cost Category E).

The Disability capital programme includes decongregation from long-term residential care units for people with disabilities (in progress) and additional community-based supported housing arising from the Disability Capacity Review. These programmes are to be delivered in conjunction with the Department of Housing and related agencies.

Equipment Replacement Programme to ensure a sustainable level of investment to replace older and less reliable equipment in particular the replacement of existing diagnostic equipment (Programme in Progress, Estimated Cost category C to D until 2025).

Infrastructural Risk Programme to ensure safety of patients, staff and the public in health service facilities including fire and electrical safety, emergency supply and infection control (Programme in Progress, Estimated Cost Category C to D until 2025).

Ambulance Replacement Programme's continued maintenance of current ambulance fleet (Programme in Progress, Estimated Cost Category B to 2025) and programme of investment in Ambulance Bases (Programme in progress, Estimated Cost Category B to 2025).

Mental health capital programme including the Child and Adolescent Mental Health Service (CAMHS) expansion programme, rehab units nationwide, ICRUs and upgraded Mental Health units through the country. (Programme in Progress, Estimated Cost Category C to D).

Advancement of a range of priority projects set out in various strategies (including Sláintecare, National Maternity Strategy and Trauma strategy) in line with their progress through the Public Spending Code and availability of funding.

Climate Action projects under the Decarbonisation Strategy and Action Plan have been initiated and will be further progressed in the period. Significant targets have been set for public sector buildings to improve energy efficiency and to achieve a BER of B by the end of 2030. Projects will be advanced in conjunction with the Department of Communications and Climate Action and other agencies.

Over the longer term, a rigorous prioritisation process, in line with the new Strategic Framework, will be applied in the selection of projects to progress, to ensure that available resources are strategically targeted. The delivery of these important projects is dependent on the availability of resources, the pace of implementation and the capacity of the system to deliver.

Health Service Capacity

The 2018 Health Service Capacity Review forecast an increased demand for healthcare services across primary, acute and social care settings as a result of demographic and non-demographic change. The Review identified additional capacity requirements for the period to 2031 in acute hospital beds, primary care facilities and in step down and long stay beds. It also identified the need to achieve greater separation between scheduled and unscheduled care so that the system can respond better to emergency needs without adding to waiting lists for elective procedures and with dedicated Elective Centres in Dublin, Cork and Galway currently being progressed for consideration through the Public Spending Code as set in the recent Sláintecare mid-year Progress Report for 2021. These facilities will provide high volume, low complexity procedures on a day and outpatient basis, together with a range of ambulatory diagnostic services. It is envisaged that these facilities will be sited adjacent to general hospitals. They will provide increased, protected capacity for elective treatment and free up capacity in major hospitals to address higher complexity and emergency care. Additional capacity has been delivered since 2018, however further beds in line with overall requirements and informed by regional requirements will be required to be provided in the period to 2030. The review makes clear, that in the absence of major reforms, the demand on our hospital system in particular will become unsustainable. The impact of Covid-19 has reinforced the need for additional capacity across the system. A strategic multi-year plan for additional critical care capacity was developed in 2020, to ensure readiness of the health system to the ongoing pandemic, and to support a long term strategic goal for increased critical care capacity, in order to address the recommendations of the capacity review.

National Cancer Strategy

The National Programme for Radiation Oncology provides the strategic direction for the provision of radiotherapy services across Ireland to meet existing and future demand. There are five public sites for radiotherapy, with an additional two private centres (through service level agreement), which provide radiotherapy treatment in Ireland. A rolling capital investment plan will continue to be reviewed annually, with the aim of ensuring that

cancer facilities meet requirements. In addition, the National Cancer Strategy includes the expansion and improvement of medical oncology units and day wards, improvement in diagnostic facilities and investment in aseptic compounding infrastructure as well as the development of at least one comprehensive cancer care centre. In accordance with balanced regional development, a cancer care network for the Saolta region (West, North West) with a Cancer Centre at Galway University Hospital with appropriate infrastructure will be delivered.

Primary Care Centre Programme

The PCC Programme not only continues to be a key anchor in the longer-term reform of the health sector but also accords with the objectives of Project Ireland 2040. PCCs have a key role to play in delivering the vision for a reformed health service laid out in Sláintecare by facilitating the shift from acute care to primary care through supporting the provision of a range of multi-disciplinary services in local communities. In this regard, it is important to note that PCCs provide accommodation for services beyond those commonly identified as primary care, including community mental health services, disability services (including PDS children's Network Teams), environmental health services, accommodation for Tusla, ambulance rapid deployment points and civil registration. This programme will include provision of diagnostic facilities in the community. Where appropriate accommodation is not currently available, new PCCs are procured through operational lease agreements and through direct HSE build via Exchequer funding. Capital funding is also required to equip these centres on completion. In addition, to date 14 PCCs have been delivered by PPP.

Enhanced Community Care Programme

The Enhanced Community Care programme is a transformational reform that will support an integrated approach to primary and community care and maximise the impact of investment to benefit all those who use our health services, focusing on older people and those living with chronic disease. It will move care out of the hospitals and deliver care close to peoples' home to allow them to remain at home and in their community for as long as possible. This will ensure care is integrated and provided locally at the appropriate level of complexity, creating end-to-end pathways of care that will help prevent admissions to acute hospitals where it is safe and appropriate to do so. Community Health Networks and specialist teams will be established on a phased basis. Accommodation requirements for the programme are being developed for the services to be provided across the country.

Social Care – Older People Projects

The existing Community Nursing Unit (CNU) programme was launched in 2016 to ensure that CNU's would be refurbished, replaced or constructed to achieve regulatory compliance across the public system with new regulatory requirements coming into effect on 1 January 2022. This is a major capital programme involving work at 88 CNUs across the country and will continue over the next number of years. In addition, the Health Service Capacity Review set out the need for additional capacity for long- and short-term residential care beds.

The Department and HSE are working jointly on a programme of reform which will include revised forecasting not least due to the impact of the Covid-19 pandemic. It will also examine developing policy on the design and build for nursing homes, as well as other models of delivery of long-term care for older people which may include, for example, small scale independent living facilities and housing with care. It is also intended to develop a plan to increase, over time, public long-term residential care capacity, to rebalance the current 20:80 public-private split.

Disability Services

The provision of suitable housing in the community (in conjunction with the Department of Housing, Planning and Local Government) will be progressed, in line with the Programme for Government commitments on working towards implementing the Disability Capacity Review, and continuing to transfer people from residential institutions to community-based housing, as well as people with disabilities inappropriately placed in nursing homes.

The Disability Capacity Review (2021) – A Review of Disability Social Care Demand and Capacity Requirements up to 2032 has estimated the additional residential care capacity that will be required due to ongoing demographic change, addressing the considerable backlog of unmet need in this area, and continuing the closure of residential institutions. As set out in this review, the capital cost of additional housing places for people with disabilities is the responsibility of the Department of Housing, Local Government and Heritage, where the provision of support services to live in the community are a health responsibility. In line with Government policy, the provisions of Article 19 of the UN Convention on the Rights of Persons with Disabilities, and HIQA findings, there is also a planned programme to replace remaining congregated residential settings with appropriate housing in the community. Aligned to this, work is also being undertaken in relation to people with disabilities inappropriately placed in nursing homes. Community-based housing is provided in conjunction with the Department of Housing and related agencies. Infrastructural requirements in the disability sector also include a need to provide

accommodation for disability day services which are expanding due to a growing annual intake of school-leavers, and for therapy teams (including children's network teams) to be co-located with primary care teams.

Mental Health Projects

The National Forensic Mental Health Service facility has been completed to replace the Central Mental Hospital is expected to become operational in 2021. The holistic view of mental health included in "A Vision for Change" is maintained in 'Sharing the Vision', published in June 2020. It is envisaged that a significant proportion of mental health services and supports could and should be provided as part of the Primary Care Centre Programme, an approach reiterated in the Sláintecare report. A new mental health ten-year capital programme is now in development, with the focus on upgrading existing facilities, replacing inappropriate community residential and non-residential facilities and the continued expansion of services including Child and Adolescent Mental Health Services.

The National Maternity Strategy & Model of Paediatric Healthcare Services

The National Maternity Strategy aims to enhance and modernise services, recognising the need to ensure that a culture of learning is developed and cultivated within our maternity service, such that services are improved on an ongoing basis. The National Model of Care for Paediatric Healthcare Services describes the vision for the delivery of services to children and their families in acute and community settings. The implementation of the Model of Care is a major, multi-year reform which, in time, will also drive change and transformation in community child health services. The focus of both the "National Maternity Strategy" and the Paediatric Model of Care, is on strengthening services by bringing together primary, community and acute services in an integrated way.

As set out in the National Maternity Strategy, it is Government policy to co-locate the remaining standalone maternity hospitals (National Maternity Hospital, University Maternity Hospital Limerick, the Coombe and the Rotunda) on acute hospital sites. Co-location of maternity services with adult services provides mothers with access to a full range of medical and support services, and the availability of these services helps ensure the delivery of an optimum, safe service, particularly for high-risk mothers and babies. The new National Maternity Hospital is intended to be the first of the new maternity hospitals to be developed, with the other relocation projects to follow in time.

The National Trauma Strategy

The National Trauma Strategy was approved by Government in 2018. The optimal care of patients with injuries requires a coordinated and integrated system of trauma care. Evidence from other countries has shown that the introduction of inclusive trauma systems has significantly reduced the number of deaths and disability caused by major trauma. The implementation of the National Trauma Strategy involves capital investment in dedicated trauma receiving areas, dedicated trauma operating theatres, dedicated trauma ICU beds, dedicated trauma wards and rehab beds.

National Ambulance Service

In line with the National Ambulance Service (NAS) strategy, funding is required each year to replace vehicles when they have travelled 400,000 kilometres. With both acute and community care settings set to rapidly change over the coming years, the ambulance service will also have to adapt to suit new models of care. The overall goal is a more integrated model of care between community, acute and ambulance to ensure medical services are optimised. To achieve this model of care funding will be required in future years to expand the fleet and refurbish and expand ambulance bases.

Infrastructural Risk Programme

As identified in the IMF Public Investment Management Assessment Report (2017) more attention needs to be given to the management of assets, including prioritizing spending on the maintenance of infrastructure assets. In the health estate infrastructural risk issues are dealt with through a combination of minor capital and major capital. This programme will require sustained investment in future years as evidenced by initial findings of the National Condition Survey. Projects that are central to the safety of patients, staff and the public in health service facilities are given priority. These will include fire safety, electrical safety and emergency supply and other life critical systems including medical gases, infrastructural aspects of infection control including legionella. Funding will also continue to be targeted at projects to manage the impact of living with Covid-19, including separation and segregation within healthcare facilities. An element of the works in this area contribute to addressing measures set out in the Climate Action Plan.

Equipment Replacement Programme

The HSE Report 'Equipment Replacement Programme' June 2016 determined the sustainable level of investment required to replace older and less

reliable equipment and address the existing deficit. From a risk and patient safety perspective, investment at this level is critical. A substantial portion of this investment will fund the replacement of existing equipment.

Box 15.1: Sláintecare Implementation in community settings

The publication of the Sláintecare Report in 2017 set out the vision to achieve a universal single-tier health and social care system, where everyone has equitable access to services based on need, and not ability to pay and to deliver safe, quality health and social care services that meet the needs of our growing population, and attracts and retains the very best healthcare clinicians, managers, and staff.

Capacity projects will continue to be rolled out across the country and informed by population-based/regional requirements. In addition, Projects funded in the NDP and supporting Sláintecare will include the continued roll out of Primary Care Centres across the country and the provision of infrastructure to support the Enhanced Community Care programme. Expanding primary and community care is at the heart of the Sláintecare vision. The relative under-development of primary and community-based care means that achieving a significant shift of care from the acute setting to the community has been particularly challenging.

In the context of the Citizen Care Masterplan, plans are already in progress to develop expanded Community Healthcare Networks and primary care teams. This will entail an expansion of services provided in the community and a significant increase in workforce and infrastructure to enable this expansion. Primary Care Centres are a fundamental part of that, with a number of services being routed through these facilities such as mental health support, services for people with disabilities and addiction support and also community diagnostics. In conjunction with this, the Enhanced Community Care programme will have a focus on supporting Older People to get treatment closer to home and also people living with chronic illness. Investment in the continued roll out of these programmes will enable this significant shift of care from acute settings, thereby improving health outcomes for the people of Ireland.⁴

Box 15.2: eHealth/ICT

The National Development Plan will support the provision of digital health services, enhancement to critical infrastructure and cybersecurity and facilitate new and emerging eHealth and ICT developments within the 10-year implementation timescale and is supported in the Sláintecare report and eHealth Strategy.

Notable progress has been made in eHealth and ICT in 2020 and 2021, in line with healthcare reforms under Sláintecare and supported by ongoing investment in eHealth and ICT under the National Development Plan. Key deliverables include the rollout of the individual health identifier in response to the pandemic, electronic patient record systems, corporate systems, modernisation and enhancement of technical infrastructure.

Looking forward to 2021-2025 the further development of key systems within acute and community services such as electronic prescribing, EHR, shared care record, National Medical Imaging System, Patient Administration System iPMS and the Maternal and Newborn Clinical Management System will further support integrated care for patients. The implementation of corporate systems such as the Integrated Financial Management System will also provide financial and procurement efficiencies within the health system as part of a wider programme of financial reform.

Investment in critical infrastructure is also required for the modernisation of existing infrastructure to improve performance and responsiveness of systems and to avoid or mitigate risks associated with cyber-attack. Cyber threats are now a feature of the IT landscape and are becoming more sophisticated and of increasing concern, particularly to organisations involved in providing financial and health services. In May 2021, the health service was targeted by a very sophisticated ransomware attack which further focuses the need for significant, maintained investment in this area.

Climate Action

Key measures set out in the Climate Action Plan for the public sector include targets to improve their energy efficiency to 50% and to retrofit their buildings to a Building Energy Rating (BER) of “B” by end 2030. This means all public sector buildings, including healthcare buildings, must be upgraded to a B energy rating by 2030.

