

NAVIGATING THE ROADMAP FOR CLEAN, SECURE AND EFFICIENT ENERGY INNOVATION



Workshop Proceedings Paper on
What architecture for the EU's
future electricity infrastructure?
Impacts of decentralised and
centralised generation on the
transmission grid

SET-Nav Stakeholder Dialogue: 1st
Topical Workshop

Author(s): Eleanor Drabik, CEPS

March / 2017

A report compiled within the H2020 project SET-Nav
(work package 2, deliverable D2.4)

www.set-nav.eu

Project Coordinator: Technische Universität Wien (TU
Wien)

Work Package Coordinator: Centre for European Policy
Studies (CEPS)



The project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 691843 (SET-Nav).



Project coordinator:

Gustav Resch

Technische Universität Wien (TU Wien), Institute of Energy Systems and Electrical Drives, Energy Economics Group (EEG)

Address: Gusshausstrasse 25/370-3, A-1040 Vienna, Austria

Phone: +43 1 58801 370354

Fax: +43 1 58801 370397

Email: resch@eeq.tuwien.ac.at

Web: www.eeq.tuwien.ac.at



Dissemination leader:

Prof. John Psarras, Haris Doukas (Project Web)

National Technical University of Athens (NTUA-EPU)

Address: 9, Iroon Polytechniou str., 15780, Zografou, Athens, Greece

Phone: +30 210 7722083

Fax: +30 210 7723550

Email: h_doukas@epu.ntua.gr

Web: <http://www.epu.ntua.gr>



Lead author of this report:

Eleanor Drabik

Centre for European Policy Studies (CEPS)

Address: Place du Congrès 1, 1000 Bruxelles, Belgium

Phone: +32 2 229 39 85

Email: eleanor.drabik@ceps.eu

Web: <https://www.ceps.eu/>

1 Agenda

09:30 - 10:00	REGISTRATION AND COFFEE
10:00 - 10:30	SESSION I: Introduction and Keynote Speech
10:00 - 10:05	Welcome by Eleanor Drabik, Researcher, CEPS
10:05 - 10:15	Progress of the SET-Nav project by Gustav Resch, Senior Researcher, TU Wien
10:15 - 10:30	Keynote speech by Remy Denos, DG Energy, European Commission
10:30 - 12:45	SESSION II: Decentralised vs. centralised development of the electricity sector – Impact on the transmission grid
<p>This session will answer the key questions associated with development of the electricity sector and the impact on the transmission grid, including:</p> <ul style="list-style-type: none"> • What will be Europe's electricity infrastructure needs? • What are the main impacts of renewable energy sources and demand response on the need for power and gas infrastructure, including energy storage? • What are the main grid architectures that should be considered? • What is the impact of innovative transmission technologies on optimal grid architectures? <p>On the panel will be experts from policy, academia and industry to discuss the policy brief on decentralised vs. centralised development of the electricity sector – Impact on the transmission grid. There will be the chance for a discussion and Q&A at the end.</p>	
10:30 - 10:35	Introduction by chair, Gustav Resch, TU Wien
10:35 - 10:50	Presenting the policy briefing: Sara Lumbreras, Comillas
10:50 - 11:05	Frank Sensfuß, Fraunhofer ISI
11:05 - 11:15	Robert Schroeder, Manager, System Development and RDIC teams, ENTSO-E
11:15 - 11:25	Emmanuel Brutin, Head of European Affairs, National Grid
11:25 - 11:35	Andrew Ebrill, Secretary General, CEER
11:35 - 11:45	Comments provided by Remy Denos, DG Energy, European Commission
11:45 - 12:45	Panel discussion and Q&A
12:45	END OF THE WORKSHOP FOLLOWED BY A LIGHT LUNCH

2 Minutes

2.1 Welcome

This event was used to provide an overview and progress of the project so far and to present new insights from the SET-Nav project on the impact of decentralised renewables on transmission grids from one of the studied case studies. The intention was to discuss research with policy-makers and industry representatives and targeted stakeholders participating at the event. The aim is to provide a two-way dialogue between researchers in the project and stakeholders giving interested actors the opportunity to bring their views and guide the analytical process within the in relation to the case study presented.

