# ELECTRICITY MARKET SIMULATION GAME

A game developed to help the audience understand the short-term and long-term dynamics of electricity and carbon markets.

## OBJECTIVE

Electricity markets are influenced by transactions in the market, policy decisions, evolving institutions, unstable fuel prices, availability of fuel and advances in technology.

The limited options for storing electricity contributes to the market volatility.
These varying characteristics make it difficult to analyse and understand the behaviour of electricity markets.
The primary objectives of the game are:

1. To teach the dynamics of electricity markets.
2. To analyse and understand the impact of various policies in such a system.

## GAME-PLAY

In the game, players represent a company with different power generation technologies. Players decide on investing in a new power plant, dismantling or trading of an existing power plant, and bid in a power exchange. An electricity board regulator has the power to introduce and modify market policies.

The game proceeds in rounds, where a round simulates a full business cycle. In these rounds, we can introduce or modify various policies (such as turning on carbon market etc.). This allows players to understand and analyse the impact of their decisions, the effects of various policies, etc.

***Intended Audience***
*Students, Market Analysts, Policy makers, Researchers and Companies in the Power Sector*

***Keywords***
*Complexity, Bidding*

***Type***
*Web-based*

***Duration***
*1-2 hours*

***No. of people***
*Minimum of two teams with any number of players. No limit on maximum number of players*



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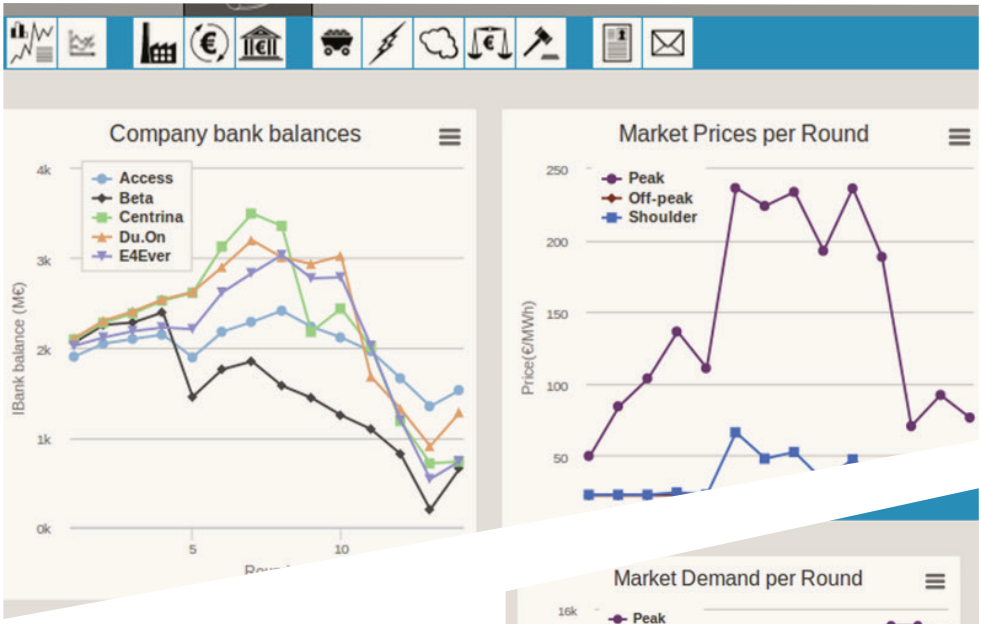


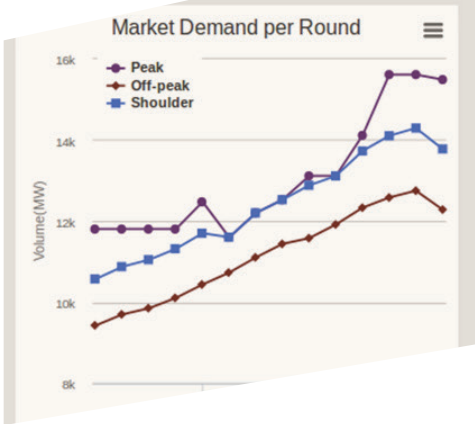


## OBSERVATION

Throughout multiple sessions, we observe that the gaming simulations help players understand the consequences (market response) of their investment strategies. They can test and observe effects of simple strategies such as marginal cost bidding, etc.

The players also experience the effects of incomplete information on future developments and the flux in the global fuel market. The players learn how to make trade-offs between short-term profits and long term market share.

## OUTPUT

- Gaming-simulation platform.
- Implications of changes in the regulatory framework on the investment strategies.


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***Collaborations***

*Technology and Policy Management, TU Delft, Netherlands.*




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