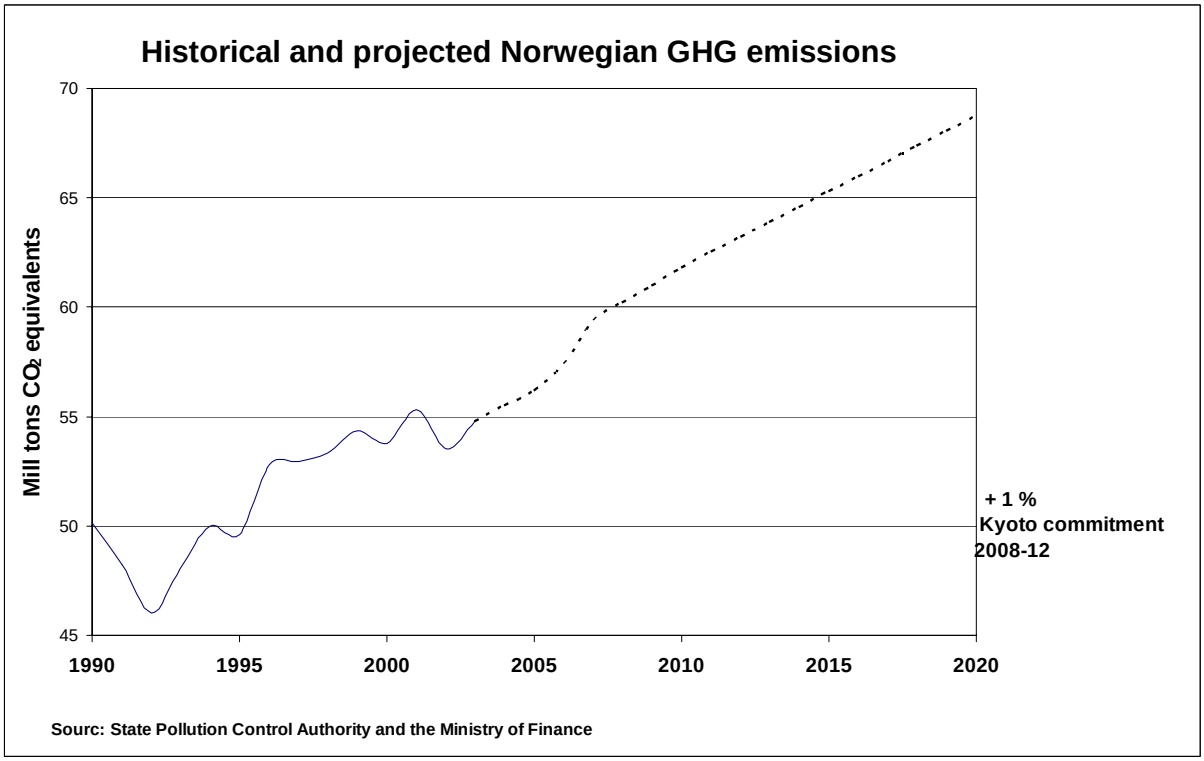
THE NORWEGIAN EMISSIONS TRADING SYSTEM 2005-2007.

General framework.

Figure 1.: Historical and projected Norwegian GHG emissions 1990 – 2020.