2.2 Session 1: Introduction to the SET-Nav project and keynote speech

This session provided an overview of the SET-Nav project that started in April 2016, as well as a summary of the progress so far. A keynote speech, delivered by a representative of the European Commission, was also presented to provide the overall policy context related to the research.

- **Gustav Resch** from TU Wien, who is also acting as the SET-Nav project coordinator, provided an overview of the project and a summary of the progress so far. This overview involved a description of the partners and the three pillars of the SET-Nav project, which include enhancing modelling capacities, strategic policy analysis and stakeholder dialogue & dissemination. Progress has been made and the project has recently entered a phase devoted to elaborating case studies.
- **Remy Denos** declared that we need to make the transition to a 30% share of variable renewable production by 2030, which will require activating many flexibility measures with two key enablers: an operating network and a well-functioning market.



Figure 1: Session 1

2.3 Session 2: An innovation systems perspective to inform the SET Plan

In the second session, results from the project on the impacts of decentralised and centralised development on transmission grids were presented and comments were provided by key stakeholders from ENTSO-E, National grid, CEER and the European Commission. In the scenarios modelled, the decentralised design used more rooftop PV while the centralised option focused on offshore wind capacity. Highlights from the results show that expected renewable generation will pose a challenge to system operation and that transmission grid investment is higher in the centralised case, but that the decentralised option has higher system costs. Many panellists agreed that actually rather than centralised “versus” decentralised development of the electricity sector, both types of generation are necessary to achieve EU objectives. Another topic discussed was the huge challenge of obtaining public acceptance regarding both renewables and transmission grids and it was suggested that a clear message needs to be delivered to citizens that energy supply is no free lunch. The event concluded with the recommendation that modelling of energy systems is indeed very useful to stimulate debate, but that energy markets should also be the subject of modelling and flexibility needs included.



Figure 2: Session 2

3 Participants List

Alexandre Affre

Industrial Affairs Director

Industrial Affairs

BusinessEurope

Monica Alessi

Programme Manager

CEPS Energy Climate House

CEPS

Carlos Arsuaga

Brussels Office

Internationalization and Promotion Unit

CIRCE

Sanni Aumala

Advisor

Distribution

Eurelectric

Nelly Azais

Expert

Energy

Independent

Pierre Bancourt

Intern

Legal

EREF

Brittney Becker

Policy Officer

EASE - European Association for Storage of Energy

Abolfazl Beheshti

Professor of International Relations

ESDEN - Environment & Sustainable Development European Network

Shima Beigi

Research Scientist

Interdisciplinary Studies

Vrije Universiteit Brussel

Mukund Bhagwat

Corporate Energy Affairs

Energy & Climate Change

Aurubis Belgium

Marcel Bial

Secretary General

Energy

ESTELA (European Solar Thermal Electricity Association)

Luca Bianconi

Desk Officer

Russia division

EEAS

Petr Blizkovsky

Director

Directorate Agriculture

Council of the European Union

Reinhilde Bouckaert

Policy Advisor

Energy department

FPS Economy

Maria Bouza
Policy Advisor
energy
Friends of the supergrid

Robert Boyle
Assistant, MEP
MEP Morten Helveg Petersen
European Parliament

Emmanuel Brutin
European Affairs Manager
National Grid

Marina Buna
Senior Consultant
Energy
EY

Naomi Chevillard
European Affairs Policy officer
European Affairs Department
RTE EU Office

Annabelle Cima
Intern
Environment, Energy and Climate
CEMR

Sonia Clarena Baron
Manager of European Affairs
EUTurbines (European Association of Gas and Steam Turbine Manufacturers)

Andrea Collart

Director

Competition

Avisa Partners

Stanislas Collignon

Public Affairs Officer

European Public Affairs

TOTAL S.A.

