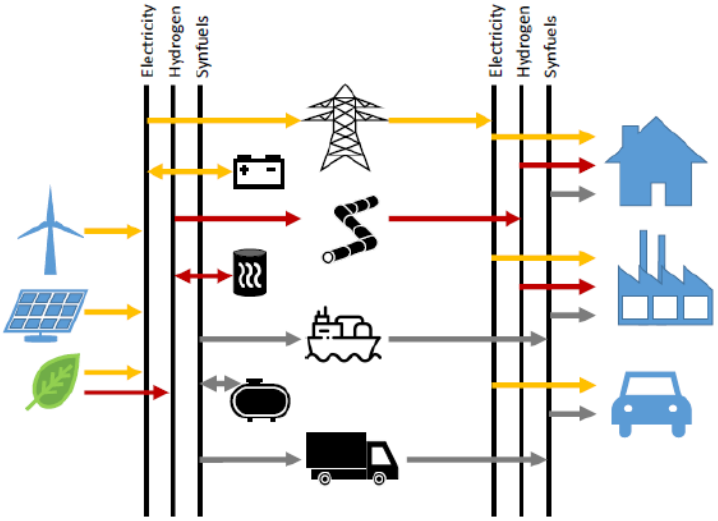
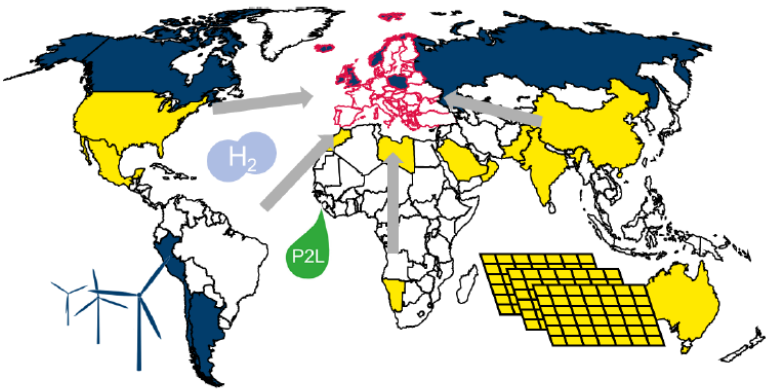
Possibilities to achieve the 1.5°C Target under Consideration of Open Energy System Modelling

JÜLICH Forschungszentrum

Universität Stuttgart
IER Institut für Energiewirtschaft und Rationelle Energieanwendungen





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Based on the Paris Agreement, the ambitious goal is to limit climate warming to 1.5°C. In order to achieve this goal, research in the field of emission free energy carriers like green hydrogen and synfuels and its distribution is needed. Therefore the project ETSAP Deutschland was initiated to investigate these research questions.

The ETSAP Germany project is a research alliance of the Institute of Energy Economics and Rational Energy Use (IER), the the Institute for Techno-Economic Systems Analysis at the Forschungszentrum Jülich (FZJ-IEK3) and the Technical University of Munich (TUM). The TUM and FZJ-IEK3 have many years of experience in the field of hydrogen and synfuels generation, use and distribution. For this purpose, models have been developed to globally estimate the potential of renewable energies and to calculate possibilities for hydrogen and synfuels transport. These model results serve as an input for for ETSAP-TIAM, which is managed by the IER. TIAM is a energy system model that allows to estimate the future energy demand. Together a contribution to the global energy transition shall be created.

In the context of the workshop, an exchange on current research will be given and an open discussion on further research will take place.

The main objectives of the three workshops are:

- Open Energy System Modelling
- Import Potentials of Renewable and Hydrogen-Based Energy Carriers for Europe and Germany
- Path dependencies of emission free energy carriers

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20th May 2022 [English]
Open Energy System Modelling

Registration: https://terminplaner.dfn.de/ETSAP-Workshop-1

Topic description

Discussion on possibilities of Open Source in Energy System Modelling (ESM). TIMES starting as an Modelgenerator based on the work of the implementing Agreement ETSAP goes more and more Open. The satus and possible requirements will be discussed.