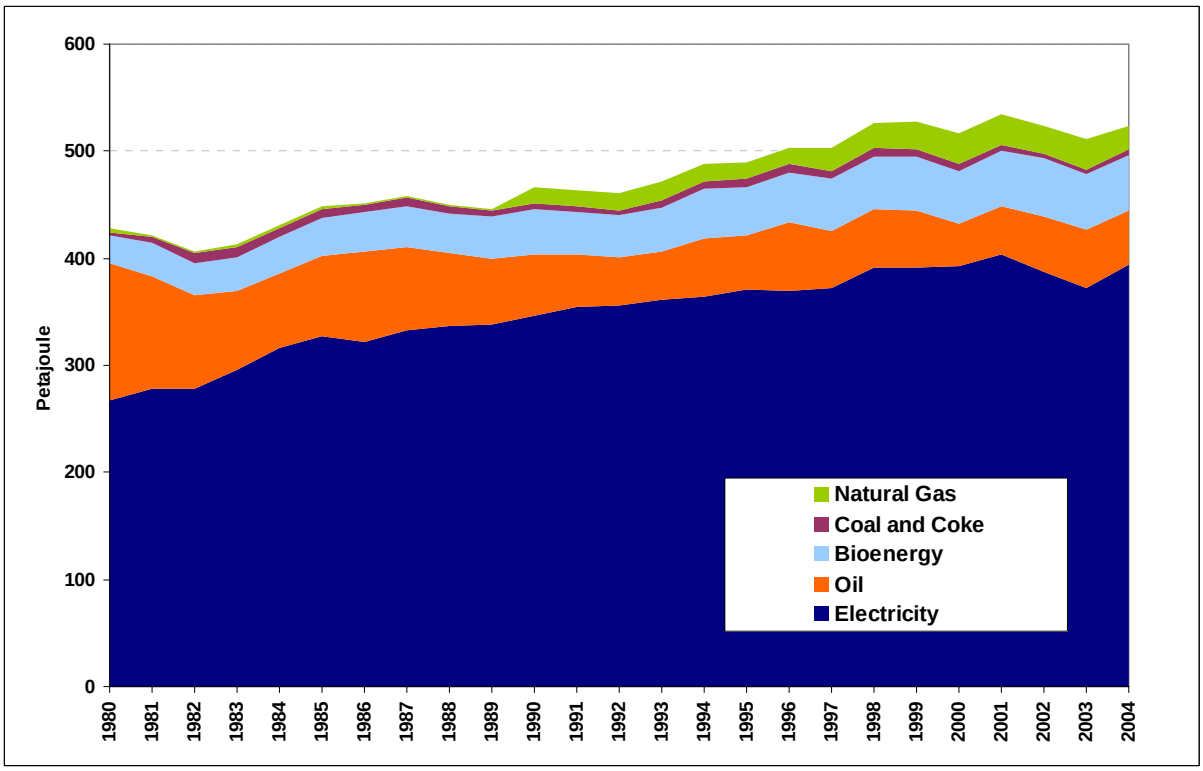


Norway has seen a rise of GHG emissions of about 11 per cent from 1990 to 2003. Underlying this development is a significant growth in emissions related to the production of oil and natural gas in the North Sea, and pipeline transport of gas to Europe. These developments have mainly taken place offshore, but there are also related onshore activities. Also the transport sector has seen significant growth in this period. Industrial emissions have in fact been reduced by several million tonnes, in particular because of measures reducing emissions of non-CO2-gases from the production of aluminium, magnesium and fertilizers.

Emissions from waste and agriculture have been relatively stable. Emissions from stationary combustion are fairly low and correlated to the electricity price. With high electricity prices many installations chose to use fossil fuels instead, and emissions rise.

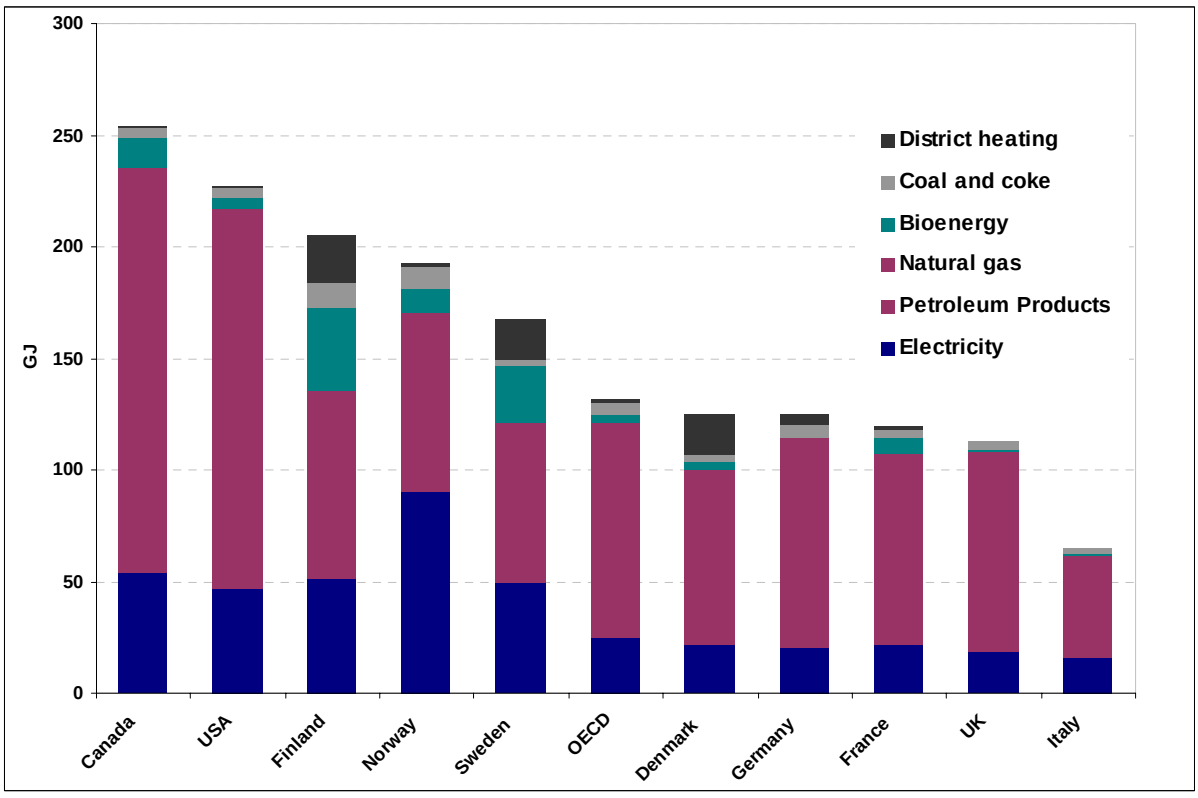
Total domestic emissions are expected to continue to grow, possibly increasing to more than 20 per cent above the 1990 level in 2010. The main driver will continue to be the petroleum sector and related activities on shore.

