



# NAVIGATING THE ROADMAP FOR CLEAN, SECURE AND EFFICIENT ENERGY INNOVATION



## *Workshop Proceedings Paper on Accelerating the transition towards sustainable transport*

### SET-Nav Stakeholder Dialogue: 3<sup>rd</sup> Topical Workshop

**Author(s):** Eleanor Drabik, CEPS

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[www.set-nav.eu](http://www.set-nav.eu)

**Project Coordinator:** Technische Universität Wien (TU  
Wien)

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

**SET-Nav**  
Strategic Energy Roadmap



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TECHNISCHE  
UNIVERSITÄT  
WIEN

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@eeg.tuwien.ac.at](mailto:resch@eeg.tuwien.ac.at)

Web: [www.eeg.tuwien.ac.at](http://www.eeg.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](mailto:h_doukas@epu.ntua.gr)

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



CEPS  
ENERGY  
CLIMATE  
HOUSE

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](mailto:eleanor.drabik@ceps.eu)

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

# 1 Agenda

13:00 - 14:00	<b>REGISTRATION &amp; LIGHT LUNCH</b>
14:00 - 14:35	<b>SESSION I: INTRODUCTION AND KEYNOTE SPEECH</b>
14:00 - 14:05	Welcome by <b>Eleanor Drabik</b> , Researcher, CEPS
14:05 - 14:10	Overview of the SET-Nav project by <b>Marijke Welisch</b> , Researcher, TU Wien
14:10 - 14:20	Keynote speech by <b>Robert Missen</b> , Head of Unit, DG MOVE, European Commission
14:20 - 14:35	Q&A
14:35 – 16:30	<b>SESSION II: WAYS TO A CLEANER AND SMARTER TRANSPORT SECTOR</b>
	Chair: <b>Christian Egenhofer</b> , Head of Energy & Climate Change, CEPS
14.35 - 14.50	Presentation of the modelling results on the ways to a cleaner and smarter transport sector: <b>Stephanie Heitel</b> , Scientific Associate, Fraunhofer ISI
14.50 – 15:20	Comments by: <ul style="list-style-type: none"> <li>• <b>Patrik Akerman</b>, Head of eHighway Business Developer, Siemens</li> <li>• <b>Jorgo Chatzimarkakis</b>, Secretary General, Hydrogen Europe</li> <li>• <b>Marie-France Van der Valk</b>, Head of Renault-Nissan Alliance representation office in Brussels</li> </ul>
15:20 - 16:25	Open discussion and Q&A
16:25 - 16.30	Concluding remarks by chair
16:30	<b>END OF THE WORKSHOP</b>

## 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 25<sup>th</sup> – 26<sup>th</sup> 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.



Figure 1: Session 1

## 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.

### 3 Participants List

- Ms. Annamaria Abbafati  
Stagiaire

Public Affairs

MUST&Partners

- Laura Aho  
Counsellor

Environment

Permanent Representation of Finland to the EU

- Ms. Monica Alessi  
Programme Manager

CEPS Energy Climate House

CEPS

- Eric Alira  
Independent consultant

Consultancy

ALIRA CONSULTING

- Ms. Nadia Allen  
Trainee

Government and Political Affairs

Robert Bosch GmbH

- Mr. Florian Anderhuber  
Manager External Affairs

Aurubis AG

- Javier Ariztegui  
Mobility Manager

REPSOL S.A.

- Javier Ariztegui  
Mobility Manager

REPSOL S.A.

