

## INVITATION

### SET-Nav Modeling Workshop *Top-Down Bottom-Up Hybrid Modeling*

24<sup>th</sup> and 25<sup>th</sup> of November 2016

Venue: NTNU Trondheim (Norway)

Registration: <https://hfntnu.wufoo.com/forms/zm3r1m40pammoa/>

The SET-Nav ([www.set-nav.eu](http://www.set-nav.eu)) project supports strategic decision making in Europe's energy sector, enhancing innovation towards a clean, secure and efficient energy system, and is financed by the European Commission's EU Horizon 2020 programme.

The SET-Nav project aims to enable the European Commission, national governments and regulators to facilitate the development of optimal technology portfolios by market actors. It will comprehensively address critical uncertainties and derive appropriate policy and market responses. The findings will support the further development of the Strategic Energy Technology Plan (SET Plan<sup>1</sup>) and its implementation by continuous stakeholder involvement.

Contributions of SET-Nav:

1. Expanding the technically-advanced modelling portfolio and enabling knowledge exchange.
2. Evaluation of the impact of multiple policy-sensitive technology pathways.
3. Stakeholder dialogue and dissemination to ensure that actors can effectively choose and implement the available energy innovation and system transformation options.

# Modelling Workshops

In SET-Nav we push the state-of-the-art of energy-economic-engineering models. Several work packages within the project are dedicated to improve, extend and customize models to better reflect relevant energy system aspects to address the research questions arising from the SET Plan. Models will be linked and data exchanged between them. However, today's computational limitations effectively restrict the scope, scale and detail of all models. Future computational power and smarter solution algorithms will allow solving larger models that can provide a more holistic picture. In five different modelling workshops we want to investigate and discuss with the broader research community what should be prioritized when faced with the possibility to enlarge models' scope, scale or detail given the research questions arising from the SET Plan Challenges.

The workshops organized by SET-Nav will bring together modelling groups from various backgrounds, using different approaches (econometric, optimization, equilibrium, simulation) and focusing on different aspects of the energy-economy-environment system. We want to use this opportunity to develop competencies and new approaches across existing modelling methodologies, drawing on approaches from different frameworks and economic concepts. This cross-fertilisation between different approaches will allow to better capture the interdependencies between economic and technological-development aspects of the energy system in current and future modelling work.

The workshops will be open to interested energy modellers, also beyond the project members. As such, these workshops will serve as an open exchange platform and also serve the goal of the Horizon 2020 programme of transparency and openness in applied modelling.

On **November 24-25, 2016**, we will organize the first workshop. Its topic will be

## **“Top-down bottom-up hybrid modelling”, at the Norwegian University of Science and Technology in Trondheim (Norway).**

Top-down bottom-up hybrid modeling shall enable us to better describe the inter-relation between the energy system (bottom-up, e.g., infrastructure) and the wider economy (top-down, e.g., as in CGE models). The workshop shall be a combination of seminar style lectures on fundamental aspects of the modeling approach and shorter conference style presentations of applications. It will cover both the linear optimization and the equilibrium modeling frameworks.

**Confirmed key speakers: Prof. Christoph Böhringer, Oldenburg University and Dr. Jan Abrell, ETH Zurich.**

Until October 24<sup>th</sup>, 2016, we are inviting contributions to the workshop. If you are interested in presenting your modeling approach and/or application of top-down bottom-up hybrid modeling, please contact Assoc. prof. Ruud Egging at NTNU ([ruud.egging@iot.ntnu.no](mailto:ruud.egging@iot.ntnu.no)) and work package leader Dr. Franziska Holz at DIW Berlin ([fholtz@diw.de](mailto:fholtz@diw.de)).

Participation is free of charge, but seats are limited and participants have to cover their own travel and accommodation costs. Registration for participation is possible until November 11<sup>th</sup>, 2016 via website <https://hfntnu.wufoo.com/forms/zm3r1m40pammoa/>. An up-to date program and location details will be made available via [www.ntnu.edu/censes](http://www.ntnu.edu/censes) (“Upcoming events”).

We are looking forward to a fruitful exchange of ideas and experiences in this first SET-Nav modelling workshop. Welcome to Trondheim!





## SET-Nav at a glance

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

These contributions of the SET-Nav project rest on three pillars:

The wide range of objectives and analytical challenges set out by the call for proposals can only be met by developing a broad and technically-advanced **modelling portfolio**. Advancing this portfolio and enabling knowledge exchange via a modelling forum 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. Using our strengthened **modelling capabilities** in an integrated modelling hierarchy, we will analyse multiple dimensions of impact of future pathways: **sustainability, reliability and supply security, global competitiveness and efficiency**. This analysis will combine bottom-up 'case studies' linked to the full range of SET-Plan themes with holistic 'transformation pathways'.

**Stakeholder dialogue** and **dissemination** is the third pillar of SET-Nav. We have prepared for a lively stakeholder dialogue through a series of events on critical SET-Plan themes. The **active involvement** of stakeholders in a two-way feedback process will provide a reality check on our modelling assumptions and approaches, and ensure high policy relevance. Our aim is to ensure policy and market actors alike can navigate effectively through the diverse options available on energy innovation and system transformation.

## SET-Nav partners

No	Participant name	Country code
1	Vienna University of Technology, Energy Economics Group ( <i>TU Wien</i> )	AT
2	Fraunhofer-Institut für System- und Innovationsforschung ( <i>Fraunhofer</i> )	DE
3	Deutsches Institut für Wirtschaftsforschung ( <i>DIW Berlin</i> )	DE
4	Norges teknisk-naturvitenskapelige universitet i Trondheim ( <i>NTNU</i> )	NO
5	Stiftelsen for industriell og teknisk forskning ved NTH ( <i>Sintef</i> )	NO
6	Société Européenne d'ECOnomie ( <i>Seureco</i> )	FR
7	Universidad Pontificia Comillas ( <i>Comillas</i> )	ES
8	National Technical University of Athens ( <i>NTUA</i> )	GR
9	Regional Center for Energy Policy Research ( <i>REKK</i> )	HU
10	Centre for European Policy Studies ( <i>CEPS</i> )	BE
11	University of East Anglia ( <i>UEA</i> )	UK
12	Eidgenössische Technische Hochschule Zürich ( <i>ETH</i> )	CH
13	Axpo Services AG ( <i>Axpo</i> )	CH
14	General Electric ( <i>GE</i> )	CH
15	International Institute for Applied Systems Analysis ( <i>IIASA</i> )	AT