Three electricity plants based on natural gas plants of about 350, 430 and 800 MW have been given necessary permits to start their activities. If developed these would increase emissions by about 4,2 Mt or 8 per cent if built without systems for carbon capture and storage. Emissions from one plant of about 1 Mt is reflected in the projection for 2010.
Figure 2.: Trends in stationary energy use 1980-2003



[Source: Energy accounts, Statistics Norway.]

Figure 3. Per capita use of energy in OECD countries, 2002.

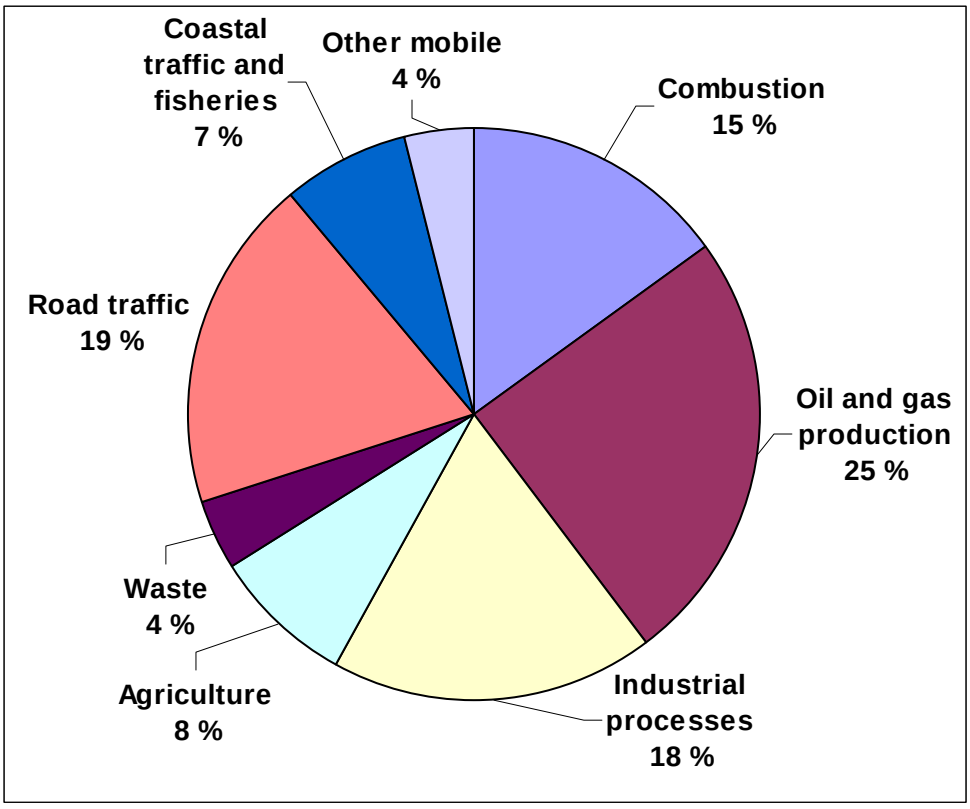


(Source: Energy balances of the OECD countries, IEA/OECD Paris)

Almost half of Norway's energy use is covered by hydro power based electricity. The supply of this historically low cost energy source has resulted in relatively low use of fossil fuels for

ia. heating purposes, as well as limited use of district heating. Due to the supply of hydro power there is also little use of CHP (combined heat and power). Electricity use per capita is about 2.5 times OECD average. 25-30 per cent of the electricity is used by heavy industries on shore (aluminium, ferro alloys, magnesium, pulp and paper, carbides etc.). It's noteworthy that the domestic use of natural gas is also very low (distribution networks are not developed in major cities), despite the vast resources located on the continental shelf. Coal is hardly used as an energy source, but there is some used as reduction materials in the process industries.