- Ms. Cristina Avornic  
First Secretary

Mission of Moldova to the EU

- Pierre Bancourt  
Policy Adviser  
  
Legal  
  
EREF
- Mr. Ramón Barreda  
European Affairs  
  
Public Policy  
  
Iberdrola
- Mr. Jason Barth  
Government Affairs Research Assistant  
  
Government Affairs  
  
Jaguar Land Rover
- Giovanni Bazzoli  
Public Affairs Intern  
  
Public Affairs  
  
MUST Consulting
- Prof. Dr. Abolfazl Beheshti  
President of ESDEN  
  
Brussels  
  
Environment & Sustainable Development European Network ( ESDEN )
- Mr. Francisco Beirao  
Head of Brussels Office  
  
European Affairs  
  
EDP Energias de Portugal
- Julius Bergerhoff  
Intern  
  
Environment & Transportation  
  
Vertretung des Landes Baden-Württemberg bei der Europäischen union
- Mr. Henri Bittel  
Consultant  
  
Sustainable Energy and mobility consulting  
  
Hinicio
- Ermenegilda Boccabella  
Senior Policy Advisor

EPPSA

- Mr. Mykola Bohoslavets  
President

International

International Center of diplomatic cooperations

- Mr. Jean Marc Brimont  
Head of EU office

EU office

GRTGaz

- Mathieu Brun  
Policy Officer

European Affairs

Danfoss

- Ms. Beatriz Carneiro  
Senior Consultant

Public Affairs

Eupportunity

- Mr. Florian Chapalain  
Government Relations Manager

Government Relations

ABB

- Mr. Jorgo Chatzimarkakis  
Secretary General

Political Affairs

HydrogenEurope

- Mr. Strahil Christov  
Policy Officer

DG Environment, Unit Biodiversity

European Commission

- Mr. Konstantinos Chronis  
Head of Brussels Office

Executive Office

Public Power Corporation SA (Hellas)



- Daniela Coutinho  
International Consultant  
  
International Area  
  
Sociedade Portuguesa de Inovação
- Mr. Daniele D'Angelo  
EU Policy Advisor  
  
European Affairs Department  
  
ENGIE
- Mr. Hans De Keulenaer  
Director  
  
Energy & Electricity  
  
European Copper Institute
- Mr. Francesco Di Lodovico  
Head of Brussels Office  
  
European Affairs  
  
The European House - Ambrosetti
- Bjørne Djukastein  
Trainee  
  
Brussels Office  
  
Confederation of Norwegian Enterprise
- Ms. Eleanor Drabik  
Researcher  
  
Energy and Climate Change Unit  
  
CEPS
- Mr. Christian Egenhofer  
Director & Associate Senior Research Fellow  
  
Energy Climate House  
  
CEPS
- Ms. Charlotte Eide  
Stagiaire  
  
Brussels Office  
  
NTNU
- Mr. Ayhan Eker  
Analyst

Maritime Security & Sea Power

Beyond The Horizon

- Koray Erun  
Intern

Industrial Affairs - Energy and Climate

BusinessEurope

- Denisa Fančová  
European Research Officer

CZELO

Czech Liaison Office for RDI

- Mr. Pedro Faria Gomes  
Project Manager

Energy Planning

EDP

- Ms. Nataliya Fedyora  
Energy Attaché

Sectoral division

Mission of Ukraine to the EU

- Théo Fievet  
European Policy Officer

Energy & Urban Transport

Lille Metropole

- Mr. G.f. Fievez  
Value Engineer

Consulting

MGP Group

- Pauline Fournols  
EU Affairs Advisor

EU office

French Union of Electricity

- Marco Franchin  
EU Account and Project Manager

European Projects Department

Paragon Europe

- Ms. Pauline Frouin  
European Public Affairs Officer

European Affairs Department

RTE

- Dr. Kurt Gaissert  
Advisor

European Office

Backbone Consulting

- Carmen Garilletei de Miguel  
EU Project Assistant

European Projects Department

Paragon Europe

- Petar Georgiev  
Trainee

Transports unit

General Secretariat, Council of the EU

- Julia Goebel  
Trainee

EU Energy and Climate Policy

Association of German Chambers of Commerce and Industry

- Mr. Gocha Gogvadze  
Chairman

International Affairs and Research

International Association TIP

- Lisanne (Elisabeth) Groen  
Postdoctoral Researcher

Institute for the Advanced Study of Sustainability

United Nations University

- Mr. Maciej Grzeszczyk  
Policy Officer

DG ENER C3 Energy efficiency

European Commission

- Ms. Elena Guarneri  
Liaison Officer  
  
Technical University of Denmark - DTU  
  
Technical University of Denmark
- Mr. Pete Harrison  
Programme Director for Transport  
  