Mike Coyle

Consultant

Central

Coyle and co

Mattia Dalle Vedove

EU Energy Policy Manager

Corporate Office, Europe

Hitachi Ltd.

Marc Dimitri de Sauvage

Manager

environment projects an technologies

Sofetime Luxembourg

Alessandra De Zottis

Manager

Financing Resilient Energy Infrastructure

World Energy Council

Remy Denos

Policy Officer

DG Energy

European Commission

Laura Déruaz
MEP Assistant
European Parliament

Alice Detollenaere
Project manager wind energy
Public affairs
ODE

Danielle Devogelaer
Energie Expert
Sectoral Directorate
Federaal Planbureau

Benedetta Di Costanzo
Project Officer
COGEN Europe

Michal Dlugosz
Climate and Energy Policy Analyst
Analysis
Central Europe Energy Partners

Jayson Dong
Policy Advisor
Smart Energy Demand Coalition

Helene Dötsch
Stagiaire
European Parliament

Roman Doubrava
Finance Team Lead
Directorate General for Energy

European Commission

Eleanor Drabik

Researcher

Energy and Climate Change Unit

CEPS

Maité Dubois

Research Assistant

Research

Mitsui Benelux

Elena Dufour

Policy Officer

Energy

ESTELA - European Solar Thermal Electricity Association

Wioletta Dunin-Majewska

Policy Coordinator

DG ENER

European Commission

Andrew Ebrill

Secretary General

CEER

Gregor Erbach

Policy Analyst

EPRS

European Parliament

Jan Eustachi

Intern

Delegate Office
European Parliament

Eleonora Fanfoni
Intern
Energy
Confindustria

Roberto Ferrigno
Director
EU Policy
Lumina Consult

Eleonore Flechel
Intern
Europe
MEDEF

Marco Franza
Senior Policy Officer
European Union and International Organisations Office
ENEA

Dalila Frisani
Senior Associate
EU law
Grimaldi Studio Legale

Teofik Fugarinja
Executive Director
Agriculture
Permaculture & Organic Agriculture

Kurt Gaissert

Advisor

European Office

Association of German SME's

Lucas Gardenal

Stagiaire

A2

European External Action Service - EEAS

Elisa Gastaldi

Government Affairs Leader

Grid Solutions

GE

Henriette Gleau

Junior Policy Advisor

Policy and Public Affairs Unit

GEODE

Florie Gonsolin

Manager Energy & Climate

HSSE, Energy & Climate Action

European Chemical Industry Council - Cefic aisbl

Guillaume Gonzalez

European Affairs Advisor

UFE electricité

Corinna Grajetzky

Manager European Affairs

Eu Representation Office

Innogy (RWE Group)

Anna-Maria Grodeke

Policy Assistant

EBBK

Europabüro der bayerischen Kommunen

Valentin Gros

European Affairs Advisor

European and International Affairs Department

UFE

Anca Gurzu

Reporter

News

Politico

Jan Hanssen

Executive Director

1-Tech s.p.r.l.