Figure 2.: Emissions distribution – gases and sectors



[Source: The Norwegian Pollution Control Authority.]

Norway's energy situation gives an emissions profile which is quite different from most other countries. The domestic electricity supply is almost fully based on hydro power and thus has no emissions attached to it. About 20 per cent of total emissions is from processes (not energy use) in heavy industries. These industries are mainly built on the historically abundant supply of hydro power. The offshore operations will soon represent one quarter of total GHG emissions. An industrial cluster has been built around the petroleum resources over the last 30 years. This includes terminals, refineries and petrochemical industry and represents another major part of the emissions (included in the category "combustion").

Norway has adopted the following type of climate policy tools covering almost all emissions:
- Carbon taxes
- Other taxes related to waste and HFC/PFC
- Direct regulations (waste, industry/power production)
- Agreements (aluminium, SF6 in electric appliances, process industries)
- Emissions trading scheme for sources within the scope of the EU emissions trading directive not covered by the CO2 tax.

In addition there are schemes on energy conservation, renewables, transport etc. In 2005 about 650 million kroner (85 mn Euro) is available for Enova to promote energy efficiency and the use of renewables. A fund of 2 billion kroner (240 mill Euro) was set up to develop technologies to reduce emissions from gas based power production, making 100 million kroner (12 mill Euro) available for Gassnova in 2005. A further 188 millions (23 mn Euro) are granted on energy R&D.

An important background for the design of the Norwegian trading system for 2005-2007 is the "understanding" between government and industry formed after a white paper on climate change policies was discussed in Parliament in 2002. The white paper had outlined a trading scheme for 2005-2007 covering process industries and all greenhouse gases representing about 30 per cent of the emissions. The ambition was that existing process industries covered by the suggested trading scheme had to reduce emissions of all ghgs by 20 % by in 2005-2007 compared to 1990. The bulk of these reductions were expected to be made in non-CO2 gases (in particular SF6, PFCs and N2O) – gases that are not covered by the EU emissions trading scheme in 2005-2007.

When the EU trading directive was finalised, it became clear that the scope was different and more narrow for the first period than the outlined system in the Norwegian White paper. After consultations between government and representatives from the process industries, an “understanding” was found where the latter accepted to commit themselves to a 20 % reduction in all ghg emissions in 2007 compared to 1990 from existing plants. The Government then concluded that the scope of the Norwegian trading scheme would be based on the types of installations included in the EU scheme, only covering CO2.

There is some overlap between the installations covered by this understanding and those covered by the trading scheme, noteably CO2 from refineries, cement etc. Further, new installations, in particular gas terminals/processing plants, are part of the trading scheme but not of the 20 % reduction commitment in the understanding.

Scope of the Norwegian trading scheme.

The Norwegian legislation on emission trading went into force on 1 January 2005. In principle, the scope of the Norwegian trading scheme is the same as the scope defined by the European emissions trading directive. Emissions of CO2 from energy use, and in some cases also process emissions, are included in the trading scheme for 2005-2007. It covers 10-15 per cent of the Norwegian emissions of greenhouse gases. However, emissions that are subject to the CO2-tax are not included in the scheme. 51 installations have been given permits in the following sectors;

- Combustion installations above 20 MW:		**36**	
- District heating (using natural gas)	8		
- Gas based electricity plants (CCGT)	2		
- Pulp and paper (using natural gas)	6		
- Fish meal and – oil (using natural gas)	7		
- Petrochemical, including crackers	4		
- Gas processing and terminals	4		
- Other	5		
- Refineries			**2**
- Steel production		**1**	
- Cement plants		**2**	
- Other production based on minerals		**10**	
Total		**51**	

Emissions from combustion installations that are subject to CO2-taxes are not included in the trading scheme for 2005-2007. Such taxes are levied on mineral oils onshore and both use of oils natural gas in the offshore sector (see Annex I).

Onshore [50-60] additional combustion installations, including pulp and paper, would be included if the CO2-tax were to be abolished, representing [1-3] Mt CO2/year. Another [30] installations in the offshore sector, representing about [12] Mt CO2/year would also be included. At the time when the scope of the scheme was decided (autumn 2004), the prices of the European Allowances were lower than the rates of the CO2 tax, and thus providing less incentives to reduce the installations' own emissions. The tax rates range up to more than 40 euro/ton CO2 (NOK 337/ton).