This will require a significant major capital investment and refurbishment programme in the health sector. Assuming 50% of upgrade cost will be covered by way of the new build programme being progressed by the HSE, additional costs will be incurred in refurbishment/upgrade of the remaining health estate. The HSE Estates “Energy Reduction Implementation Plan” sets out the key measures and actions require to reach climate action targets outlined by the Government for HSE sites and buildings.

ICT Programme

The eHealth suite of projects is aligned with the Sláintecare reform programme which was established in response to the Oireachtas Committee on the Future of Healthcare. eHealth and ICT investment for 2021-2025 will focus on three key areas: critical infrastructure & cybersecurity, existing national and mobilised priorities and new & emerging priorities.

In May 2021, the health service was targeted by a very sophisticated cyber-attack which further focuses the need for significant, maintained investment in this area as well as the enhancement of critical ICT infrastructure. The impact of the unforeseen cyber-attack has also demonstrated the need to consider new and emerging areas within eHealth and ICT in the health service in the future.

Some of the other key projects include progressing ongoing work on the development of an EHR for the New Children’s Hospital and existing national programmes such as the Integrated Financial Management System, the National Integrated Medical Imaging System, the Maternal-Newborn Clinical Management System, Shared Care Record and Patient Administration System iPMS.

Under Ireland’s National Recovery and Resilience Plan, €75m in investment has been sought for programmes in ePharmacy and integrated financial management to address the areas of financial reform, modernisation of the healthcare system and access to healthcare enabled by technology.

The introduction of ePharmacy will significantly streamline the administration and reimbursement of costs associated with medications replacing paper processes with simplified processes implemented through digital solutions. This will subsequently allow

digital integration and enablement of digitalisation into community settings, facilitating an integrated care approach – a key commitment under the Sláintecare reform programme.

The implementation of an Integrated Financial Management System represents a central pillar within the overall Finance Reform Programme for the Health Services and will provide the most cost-effective and expedient approach to financial management as well as enabling the standardisation of financial management systems, increasing the capability of the finance function to support the health system.

Table 15.3: Climate and Environmental Assessment

Investment	Assessment
National Maternity Hospital at St Vincent’s University Hospital Campus	A
Replacement Buildings	A
Additionally - New Buildings	C
Infrastructural Risk	A
Ambulance Replacement	A
Equipment Replacement Programme	B
E-health Programme	A

Note: See Chapter 3 and separate paper for further detail.

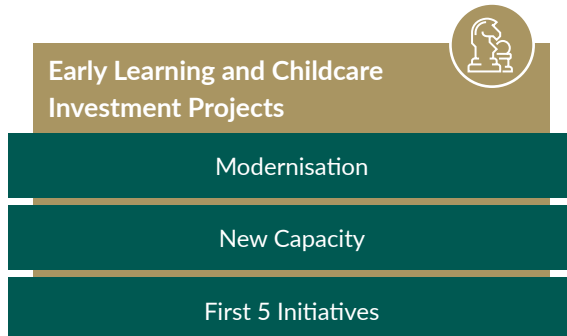
Sectoral Strategies – Childcare

The National Planning Framework (NPF) highlights the contribution of early learning and childcare to spatial development, in addition to the positive impact on individual and community development, quality of life and social cohesion. The NPF also draws attention to the important role of early learning and childcare provision in terms of underpinning future patterns of labour force participation which will be crucial to sustaining employment growth and to the realisation of the economy’s growth potential over the period of the NDP. International research confirms that good access to affordable and high quality early learning and childcare is critical, in particular, to supporting child development, reducing inequalities and supporting female labour market participation.

Access to affordable early learning and childcare is inherently linked to creating an equitable society, sustainable communities and a thriving economy. Early learning and childcare provision is therefore considered under the NDP, along with housing, schools and health facilities as an integral part of national infrastructure.

Strategic Investment Priorities – Childcare

It is proposed that the NDP investment in early learning and childcare will be delivered under three pillars as follows:



Modernisation

Much of the existing early learning and childcare infrastructure that was previously delivered by large scale capital programmes is now in need of upgrading and modernisation in order to be fully compliant with new regulations and more recent guidelines, as well as to maximise energy efficiency. It is proposed to prioritise follow-up funding for buildings that were funded through the Equal Opportunities Childcare Programme (EOCP) and the National Childcare Investment Programme (NCIP), with funding also available for previously non-funded infrastructure.

New Capacity

Ireland is approaching the limits of capacity, with shortfalls for early learning and childcare places already evident in some areas and for some cohorts. The rates of participation in early learning and childcare are also lower than European averages. As investment in subsidisation grows in the coming years as committed to in *First 5* and the Programme for Government, demand from parents will also increase. The public investment in capital infrastructure in the NDP for early learning and childcare, should help to address capacity challenges including the undersupply for certain types of provision and in specific areas of the country.

First 5 Initiatives

First 5 (Government Strategy for babies, young children and their families 2019 -2028) was launched in 2018 and was re-committed to in the Programme for Government: Our Shared Future. *First 5* envisages a range of innovative initiatives for the early learning and childcare sector, including piloting Family and Early Childhood Centres and piloting outdoor early learning and childcare provision, piloting meal provision. Each of these initiatives have capital requirements.

Other Capital Investment

Strategic capital investment in Túsła will help the Agency to continue to develop as an independent Agency. Capital investment towards a modernised physical infrastructure is critical to the delivery of quality services to vulnerable children and families. Túsła's Estates Strategy aims to align, where possible, with the HSE's ongoing Primary Care Strategy, while its investments in ICT infrastructure will support effective service delivery by its expanding workforce by providing more effective systems for case management and performance reporting. Continued capital investment is also required for Youth Services and to support Oberstown Children Detention Campus.

Table 15.4: Climate and Environmental Assessment

Investment	Assessment
Early Years modernisation and renovation of existing stock	A
Refurbishment and construction of new early learning and childcare facilities	C
Túsła ICT and Data Strategies	A
Túsła Estates Refurbishment and Replacement	A
Túsła Estates New Build	C

Note: See Chapter 3 and separate paper for further detail.



Chapter 16: Other Public Investment Sectors

Estate Management

The OPW is responsible for the stewardship, management, design, development, extension, modernisation and enhancement of a significant amount of the State's property portfolio. The OPW's priority is to deliver efficient and effective accommodation for civil servants, and to maintain and develop national property infrastructure, including the conservation of the State's built heritage and parks. This programme of investment is fully aligned with the Government and EU's objectives for addressing the key strategic issues of sustainability, climate change and biodiversity. During the lifetime of this Plan, the OPW will advance a number of projects within the Estate Portfolio Management programme in the areas detailed below that will result in a reduction in the overall carbon footprint of the estate. In the case of office accommodation related projects, the investment will also facilitate the creation of more modern digitally enabled, agile workspaces that support blended working arrangements and result in more efficient use of space.

OPW's Estate Management programme envisages investment in a combination of new builds and a large number of property improvement projects nationwide. These projects will aim to provide better designed and more efficient modern workplaces, with significantly improved levels of energy efficiency and improved visitor experience.

A number of these projects are outlined below:

Modernisation of the State's office portfolio

This includes construction of new energy efficient buildings and refurbishment, alteration, fit-out and retrofit of buildings to facilitate optimum space utilisation that supports the future accommodation needs of the civil service. Major projects during the investment period are planned at Hawkins House, Leeson Lane and Tom Johnson House. Additional projects will include the delivery of new headquarters facilities for Tailte Éireann, the Chief State Solicitors Office and the Data Protection Commissioner, together with the provision of an essential Shared Government Data Centre, to be located on State owned lands at Backweston Campus, Celbridge, Co. Kildare and major investment in a newly acquired property in Shannon Co Clare.

Garda Programme

OPW implements a programme of works to meet the property requirements of An Garda Síochána to support the delivery of the Garda Operational Model and the range of strategic modernisation initiatives undertaken by the Garda Commissioner in recent years. The OPW also assists An Garda Síochána in the task of mapping out their property requirements in the coming years, in line with its workforce plans. These projects and programmes of work include:

- Property and Exhibit Management (PEMS) Programme, including a Regional Dublin Metropolitan Region (DMR)/Eastern Region PEMS Store.
- Divisional HQ & Garda HQ Programme, including Portlaoise Division HQ, DMR North Divisional Headquarters, Northern Cross, DMR East Divisional Headquarters, Cherrywood and the SMART PPP Bundle of Clonmel District Garda HQ and Macroom Regional and Divisional Garda HQ
- 2016-2021 Programme, including Fitzgibbon Street GS as part of the North East Inner City regeneration plan, Athlone Divisional HQ GS and Newcastle West Garda Station, Limerick.
- Upgrade & Refurbishment Programme, including proposed Refurbishment and Retrofit of the existing Technical Bureau Building when vacated by Forensic Science Ireland.

Retrofit, Fabric Upgrade and Energy Enhancement Programmes

Complete fabric upgrade of selected buildings and improvement to buildings, with a particular emphasis on regional properties, in order to comply with regulations and assist in meeting Ireland's carbon usage requirements.

Infrastructure investment at heritage sites nationwide

This is to meet increased visitor numbers and further develop the partnership with Fáilte Ireland in order to maximise tourism, economic and social return.

In tandem with its delivery of Estate Management solutions funded through its own Vote, OPW has a pivotal agency role in the delivery of a number of projects for clients across the NDP including Forensic Science Ireland, the various National Cultural Institutions, critical Brexit infrastructure and the Military Road Complex for An Garda Síochána.

The value of investment under the NDP, funded from the OPW Vote, (inclusive of expenditure on Flood Risk Management), and projects and programmes managed on an agency basis by the OPW, is in excess of €4 billion.

Box 16.1: Tom Johnson House, Dublin 4

Current Status: Main Works Contract Tenders under assessment

Estimated Cost Category: Subject to procurement

Estimated Completion: Q4 2023

This Public Sector Retrofit Pathfinder project involves a deep retrofit, refurbishment and redevelopment of a public service premises currently near to end of useful economic life, into a major complex. This complex will accommodate the new headquarters of the Department of the Environment, Climate & Communications. The building's energy rating will improve from BER C3 to A2 (+75 per cent) and achieve compliance with NZEB (Near Zero Energy Building) criteria. This is a 'pathfinder' project which will influence OPW's public buildings' upgrade programmes into the future.

Part funded under the National Recovery & Resilience Plan.

Box 16.2: Shared Government Data Centre

Current Status: Final Stage of Design

Estimated Cost Category: Subject to procurement

Estimated Completed Date: 2025

The objective of the Government Data Centre is to deliver high-quality Data Centre facilities which are fit for purpose and are capable of meeting the Government's requirements now and in the future. Currently there are disparate Government facilities and this project aims to develop a shared Government data centre to address security, operational, financial and strategic issues.

The Government Data Centre will be developed at the Backweston Campus in Co. Kildare, which is a stand-alone campus comprising various facilities for the Department of Agriculture, Food and the Marine, the State Laboratory and Forensic Science Ireland (FSI). As the shared service provider of accommodation, property solutions and advisory services to the Civil Service, the OPW are providing architectural, engineering design and constructing services on this critical piece of State infrastructure.

Part funded under the National Recovery & Resilience Plan.

Table 16.1: Climate and Environmental Assessment

Investment	Assessment
Development & Retrofit of Office Buildings for State Use	A
Investment in Plant and Equipment & ICT	A
Capital Flood Relief Programme & Maintenance	A
Investment in the Heritage Estate	A

Note: See Chapter 3 and separate paper for further detail.

Defence Investment

The White Paper on Defence 2015, reinforced by the White Paper Update 2019, sets out the Government's policy framework for defence. It represents the foundation for defence planning in the medium term and provides for a whole of Government approach to defence and security matters. It identifies the overarching, strategic importance of an effective security and defence provision as a key supporting enabler of national and societal well-being. In that context, Ireland's long-standing commitment to collective security through membership of the UN and the EU has advanced Ireland's international standing and supported economic prosperity.

Beyond this basic underpinning, the Defence Forces undertake a broad spectrum of operational tasks that can include national supports through the Aid to the Civil Power (ATCP), Aid to the Civil Authority (ATCA), Fishery Protection and Ministerial Air Transport (MATS) roles. Additionally, the Defence Forces can, at any stage, be deployed at minimal notice to a broad range of contingent support tasks - with the Defence Forces multi-faceted contribution to the Covid-19 pandemic a recent example.

The capital funding provided under this NDP Review will facilitate investment in the ongoing acquisition and renewal of military equipment and platforms along with the development of Defence Forces built infrastructure. The Defence Equipment Development Plan and the Defence Forces Built Infrastructural Programme set out the required capital investment strategies in line with Defence White Paper policy objectives.

The Defence capital allocation will provide further impetus to ongoing and planned Defence capital investment programmes over the coming years - investment which will contribute to enabling the Defence Forces to continue delivering on all key

objectives and fulfilling Government requirements into the future, both at home and overseas. Among the priority Defence equipment and platform projects underway are the following:

- Upgrade of Armoured Vehicles
- Replacement of 4x4 Fleet
- Replacement of Troop Transport Fleet
- Software Defined Radio Project
- Integrated Modular Body Armour System
- Mid-life refit of LÉ Niamh
- Acquisition of a Multi Role Vessel
- C295 Maritime Patrol Aircraft Project

Further projects are scheduled to be progressed over the life time of the NDP.

With very significant property infrastructure across Ireland, and an associated investment and modernisation requirement, Defence will utilise the funding provided by the NDP Review to enhance and modernise this infrastructure as part of the Government’s approach under the NPF. The Defence Forces Built Infrastructure Programme provides a medium-term planning framework for investment in Defence Forces installations over a multi annual timeframe. There are a significant number of projects under way, at various stages of development, in military installations throughout the country, such as:

- Upgrade of training facilities in Kilkenny and Limerick;
- Upgrade to USAC student accommodation facilities, Galway;
- Provision of new Accommodation Block in Collins Barracks, Cork;
- Upgrade to new Military Facility for the Defence Forces at Casement Aerodrome, Baldonnell, Co. Dublin
- Provision of refurbished Accommodation in McKee Barracks, Dublin;
- Upgrade to Accommodation in Naval Base, Haulbowline;
- Provision of new Cadet School in DFTC, Curragh Co Kildare.