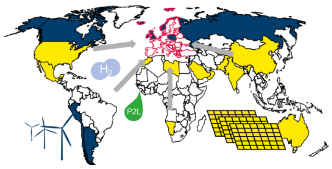
Research question

OpenSource, Copy Right, Process Chain, Plattforms Usability

Indicative program:

13:30	**Introduction**
14:00	**"Impleneting FAIR through a distributed data infrastructure" – Carsten Hoyer-Klick (DLR)**
14:30	**"The TIMES Cloud service" – Frederik Fiand (GAMS)**
15:00	**"The Miro-App" – Evangelos Panos (PSI)**
15:30	**Coffee Break**
16:30	**"Keynote" – apl. Prof Dr. Markus Blesl**
17:00	**Discussion**
18:00	**Wrap-up of Results**

Moderators:
Apl. Prof Dr. Markus Blesl, IER
Dr. Heidi Heinrichs, FZJ-IEK3
Prof Dr. Thomas Hamacher, ENS



23rd June 2022 [English]
Import Potentials of Renewable and Hydrogen-Based Energy Carriers for Europe and Germany

Registration: https://terminplaner.dfn.de/ETSAP-Workshop-2

Topic description

Discussion about the role of possible imports for renewable hydrogen based energy resources for Europe and Germany. The focus is on the possible imports of renewable energy carriers (hydrogen, PtL and SNG) and their import potentials and costs with special consideration of the global environment.

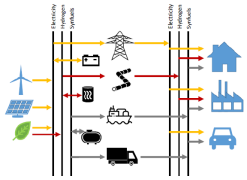
Research question

Which role will imports of renewable hydrogen based energy carriers play for Europe and Germany?

Indicative program:

13:30	**Introduction**
14:00	**"Global hydrogen trade – Modeling and beyond" – Dr. Herib Blanco, IRENA**
14:30	**"Overcoming the European import dependency on natural gas, oil and coal with e-fuels" – Prof. Franziska Holz, DIW**
15:00	**Coffee Break**
15:30	**"ETSAP Research Results" – FZJ-IEK3/TUM/IER**
16:30	**"Keynote" – Dr. Heidi Heinrichs**
17:00	**Discussion**
18:00	**Wrap-up of Results**

Moderators:
Dr. Heidi Heinrichs, FZJ-IEK3
Apl. Prof Dr. Markus Blesl, IER
Prof Dr. Thomas Hamacher, ENS



14th October 2022 [Deutsch] Pfadabhängigkeiten emissionsfreier Energieträger

Registration: https://terminplaner.dfn.de/ETSAP-Workshop-3

Inhalt

Bewertung der Bedeutung neuer globaler Versorgungsstrukturen für Wasserstoff und synthetische Treibstoffe für die Entwicklung von Infrastruktur auf regionaler und kommunaler Ebene sowie für die Verknüpfung von Endenergieträger mit Endenergietechnologien.

Fragestellung

Wann ist der ideale Zeitpunkt die existierende Infrastruktur an zukünftige Energieträger anzupassen?

Programm:

13:30	**Begrüßung**
14:00	**“Einspeisung von Wasserstoff in die Gasinfrastruktur” - Wolfgang Köppel (DVGW ebi)**
14:30	**“Die Bayrische Wasserstoffstrategie” – Tba**
15:00	**“Finanzierung der neuen Wasserstoffinfrastruktur” – Tba**
15:30	**Kaffeepause**
16:00	**ETSAP Forschungsergebnisse – TUM/FZJ**
16:30	**“Keynote” – Prof. Dr. Thomas Hamacher**
17:00	**Diskussion**
18:00	**Zusammenfassung der Ergebnisse**

Moderatoren:
Prof Dr. Thomas Hamacher, ENS
Dr. Heidi Heinrichs, FZJ-IEK3
Apl. Prof Dr. Markus Blesl, IER

Projektergebnisse des Projektes ETSAP Deutschland

Supported by:

on the basis of a decision
by the German Bundestag