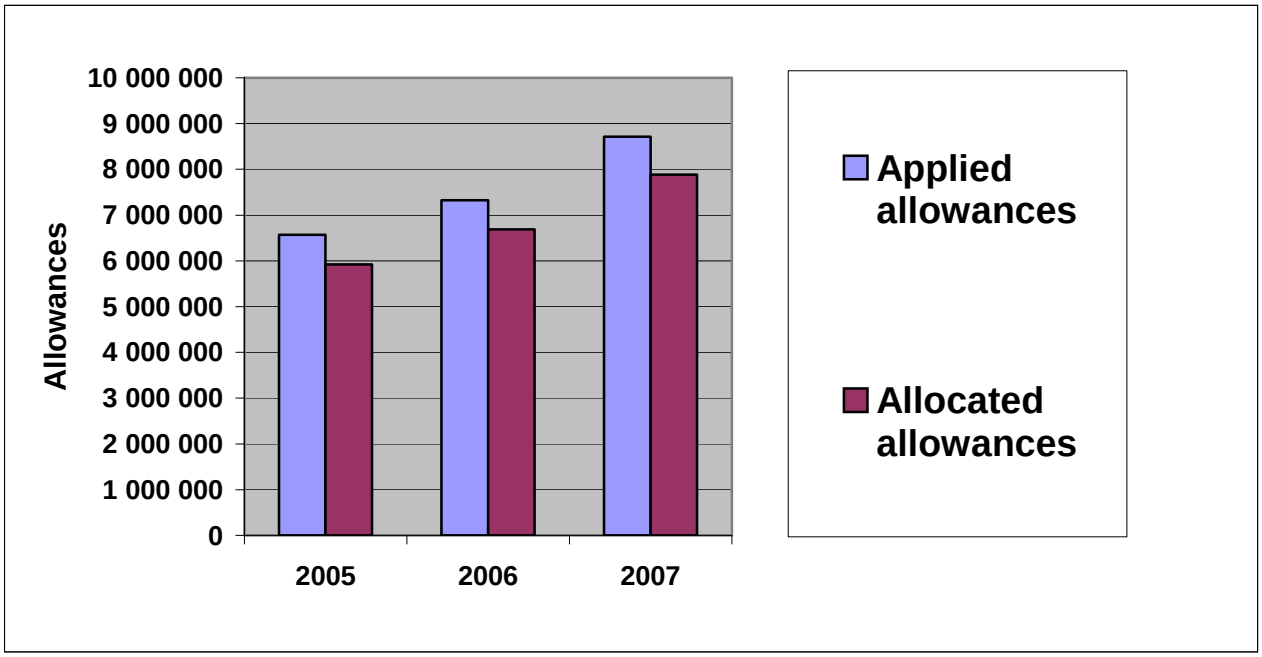
Allocation – total and individual amounts of allowances.

The total amount of Norwegian allowances for 2005-2007 is 20.5 Million tons. Norway utilised the same criteria for the total as well as the individual allocation as specified in the EU emissions trading trading directive.

The general formula applied was that all installations should get 95 % of the demonstrated need, reflecting ia. best available technologies and respective technological possibilities. Either an installation would get 95 % of average 1998-2001 emissions, or it would document changes in nature and scope of the activities leading to another basis for the allocation. For new entrants, the allocation was based on projections. All applications were carefully evaluated by the State Pollution Control Authority (SFT) during the allocation process. The same allocation principles apply to all sectors, in principle leading to the same scarcity. The aggregated allocation to the installations eventually turned out to be 91 % of what the installations applied for.

There is growth in the total allocations from 2005 to 2007. The reasons are documented changes in scope and nature of the installations' activities, and some new entrants. Most likely the growth will be less than indicated, since not all new entrants or changes in nature and scope will necessarily be realised according to schedule, potential closures are not reflected and the allocation is conditional on the anticipated developments actually taking place. There are no possibilities in the law for ex post upwards adjustments of the allocation levels.

Figure 5.: Total allocation for 2005, 2006 and 2007 vs. the amounts that the installations asked for in their applications.



There is no reserve of allowances – neither for new entrants nor other purposes.

The transfer of allowances to each installation's account is conditional on the installation realising its plan for the scope of relevant activities according to its application. If enlargements or other changes in capacity resulting in higher emissions are not carried out according to plan, this must be reported to the Pollution Control Authority (SFT). It will then be reflected as less allowances transferred to the installation for the remaining years of the period than originally allocated. The excess allowances will be cancelled.

Figure 6.: Allocated allowances for 2005-2007 distributed by sectors.