Defence



- Land Forces Capability Development and Force Protection Programmes.
- Ongoing Naval Service Vessel Renewal and Replacement Programme.
- Ongoing Air Corps Aircraft Renewal and Replacement Programme.
- Ongoing development and enhancement of Defence Forces communications and information technology capabilities.
- Ongoing Defence Forces Built Infrastructure Renewal and Development Programme, including appropriate climate change actions under NDP frameworks;

Table 16.2: Climate and Environmental Assessment

Investment	Assessment
Equipment/Vehicle Replacement Programme	B
Built Infrastructure	A

Note: See Chapter 3 and separate paper for further detail.



Justice Sector

Justice



- Forensic Science Laboratory (currently at Construction stage, due for completion in 2022)
- Replacement of the Harcourt Square Complex (Garda Security and Crime Operations Centre currently at Construction stage, due for completion in 2022)
- Garda Estate Building and Refurbishment Programme (Ongoing)
- Garda ICT Programme (Ongoing)
- ICT projects to support the Courts Service Modernisation Programme (Ongoing)
- New or refurbished courthouses in various locations around the country (Ongoing)
- Family Law Complex at Hammond Lane
- Redevelopment of Limerick Prison (currently at Implementation Stage, due for completion in 2022)

An efficient and effective justice system is vital to the realisation of the strategic outcomes of the Ireland 2040 Plan. This includes important Government services and activities across policing, prisons and the courts. In particular, visible, effective and responsive policing is playing a central role in supporting the growth and development of communities under the new NPF.

Success in achieving compact growth in our urban areas and Strengthened Rural Economies and Communities all depend on the performance of our justice system. This is also underpinned by the critical work of the main agencies tasked with protecting the security of the State. A major programme of reform is underway in respect of An Garda Síochána. Important reform initiatives have been implemented in the Irish Prison Service to promote better outcomes for the prison population and their families. Other important change management initiatives are also underway for the Courts Service to modernise processes in the courts and improve efficiency.

These reforms are, and will continue to be, supported through significant change management initiatives across the Justice Sector and increased capital investment. This includes priorities such as ICT projects as well as improvements in the capacity and quality of accommodation and service delivery locations across policing, prisons and the courts. Increased population growth in the next ten years, as envisaged under the NPF, will also create new demands in terms of the

current stock and the requirement for additional public capital infrastructure for the justice system.

The Exchequer funding in the period 2021 to 2030 will be used for capital investments in line with the following Justice sectoral strategies:

- Department of Justice Statement of Strategy 2021-2023
- Department of Justice Information Management and Technology Strategy
- The Irish Prison Strategic Plan and Capital Strategy 2019-2022
- Courts Service Modernisation Programme
- Courts Service Corporate Strategic Plan 2021-2023
- A Policing Service for our Future (APSFF), the Government's plan to implement the Report of the Commission on the Future of Policing in Ireland
- An Garda Síochána Connect Digital Strategy
- An Garda Síochána Capital Investment Programmes

In addition, planned capital investment in the Justice Sector is also aligned with the Climate Action Plan in delivering objectives including:

- Digitisation of paper-based processes,
- Reducing emissions across the Justice sector by improving energy efficiency of buildings, deployment of electric vehicles in Justice sector fleets, and facilitating mobile working
- Reducing food waste and use of plastics

The funding will mainly be used to fund the following projects/programmes in the Justice sector presented below.

Forensic Science Ireland

The new building for Forensic Science Ireland (FSI) will provide laboratory and administrative facilities which are modern, secure, and capable of meeting operational forensic analysis demands, as well as anticipating the medium to long term needs of the FSI service in the future. The scale and type of facility that is being developed is proportional and appropriate to the operational and administrative needs of FSI. The new building in Backweston will comprise of biology, chemistry, drugs and DNA analysis laboratories and related technical areas which will have the capacity to process all cases submitted for forensic analysis. Construction of the new laboratory is due for completion in Q3 2022.



New FSI Laboratory under construction at Backweston, Co. Kildare

ICT Investment in the Department of Justice

Investment is required to significantly increase digital services in the Department. This will include developing a fully digital, customer-centric immigration service, as well as integrating digital systems across the justice sector to increase efficiencies and provide data-informed insights to support policy development. The implementation of a new ICT strategy for the Department will also include measures to strengthen business continuity and disaster recovery arrangements in the Department.

An Garda Síochána

- Continuing significant investment in Garda ICT which is a central component of APSFF.
- Completion of the implementation of a significant European-wide upgrade to Schengen Information System (SIS Recast).
- Development of a new Computer Aided Dispatch system (CAD 2).
- Continuing investment in the Garda fleet to ensure that An Garda Síochána has a modern, effective and fit for purpose fleet.
- Provision of a replacement office for the Harcourt Square complex at Military Road, Kilmainham, Dublin 8.
- A continuation of the Garda Síochána Building and Refurbishment Programme, which will, amongst other things, facilitate the new Divisional model of policing.
- Development of new Garda stations at Macroom and Clonmel by PPP.
- Development of a large-scale Property and Exhibit Management Stores.
- Requirements in relation to the Garda Aircraft and Helicopter including a potential replacement of fixed wing Aircraft and helicopter.

The final investment priorities and timing of implementation over the lifetime of the NDP will be determined in light of available resources,

timing of funding and any requirements which may result from the finalisation and introduction of the current General Scheme of the Policing Security and Community Safety Bill and/or other legislative requirements.

Courts Service

- ICT projects to support the Courts Service Modernisation Programme.
- Provision of further new or refurbished courthouses in cities and county towns where facilities remain substandard. Locations where investment is needed include Galway City, Wicklow Town, Portlaoise, Tralee, Roscommon, Naas, Bray, Navan, Swords, Tallaght & Dun Laoghaire. In some of these locations, the proposed projects will include the provision of facilities for Regional Family Law Centres.
- Family Law Complex on Hammond Lane to be developed by PPP.
- A new Children's Court in Dublin.
- Modernisation of the Four Courts complex.

Prison Service

- Prison Capital Programme, including redevelopment of Limerick Prison. This will provide a new modern wing in the prison and a dedicated standalone new female prison for the Munster region due for completion in 2022. Investment will also provide for the improvement of facilities in Shelton Abbey, Loughan House Open Centre, the Dóchas Centre, Cloverhill Prison and Wheatfield Place of Detention.
- Priority projects have been identified at Castlerea and Portlaoise Prisons in respect of the necessary construction of new kitchens.
- Other investment to be progressed over the years 2022 to 2025 include, ICT infrastructure and systems, fleet modernisation, videolinking infrastructure, safety, security and carbon reduction refurbishment works and general upgrading of equipment and facilities.

As well as being the only high-security prison in the state, Portlaoise Prison is also one of the oldest, originally dating from approximately 1830. New and modern elements have been added over the years, but the large historic E Block, which dates from 1900, remains in use as cell accommodation despite being in poor condition and lacking basic requirements and requires modernisation or replacement. It also suffers from having no in cell sanitation and subject to detailed appraisal and approvals, a project to provide for in cell sanitation is to be progressed.

In keeping with the strategic objectives of the service to enhance rehabilitation and reintegration, it is considered a priority to develop and enhance the lower security facilities. The existing open centre facilities in Loughan House and Shelton Abbey are limited in their capacity to deliver on the vision for Open Centres. The provision of new and improved accommodation and services at both Open Centres is considered to be a priority over the years 2022 to 2025 and plans are being formulated to upgrade, improve and provide additional capacity at these centres to provide appropriate accommodation in line with sentence management plans for prisoners.



New FSI Laboratory under construction, Backweston, Co-Kildare

Table 16.3: Climate and Environmental Assessment

Investment	Assessment
GARDA	
Renewal and Replacement of aircraft/ vehicle fleet	B
ICT Transformation Programme	B
Garda Capital Estate Programme 2022 - 2030	A
Justice	
Department of Justice IM&T Strategy	B
Forensic Science Laboratory Construction	A
Prisons	
New Build Accommodation/Services	A
Infrastructure /ICT Investment	A
Climate Specific Projects	A
Courts	
ICT including ICT Modernisation	B
Courthouse Capital Allocation	A
Hammond Lane FL Complex	A
Sustainable Energy Projects	A

Note: See Chapter 3 and separate paper for further detail.

Department of Social Protection

The Strategic Investment Priorities in this section relate to;

- the continual engagement with the Office of Public Works (OPW) on a plan for the upgrade / development of the Department’s building portfolio to meet the Department’s business requirements.
- the continual investment in projects to modernise the Department’s business systems and Information Communication Technology (ICT) infrastructure to replace older less energy efficient hardware. This involves the continued migration of business functionality to the Department’s strategic ICT platform and the development of a digital service platform. It also includes continued investment in the efficiency of datacentres, physical ICT infrastructure, security systems and ensuring that the complex ICT environment remains fit for purpose and more energy efficient.

Table 16.4: Climate and Environmental Assessment

Investment	Assessment
Refurbishment of Áras Mhic Dhiarmada	A
Refurbishment of Department of Social Protection Offices - Environmental Projects (LED’s, Insulation, etc.)	A
Refurbishment of Department of Social Protection Offices - Other elective business project works	C
Ongoing replacement of ICT infrastructure to ensure the security of data and continuation of services and payments to DSP clients	B

Note: See Chapter 3 and separate paper for further detail.

Office of Revenue Commissioners

Revenue supports developments across the EU, the OECD and the World Customs Organisation, leveraging our position as an integrated tax and customs administration. Revenue is involved across all initiatives including proposals to address the tax challenges of digitalisation and international taxation of companies while delivering on EU-wide electronic customs systems developments as set out in the EU’s “Multi-Annual Strategic Plan for electronic Customs (MASP-C)”. The Union Customs Code (UCC) multi-year EU programme is one such strategic investment priority which is mandated and will modernise Customs across all member states. The modernisation programme is spread over 9 years [2018-2027] in line with the European Commission’s timelines. This requires on-going investment and

delivery to enable Revenue to implement a customs declaration processing system that is compliant with UCC and other EU legislations and which adheres to the prescriptive processes and procedures set down in that legislation so that trade can interact with all Member State's in a coherent and consistent manner. Revenue is also undertaking a technology refresh and system modernisation programme of work to ensure that it continues to have the best possible ICT platforms and ICT capability to enable its key business programmes. This investment is necessary to provide the platform for further modernization of additional taxes and duties with a focus on real-time processing and a move to "natural taxation"

Table 16.5: Climate and Environmental Assessment

Investment	Assessment
Revenue's Digitalisation agenda (further increasing natural taxation via real time electronic connectivity)	A
Hybrid working for staff	B

Note: See Chapter 3 and separate paper for further detail.

Department of Finance

The Strategic Investment Priorities in this section relate to;

- ICT Equipment Upgrade within the Department - investment to build the ICT infrastructure and real-time systems to exploit the opportunities of the digitalisation of the economy.

Table 16.6: Climate and Environmental Assessment

Investment	Assessment
Building Upkeep and Maintenance	B
ICT Equipment Upgrade	B

Note: See Chapter 3 and separate paper for further detail.

Department of Foreign Affairs and Trade

The Strategic Investment Priorities identified for the Department of Foreign Affairs come under National Strategic Outcome 11: Other Public Investment Sectors and include the following:

- The Passport Reform Programme under which the Department has committed to developing a fully integrated citizen service delivering a global online passport service, which is more user-friendly, efficient and more secure for this citizen critical service.
- Investment in a high quality global ICT infrastructure supporting advance technologies that deliver excellent public services by connecting citizens, staff and stakeholders through best-in-class technologies as guided by the Department's ICT Strategic Framework while at the same time protecting the highly sensitive and confidential

information held by the Department to support Government policy.

- The doubling of the scope and impact of Ireland's global footprint as detailed in the Government's policy Global Ireland – Ireland's Global Footprint to 2025. To date the Department has opened 12 missions and is planning to open 2 additional new missions in 2021.
- The construction, refurbishment, enhancement of security works and the development of Ireland Houses with the State Agencies in strategic locations. This investment in the Department's Global Property Portfolio ensures that Irish missions have the office and promotional/representational capacity necessary to fulfil their responsibilities for hosting events that highlight Ireland as an opportunity for investment and promote trade, economic and cultural opportunities. This is a key deliverable under the Global Ireland 2025 Strategy and will support Ireland's economic recovery.

The Department's key investment priorities for the next phase of the NDP are:

Strategic Investment Priorities - Department of Foreign Affairs



Ireland's Citizen-focused Passport Service - The next phase of the Passport Reform Project focuses on the updating of the passport processing and facial recognition technology systems to deliver a safe and secure on line service to Irish citizens worldwide.

The Department's Global ICT Infrastructure - The focus of the Department's capital investment in ICT in the coming years will be on reinvestment in the Departments worldwide ICT equipment and infrastructure to maintain security and efficiency levels including required updates of physical equipment and enhancements to our global remote access infrastructure.

The Department's Global Property Portfolio - Under Global Ireland 2025, Ireland is set to double its global footprint through the opening of at least 26 new missions; the expansion and strengthening of our diplomatic and state agency presence across the European Union and its neighbourhood and the strengthening of our presence in the United States and other key strategic locations including the Asia-Pacific region, Africa, Latin and Central America, and the Middle East and Gulf region.

Under these priorities, the Department’s current major investments are:

Table 16.7: Department of Foreign Affairs Major projects

Project	Status	Construction Start Date	Completion Date	Cost Range Category
Construction of Ireland House, Tokyo	Construction tender phase commencing	Early 2022	2025	A
Passport Reform Project	Completing contract award for next phase	N/A	N/A	Under €20m
Irish Embassy, Abuja	Advanced design phase	2022	2025	Under €20m
Refurbishment of Irish Embassy, London	Scoping project phase	2023	2025	A
Washington	Preliminary business case	2024	2026	Under €20m
Updating ICT Infrastructure	Ongoing	N/A	N/A	A

All the Department’s capital investments are required to reflect the Governments’ Climate commitments under the Climate Action Plan and the principles guiding the Department’s own Green Foreign Ministry policy, which aims to minimise the Department’s global carbon impact as much as possible.