Ingebjørg Harto

Director

Confederation of Norwegian Enterprise

Olard Hasani

Head of development

Balkan Investing

Dominik Heijnk

Research Assistant

Public Policy

Instinctif Partners

Walburga Hemetsberger

Head of EU Representation Office

Brussels Office

Verbund

Robert Hodgson

Journalist

Freelance

EurActiv

Christine Holder

Trainee

Legal

EOTA

Johannes Hügel

Research Associate

Multinational Policy Dialogue Programme

Konrad-Adenauer-Stiftung

Peter Jacob Jacobsen

Consultant

Public Affairs

Hill+Knowlton Strategies

Tomasz Jerzyniak

Policy Officer

Internal Market I: Networks and Regional Initiatives

European Commission

Ann Johansson

Policy Assistant

EU Office

Danish Energy Association

Saskia Juergens

Graduate

European Affairs

Sciences Po

Ekaterina Karaseva

Senior Expert

EU Affairs

Gazprom

Mikael Kekkonen

Administrator

ITRE committee

European Parliament

Ansgar Kiene

Climate/ Energy Policy Advisor

EU Unit

Greenpeace

Yeong Jae Kim

Senior Research Associate

Tyndall Center for Climate Change Research

Marius Knagenhjelm

Sector Officer – Energy, Environment and Climate Change

EEA Grants - Norway Grants, Financial Mechanism Office

EFTA

Nicolas Kraus

EU Policy & Regulatory Affairs Manager

Hydrogen Europe

Daniela Kretz

Junior Consultant

Green Economy

IDEA Consult

Max David Krischke

Trainee

Office of the Local Authorities of Baden-Württemberg

Rolf Kuby

Director External Affairs

Head Group Representative Office Brussels

Aurubis Belgium SA/NV

Zofia Labno

Consultant

Energy

ADS Insight

Fernando Lasheras

Director of Brussels Office

Iderdrola

Jerome Le Page

Managing Director, Manager for European Electricity Markets

JLP Consulting & EFET

Yoann Le Petit

Emobility officer

Vehicles team

Transport & Environment

Johannes Leininger

EU Affairs Researcher

EU Affairs

Statoil

Lilita Leodanska
Information Specialist
Members' Research Service
EPRS | European Parliamentary Research Service

Gilles Lepasant
Senior researcher
Geography
CNRS

Norman Liebich
Student [intelligent electronic]
Groep-T
KU-Leuven

Tanja Lischka
Trainee
EU Energy Policy, Government Affairs
Siemens AG

Keyvan Loloie
Professor
Iran Studies
Islamic Azad University

Sara Lumbreras
Professor
IIT
Comillas

Kristine Lunde-Tellefsen
EU consultant
South Norway European Office

Cyrille Mai Thanh

EU Public Affairs Consultant

Energy & Environment

APCO Worldwide

Sebastian Mang

C&E Policy

Climate & Energy

Greenpeace

Neda Mashhadi

Cristina Mazur

Consultant

Independent

CEEMARC

Frank Meinke-Hubeny

Researcher

Unit Smart Energy & Built Environment

VITO

Vladimir Mijatovic

Advisor EU-Affairs

Politics and Communication

Uniper SE

David Monic

Financial expert

Real Estate

Idea Consult

Alejandra Munoz

Trainee

Committee of Regions

Michal Narozny

Policy Analyst, Impact Assessments

Secretariat General

European Commission

Samson Nibi

CEO

Planning

Healthy Cities

Carsten Nickel

Managing Director & Deputy Director of Research

Political Risk

Teneo Intelligence

Ophelia Nicole

Energy Team

Energy

Mission of Switzerland to the European Union

Klaas Nijs

Senior Advisor Energy

knowledge centre

Voka

Marcos Nogueira

Managing Partner

IrRADIARE

Leandro Parla

Industrial Engineer

Energy

ENEA - Italian National Agency for New Technologies, Energy and Sustainable Economic Development

Mike Parr

Director

Energy

PWR

Emilia Perna

Senior advisor

West Finland EU Office

Lisa Pflaum

Political Affairs Officer

Political Affairs

E.ON SE

Tomas Pirkl

Head Of Brussels Office

Eu Affairs

CEZ

Katinka Raad Petersen

MEP Morten Helveg Petersen

MEP Morten Helveg Petersen

European Parliament

Marieke Reijalt

Executive Director

Brussels Office

European Hydrogen Association EHA

Gustav Resch

Senior researcher

Energy Economics Group
TU Wien

Theresa Rettner
Stagiaire
Political science and public law
University of Heidelberg