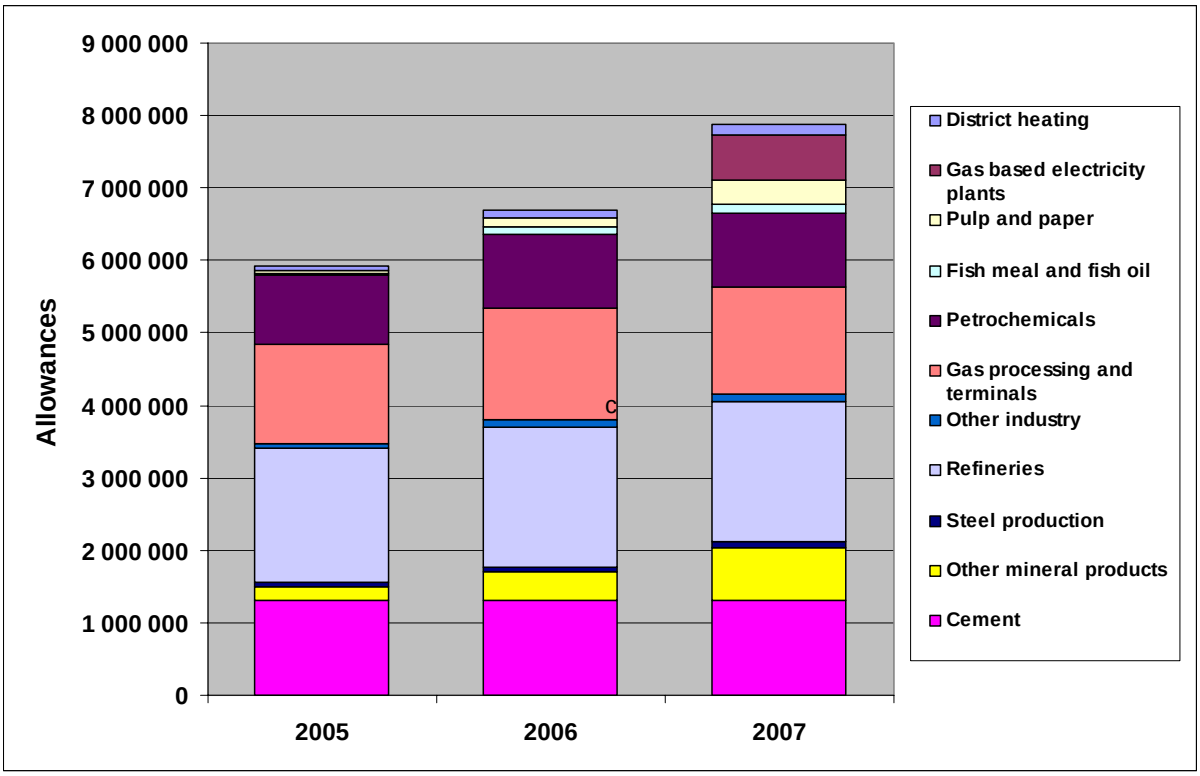


Figure 7.: Allocated allowances for 2005-2007 compared to amount of allowances asked for in the applications, by sector.