Table 16.8: Climate and Environmental Assessment

Investment	Assessment
Continued upgrade of Global ICT Infrastructure	B
Continued upgrade of Ireland’s Passport Service	A

Note: See Chapter 3 and separate paper for further detail.

Department of Public Expenditure and Reform/ Public Service ICT

The ‘Build to Share’ (BTS) pillar of the Public Service ICT Strategy involves creating ICT shared services to support integration across the wider Public Service to drive efficiency, standardisation, consolidation, reduction in duplication and control cost. Capital investment over the next 5 years will focus on mobilising and growing Office of the Government Chief Information office’s (OGCIO) capacity and capability across networks, infrastructure and application/service delivery to support the breadth of the National Digital, Public Sector ICT and Civil Service Reform Strategies needs. To this end OGCIO will increase investment in infrastructure, scaling out of services, security enhancements, further consolidation of Public on Service infrastructure and improving ICT Governance across the Public Service. The OGCIO will continue to build on the success of recent individual facing projects such as the COVID Tracker App and the EU Digital Covid Certificate through its delivery of the ‘Life Events Portal’ and other projects.

The EU Recovery and Resilience Facility (RRF) will provide the OGCIO with the funding to enable the build of a transport mechanism to ensure that the Public Service maximises the benefits and outcomes from 5G, and develop its capacity for public service innovation through increasing connectivity and the use of new technologies. This project will support and encourage Public Service Bodies to identify, develop and test new applications and test beds, so that the Irish Public Sector is well positioned to benefit once commercial Stand-Alone 5G networks have been deployed.

Table 16.9: Climate and Environmental Assessment

Investment	Assessment
Using 5G Technologies to drive a greener more innovative Ireland	B
Shared Government Data Centre	A

Note: See Chapter 3 and separate paper for further detail.

International Protection Accommodation Services (IPAS)

Ireland, as a member of the United Nations and of the European Union, is committed to providing safe, lasting refuge to those who seek our protection due to war, persecution and migratory pressure. The State also has a statutory obligation to provide accommodation for any person who seeks International Protection. The current “Direct Provision” system of accommodation has been widely criticised and following a number of reports, the Government made a commitment in the Programme for Government to end the system of Direct Provision and replace it with a new International Protection Accommodation model that is based on a not for profit approach. As part of this process, A White Paper to end Direct Provision and to establish a new International Protection Support Service was published in February 2021. The White Paper sets the policy framework for a new system

of accommodation and supports to applicants for International Protection.

The new system is based on a series of principles, which is centred on a Human Rights approach with a focus on dignity, respect and privacy for all. Ending congregated and institutional living is a major feature of the new approach, which requires a large investment in capital. The White Paper provided estimated costings of c. €500 million for delivery of the new accommodation model. This includes the building of new Reception and Integration Centres and buying/building accommodation in the community for 3,500 International Protection applicants. Up to now, the costs of direct provision have been met almost entirely from non-capital sources but implementation of the new model, as set out in the White Paper, involves a significant capital provision in the years ahead under the NDP. The outcome of the new capital programme would be that the State would have a bank of suitable accommodation that it can use to house applicants for International Protection on an ongoing basis. It will therefore be less reliant on having to pay high market rates for accommodation that it then does not own. It will also help insulate the State from fluctuations in the cost of accommodation, whenever there is strong competition for available supply.

The Government is committed to ending Direct Provision by the end of 2024 by ensuring the necessary resources are made available to the Department of Children, Equality, Disability, Integration & Youth under the NDP and in the annual estimates process for 2022 and later years to this important area as it is progressed from the White Paper to implementation.

**International protection
Accommodation Services - Strategic
priorities**



- Reception and Integration Centres
- Community Accommodation

Reception and Integration Centres

Under the new model, when an International Protection applicant enters the State, they will start their journey in one of the purpose built, Reception and Integration Centres. These centres will be State owned and managed by not-for-profit organisations on the State’s behalf. The centres will require a combined capacity for approximately 2,000 people at any one time, to cater for the flow-through of the 3,500 applicants expected over any 12-month period.

These centres will be distinctively different from the existing Reception Centres. They will provide individual rooms for single people and own-door accommodation for families. Independent living (self-catering options) will be provided for all of those accommodated there. They will cater for all International Protection applicants including children and the most vulnerable. They will provide applicants with all the facilities and wrap around services they will need from day one and place an emphasis on integration and independent living.

Community Housing

One of major issues that has been highlighted around the current Direct Provision model, is the length of time that applicants remain in congregated centres. A major objective of the new model is to cut down that time considerably and ensure that applicants only remain in a Reception and Integration Centre for four months. After the four-month period, if an applicant hasn’t received a decision on their status, they will move out of a Reception and Integration Centre and into accommodation within the community.

The sourcing of community accommodation will be achieved through a multi-strand approach:

- Houses and apartments will be built or acquired through Approved Housing Bodies or other not-for-profit organisations. These will be used for families and single people, particularly vulnerable single people.
- Buildings will be repurposed through urban renewal initiatives to create accommodation for single people.
- Rent a room schemes will be used to source some accommodation for single people. This hosting in the community will commence with the development of an International Protection Community Hosting Scheme.
- Private tenancies will be used to source accommodation for families as necessary.

Table 16.10: Climate and Environmental Assessment

Investment	Assessment
International Protection Accommodation Programme - Phase Two: Renovate	A
International Protection Accommodation Programme - Phase Two: Purchase	B
International Protection Accommodation Programme - Phase One: Reception and Integration Centres	C
International Protection Accommodation Programme - Phase Two: New Build	C

Note: See Chapter 3 and separate paper for further detail.



Chapter 17:

A Shared Island

Overview

The reviewed National Development Plan sets an enhanced level of ambition for collaborative cross-border public investment, to build a more connected, prosperous and sustainable island, for all communities and traditions that share the island.

The Government will work through strong all-island partnerships, to co-design, co-fund and co-deliver investments to enhance the shared island and address common strategic concerns including on balanced regional development, pandemic recovery, and climate action.

The Government's Shared Island Fund, the EU PEACE PLUS programme, and partnership approaches with the Northern Ireland Executive and UK Government, provide a strong basis for delivery on strategic investment priorities for a shared island out to 2030.

For 2021-2030, there is a total all-island investment commitment of more than €3.5 billion through the Shared Island Fund, the Project Ireland 2040 funds, the Government's annual funding for North/South cooperation, and the PEACE PLUS programme delivered with the EU, UK and the Northern Ireland Executive. In addition, in the roll out of all aspects of this Plan there will be a focus on identifying and progressing Shared Island projects.

17.1 Policy Context

Delivery to Date

The National Development Plan and the National Planning Framework set out a positive vision for the future of the island. There has been important progress on implementation to date, including:

- Investment in transport infrastructure in border regions including road, rail and active travel.
- Completion of Phase 1 of the Ulster Canal restoration.
- Resourcing of €165m in 2020 for the North South Implementation Bodies and Tourism Ireland and for delivery of cross-border health services.
- Support for the North-West Strategic Growth Partnership between Donegal and Derry, including through the North West Development Fund, with a further commitment to the Fund in 2021 confirmed by the Government in July 2021, and projects funded under the PEACE IV and INTRREG VA programmes.
- Successful implementation of the 2014-2020 PEACE IV and INTERREG VA programmes by the Special EU Programmes Body with total funding of €566m awarded to projects.
- Development of the 2021-27 PEACE PLUS EU programme, combining the PEACE and INTERREG EU funding instruments, with a total value of over €1 billion, funded by the European Union, UK Government, Northern Ireland Executive and Government of Ireland.
- Establishment of the Shared Island Fund with €500m in capital funding between 2021 and 2025 for North/South investments.

Enhanced Shared Island ambition

The 2020 Programme for Government mission on 'A Shared Island' significantly develops the Government's objectives for strategic cooperation and investment for mutual benefit on the island, and affirms the commitments made by the Irish Government under the New Decade, New Approach agreement of January 2020.

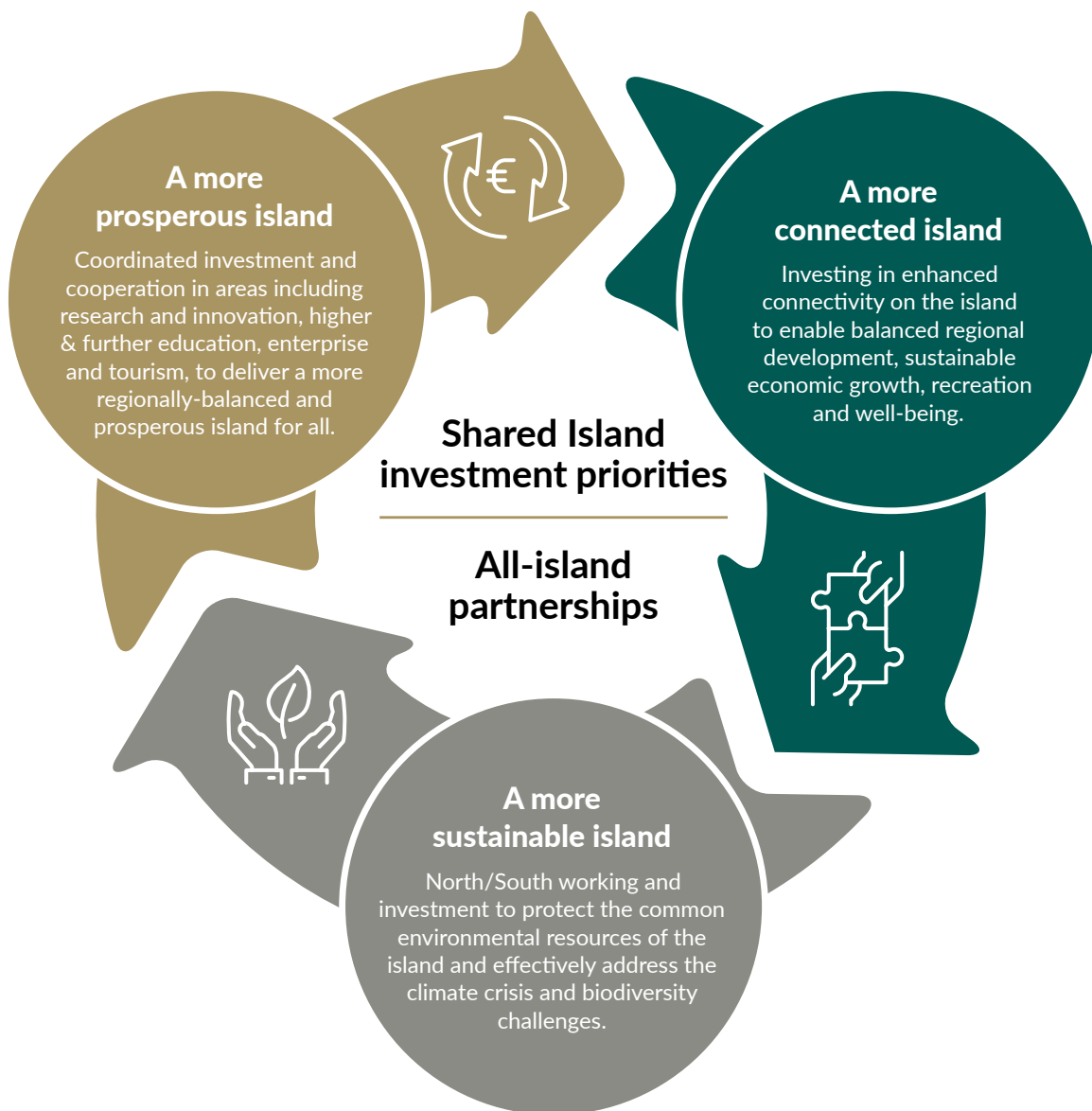
The Shared Island initiative is backed up by the establishment in Budget 2021 of the Shared Island Fund, with €500m in capital funding being made available out to 2025, allocated by the Government for investment in North/South projects that contribute to the Shared Island objectives set out in the Programme for Government.

Allocations from the Shared Island Fund for approved projects are being made alongside funding from other public funding sources, and in collaborative investment approaches with the Northern Ireland Executive, UK Government, European Union and local authorities.

The Government's Shared Island initiative has registered important progress so far in 2021, with a number of new investments confirmed, progressing objectives in the Programme for Government, including:

- Establishment of a new North South Research programme with a commitment of €40m from the Shared Island Fund over five years to support strengthening of links between higher education institutions, researchers and research communities on the island.
- Funding to complete Phase 2 of the restoration of Ulster Canal with an allocation of €6m from the Shared Island Fund and €5.6m from the Rural Regeneration Fund, and €1m from the Shared Island Fund for development work on Phase 3 of the project.
- Funding to progress the Narrow Water Bridge project to tender stage and affirmed commitment by the Government to deliver this cross-border link between the Mourne Mountains and Cooley peninsula, providing tourism and connectivity boosts for the east border region.
- Launch of the all-island strategic rail review, commissioned by the Department of Transport in co-operation with the Department for Infrastructure in Northern Ireland, to examine how the rail network can improve sustainable connectivity between cities and regions, including the feasibility of high and higher speed options.

Through the reviewed NDP, the Government will build on this progress, to develop and deliver a new generation of collaborative cross-border investments that significantly enhance the shared island.



Under the reviewed NDP, the Government will allocate ring-fenced, multi-annual capital resourcing for all-island investment out to 2030, at least at the current level of the Shared Island Fund.

For 2021-2030, there is a total all-island investment commitment of more than €3.5 billion through the Shared Island Fund and the Project Ireland 2040 funds, the Government’s annual funding for North/South cooperation and the PEACE PLUS programme delivered with the EU, UK and Northern Ireland Executive. In addition, in the roll out of all aspects of this Plan there will be a focus on identifying and progressing Shared Island projects.

