

Newsletter Berenschot Energy & Sustainability

The energy sector is in transition towards more sustainable solutions. This transition brings radical changes, creating opportunities as well as challenges for all parties involved. We can help you to contribute to this sustainable energy future.

Our approach integrates extensive expertise of energy markets, technologies, strategy and regulation with a high involvement of stakeholders and a dialogue driven methodology.

We would like to inform you on our latest activities in this half-yearly newsletter. If you want to know more about these subjects or our services, please contact me [here](#) or fill in the [form at the end of this newsletter](#). You can also unsubscribe from this newsletter by clicking [here](#).

Recently, we have published reports on the following topics:

- [International Electricity Market analysis](#)
- [Energy flexibility, Demand Response and System Integration](#)
- [Heating markets](#)
- [Gas markets](#)
- [Transition processes towards sustainability](#)



In addition, we have included our co-operation with [International Finance Corporation](#).

Best Regards,

Bert den Ouden

Berenschot Energy & Sustainability

International Electricity Market analysis



Research on the Flow Based Market Coupling for the Northwest European electricity market

*At the request of The Dutch Authority for Consumers and Markets.
Published on April 23rd, 2015*

The Dutch regulator ACM requested Berenschot to conduct a study regarding market and competition issues under Flow Based Market Coupling (FBMC). Initially, a CWE Market Coupling based on Available Transmission Capacity (ATC) was realized in 2010. This has been highly successful with improvements in price convergence and economic surplus in the CWE area. Changing the existing

Market Coupling method to a method based on Flow-Based principles is presumed to have additional advantages in these respects as well as potential drawbacks, especially in situations of non-convergence. The study focused on the competition aspects of FBMC, i.e., the loss of partial convergence after FBMC and the consequences of flow-factor competition for parties in different countries. The positive resolution by the ACM and the Berenschot report was published on April 23rd, 2015. The full report (in English) is available [here](#).

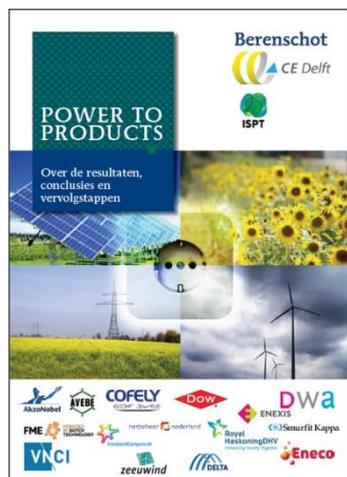


Promotion of cross-border integration of the Dutch electricity market

At the request of the Dutch Ministry of Economic Affairs. Published on May 22nd, 2015

The Dutch Ministry of Economic Affairs engaged Berenschot to assess the impact of the efforts needed to achieve an enhanced integration of the Dutch electricity market with neighbouring markets. The report focusses on current measures, such as planned new interconnector capacity and the introduction of flow-based market coupling, possible obstacles and additional steps to accomplish further market integration and the expected effects of these measures on Dutch wholesale prices until 2023. The Berenschot report was sent by the Minister of Economic Affairs to the House of Representatives. The report (in Dutch) is available [here](#). An English summary (in PowerPoint) will be available on request.

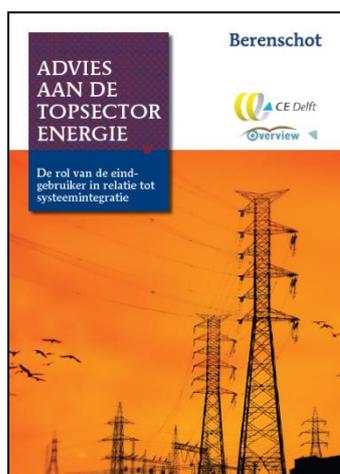
Energy flexibility, Demand Response and System Integration



Power2Products. Demand side management in large industry

At the request of the *Top Sector Energy*

A consortium consisting of Berenschot, CE Delft and ISPT investigated demand flexibility in large industries in order to contribute to grid stability, market stability, reliable revenues for renewable energy, and lower need for subsidies. Demand flexibility can facilitate the implementation of the *Dutch Agreement on Energy for Sustainable Growth*. Together with industrial energy users, network operators, energy producers and wind farm owners, five business cases for demand response were explored. This would mean selective additional demand when energy prices are low or demand reductions when prices are high. The aim is to add value for renewable energy producers, industrial energy consumers and the market as a whole. The report (in Dutch) is available [here](#). An English summary (in PowerPoint) will be available on request.

