Navigating the Roadmap for Clean, Secure and Efficient Energy Innovation

Workshop Proceedings Paper on Accelerating the transition towards sustainable transport

SET-Nav Stakeholder Dialogue: 3rd Topical Workshop

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May / 2018

A report compiled within the H2020 project SET-Nav (work package 2, deliverable D2.6)
www.set-nav.eu

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# Agenda

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2 Minutes

2.1 Welcome

This event was used to promote the work done within the case study 5.4 on *Ways to a cleaner and smarter transport sector* to ensure a continuous flow of dissemination activities and to give interested actors the opportunity to bring their views and guide the analytical process within the project.

2.2 Session 1: Introduction to the project and the keynote speech

This session primarily provided an introduction to the topic of sustainable transport by a representative of the European Commission. It also gave an overview and summary of the progress of the SET-Nav project that started in April 2016.

- **Maijke Welisch** from TU Wien, who is part of the project coordinating team, provided an overview of the project to the audience and a brief summary of the progress so far. Marijke informed participants of the three key pillars of the project, the objectives and methodological framework of SET-Nav as well as the upcoming modelling workshops that are planned as part of the project. In particular, Marijke informed the audience of the upcoming “Energy Modelling Platform for Europe 2018”, which will take place in Brussels at the European Commission on the 25th – 26th September 2018.

- **Robert Missen**, who is Head of the research and innovation Unit for sustainable transport at DG MOVE from the European Commission, provided the keynote speech and set the tone of the event. He discussed the legislative processes currently taking place in his unit. He also enlightened the audience that the goal has already been set by the European Commission, for the EU and its industries to become a world leader in innovation, digitalisation and decarbonisation, and that this will be made a reality in the mobility sector.
2.3 Session 2: Ways to a cleaner and smarter transport sector

As opposed to other energy sectors, final energy consumption of the European transport sector has continuously increased over the last decade. Despite having a very innovative transport industry investing a lot in research and development with policies designed to foster the shift towards energy efficient and renewable energy carriers, the transport sector is still strongly based on fossil fuels. With this in mind, the SET-Nav consortium aimed to present a preliminary answer to the question: what measures can be put in place to accelerate the transition of the transport sector towards a low-carbon system that can additionally provide further flexibility option with regards to the energy sector?

In this session, SET-Nav researchers offered potential options and strategies to decarbonise transport that have been previously analysed using different modelling approaches. Following this, comments were provided by leading stakeholders.

- **Stephanie Heitel** from Fraunhofer ISI, part of the SET-Nav team, presented her findings on the Case Study *Ways to a cleaner and smarter transport sector*. The results she presented were from three different policy scenarios. The first scenario observed direct electrification for transport while the second looked at including some elements of vehicles powered by hydrogen. The difference here is the policies that introduce dense hydrogen infrastructure and subsidies for market entry of FCEVs compared to policies that stimulate hybrid trolley-truck infrastructure on motorways. These scenarios were compared with a third scenario, the reference scenario. Using the ASTRA model, she disclosed modelled projections of the reduction in greenhouse gas emissions in the years 2020, 2030 and 2050 for each of the three scenarios. The modelling results show that the direct electrification scenario would result in a marginally lower reduction in emissions than the hydrogen scenario and that both those scenarios would result in lower emission when compared with the reference scenario.

- **Patrik Akerman**, Head of eHighway Business Development from Siemens provided his comments in response to the results presented by the SET-Nav research team. He discussed the key challenges to the decarbonisation of the transport sector and discussed technical concepts for electrified roads for HDVs. This was in relation to the direct electrification of transport scenario presented by Stephanie Heitel. He also explored the cost assessment of such a system and the roadmap to get there. Following some demonstration projects in Sweden, he believes the next step for the development of a trolley truck system in the EU is to hold field trials in Germany and the path forward should focus on the electrification of highly frequented routes.

- **Jorgo Chatzimarkakis**, Secretary General of Hydrogen Europe provided his comments on the topic and the results presented by SET-Nav researchers. He pointed out that hydrogen is key to support the energy transition. It firstly enables large-scale renewable energy integration and power generation, and can act as a buffer to increase system resilience. Secondly, it can help decarbonise transport, industrial processes as well as building heat and power. In regards to heavy duty hydrogen, he stated that it provides a high daily range for vehicles and operational flexibility when compared with electrified transport.

- **Marie-France Van der Valk**, Head of Renault-Nissan Alliance representation office in Brussels also provided her comments on the research presented by the SET-Nav project team. She included an additional element to the discussions, the efficiency of resources related to the circular economy. She spoke about optimizing the environmental impact of EV batteries and integrating a circular economy loop into the system through battery recycling and second-life applications.
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About the project

SET-Nav aims for supporting strategic decision making in Europe’s energy sector, enhancing innovation towards a clean, secure and efficient energy system. Our research will enable the European Commission, national governments and regulators to facilitate the development of optimal technology portfolios by market actors. We will comprehensively address critical uncertainties facing technology developers and investors, and derive appropriate policy and market responses. Our findings will support the further development of the SET-Plan and its implementation by continuous stakeholder engagement.

These contributions of the SET-Nav project rest on three pillars: modelling, policy and pathway analysis, and dissemination. The call for proposals sets out a wide range of objectives and analytical challenges that can only be met by developing a broad and technically-advanced modelling portfolio. Advancing this portfolio is our first pillar. The EU’s energy, innovation and climate challenges define the direction of a future EU energy system, but the specific technology pathways are policy sensitive and need careful comparative evaluation. This is our second pillar. Ensuring our research is policy-relevant while meeting the needs of diverse actors with their particular perspectives requires continuous engagement with stakeholder community. This is our third pillar.

Who we are?

The project is coordinated by Technische Universität Wien (TU Wien) and being implemented by a multinational consortium of European organisations, with partners from Austria, Germany, Norway, Greece, France, Switzerland, the United Kingdom, France, Hungary, Spain and Belgium.

The project partners come from both the research and the industrial sectors. They represent the wide range of expertise necessary for the implementation of the project: policy research, energy technology, systems modelling, and simulation.

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