In this context, the reviewed NDP sets out a significantly enhanced ambition for collaborative cross-border investment out to 2030 with the goal of building a more connected, sustainable, and prosperous shared island, for all communities and traditions.

17.2 Framework for delivery – All-Island partnerships

Through all-island partnerships we will co-design, co-fund and co-deliver effective actions that address common strategic challenges for the island as a whole, take up the opportunities of investment at an all-island level, and contribute to the vitality of North/South and East/West relationships in the years ahead.

North/South partnership

All-island planning frameworks

The National Planning Framework sets out 9 National Policy Objectives to support all-island cooperation across themes of: working together for economic advantage; coordination of investment in infrastructure; and, managing our shared environment responsibly.

Box 17.1: Looking to 2040

By 2040, the island we share will be home to around 8 million people, an increase of more than 1 million, with a commensurately larger consumer market and highly skilled labour pool.

We need to plan and invest for a shared future for all on the island of Ireland, in cooperative ways, recognising the connected environmental, economic, and infrastructure challenges and opportunities now and for the years ahead, which pertain for the island as a whole. As we look at the delivery challenges in the period ahead, there is a real opportunity to deploy our skills, training and labour market on an all-island basis to maximise our capacity and productivity, in traditional and new technology sectors, with significant business opportunities, in Northern Ireland and in the South.

There is also considerable potential through joint and coordinated actions to attract new inward investment across the island - including by maximising the full capacity, scale, market access and supply-chain linkages of cross-border regions; and by investing together in strategic infrastructure, on research and development, and to meet skills needs. We can collectively enhance the FDI attractiveness of the island as a whole, particularly border regions, delivering good jobs and supporting wider regional enterprise development.

Under the strategic investment priorities for a Shared Island, the Government will work to develop and deliver joint and coordinated investments with the Northern Ireland Executive, the UK Government, with local authority partners, and as a committed Member State of the European Union to realise:

A more connected island: including enhanced connectivity by rail, road and air; landmark projects including the Ulster Canal, Narrow Water Bridge and an island-wide greenway network; deeper interaction of Health and Education sectors; and, investment in diverse heritage, arts, culture, sports and community connections.

A more sustainable island: including strategic all-island infrastructure for energy transformation, such as the North/South Interconnector; all-island action to tackle climate change, protect biodiversity and expand the circular economy; and conserving the common water, coastal and marine resources of the island.

A more prosperous island: taking up opportunities to harness all-island research and innovation potential; enable island-wide supply chains; support higher and further education institutions in meeting the future skills needs of the island as a whole; and, championing enterprise development, investment promotion and sustainable tourism growth across the island.

These objectives emphasise the importance of cooperation with the Executive; supporting cross-border regional cooperation at local authority levels; working with the UK Government; and, harnessing the opportunities of our EU Membership to meet shared planning challenges on the island of Ireland.

These policy objectives will continue to guide the approach to planning and investment on a shared island basis under the reviewed NDP.

The Framework for Co-operation on Spatial Strategies between Ireland and Northern Ireland also provides a strong basis for cross-border working, and will be updated and reviewed as required. The related programme of support for cross-border working between local authorities on statutory planning matters supporting environmental considerations will be continued.

Delivery with the Northern Ireland Executive

Our ambition is to work closely with the Northern Ireland Executive to advance all-island investment objectives under the reviewed NDP.

The Executive's Investment Strategy for Northern Ireland is currently being updated. There is potential for considerable alignment of public investment priorities, North and South on the island in the decade ahead, including on climate action; digitisation; sustainable transport connectivity; and, balanced regional development.

There are clear opportunities for more coherent, efficient and impactful actions to deliver on shared goals for the two Administrations on the island through coordinated and joint investment, which offers opportunities to:

- take up advantages of investment at scale at an all-island level;
- combine complementary capacities, North and South;
- harness the full potential of border regions; and,
- coordinate and enhance transport and other connectivity across the island.

An all-island perspective can also assist in meeting skills and labour market demands in both jurisdictions, connected to public investment and wider economic development in the decade ahead.

In progressing NDP Shared Island investment priorities, the Government will work with the Executive to pursue these opportunities in public investment planning and delivery.

The Government and Executive have worked together over the last two decades, including through the North South Ministerial Council and the work of the North South Implementation Bodies, to make mutually-beneficial joint investments for the island. These include the Radiotherapy Unit at Altnagelvin Hospital; the Middletown Centre for Autism; supporting cross-border enterprise development; and, promoting abroad the world-class tourism offering of the island of Ireland.

The Shared Island investment priorities under the reviewed NDP provide a framework for building on this record to significantly enhance the beneficial impacts of North/South partnership in the years ahead.

The Government will also continue our successful partnership with the Executive to implement the PEACE PLUS programme, co-funded by the European Union, UK Government, Northern Ireland Executive and Irish Government, delivered through the Special EU Programmes Body.

East-West cooperation:

The Programme for Government sets objectives to work with the UK Government as well as the Northern Ireland Executive to achieve greater transport connectivity on the island; commit to investment and development opportunities in the North West and Border communities; and, cooperate on tackling climate breakdown and the biodiversity crisis. Other areas, such as enhancing the research capacity on these islands, also offer real opportunities to work together. These objectives are affirmed and expanded in this reviewed NDP.

The Government will work with the UK Government and the Executive to identify opportunities for coordinated investments that deliver on shared objectives to the benefit of these islands.

A strong and refreshed British-Irish relationship for the post-Brexit context is an important priority in support of the peace process and peace and prosperity on these islands.

In addition, the British Irish Council provides a valuable forum for East-West engagement between the 8 participating governments and administrations. The Government is committed to continued active engagement in the British Irish Council, including on sharing experience and planning on public investment through Work Sectors on Collaborative Spatial Planning, Demography, Environment and Housing.

Box 17.2: North West Strategic Growth Partnership

The North West city region, which includes Derry, Letterkenny and Strabane, has a population in excess of 300,000 people, representing the fourth largest urban agglomeration on the island and a discrete cross-border functional economic area.

The North West Strategic Growth Partnership brings together Donegal County Council and Derry City and Strabane District Council, with the Irish Government and Northern Ireland Executive, taking an ambitious approach to integrated cross-border regional working, to drive and co-ordinate resources and regional policy development for sustainable growth in the North West region.

The North West City Region Councils developed an updated statement of regional priorities for the North South Ministerial Council in February 2021. Priorities for the North West City Region in cooperating on and delivering public investment in the decade ahead include:

- Enhanced high-quality transport links for the region by road, rail, air and sea;
- Investment in innovation and skills through strengthened third level education access with increased collaboration between third level institutions and innovation hubs;
- Implementation of a Green Growth strategy, developing the region's potential in clean and renewable energies; and,
- Enhanced cross-border healthcare provision, including shared patient catchment and e-health opportunities.

Box 17.3: Irish Central Border Area Network

The Irish Central Border Area Network (ICBAN) was formed in 1995 and brings together eight member Local Authorities from North and South, working through non-statutory, multi-stakeholder, collaborative approaches for the almost 900,000 people across the Central Border area. The region is predominantly rural with outstanding natural environment and an economy driven primarily by SMEs.

ICBAN published a Framework of Regional Priorities for the Central Border region of Ireland/ Northern Ireland in March 2021, identifying five interlocking strategic pillars of: economic development; infrastructure and connectivity; human capital; liveable communities; and, greening the region.

Key ICBAN objectives for cross-border capital investment in the years ahead include:

- Core infrastructure projects including road upgrades, enhanced broadband connectivity and regional digital hubs;
- Natural infrastructure initiatives and zones, enhancing the sustainable tourism and well-being potential of the region including through development of a network of cross-border greenways and blueways; mountain biking, food and heritage trails; and, river catchment and water management projects;
- Enabling infrastructure to harness the region's capacity and potential including in the bio-economy and agri-food sectors and sub-regional sectoral strengths.

Strategic regional cooperation

The National Planning Framework recognises the importance of cross-border working in supporting regional development in the North-West, the Central Border region and the Dublin-Belfast corridor.

Cross-border local authority regional development initiatives have built track records and developed strategic frameworks for cooperation, reflecting an increased capacity and level of ambition for the years ahead.

The Shared Island investment priorities set out in the reviewed NDP were developed taking account of consultation with the North West Strategic Growth Partnership, Irish Central Border Area Network, East Border Region and Dublin Belfast Economic Corridor initiative.

Each of these initiatives, and other sub-regional cooperation groupings, can significantly contribute to sustainable development on a cross-border basis, through agreed frameworks for pursuing more integrated regional development, which are underpinned by broad stakeholder engagement and sustained political support and participation of member Councils.

The Government will continue to support fully the work of cross-border local authority partnerships and pursue opportunities for collaborative investment and working in implementing the Shared Island NDP investment priorities.

Box 17.4: East Border Region

Established in 1976, East Border Region (EBR) is one of the longest established local authority-led cross-border groups in Europe, bringing six Local Authorities together and serving a population of just under 1 million people.

The East Border Region has more than 10 significant urban town centres alongside rural areas, and with access to road, sea and air connections is well-linked to national and international markets. East Border Region Ltd. has played a key role in the administration of cross-border EU funding on the island, with over €150million in funding successfully delivered to projects over 25 years.

In June 2021, EBR Councils agreed and published a Charter of regional priorities for cooperation, with the aim of positioning the East Border Region as “a smart, competitive, sustainable and inclusive cross-border region”. The Charter identifies a range of illustrative actions for the region in delivering these priorities:

- A smart, competitive region: including SME growth and competitiveness; development of the East Border Region tourism product; and, smart towns villages and rural areas;
- A sustainable region: including sustainable transport with greenways and blueways; sustainable energy and energy efficiency measures; and, coastal management;
- An inclusive region: including tackling labour market exclusion, health (including mental health) issues; and, recognising and celebrating cultural diversity.

Box 17.5: Dublin Belfast Economic Corridor

The Dublin-Belfast Economic Corridor (DBEC) is home to over two million people, across eight Council areas, anchored by the two largest cities on the island. Key features of the Corridor as a functional region include: a large talent pool for employers; national and international transport connectivity; and, strong inward investment and enterprise bases.

The Dublin-Belfast Economic Corridor was given fresh impetus with the launch in March 2021 of an initiative by the eight Councils with two Universities, to work collectively to realise the benefits of further development of the region as a whole. This includes spreading growth through the Corridor and beyond, lessening pressures on the urban centres.

The DBEC initiative is pursuing cooperation to create a stronger and broader-based trajectory for growth, for the region and the island more generally, including through investments under Project Ireland 2040 and the Belfast Region City Deal. Areas of potential cooperation identified by the Corridor initiative include:

- Enhanced attraction of private and public investment through promotion;
- Developing regional networks and clusters for regional or sub-regional strengths including tradeable services, advanced manufacturing, construction and agri-food;
- Working on enabling infrastructure including in transport, for tourism, and on research and innovation capacities;
- Enhancing educational attainment in the corridor to meet skills demands.

17.3 Shared Island investment objectives

In line with our NDP Shared Island investment priorities, the Government will deliver existing commitments and develop a new generation of cross-border public investment projects to achieve a more connected, sustainable and prosperous island, through all-island partnership in the years ahead.

Available funding streams include the Shared Island Fund; the Project Ireland 2040 funds for rural development, urban regeneration, climate action and innovation; the EU PEACE PLUS programme 2021-27; and, other cross-border funding partnerships with the Northern Ireland Executive, UK Government and European Union.

1. A more connected island

Investing to enhance connectivity on the island is a crucial enabler of balanced regional development, sustainable economic growth, recreation and well-being, as well as beneficial community interactions across the island of Ireland.

Enhancing connectivity on our shared island encompasses all-island transport infrastructure; tourism and recreation assets; connectivity of public services in health and education; and, supporting vibrant and diverse arts, culture and conserved heritage across the island.

Box 17.6: Working for a Healthier island

As we emerge from the biggest public health challenge in decades, the Government is redoubling our commitment to deepening and strengthening North-South health links, to deliver better health care and outcomes for people on the island.

We can build on the successes of recent years, including all-island provision of paediatric cardiac surgery in Dublin and cross-border provision of radiotherapy and coronary intervention services in Derry.

The COVID-19 pandemic has demonstrated the value of both health services working closely together to share technology and expertise in ICT and eHealth. We will seek to work with the Executive, including through the NSMC, to together develop an overarching strategy for healthcare cooperation, to better identify needs and opportunities and set priority actions; to share experience, innovation and support more all-island research; and, to ensure that specialist health services are available on the island for all who need them.

Strategic investment priorities for a more connected island



The Government will work with the Executive on Healthcare cooperation to pursue investment opportunities to:

- Increase regional access to diagnostic and other services on a cross-border basis;
- Deliver new eHealth solutions, through a developing all-island ecosystem in digital health;
- Provide specialist health services on an all-island basis, building on the success of the All-Island Congenital Heart Disease Network; and,
- Upgrade ambulance services facilities in border regions.

PEACE PLUS (2021-27) will also make available an indicative €80m to build upon and deliver new cross-border collaborative approaches to health and social care service delivery and the Government will continue to support the all-island work of the Food Safety Promotion Board.

Creating an island-wide greenway network, linking the Atlantic coast with the Eastern seaboard through greenway projects across the border region, creating a transformational green infrastructure asset, benefitting residents and growing sustainable tourism.

Current greenway projects include: Inishowen; Foyle Valley; North-West, Sligo-Enniskillen; Cavan-Leitrim; Cavan Railway; Ulster Canal and Carlingford Lough.

Delivery of the Narrow Water Bridge project, through the Shared Island Fund, to link the Mourne Mountains and Cooley peninsula, providing tourism, recreation and connectivity boosts in the east border region.

Completion of all Phases of the Ulster Canal restoration project, with support from the Shared Island Fund and other partners, with blueways and greenways extending from Upper Lough Erne to Middletown, delivering a landmark sustainable tourism and recreation amenity for the central border region.

Enhanced rail connectivity taking account of the all-island strategic rail review to be completed in 2022. The review is examining improved inter-urban and inter-regional connectivity on the island, including the potential for high-/higher-speed links; rail freight potential; and, improved connectivity for the North-West of the island.