ECF
- Mr. Takuma Hashimoto  
Manager/Senior Economist  
  
Strategic Information & Research Department  
  
Mitsui & Co. Benelux
- Meeri Heinonen  
Junior Consultant  
  
Public Affairs  
  
Aula Europe
- Didier Hendrickx  
Public Affairs Manager  
  
Markcom  
  
GAS.BE
- Mr. Dominik Hertlik  
Stagiaire  
  
Government and External Affairs  
  
BMW Group
- Mr. Robert Hodgson  
Journalist  
  
Freelance  
  
ENDS Europe/Euractiv
- Ms. Hannah Hüll  
Senior Advisor  
  
Governance & Markets Government Affairs European Union GM GA EU  
  
Siemens AG
- Mr. Olivier Imbault  
Vice President European Energy & Industry Affairs  
  
Air Liquide Europe

Air Liquide

- Kimmo Jarvinen  
Director

EU Affairs

Technology Industries

- Mr. Felix Kalvelage  
Stagiaire

Coter

Committee of Regions

- Ms. Charikleia Karakosta  
Chemical Engineer, Msc, PhD

Decision Support Systems Laboratory, School of Electrical and Computer Engineering

NTUA

- Ekaterina Karaseva  
Senior Expert

EU Affairs

Gazprom

- Ekaterina Karaseva  
Senior Expert

Gazprom

- Mr. Garret Kelly  
Principal

Senior Management

SEE Change Net

- Mr. Gabor Kende  
Managing Director

Balcon Kft

- Ansgar Kiene  
Policy Advisor

Climate/ Energy

Greenpeace EU

- Ms. Maria Koltsova  
Senior Expert

EU Affairs Division

Gazprom Representative Office

- Jacques Paul Kryou  
International Management

International Policy and EU Affairs

TUI Group

- Claudia Leoni  
Trainee

Chemicals

Federchimica

- Vera Lipkovskaya  
Senior Expert

Gazprom

- Mr. Philippe Macé  
Senior Analyst

Solar PV

Becquerel Institute

- Ms. Utimia Madaleno  
Senior Consultant

Research Policy and funding

Eupportunity

- Ms. Marine Manzinello  
Policy Officer

European affairs

CEA

- Mr. Simone Massi  
EU Policy Advisor

EU Public Affairs

Snam

- Ronny Mbaisa  
Director

Environment

Zimbabwe Sunshine Group

- Fatima Melgar  
Business Analyst

Sustainable energy and mobility consulting

Hinicio SA

- Tamirat Mengistu  
Geography and environmental science teacher

Geography and Environmental studies

city government of Addis Ababa Yeka sub city Edged Chora preparatory and High school

- Adrien Merono  
Stagiaire/ Intern

Sustainable transition

Pour La Solidarité - PLS

- Toma Mikalauskaite  
Adviser

Orgalime

- Mr. Robert Missen  
Head of Unit

DG MOVE

European Commission

- Ms. Antonia Munz  
Stagiaire

European Affairs

VDA - German Association of the Automotive Industry

- Pénélope Nabet  
European Public Affairs Officer

European Affairs Department

RTE

- Ms. Pia Nieminen  
Policy Advisor

Policies and operations

European Investment Bank

- Rachele Nocera  
EU Advisor

European Union and International Organisation

ENEA

- Maria Teresa Nonay  
Manager Energy Studies  
  
Economic Research  
  
Repsol
- Kenneth Obi  
Executive Director  
  
Renewable Energy  
  
Zerocarbon
- Mr. Nemanja Obradovic  
First Secretary  
  
Mission of Bosnia and Herzegovina to the EU  
  
Mission of Bosnia and Herzegovina to the EU
- Mr. Roberto Panico  
European Government Affairs  
  