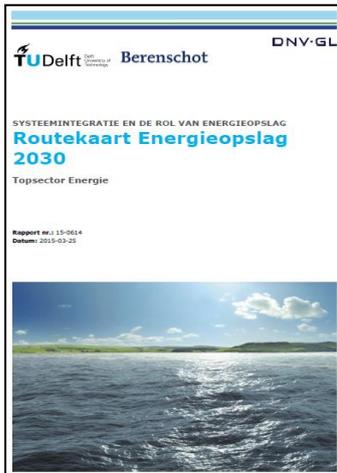


The role of end-users in relation to system integration (Energy flexibility and demand response)

At the request of the *Top Sector Energy*. Published April 21st, 2015

A consortium consisting of Berenschot, CE Delft and Overview developed the roadmap "The role of the end-user in relation to system integration". The roadmap, developed at the request of the Top Sector Energy in the Netherlands, sets out the short- and medium term actions for the government, the industry and research institutions in the coming 15 years towards better R&D for the implementation of demand flexibility. Key elements of the roadmap were presented at the System Integration conference held by the Top Sector Energy. An *English summary* is available [here](#). The full report (in Dutch) is available [here](#).

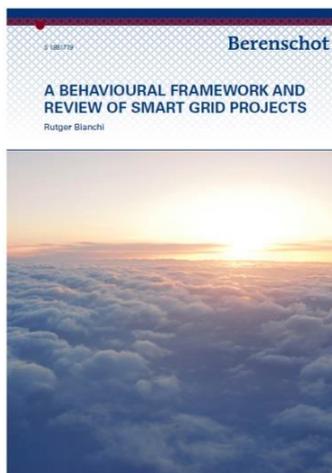
As a follow-up, two feasibility studies have started: one on the specific *flexibility potential of hybrid heat pumps*, and one regarding flexible heat storage and load management from the *combination of PV-panels and electric boilers*. These projects are ongoing and will be reported later on.



Energy storage roadmap

At the request of the Top Sector Energy. Published on April 21st, 2015

At the request of the Top Sector Energy, a consortium of DNV GL, Berenschot and TU Delft developed the 'Roadmap to energy storage in the Netherlands 2030'. Energy storage technologies offer the flexibility needed in the electricity system to accommodate the increasing quantity of variable sources of energy such as wind and solar. However, the current market structure does not sufficiently value flexibility. The road describes the opportunities for energy storage up to 2030 and beyond and the required government guidelines and policies to further support the progress of energy storage. The full report (in Dutch) is available [here](#). An English summary (in PowerPoint) will be available on request.



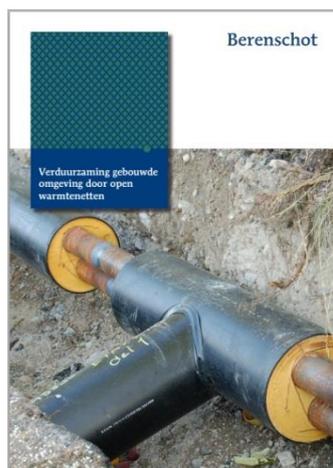
A behavioural framework and review of smart grid projects

Student Research project

This study provides a review of smart grid project characteristics and end user behaviour in the Netherlands. At this moment several smart grid projects are conducted in the Netherlands, however an oversight of these projects is missing. In this study different smart grid initiatives in the Netherlands were identified.