An early priority is the introduction of an hourly rail service on the Dublin-Belfast line through investment in new and additional rolling stock, with funding under the PEACE PLUS programme and by the Government and Executive.

Potential for increased air connectivity on the island, taking account of the outcome of a review on the viability of air routes from Cork to Belfast and Dublin to Derry.

Road infrastructure improvements to support all-island and border region connectivity, with a particular priority to the A5 Transport Corridor to the North West, where the Government has already committed £75 million.

More all-island Education connections including through continued investment in the Middletown Centre for Autism as an internationally-renowned centre, and seeking other opportunities to share experience and resources in early years, special needs, and tackling educational underachievement.

PEACE PLUS (2021-27) will also make available an indicative €45m for the Shared Learning Together Programme in border counties and Northern Ireland, and across the island, including for: shared education; collaborative opportunities for disadvantaged education settings; use of technology in the classroom; and, post-primary school and youth-based organisation partnerships on a cross-border and cross-community basis.

Investing in the diverse heritage, arts, culture and sports of the island:

The border regions of our shared island are places of rich and diverse cultural traditions, layered history and a unique natural and scenic beauty. The built heritage, parkland and waterways infrastructure resonates an architectural signature of a rich vernacular, social, agricultural and industrial history. We will invest in the unique elements of built and natural heritage of border regions, to better recognise their diverse community and cultural traditions, and support a connected heritage tourism offering. We will do so working in North-South partnership and with local communities, including to develop new cross-border heritage parks, like the Marble Arch Caves UNESCO Global Geopark in Fermanagh and Cavan, and cross-border community parks such as the Riverine Community Park in Strabane and Lifford. We will leverage investment in the Ulster Canal as an artery of connectivity between key points of cultural, community and heritage interest along its route, including the repurposing and rehabilitation of heritage infrastructure.

The Government will also:

- Continue to grow funding for a wide range of cross-border initiatives in arts, culture, music, and film, including through the Creative Ireland initiative.
- Engage positively on the further development of sport on the island, including by exploring the potential for new all-island sporting competitions and opportunities to make Ireland-Northern Ireland and Ireland-UK bids for major international sporting events, including the 2030 FIFA World Cup.
- Protect and develop the Irish language and Ulster Scots traditions across the island through the North South language bodies and funding commitments for the Irish language in Northern Ireland.

2. A more sustainable island

Both jurisdictions on the island are committed to making rapid transition to a net zero-carbon future. Public investment strategy, North and South, is fundamental to achieving this common goal. The island is a single ecological entity, integrated in crucial environmental, economic and social domains. Well-coordinated North/South approaches are therefore imperative for effective policy and public investment actions on the island, in addressing the generational challenges of climate breakdown and the biodiversity crisis, and protecting the common environmental resources of the island.

Connecting people - the Government's Reconciliation Fund was increased again in 2021, supporting more grants to organisations working to build better relations across traditions in Northern Ireland, between North and South, and Ireland and Britain.

The Government will also, in cooperation with the Executive, pay particular attention to the needs of minorities in border counties and explore options, including the establishment of dedicated funding streams, to address gaps in current support.

PEACE PLUS (2021-27) will also make available an indicative €20m for maintaining and forging relationships between citizens across the island including for cooperation around specific shared challenges; and for North South joint events and activities that develop mutual understanding and cement partnership.

Box 17.7: Joined-up environmental protection across the island of Ireland

The Government will take a multi-level approach to secure joined-up protections and actions for our shared island environment. The European Green Deal will shape Ireland's approach to addressing climate change and environmental degradation, and we will work with the Executive through the North South Ministerial Council and with the UK Government to coordinate and optimise approaches for the island of Ireland as a whole. The Environmental Protection Agency, Marine Institute, the National Parks and Wildlife Service and other agencies will work in close partnership with their Northern Ireland counterparts. We will also support wider engagement - including by researchers, environmental, economic and civil society stakeholders on the island - for the necessary whole of society action on tackling climate change and environmental conservation in the decade ahead. Delivery of island-wide electric vehicle and other sustainable transport networks and renewable energy infrastructure are strategic priorities. The Government will also pursue coordinated all-island approaches including on the circular economy, protection of our shared marine and coastal environment and biodiversity protection.



Strategic investment priorities for a more sustainable island

Energy transformation for a net zero-carbon future is a fundamental task and will benefit from North/South as well as East/West cooperation in the decade ahead.

Priorities include:

- Delivery of the North/South Interconnector which will enhance the performance of the Single Electricity Market, and facilitate the integration of renewable electricity into the power system.
- Exploring potential cross-border and all-island approaches on renewable energy, such as renewable electricity, energy efficiency and the potential of hydrogen power.
- Coordinated investment to roll-out Electric Vehicle charging networks across the island.

Climate action funding to take up opportunities for effective cross-border climate action partnerships and interventions.

Coordinated investment to conserve cross-border region peatlands to support biodiversity, provide valuable ecosystem services and act as carbon sinks.

Supporting more all-island approaches to biodiversity protection, building on the success of the All-Ireland Pollinator Plan.

Investing for more efficient operation of the circular economy on an all-island basis.

Coordinated North/South investment on river basin management and water infrastructure and support for the work of Waterways Ireland in maintaining, developing and promoting over 1,000 km of inland navigable waterways across the island.

Cooperation on preservation of coastal regions and marine resources.

In addition to the potential for support from the Shared Island Fund for approved projects and other public funding sources, the PEACE PLUS programme (2021-27) will make available an indicative €100m to support sustainability actions across: Biodiversity, Nature Recovery and Resilience; Marine and Coastal management; Water Quality Management; and, Geothermal Energy.

3. A more prosperous island

By investing and working together on the island, we can have greater impact on the key drivers of prosperity for all regions, and better harness the potential of border areas as the geographic core of a growing, high-value all-island economy.

Research and innovation, higher and further education, infrastructure, an enabling enterprise and investment environment, and tourism strategy are pillars for sustainable growth on the island out to 2030. Through coordinated investment and cooperation on the island in these areas, the Government will work for a more regionally-balanced and prosperous island for all.

Box 17.8: Looking to the future of Higher, and Further Education, Research and Innovation on the island

Building on the launch of the €40m North South Research Programme in 2021, the Government will work with the Executive and UK Government and with the higher and further education sector to realise the huge potential of cross-border collaboration in supporting world-class, inclusive, innovative universities and colleges that serve and contribute to society across the island and beyond. International best-practice and the impact of the COVID-19 pandemic is accelerating trends in distance learning, hybrid campus models, more integrated and networked institutions, and joint collaborative programmes. This opens up exciting new opportunities for cross-border cooperation that can improve accessibility and institutional excellence, expand learning options and provide valuable opportunities for students, researchers, enterprises and wider society to interact across the island.

Through the new Department for Further and Higher Education, Research, Innovation and Science, the Government will work with our Northern Ireland and UK counterparts and with education and research stakeholders to support more strategic cooperation, realise new opportunities and shape higher, further education and research sectors that will meet the needs and capacity of the shared island in the decade ahead.

Strategic investment priorities for a more prosperous island



Enhanced cooperation on higher and further education including to:

- Further develop third-level education infrastructure of the North West region in integrated and sustainable ways, including with Ulster University Magee Campus in Derry, working with Letterkenny Institute of Technology and other Higher and Further Education institutions in the region;
- Deepen cooperation between further education institutions on an all-island basis;
- Ensure access to the Erasmus+ programme for students in higher and further education institutions in Northern Ireland;
- Support student mobility on the island; and,
- Develop cross-border apprenticeship programmes.

Delivering the new North/South research programme with €40m over 5 years from the Shared Island Fund, to harness the capacity of institutions and researchers across the island to conduct research, providing a knowledge base on strategic issues faced on the island as a whole.

Creating new all-island research centres and further collaborations, funded through Science Foundation Ireland, the Shared Island Fund and with Northern Ireland and UK partners, and working with industry, to better harness all-island capacities to conduct world-leading research and innovation. The centres will be in areas of common priority for both jurisdictions, such as Biotherapeutics, Climate, Cybersecurity, Digital Healthcare, Food Security, Infectious Diseases and Precision Medicine.

Continuing and growing all-island research partnerships with the United States, including the US-Ireland R&D Partnership Programme and the Ireland-Northern Ireland-US National Cancer Institute Cancer Consortium.

Supporting the work of InterTradeIreland to help businesses across the island grow all-island trade, increase productivity and innovation, and support clustering and development of high-potential sectors for the island including on bio-economy, advanced manufacturing, health and life sciences and the green economy.

Build on the success of the Border and Regional Enterprise Development Funds and work through the Regional Enterprise Plans to promote and facilitate enterprise development on a cross-border basis including to enhance clustering, innovation diffusion and collaboration.

PEACE PLUS (2021-27) will make available an indicative €113m to support: SME development, competitiveness, digitisation and clustering; an Innovation Challenge Fund to enhance research and innovation capacities; and a cross-border skills programme.

Infrastructure investments to support all-island supply chains and networks, including at ports and airports.

Supporting cross-border approaches to attract investment, including through the North West City Region and the Dublin Belfast Economic Corridor initiatives.

Pursuing all-island opportunities to promote the sustainable development of the Agri-Food sector as part of the new agri-food strategy 'Food Vision 2030'.

Supporting the mission of Tourism Ireland to grow tourism into the island of Ireland to promote the recovery of the sector following the pandemic.

Working with the Executive on large scale North-South tourism initiatives which support the sustainable growth of the sector including cross-border walking/cycling trails as well as new marketing opportunities.

Box 17.9: EU PEACE programmes - partnership for peace, prosperity and reconciliation

The PEACE PLUS programme (2021-27), with a total value of over €1 billion funded by the European Union, UK Government, Northern Ireland Executive and Government of Ireland, will support peace and prosperity across Northern Ireland and the border counties of Ireland, building upon the work of the preceding PEACE IV and INTERREG VA Programmes.

The Programmes reflect the importance of peace-building activity, and also of actions that contribute positively to connectivity, prosperity and sustainability.

Among the successes of the PEACE IV and INTERREG VA programmes are:

Connectivity:

- €23.5m for sustainable transport through the North West Multi-Modal Transport Hub.
- €6.4m for the increased use of electric vehicles with a cross-border EV charging network.

Sustainability:

- €14m in two projects for biodiversity in cross-border blanket bogs and wetland habitats.
- €18.3m across four projects to support marine conservation.
- €53.6m across three projects for water quality and catchment management.

Prosperity:

- €16.6m to support R&I capability development for SMEs in Ireland and Northern Ireland.
- €54.8m to support cross-border research and innovation in health and life sciences, renewable energy and advanced manufacturing.



Chapter 18:

Improving Delivery

18.1 Overview

The publication of this NDP is accompanied by a continued focus on improving the delivery of investment under Project Ireland 2040. This will mean increasing the efficiency with which investment is delivered and achieving greater value for money within the available budget.

This chapter sets out some key reforms to governance which are being implemented by the National Investment Office in order to improve project appraisal and reduce the risk of project overspends. A suite of initiatives and reforms which are underway and planned are also outlined which will help develop the capacity of public sector bodies to effectively deliver public investment. In addition, the Government’s policy to support the Irish construction sector in meeting the needs of PI2040 is detailed here along with the actions being taken by the sector itself to drive innovation and digital adoption. Finally, the ongoing enhancement of procurement by the Office of Government Procurement is outlined.

18.2 Enhanced Project and Programme Governance

Delivering greater value for money in the expenditure of public funds is a key element of all public investment policy. The majority of public investment projects are delivered on budget and on time and there is a high level of professionalism across the sectors.

The update of the Public Spending Code in 2019 combined with lessons learned from domestic projects and international best practice highlighted the need for more structured scrutiny of major public investment projects, particularly in the areas of planned delivery, costing and risk. This is to ensure that Government is making decisions with a full picture of the proposal, its costs, risks and benefits.

Major public investment projects are considered to be those with an estimated project cost in excess of €100 million. There are over 50 projects in this category in the Exchequer funded element of the NDP.

Domestic and international evidence consistently shows that the greatest impact on improving project outcomes comes from careful project preparation. External reviews from an independent party can be instrumental to enable good project and investment governance.

Detailed analysis by DPER’s National Investment Office, supported by a cross sectoral working group, has concluded that two new elements are needed to strengthen the assurance process for major public investment projects to provide more structured scrutiny. These two elements are:

- The introduction of an independent external review of projects over €100m at two major decision gates in the project lifecycle (when the preferred delivery option to achieve the objective is chosen and before a decision is taken as to whether or not to approve a project to go to tender); and

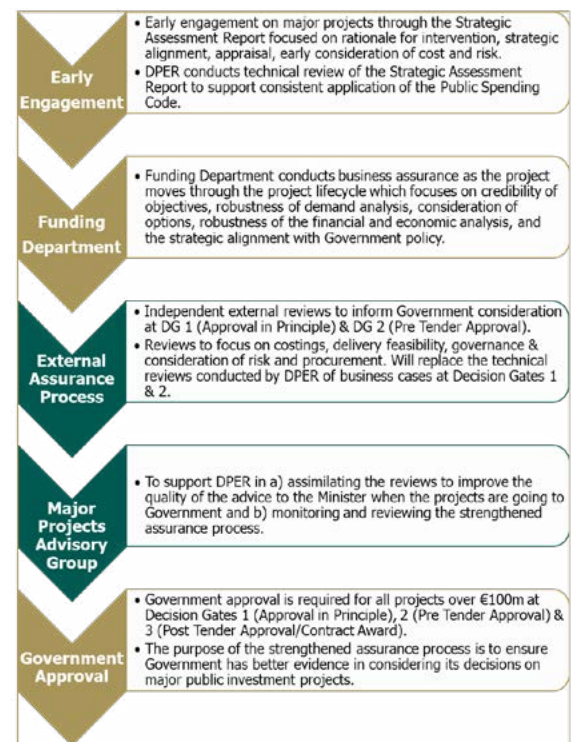
- A Major Projects Advisory Group to support DPER in assimilating the outputs from the external reviews and support DPER in quality assuring the strengthened process.