ENI
- Mr. Frank Peters  
Partner  
  
Danica Management
- Mr. Jacinto Pico Coleman  
EU Regulation  
  
Brussels Office  
  
Gas Natural Fenosa
- Mr. Tomas PirkI  
Head of Brussels Office  
  
Eu Affairs  
  
CEZ
- Mr. Javier Polanco  
Officer  
  
Foreign Affairs  
  
Eixos
- Mina Polovina  
Assistant of University Professor  
  
Mechanical Engineering  
  
University of Belgrade



- Dusko Polovina  
Professor  
  
Mechanical Engineering  
  
University of Belgrade
- Simone Porta  
Trainee  
  
NGO  
  
euabout
- Ivan Pozgaj  
Director  
  
Energy and natural resources practice  
  
FTI Consulting
- Mark Preston  
Policy Assistant  
  
Electro-mobility  
  
Bellona Europa
- Marieke Reijalt  
Executive Director  
  
EHA secretariat Brussels  
  
European Hydrogen Association EHA
- Nelson Riddle  
CEO  
  
Management  
  
Riddle International Ltd
- Ingrid Sager  
Policy Officer  
  
DG NEAR Serbia Unit  
  
European Commission
- Ms. Virginia Salas  
H2020 Programme Junior Officer  
  
Spanish Office for Science and Technology  
  
CDTI
- Wilmer Sarasto Löwenberg  
Information Officer

Central Sweden European Office

- Julian Schorpp  
Director European Energy Policy

Energy, Environment, Industry

Association of German Chambers of Commerce and Industry

- Mr. Mitja Schulz  
Policy Advisor

Verband der Automobilindustrie VDA e.v.

- Ms. Teodora Serafimova  
Policy Assistant

Bellona Europa

- Acacia Smith  
Manager - Environmental Affairs

IRU

- Mr. Stefano Spinaci  
Financial Administrator

DG FINANCE

European Parliament

- Mr. Stelios Stratinakis  
Advocacy Officer

Advocacy

DSW

- Mr. Shigeo Sugimoto  
Researcher

Strategic Information Department

Mitsui & Co Benelux S.A/N.V.

- Ms. Helena Taimisto  
Parliamentary Assistant to MEP Merja Kyllönen

Office of MEP Kyllönen

European Parliament

- Ms. Gabriela Tatian  
Business Development Assistant

Eurideas

- Maike Tetz

Owner

Sandboxx

- Gerd Thomsen  
Policy officer

Transport, Energy, Environment

Representation of the Free State of Thuringia to the European Union

- Mr. Kaloyan Tsilev  
EU Affairs Manager

NGVA Europe

- Dr. Philippe Tulkens  
Deputy Head of Unit

DG ENERGY

European Commission

- Mr. Ildar Tumakov  
Energy Representative

Sectoral cooperation

Mission of Russia to the EU

- Jussi Valta  
Research assistant

Industrial engineering

Tampere University of Technology

- Mrs. Marie-France Van der Valk  
Director

Representation to the European Institutions

Renault

- Mr. Stijn Van Hummelen  
Manager

Climate and Energy Economics

Cambridge Economics

- Aleksander Vigne  
EU Policy Adviser

Orlen Brussels Office

PKN Orlen

- Vanessa Wabitsch  
Marketing and Communication Coordinator  
  
Hinicio
- Ingo Wagner  
Policy Manager  
  
Research  
  
DHC+ Technology Platform
- Ms. Marijke Welisch  
Researcher  
  
Energy Economics Group  
  
TU Wien - Vienna University of Technology
- Ms. Mariel Whelan  
Research Assistant  
  
Observatory  
  
Housing Europe
- Dr. Michael Wriglesworth  
Emeritus  
  
Energy & Climate Change  
  
CEPS
- Joanna Żabicka  
Environmental Policy Section  
  
Permanent Representation of Poland to the EU
- Kirsten Zondervan  
Advisor European Affairs  
  
External Affairs  
  
Port of Rotterdam

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Web:	<a href="http://www.set-nav.eu">www.set-nav.eu</a>
General contact:	<a href="mailto:contact@set-nav.eu">contact@set-nav.eu</a>

## 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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