Lukas Rohm
Stagiaire
EU Office
German Association of Local Public Utilities

Domenico Rosani
Stagiaire
Liaison Office Brussels
Autonomous Province of Bolzano/Bozen - South Tyrol

Nathalie Rubin-Delanchy
Consultant
External Relations
Cambre Associates

Víctor Sáenz de Miera Polvorinos
EU Activities And Participations
ELIA

Kostis Sakellaris
Economic Analyst
DG Energy
European Commission
Uroš-Valentino Saraja
Political Advisor to MEP Davor Škrlec
Industry Trends

European Parliament

Michael Schmitz

Advisor

European Office

German County Association

Robert Schroeder

Manager System Development

Management Team

ENTSO-E

Christoph Schuh

Head of office Brussels

European Affairs

Austrian Power Grid AG

Torben Schütz

Stagiaire

Europabüro

Verband der Chemischen Industrie - VCI

Franziska Schwerdtle

Manager European Affairs

Brussels Office

ZVEI German Electrical and Electronic Manufacturers' Association

Frank Sensfuß

Researcher

Energy Policy and Energy Markets

Fraunhofer Institute for Systems- and Innovation Research

Ana Serdoner

Policy Assistant

Bellona Europa

Jori Sihvonen

Biofuels Officer

Energy

Transport&Environment

Admir Softic

Assistant Minister

Sector of Energy

Ministry of Foreign Trade and Economic Relations, Bosnia & Herzegovina

Stefano Spinaci

Financial Administrator

DG Finance

European Parliament

Ilin Stanev

Journalist

Politics and Economy

Capital Newspaper

Mateusz Stankiewicz-Szynka

Consultant

Energy & Natural Resources Practice

FTI Consulting

Hilde Kristin Steen

EU Advisor

South Norway European Office

Simina Suciu

Associate

Litigation Department / Antitrust Section

Baker Botts

Madelene Sundkvist

Policy Advisor

Brussels office

Vattenfall

Alain Taccoen

Head of Stakeholders Relations

DAE

EDF - Electricité de France

Garret Tankosic-Kelly

Principal

Management

SEE Change

Borana Taraj

Policy & Project Officer

Research & Innovation

European University Association

Philipp Thaler

Policy Advisor

Brussels

E3G (Third Generation Environmentalism)

Christoph Thormeyer

Intern

EU Representation

EnBW

Ernst-Armin Tonisson

Trainee

Cabinet of Vice President Ansip

European Commission

Dario Trombetta
Policy Advisor
European Biogas Association

Raffaele Vaccaro
Stagiaire to MEP Alessia Maria Mosca
INTA-ITRE
European Parliament

Jussi Valta
Research assistant
Industrial engineering
Tampere University of Technology

Marco van Burik
Stagiaire
Environment
Permanent Representation of Germany to the EU

Augustijn van Haasteren
Policy Officer
DG Energy
European Commission

Patrick Van Hove
Senior Expert
DG Research & Innovation - Energy
European Commission

Simon Vandecasteele
Assistant Anneleen Van Bossuyt
ITRE
European Parliament

Sarolta Varga
Communication Manager
Eurideas Language Experts

Natasa Vistricka
Policy Adviser
MEP Škrlec
European Parliament

Ingo Wagner
Policy Manager
Research
DHC+ Technology Platform

Molly Walsh
Renewable Campaigner
Climate Justice and Energy
Friends of the Earth

Andreas Walstad
Editor, EU Policy
Energy
Interfax

Helene Weil
Senior Account Executive
Brussels Office
GPlus europe

Alex Wilson
Policy Analyst
EPRS
European Parliament

Eleni Zafeiratou

Stagiaire

DG Energy

European Commission

Project duration:	April 2016 – March 2019
Funding programme:	European Commission, Innovation and Networks Executive Agency (INEA), Horizon 2020 research and innovation programme, grant agreement no. 691843 (SET-Nav).
Web:	www.set-nav.eu
General contact:	contact@set-nav.eu

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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