The external peer reviews will be conducted by experts in infrastructure delivery. The reviews will consider key issues including:

- Robustness of planned delivery;
- Accuracy of cost forecasts;
- Consideration of risk; and
- Appropriateness of governance and procurement strategies.

DPER has established a framework of appropriate external expertise to conduct the assurance reviews at key milestones in project delivery.

Figure 18.1: Strengthened Assurance Process for Major Public Investment Projects (new elements in green)



Refresh of Project Ireland 2040 Delivery Board

The Project Ireland 2040 (PI2040) Delivery Board was established in 2018 and meets regularly to ensure effective leadership of the implementation of the PI2040, which encompasses both the NDP and the National Planning Framework. In tandem with this review of the NDP, governance arrangements are also being refreshed.

At present the Delivery Board is made up of ten Secretaries-General from the main capital spending Departments along with the Chair of OPW and one external independent member; and it is co-chaired by the Secretary General of DP&ER and the Secretary General of the Department of Housing, Local Government and Heritage.

As highlighted in the Phase 1 report of the review of the NDP, the Government approved the introduction of up to five additional external members to bring additional expert knowledge, independent and regional perspectives, and an enhanced challenge function to bear within the deliberations of the Delivery Board; and to enhance its reporting functions via the Minister for Public Expenditure and Reform and the Minister for Housing, Local Government and Heritage to the Government.

Expressions of interest will be sought for new members through the Public Appointment Service run State Boards website. The addition of external members with specific expertise in the delivery of infrastructure will bolster the operation of the Board and will improve the overall governance arrangements for PI2040. Candidates will be sought with a good mix of experience in project delivery from both the public and private sectors perspectives, and with skills relevant to the themes underpinning the revised NDP including environmental aspects of investment, regional perspectives and the role of investment in supporting enterprise and innovation.

The Terms of Reference for the refreshed Delivery Board are in continuity with the existing Terms.

Publication of the PI2040 Annual Report and update of the Projects and Programmes Tracker

In the first three years, PI2040 has been enhancing regional connectivity, supporting national competitiveness and improving environmental sustainability. The 2018 and 2019 PI2040 Annual Report have been published in recent years, and the 2020 Annual Report is published alongside this revised NDP.

This revised NDP is very much a continuation of the delivery of world-class infrastructure that has been implemented since 2018. The 2020 Annual Report will further highlight the timely delivery of much needed infrastructure in Ireland in order to meet the requirements of the present and future. In addition to the annual report, the detailed projects and programme tracker for PI2040 along with the MyProjectIreland mapping tool have been updated alongside the publication of the revised NDP. This will allow for citizens to search for current and future investments that are due to be delivered in their area. The Government commits to continue to detail the

delivery of the NDP on the same regular intervals into the future to allow for full transparency on the implementation of PI2040.

18.3 Developing Public Sector Capacity

Departments, Agencies and Public Bodies are constantly seeking to ensure that they have the necessary resources in place in terms of staff, structures and skills to deliver on their commitments.

- There are a number of ongoing measures which seek to further develop the capacity of the public sector over the coming period. These include:
- the establishment of the Commercial Skills Academy by the OGP
- the establishment of Infranet, the network of infrastructure professionals in the public service
- the continued development of the Irish Government Economic and Evaluation Service (IGEES), and,
- the commissioning of the *Supporting Excellence* report through the EU Structural Reform Support Programme to review the capability of the public service to deliver the capital programme.

Commercial Skills Academy

The Commercial Skills Academy was established in 2019 within the Office of Government Procurement in order to enhance the commercial delivery capabilities of key spending departments and public sector bodies. It does this through a focussed training programme for public service managers to gain an understanding of key issues, commercial skills, and best practice approaches for effective project delivery throughout the entire lifecycle of the project. Public procurement projects are often complex and even the best planned projects can be impacted by unforeseen circumstances. In this context, public servants need to be armed with commercial skills to address these issues in a timely and effective fashion. The Commercial Skills Academy, with input from Construction Policy and staff across the Public Service, have developed a suite of Training suitable for staff involved at all levels. The Training is organised on a tiered system, from Foundation level to Experienced. Masterclasses have been on topics such as: *The Use of Framework Agreements in Construction; eTendering; and, Covid and Brexit.*

InfraNet

Following the National Investment Office's first annual conference in January 2020, an infrastructure network for those working in public infrastructure delivery was established to:

- Provide a forum to communicate developments in public investment policy, governance, reforms, and innovation.
- Engage with expert colleagues in other public sector and delivery bodies to share best practice, issues, and solutions. Along with the holding of an annual conference focused on the most relevant sectoral issues, the InfraNet is convened at regular intervals throughout the year.

Irish Government Economic and Evaluation Service

Since its establishment in 2012, the Irish Government Economic and Evaluation Service (IGEES) has been a key initiative in capacity building to support evidence-informed policy making in the Irish Civil Service. In March 2020, IGEES launched its Medium-Term Strategy 2020-22. IGEES has strengthened Civil Service analytical capacity by adding 150 policy analysts through its specialist recruitment stream since 2012. New recruits, together with existing Departmental resources, now form a strong cohort of over 200 policy analysts across the Civil Service. Recruitment of IGEES staff continually takes place to meet the demand for analysts in the Civil Service, with the total number of IGEES analysts in post increasing year on year.

Supporting Excellence

As activity increased under the NDP, the National Investment Office commissioned a report through the EU Structural Reform Support Programme to review the capability of the public service to deliver the capital programme. The *Supporting Excellence* report, prepared by EY, sets out a number of capability challenges which are being experienced to varying degrees across the thirteen entities in the scope of the review. It identifies that these challenges are experienced most acutely by those entities and sectors who have limited experience in substantial capital programme delivery, or those who, through a hiatus of investment activity over a number of years, have had their expertise and resource base eroded. However, the capability challenges vary by sector and entity and they need to be better understood and addressed on this basis. The report proposes a number of solutions to the various challenges:

- Addressing and tailoring supports across organisations with varying capability
- Supporting major programmes

- Applying industry expertise to governance and oversight
- Attracting, retaining and developing people
- Ensuring collaboration

However the report highlights that there is not a "one size fits all" solution and the need for supports and initiatives must be tailored to the entity, sector and industry challenges.

The report also recommends that, when assessing the maturity of programme capability, a focus should be placed upon the sectors (and sector programmes) which do not currently have a singular asset delivery specialist but are forecasting increased activity and scale through their mandate under the NDP. On foot of one of the recommendations in the report, the National Investment Office convened an Action Team comprising of internal/external experts to tailor and set out a roadmap for implementation of the proposed solutions in more detail.

The Supporting Excellence Action Team has finalised its report, which is published alongside this update of the NDP. The Action Team's report includes 34 specific actions aimed at:

1. Supporting Sectoral Excellence in Boosting Capability in individual sectors;
2. Supporting Excellence from the Centre and
3. Improving coordination and guidance to support excellence on a system wide basis.

Planning and Legal Reforms

Finally, the following are a number of planning and legal reforms due over the coming period which should help improve the planning system to be more efficient:

- Legal review and consolidation of the Planning and Development Act 2000 as amended;
- Reform and consolidation of Compulsory Purchase law;
- Establishment of a new Planning and Environmental Court;
- Better court case management;
- Strategic Management of cases by State;
- New S28 Planning Guidance;
- Increased training;
- Digital agenda including Myplan, E-planning, and Plan-it (ABP).

18.4 Increasing Construction Sector Capacity and Innovation

As with any element of the private sector in the economy, the construction sector will actively seek to attract the necessary skilled workers and capital which it requires in order to deliver on the demand in the market. The sector is supported by Government through a number of policies to ensure a sustainable and efficient construction industry capable of efficiently delivering PI2040. In particular, in 2018 the Government established the Construction Sector Group (CSG), as the forum through which Government Departments and industry representatives engage on a regular basis. The group meets every quarter. All meeting agendas and minutes are published on www.gov.ie.

The priority of the CSG is to enable the construction sector to sustain viable companies in order to produce high quality construction output, thereby delivering better value for money and key national priorities as detailed in PI2040. Specific policies of the CSG includes communicating for industry confidence, securing the skills pipeline, drive growth and productivity, improve value for money and lead a sustainable and resilient industry.

Communicating for industry confidence

In addition to communication through the CSG itself, the PI2040 Investment Tracker has been developed in order to provide those involved in the delivery of infrastructure with a clear signal on what major construction projects are in the pipeline. This can imbue the industry with the confidence to plan, invest and hire to expand capacity. This was supplemented with the Prospects Report taking a more in-depth look at the fifty largest projects in the investment pipeline. Both of these information sources will be updated following the review of the NDP.

Efforts have also been made to promote Ireland's infrastructure project pipeline overseas, for example at the World Expo and as part of Ireland's annual trade delegations for St. Patrick's Day. This has the potential to help attract additional delivery capacity from abroad.

Securing the skills pipeline

The Department of Enterprise, Trade and Employment supported Expert Group on Future Skills Needs published its research, *Building Future Skills Needs: The Demand for Skills in Ireland's Built Environment Sector to 2030* in September 2020. A range of actions are being undertaken on foot of this report to help the industry meet its skills requirements. This is monitored by quarterly meetings of an implementation group. Where specific skills have proved difficult to source within the State and wider European Economic Area

(EEA), changes were made for 2020 by the Minister of Enterprise, Trade and Employment to the employment permit system to allow employers to hire non-EEA nationals in more construction occupations subject to the Employment Permits Acts and Regulations.

The Department of Further and Higher Education, Research and Innovation has produced a new action plan for apprenticeships which sets out new ways of structuring, funding, and promoting apprenticeships with a target of 10,000 new apprentice registrations per annum by 2025. New apprenticeship programmes in scaffolding (level 5), roofing and cladding (level 5) and advanced quantity surveying (level 9) are due to launch in 2021.

SOLAS will be supporting a careers campaign for the built environment sector, including the broad range of opportunities available from the PI2040 pipeline.

An 'Apprenticeship Jobs' platform was launched on www.apprenticeship.ie in April 2019 to enhance the visibility and accessibility of apprenticeship job vacancies, and to assist small companies to advertise apprenticeship jobs to a wide audience.

Supporting investment in Near Zero Energy Buildings training "centres of excellence", to build real scale at regional and national levels and to supporting Ireland's ambition to be a global leader in reducing the climate effects of the built environment, in particular through the UN High Performance Building Initiative. A dedicated NZEB training centre is now established in Enniscorthy, Co. Wexford and is currently providing 10 NZEB training programmes to existing construction workers in areas such as plumbing, electrical, bricklaying, carpentry and plastering. A further four ETBs are planning to have centres of excellence up and running in 2021.

While an apprenticeship supports the development of skills in the craft trades areas, education and training relevant to other skills integral to the operation of the construction sector is delivered through non-apprenticeship further and higher education and training, as well as through specific activation programmes such as Springboard, the Human Capital Initiative and Skillnet Ireland. Skillnet Ireland also supports the construction sector through two national Construction-specific Skillnet training networks, as well as through multiple regional Skillnet training networks that assist construction businesses located in their respective regions.

Measures to ameliorate the impacts of Covid-19 on the continued skills pipeline include the Apprenticeship Incentivisation Scheme, which provides an employer grant of €3,000 payable over two years to support employers who take on and retain apprentices. Initially funded through the July 2020 Jobs Stimulus, the payment was extended to include employers who take on apprentices until mid-2021. Under the July 2020 Jobs Stimulus, €500,000

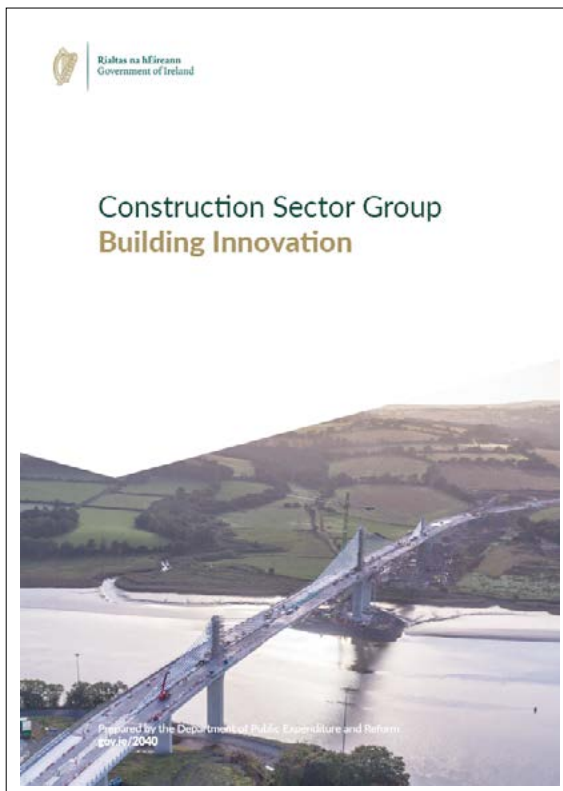
was also allocated to support the expansion of skills development for the National Retrofitting Programme and 2,000 additional places were also funded across Springboard and the Human Capital Pillar 1. €8 million has been allocated in 2021 to support retrofit-specific skills which will provide for up to 500 places on new specialist retrofitting training courses targeted towards unemployed persons in addition to the expected increase of 400 places in programmes facilitating upskilling of experienced construction professionals. This will increase the number of learners in retrofit-specific programmes to over 1,500 per annum.

It is worth noting that increasing the supply capability of the construction sector over the next ten years to cope with the planned increase in investment will could require a share of labour to be attracted away from other sectors in the economy.

Driving productivity improvement

In close consultation with the CSG, a wide-ranging analysis of productivity in the construction sector was undertaken over the course of 2019 in order to identify actions to increase productivity. This work informed the *Building Innovation in 2020 Report* which was published in June 2020 and is currently available on gov.ie.