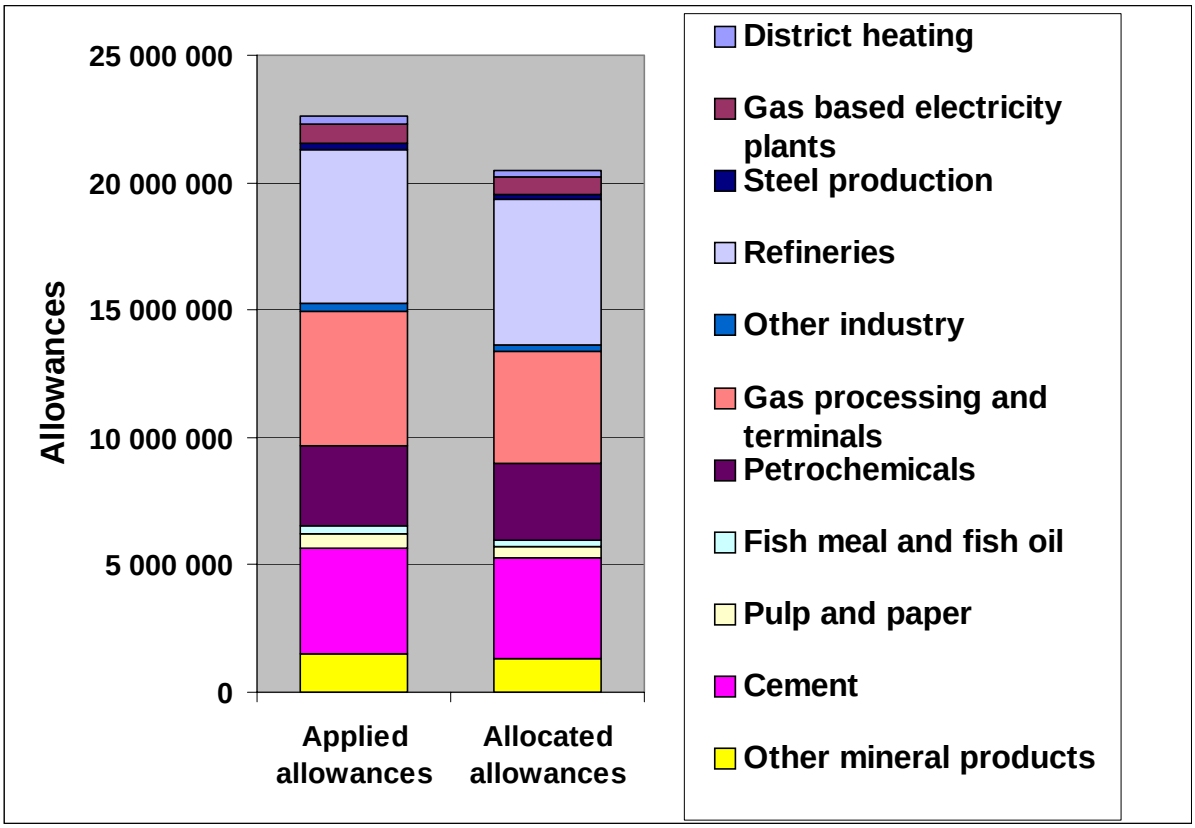
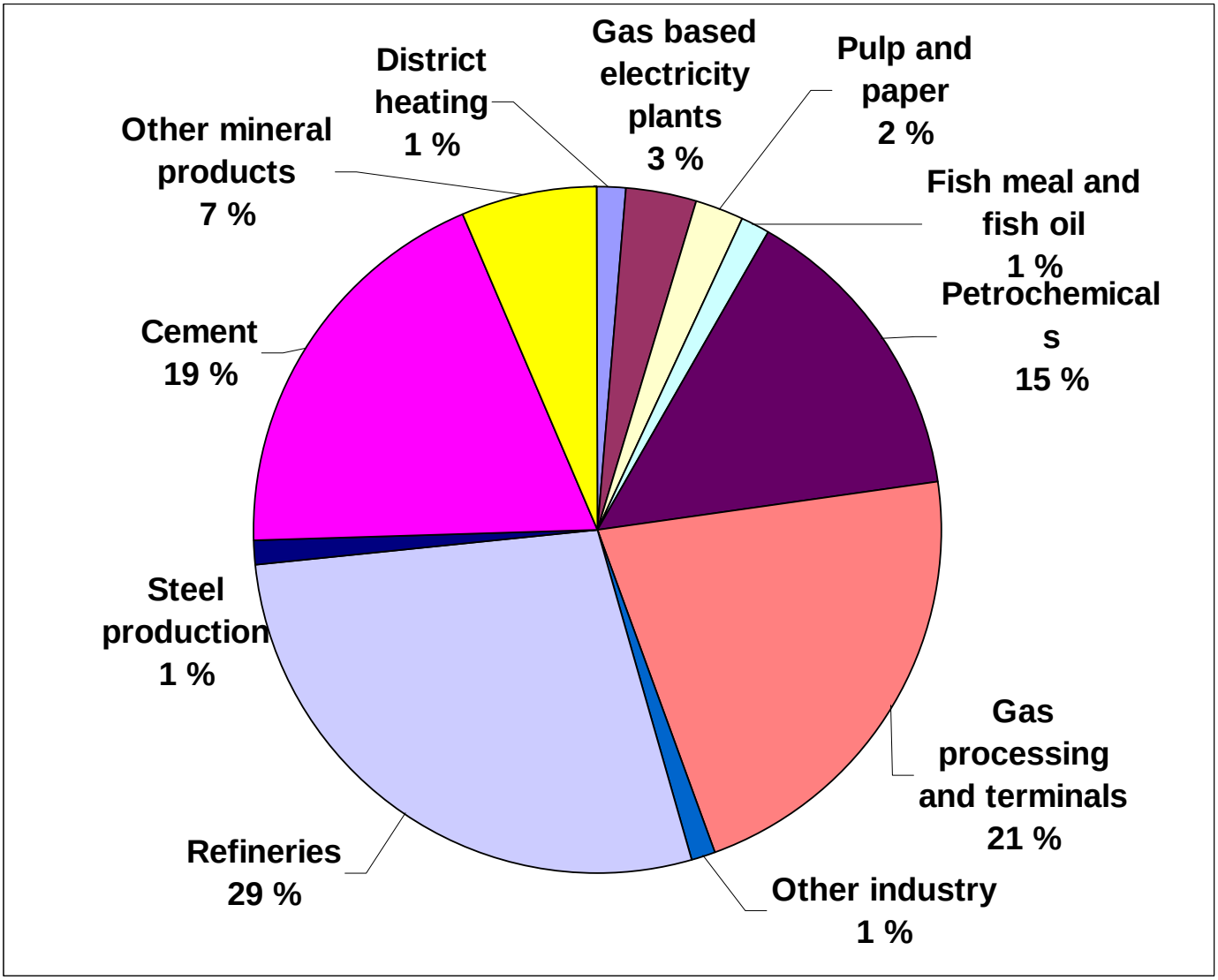