The characteristics and outcomes of these projects in terms of end user behaviour were evaluated using literature from both the fields of biology and psychology. This resulted in a behavioural framework and a technology design framework that aids in the development of successful demand response innovations. The full report (in English) is available [here](#).

Heating Markets



Preliminary study on open (district) heating markets

In cooperation with Alliander

The ambitions are high: in 2050 the built environment in the Netherlands should be CO₂ neutral. This has consequences for the energy infrastructure. It also heavily affects the network operators and poses challenges with regard to the optimization of the necessary network investments. Together with energy network operator Alliander, Berenschot explored the future developments of (open) heat networks in the context of achieving sustainability in the built environment. The conclusion is that, open heat networks and a TPA based heat market are necessary and realistic building blocks to achieve a CO₂ neutral built environment. The full report (in Dutch) is available [here](#). An English presentation based upon it, presented at a High Level Round Table meeting, is available [here](#).



Open market for district heating, South-Holland

A working group involving several parties (Agro Energy, Alliander, CEDelft, EON, LTO Glaskracht, Prominent, Province of South-Holland, Berenschot) has explored the possibility for a heating market with open access in the south-west of South-Holland (heat roundabout). The conclusion is that there are good prospects to develop this perspective. One of the ideas contributed by Berenschot energy market knowledge is a “nodal pricing” system for such a market. The report (in Dutch) is available [here](#). An

English presentation based upon it, presented at a High Level Round Table, is available [here](#).

Gas markets



International Gas Market Study Report. Contribution to a report to the Australian Energy Market Commission

At the request of Market Reform. Published June 2015

On behalf of Market Reform, Berenschot Energy & Sustainability participated in a comparative international study of gas markets for the Australian Energy Market Commission. The full report (in English) is available [here](#).



Inventory of main influencing assumptions in current reports and scenarios for future development of industrial gas demand

On request of Gasunie Transport Services (GTS), 2015

Berenschot investigated the main influencing factors on the current reports and scenarios regarding the future development of the industrial gas demand in the Netherlands. The results will be used internally by GTS as input to further developments.

TRANSITION PROCESSES TOWARDS SUSTAINABILITY



Accelerating Energy Transition

Enexis is a grid operator and therefore at the heart of the energy transition. Enexis is committed to contribute to renewable energy, smart loading technology for electric vehicles, system flexibility and energy saving. Berenschot was asked to work together with Enexis in order to identify, initiate and organize decisive alliances that contribute to the energy transition. These alliances are created in close co-operation with shareholders (local government) and participation of multiple other relevant stakeholders. Recently, nine alliances were launched in Groningen that aim for large scale development of solar energy.

Enexis is responsible for the connections to approximately 2.7 million households, businesses and official agencies and ensures that energy finds its way safely from the energy suppliers to our home or premises. They are constantly working on creating a better, smarter and more efficient grid which is ready for the future.



Berenschot partners with the International Finance Corporation

Berenschot collaborates with the International Finance Corporation (IFC) to raise awareness of IFC's role as financier for Dutch companies investing in emerging markets. IFC, member of the World Bank Group, is the largest global development institution focused on the private sector in emerging markets. IFC offers financing, advice and asset management to clients. The products of IFC are focused on private sector investors in infrastructure, manufacturing, agribusiness, services, and financial markets. IFC is one of the world's largest financiers of climate-smart projects for developing countries, investing about \$11 billion in long-term financing over the last decade for renewable power, energy efficiency, sustainable agriculture, green buildings and private sector adaptation to climate change.

Do you seek to establish a new venture or expand an existing enterprise in an emerging market, especially in the field of energy transition, renewable energy and reduction of CO2-emissions? Berenschot can provide you with further information and advice. Please visit our website [here](#).

CONTACT FORM

I wish to know more about the following subjects:

- Electricity prices or (flow based) Market Coupling)
- Demand response, flexibility, smart grids or energy system integration
- District heating and open heating markets
- Gas markets
- Transition processes towards sustainability
- Other, namely.....

Please fill in your response and copy and paste in an [e-mail to us](#).

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