Figure 18.2: Building Innovation Report published in 2020



The report identified three important themes which, if addressed, can help simultaneously improve profits, wages and output for the industry, and thereby

provide value for money in the delivery of PI2040. These include:

- The need for the industry, particularly SMEs and small firms, to increase investment in innovation and technology in order to spur the next wave of growth based on a foundation of digital adoption by both clients and contractors.
- The need for ongoing regulatory reform by Government in areas of public procurement, environmental, labour and other areas in order to streamline and assist in achieving competitiveness and sustainability.
- The need to increase certainty and visibility of the pipeline of projects to provide industry with confidence to invest and individuals with the opportunity to choose a career in the built environment.

In support of this, an Innovation and Digital Adoption Team has been established by industry and Government to deliver on the seven priority actions identified in the Building Innovation report under that theme. A number of action leaders have played an essential role in driving the delivery of the seven actions outlined in Figure 18.3.

Action 1, expanding the Construction Research Forum, is being led by the Construction Industry Federation. An initial aim of the forum has been to carry out a construction industry needs assessment for the sector in order to increase productivity and innovation. This group continues to support the innovation agenda and the other actions set out below.

The initial aim of Action 2 led by the Association of Consulting Engineers Ireland has been to identify and report on appropriate research funding programmes available for the construction sector from Irish and European agencies, Government Departments and other sources. A follow on action being led by representatives of the Royal Institute of Architects of Ireland is the identification of relevant research projects to assist in sustainable development in the construction sector. Built environment industry firms specialising in engineering, architecture, surveying, geo-science, construction, and other areas of the sector will then need to match with potential partners to develop appropriate collaborations to capitalise on the funding available.

Action 3 led by the CIF has been to establish a joint working group to guide the development of the off-site production sector. This has included an analysis of the present state within the Irish Construction sector, to determine the previous and current level of modern methods of construction adoption and what organisations are applying this, within specific market sectors. Key market requirements to drive further adoption and implementation are also being

explored on a wider scale for both domestic and export markets.

The goal of Action 4 is to establish a Construction Technology Centre (CTC), currently being developed by Enterprise Ireland. As a first step in this process a Detailed Description of Needs (DDN) is being developed for the construction/built environment sector in Ireland in relation to Technology and Innovation, Digital Adoption and Modern Methods of Construction. All three areas need to be attentive to environmental, sustainability and circular economy imperatives. Enterprise Ireland are currently reviewing over 20 construction sector innovation and productivity initiatives from around the world and are in the process of selecting five for research in depth; looking at their scale, structure, funding models and governance. The final DDN Report will be used by Enterprise Ireland to design a bespoke CTC in 2022. Overall, the CTC will focus on the particular needs of Irish built environment construction based on the stated needs of PI2040.

The aim of Action 5 led by the CIF has been to establish a digital network under the Construction Skillsnet. Under this action, courses, such as Project and Delivery Management and Building Information Modelling Standards are on offer. These courses will facilitate the development and adoption of digital construction skills and in turn increase productivity.

Action 6 is to digitise the Planning Permission Process and is led by the Local Government Management Agency. The delivery of online planning across all 31 local authorities will have a huge impact on the management of the planning process. The standardization of the ePlanning process, with planning applications being submitted through a single portal, will provide efficiencies to the private sector planning service providers e.g. reducing their costs in producing multiple copies of documentation. Due to fewer delays in processing and less invalid applications, construction will be able to commence more quickly and be delivered without unforeseen delays due to planning issues.

Action 7, the Build Digital grant, is being administered by the Department of Public Expenditure and Reform (DPER). In December 2020, as part of that process, a competitive, challenge-based grant call was launched which invited bidders to deliver the Build Digital Project with up to €2.5 million in public funding over the next five years. The Build Digital Project aims to ensure that world class digital practices, which already exist in certain elements of the Irish construction sector, are adopted throughout the industry and supply chain in order to achieve a more innovative sector from top to bottom. The project will provide guidance and leadership on the necessary digital tools, standards, approaches and training required by all across the construction sector, in particular the small- and medium-sized firms who may have yet to realise the full benefits of digital approaches.

It will also allow for an integrated tracking of project management metrics across quality, programme and anticipated outturn cost of future major projects. The preferred bidder was chosen in April 2021 with the official launch of the project planned to take place in Q4 2021. In line with this action, over the early years of this NDP cycle, the Government will commence the implementation of Building Information Modelling (BIM) on for major projects in the NDP. Clear requirements will be incorporated for both clients and providers with respect to the delivery of infrastructure projects and programmes.

Furthermore, as part of the CSG Sub-Group, a Sustainability Consultation Group has been formed. It has 17 representations from organisations including Royal Institute of Architects of Ireland, Society of Chartered Surveyors Ireland, CIF, Engineers Ireland, Association of Consulting Engineers of Ireland, National Standards Authority of Ireland, and Irish Green Building Council. A task of this group is to advise on suitable research projects under action 2 and provide input on sustainability across all seven actions. A number of relevant public agencies have also joined this Group.

Figure 18.3: Actions to Promote Construction Innovation and Digital Adoption



The strong momentum being developed by the CSG on the innovation agenda was also reflected in the recently published Housing for All Strategy. Specifically, the strategy states that:

- The role of enterprise agencies will be expanded to include the provision of funding and supports for innovation and productivity-related projects in the domestic residential construction sector, in compliance with State Aid rules.
- Funding for research and innovation will be increased to a level commensurate with the scale of construction in the domestic economy by 2024.
- Existing construction product assessment processes will be enhanced to deliver a holistic construction product assessment for the residential sector, expanding the successful NSAI Agrément approach, and construction research programmes across third-level institutes will be coordinated to ensure synergies are leveraged and overlaps avoided.
- The Department of Enterprise, Trade and Employment (DETE) will engage with international construction firms. This will be done through IDA Ireland or otherwise via trade shows / events and through leveraging diplomatic networks, with the support of the Department of Foreign Affairs, to encourage participation in the Irish market.
- DETE will also work in conjunction with DHLGH to strengthen the supply chain by securing EU-level Strategic Value Chain priority status for nZEB construction.
- DETE, supported by the DHLGH, will promote a culture of innovation in residential construction.

To conclude, the CSG and its Sub-Group have been important in the building up of strong and transparent networks between the public and the private sectors. It has created a focus on alleviating some of the key challenges faced in the construction sector and how public investment projects are brought to market.

The dedicated actions detailed here reflect the Government's clear commitment to supporting the industry in meaningfully tackling its productivity challenges.

18.5 Enhanced Procurement

The Construction Policy Unit in the Office of Government Procurement is currently engaged on the development of the next generation of the Capital Works Management Framework (CWMF). This encompasses a significant body of work that will deliver major changes to the procurement of public works projects over the coming years. Its development will involve extensive engagement both with industry stakeholders and with the public bodies charged with the delivery of capital projects. There are two distinct engagements on public works projects where procurement comes into play:

- Consultant technical professionals who advise public bodies on all aspects of project delivery including design; and

- Building and civil engineering contractors and their respective supply chains.

A 2014 report into the performance of the public works contracts highlighted poor project definition as a significant cause of cost overruns and delays on public works projects. The focus in the review will be on improving the standard of information produced throughout the different project delivery stages to address deficiencies in project definition whilst risk identification, mitigation and appropriate management strategies will be to the fore in decision making.

Objectives and principles have been developed with the Government Contracts Committee for Construction (GCCC) to guide the progressive refinement and enhancement of the CWMF.

The many issues that are impacting on the successful delivery of public works projects are being considered in developing solutions to ensure that sustainable assets are efficiently delivered within the available budget. The work will complement and provide the means to implement many of the reforms currently being undertaken as part of the revised Public Spending Code. It will also explore the possibility of digital solutions throughout the project lifecycle.

The first phase of the review of the CWMF will address the manner in which construction technical professionals (the architects, engineers, quantity surveyors, etc. who typically plan, design and oversee construction projects on behalf of public bodies) are engaged. By clarifying the terms of their engagement and the quality of their outputs significant improvements will be delivered in the construction phase. The engagement of contractors will form the second phase of the review.

In addition to reforming the manner in which we engage professionals and contractors there are a range of issues that are impacting successful outcomes that will also be addressed and implemented. These include:

- Risk Management;
- Managing price inflation pressures;
- Reflecting quality in the award of contracts;
- Liability, indemnity and insurance;
- Performance evaluation;
- Encouraging collaborative behaviour; and,
- Adoption of BIM on public works projects.

In addition to the ongoing CWMF review, the Commercial Skills Academy established by the OGP will be critical to provide necessary commercial skills training for Public Service managers who are responsible for managing capital projects under the NDP, to enhance awareness and understanding of commercial skills and best practice approaches to apply throughout the entire project lifecycle.

List of Abbreviations

AHB	Approved Housing Bodies
AHSS	Arts, Humanities and Social Sciences
AI	Artificial Intelligence
AMI	Asylum, Migration and Integration Fund
APSFF	A Policing Service for our Future
ATCA	Aid to the Civil Authority
ATCP	Aid to the Civil Power
BER	Building Energy Rating
BTS	Build to Share
CAMG	Climate Action Modelling Group
CAMHS	Child and Adolescent mental Health Service
CAP	Climate Action Plan
CAR	Commission for Aviation Regulation
CEIGS	Circular Economy Innovation Grant Scheme
CES	Comprehensive Employment Strategy for People with Disabilities
CFRAM	Catchment Flood Risk Assessment and Management
CIF	Construction Industry Federation
CNU	Community Nursing Unit
COSMO	COre Structural MOdel of the Irish economy
CRA	Collaborative Research Agreements
CRU	Commission for Regulation of Utilities
CSP	CAP Strategic Plan
CTC	Construction Technology Centre
DCU	Dublin City University
DDN	Detailed Description of Needs
DECC	Department of Environment, Climate and Communications
DETE	Department of Enterprise, Trade and Employment
DFHERIS	Department of Further and Higher Education, Research, Innovation and Science
DPER	Department of Public Expenditure and Reform
DRS	Deposit and Return Scheme
DTIF	Disruptive Technologies Innovation Fund
EaSI	Employment and Social Innovation
ECC	Enhanced Community Care
EDIHs	European Digital Innovation Hubs
EIB	European Investment Bank
ELC	Early Learning Care
EMFAF	European Maritime Fisheries and Aquaculture Fund
EMUs	Electric multiple units
EOCP	Equal Opportunities Childcare Programme
EOSC	European Open Science Cloud
EPA	Environmental Protection Agency
EPCs	Energy Performance Contracts
ERDF	European Regional Development Fund
ESA	European Space Agency
ESCO	Energy Service Company
ESF+	European Social Fund+
ESRI	Economic and Social Research Institute

FEAD	Fund for European Aid to the most Deprived
FET	Further Education and Training
FMI	Future Manufacturing Ireland
FSI	Forensic Science Ireland (FSI)
GDA	Greater Dublin Area
GDD	Greater Dublin Drainage
GDP	Gross Domestic Product (at basic prices)
GFCF	Gross fixed capital formation
GIS	Geographic Information System
GNI	Gross National Income
GNI	Gas Networks Ireland
GPU	Ground Power Units
HDCO	Housing Delivery Co-ordination Office
HNDA	Housing Needs and Demand Assessment
HPC	High-Performance Computing
HSE	Health Service Executive
HST	Housing Supply Target
ICE	Internal Combustion Engine
ICHEC	Irish Centre for High End Computing
ICLH	Investing in our Culture, Language and Heritage
ICT	Information Communication Technology
IDA	Industrial Development Agency
IGEES	Irish Government Economic Evaluation Service
IOT	Institutes of Technology
IP	Intellectual Property
IPAS	International Protection Accommodation Services
IPCC	Intergovernmental Panel on Climate Change
IRO	International Research Organisations
ISF	Internal Security Fund
JTF	Just Transition Fund
LDA	Land Development Agency
LDA	Land Development Agency
LEO	Local Enterprise Office
LSSIF	Large Scale Sport Infrastructure Fund
MARA	Maritime Area Regulatory Authority (MARA)
MCCI	Microelectronics Circuits Centre Ireland
MTI	Meat Technology Ireland
MTU	Munster Technological University
NAS	National Ambulance Service
NBP	National Broadband Plan
NCIP	National Childcare Investment Programme
NCSC	National Cyber Security Centre
NDIS	National Disability Inclusion Strategy
NDP	National Development Plan
NESC	National Economic and Social Council
NGO	Non-Governmental Organisation
NIO	National Investment Outcomes
NMPF	National Marine Planning Framework

NPF	National Planning Framework
NRRP	National Recovery and Resilience Plan
NSO	National Strategic Outcomes
NTA	National Transport Authority
MU	Maynooth University
NZEB	Near Zero Energy Building
OECD	Organisation for Economic Co-operation and Development
OPR	Office of the Planning Regulator
OPW	Office of Public Works
ORE	offshore renewable energy (ORE)
OREDPII	Offshore Renewable Energy Development Plan
PCC	Primary Care Centre
PI2040	Project Ireland 2040
PPP	Public Private Partnerships
PRTL	Programme for Research in Third-Level Institutions
PSC	Public Spending Code
PSO	Public Service Obligation
PTMC	Pharmaceutical Manufacturing Technology Centre
R&D	Research & Development
R&I	Research and Innovation
RAP	Regional Airports Programme
RDD	Research, Development and Demonstration
REDF	Regional Enterprise Development Fund
RESS	Renewable Electricity Support Scheme
RRDF	Rural Regeneration and Development
RRF	Recovery and Resilience Facility
RSEs	Regional Spatial and Economic Strategies
RTCF	Regional Technology Cluster Fund
SAC	School Age Childcare
SAF	Sustainable Aviation Fuels
SCEP	Sports Capital and Equipment Programme
SCEP	Sports Capital and Equipment Programme
SDGs	Sustainable Development Goals
SEAI	Sustainable Energy Authority of Ireland
SFI	Science Foundation Ireland
SIS	Schengen Information System
SOEs	State Owned Enterprises
SPA	School Planning Areas
STEM	Science, Technology, Engineering and Mathematics
TII	Transport Infrastructure Ireland
TRL	Technology Readiness Level
TU	Technological Universities
UCC	University College Cork
UCC	The Union Customs Code
URDF	Urban Regeneration and Development Fund

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