

NEPP

– A comprehensive research project about the development of the energy

NEPP (North European Energy Perspectives Project) is a coherent multi-disciplinary research project focusing on the development of the energy systems in Sweden, the Nordic countries and Europe with the time perspective 2020, 2030 and 2050. The research is performed by a number of well-merited researchers and analysts in close co-operation with experts from the central actors on the energy markets. The Project has a well-established position on the edge of research and knowledge, and the results and conclusions have been widely spread with a high degree of penetration.

NEPP cooperates with - besides the ministries and authorities- e.g. the Swedish Energy Policy Commission, The Royal Swedish Academy of Engineering Sciences, and Swedish Smartgrid. The steering group of the project was, in the first phase of the project, chaired by the Swedish Energy Agency's Director-General, Energiforsk was acting as project host and Profu as project manager. We are now together drawing up a new three-year phase of NEPP, which will start in the autumn of 2016.

The new NEPP – focusing on electricity, district heating, and gas

In the first phase of NEPP (2011-2016) focus was on the electricity system. In this second phase this focus will be broadened to include all three types of conducted energy (district heating, electricity, gas), their roles in the development of the energy system, as well as their mutual interactions and synergies. The new NEPP will include all parts from demand and distribution/grids to production and market.

The overarching task for the research is to show how a balanced and efficient development of the Nordic and European electricity system can be achieved.

- The research shall aim at identifying success factors that promote this balanced development. This could apply to choice of paths when developing and operating the electricity and energy system, new market regulations, the choice and design of policy instruments etc.
- A deeper understanding should also be sought regarding the expectations on energy

actors, politicians, and the society in general in realising goals and implementing development paths.

- NEPP also has the ambition of contributing to a better foundation for the energy and environment-related political decisions, nationally and internationally.

“
Everybody is talking about NEPP!”

*Ibrahim Baylan,
Minister of Energy*

An approach based on a holistic view

NEPP is an energy system project with an approach based on analyses and methods/models with a holistic view. One of the ambitions of the project is that interdisciplinary synthesis work should make up a significant portion of the research work conducted within the framework of the project.

NEPP's ambition is also to deepen the insight about how the countries and the players on the Swedish, Nordic and the North European energy markets can act to, in a cost-effective way, meet the challenges that arise from the

energy and climate politics in the EU and its Member States, and from the impact from the development of other external factors.

A mission for NEPP is also to be a meeting place – a forum – for a facts-based discussion and dialogue between decision-makers and other energy actors from different areas and countries. The project should therefore also stimulate a constructive dialogue between researchers, politicians, authorities and players on the energy markets. Today, this forum is in full swing. We would gladly welcome this forum to continue to operate and we hope that the discussion around the themes NEPP is working with will go on.

All central actors on our energy markets

As in the first phase of NEPP, the ambition also in phase two is that the project should include all central actors on our energy markets. In the first phase NEPP was funded by the electricity companies (Energiforsk), Svenska Kraftnät, The Swedish Energy Agency, and The Confederation of Swedish Enterprise. Nordic Energy Research, Swedish Smartgrid and The Royal Swedish Academy of Engineering Sciences have contributed to the financing of some of the sub-projects. The research and synthesis efforts in NEPP were carried out by five research groups at Chalmers University of Technology, KTH Royal Institute of Technology, Profu, Sweco and IVL Swedish Environmental Research Institute. There is an intention in this second phase to further widen NEPP, involving new research areas and research teams, e.g. from Lund, Malmö, Umeå and Luleå. Extended energy and environmental system analysis is best done in a multi-disciplinary context.

“Today, there are numerous ‘islets of knowledge’ in science and in business, the wholeness is lacking, NEPP creates this wholeness, which will bring new insights and new knowledge.”

Stefan Montin, Energiforsk

An established forum with a long history – from Nordleden to NEPP

NEPP and its predecessors NEP (Nordic Energy Perspectives) and Nordleden has been a central and politics-close research platform since the mid-90s, on which the energy branch with its enterprises, the ministries, the authorities, academia, and the research companies have cooperated under the supervision of Elforsk/Energiforsk and the Swedish Energy Agency. The research projects have all the way through been focusing on current – yet long term – research topics, been multidisciplinary and neutral, and have had a close dialogue with politicians and other central decision-makers in the energy systems. The projects have acted internationally and nationally, regarding the research as well as interested parties. NEPP’s predecessors involved the whole energy system (and had a supply perspective), whereas NEPP so far has had a narrower electricity focus, at the same time as the research has been widened to cover the entirety (from supply to demand, from electricity system to electricity market). The planned second phase of NEPP will include both this wholeness and the entire energy system.



Easy-to-read and communicable theme books and result summaries

Significant for NEPP is the intense and easily comprehensible communication of results and conclusions. This has been a means for the project to effectively reach out to a very broad target audience. Besides theme books and other project reports, result and fact sheets with the latest findings have continually been published, from the start of the project.

The eight sub-projects

The research in NEPP is sub-divided into eight sub-projects fully covering the scope of the project. The collaboration between the sub-projects and the exchange of result is extensive, and we are gradually drawing up aggregated views based on the results from the sub-projects.

For each sub-project there is a research focus and a number of research questions defined and explained in the project description. At the same time, the steering team, and thereby every financier in the project, has the power to continually influence the direction. Thus, NEPP also can take in the current topics of interest within the remit of the project. This gives the sponsors a good control over the resources they put in into the project.'



"88 pearls of wisdom" summarizes the most important results and conclusions from the first phase of the NEPP.

The eight sub-projects:

1. The future climate and energy politics – an analytical base for a deeper understanding of the consequences of the policies pursued.
2. Analysis of the development of the energy systems in a local/regional and national/Nordic perspective – with a focus on robustness and stress tolerance in the short and the long perspective.
3. Consequences for the energy systems in Sweden/The Nordic countries of different development paths for the European energy systems.
4. How can we accomplish sufficient investments in the energy systems?
5. The big effect issue – focus on electricity, but also on district heating.
6. The development of the energy demand – driving forces/factors with an influence, e.g. energy efficiency optimisation, population growth, GDP growth, Technology development etc.
7. Who are responsible for the future energy systems, with a focus on district heating, electricity and gas?
8. Environmental and resource efficiency and how different outlooks, methodologies and criteria impacts the development of the energy systems (with a particular focus on biofuels/waste management).

Holistic views: Formation of holistic views based on the syntheses and conclusions from sub-project 1-8, as well as from research programs/projects run in parallel.

More information

More information about NEPP: www.nepp.se.