Figure 8.: Allocated allowances for 2005-2007 to sectors in per cent.



Registry

An electronic registry will be hosted by the Pollution Control Authority. Norway has an agreement with DEFRA in the UK to base its registry on the GRETA software, making it fully compatible with the EU CITL and the requirements under the EU emissions trading scheme.

From 15 March 2005 until the link between the EU and Norway's respective trading schemes is worked out, an interim registry is in operation. Details are given in the regulation of 15 March 2005 under the Emissions trading act of 17 December 2004.

Use of the Kyoto mechanisms

For 2005-2007 installations can use CERs from the CDM to offset their emissions. In line with the EU "linking" directive, CERs from nuclear and LULUCF projects can not be used, and CERs from hydro power projects above 20 MW must follow a special procedure. The rules for 2008-2012 and onwards have not been specified.

As an interim arrangement, until the link to the EU emissions trading system is worked out, use of EU allowances will be accepted against the proof of voluntary cancellation in an EU country registry.

There is an option in the law allowing the use of allowances issued based on domestic projects outside the scope of the trading scheme. This option is not exercised as of July 2005. If Norway were to pursue this option, the Government would need to issue a domestic regulation.

Useful websites.

www.miljo.no has the relevant white papers, propositions to Parliament etc. establishing the political framework as well as links to other ministries. The Greenhouse Gas Emissions Trading Act in English can be found at:
http://odin.dep.no/md/english/doc/regelverk/acts/022051-200015/dok-bn.html

www.sft.no has all the application and reporting forms, detailed information on allocation, permits (including the text of each permit), registry, monitoring/reporting as well as links to legislation. *(In Norwegian only.)*

For the original legislation in Norwegian; see http://www.lovdata.no/all/hl-20041217-099.html (the emissions trading law) and http://www.lovdata.no/for/sf/md/md-20041223-1851.html (the emissions trading regulation).

ANNEX I

The CO_2-tax

Today the CO_2-tax is levied on mineral oil, petrol and production of oil and natural gas on the continental shelf. The tax is designed as a product tax, which means that the tax-base is litre, kg or Sm^3, not per ton emission. The tax-rates differ for the products.

From 1991 to 1999 the CO_2 tax was integrated with existing taxes on the products. From 1999 and onward the CO_2 tax was separated from other taxes on oil products, but the practical system for tax collection has not changed. The producers and importers of the products (i.e. oil companies that are involved in downstream activities) are responsible for payments to Norwegian Customs and Excise (NCE). The payments are based on self-declared sales of petroleum products on the domestic market. NCE controls the tax payments by judgment. This is a simple and cost effective administration of the tax; i.e. there are only 6-8 oil companies (downstream) on the Norwegian market.

The Norwegian Petroleum Directorate (NPD) is responsible for collecting the CO_2-tax for the petroleum sector (up-stream). The operators of the various fields pay the CO_2-tax two times a year (1. October and 1. April).

Table 1 illustrates the CO_2-tax system and also the tax-rates per ton CO_2.

Table 1 CO_2-taxes 2005. NOK.

	Tax –rates per litre oil and petrol, kg. Coal and coke or Sm^3 gas.	Tax-rates per ton CO_2.
Petrol	0,78	337
Mineral oil		
light oil	0,52	198
heavy oil	0,52	171
Reduced tax		
pulp and paper industry	0,26	99
fishmeal industry	0,26	86
domestic aviation	0,31	118
domestic shipping of goods	0,31	118
continental shelf (supply fleet)	0,31	118
Exemptions		
foreign shipping	0	0
fishing in Norway	0	0
fishing in distant water	0	0
external aviation	0	0
Oil and gas in the North Sea		
oil	0,78	289
gas	0,78	333

Source: Ministry of Finance