

UNECE Sustainable Energy Week, Geneva, 25.09.2019

THE KOPERNIKUS PROJECT ENAVI

SPONSORED BY THE



Federal Ministry
of Education
and Research

FOUR KOPERNIKUS PROJECTS FOR THE ENERGY TRANSITION



ENSURE – New electricity grids
Coordination: KIT



ENavi – System integration
Coordination: IASS



P2X – Storage
Coord.: RWTH Aachen,
FZ Jülich



SynErgie – Industrial Processes
Coord.: TU Darmstadt

SPONSORED BY THE

PARTNERS

Universities



BERGISCHE
UNIVERSITÄT
WUPPERTAL



Hochschule für Politik München
an der Technischen Universität München



TECHNISCHE
UNIVERSITÄT
DARMSTADT



Universität Bremer



UNIKASSEL
VERSITÄT



UNIVERSITÄT
SIEGEN



RWTH AACHEN
UNIVERSITY



Universität Stuttgart
IER Institut für Energiewirtschaft
und Rationelle Energieanwendung



zirius
Zentrum für Interdisziplinäre Risiko- und Innovationsforschung

zeppelin universität
zwischen
Wirtschaft Kultur Politik

Non-university Research



Deutsches Zentrum
für Luft- und Raumfahrt



EA EUROPEAN ACADEMY
OF TECHNOLOGY AND INNOVATION ASSESSMENT



Fraunhofer
IEE



Fraunhofer
ISE



Fraunhofer
ISI



GFZ
Helmholtz-Zentrum
POTS DAM



KMGNE
Kolleg für Management und Gestaltung
nachhaltiger Entwicklung gGmbH



KOMPETENZZENTRUM
INTRAREGIONALE
CHEMOMOBILITÄT
FORSCHUNGS GMBH WISMAR



Öko-Institut e.V.
Institut für angewandte Ökologie
Institute for Applied Ecology



POTS DAM INSTITUTE FOR
CLIMATE IMPACT RESEARCH



REINER LEMOINE
INSTITUT



IfWI
Leibniz-Institut für
Wirtschaftsforschung



ZSW



ZEW
Zentrum für Europäische
Wirtschaftsforschung GmbH

Companies



bbh



GESOBAU



HOWOGE



KISTERS



MW



BOSCH
Technik für Leben



S.I.P.E.
Simon Process
Engineering GmbH



VSE

SPONSORED BY THE



Federal Ministry
of Education
and Research

KOPERNIKUS
PROJEKTE
ENavi
Die Zukunft unserer Energie

The Kopernikus Project ENavi | 3

PARTNERS

NGOs



Regional Authorities



Municipal Utilities



Stadtwerke Bietigheim-Bissingen GmbH



Competence Partners

ABB AG

Becker Büttner Held PartGmbB

Berliner Agentur für Elektromobilität

Bundesverband CarSharing e.V.

Cluster EnergieForschung.NRW

deematrix Energiesysteme GmbH

Deutsche Energie-Agentur GmbH

Deutscher Gewerkschaftsbund

Deutsche Umwelthilfe e.V.

Fichtner IT Consulting GmbH

Forschungszentrum Jülich

Fraunhofer IGCV

IHK Potsdam

MVV Energie AG

Netze BW GmbH

Next Kraftwerke GmbH

Siemens AG

Stadtwerke Heidelberg Energie GmbH

StoREgio Energiespeichersysteme e.V.

SW Engineering Services

Velokonzept Saade GmbH

Verbraucherzentrale NRW e.V.

Verkehrsclub Deutschland e.V.

Verkehrsverbund Rhein-Neckar GmbH

WFBB, Cluster Energietechnik Berlin-Brandenburg

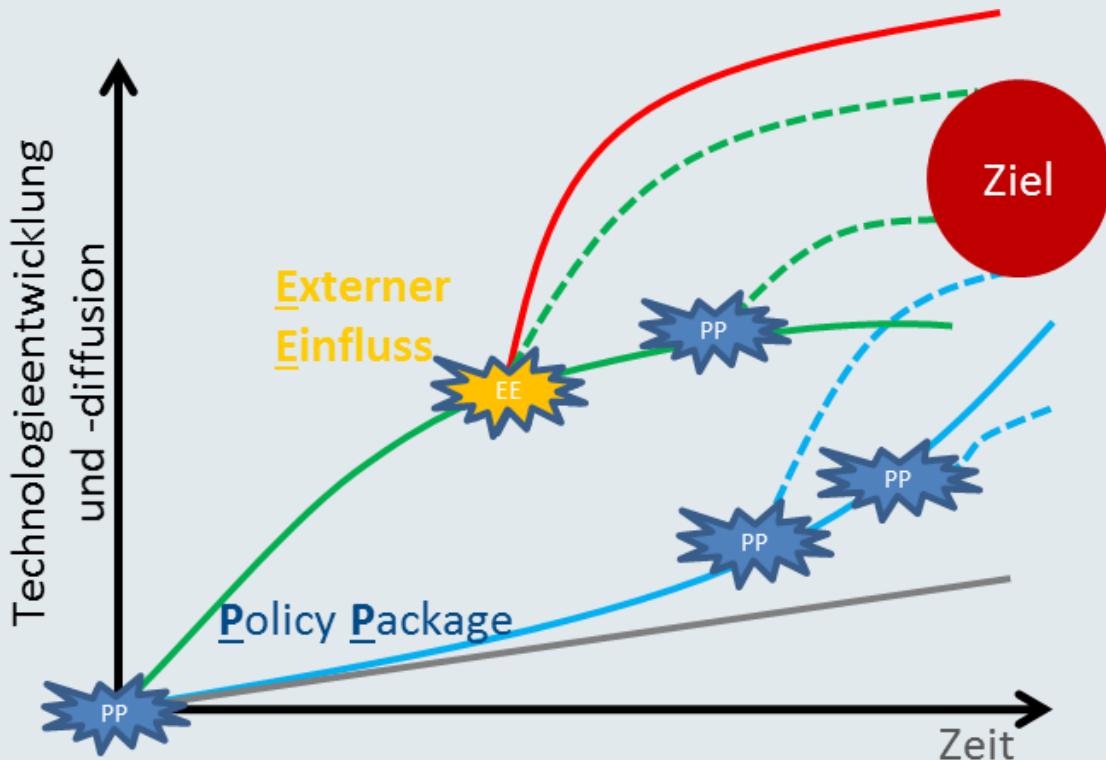
SPONSORED BY THE



Federal Ministry
of Education
and Research

KOPERNIKUS
PROJEKTE
ENavi
Die Zukunft unserer Energie

„ENERGIEWENDE“ - NAVIGATION ENAVI



Development of a platform to better estimate the effects of policy decisions and **policy packages** (intervention impact assessment).

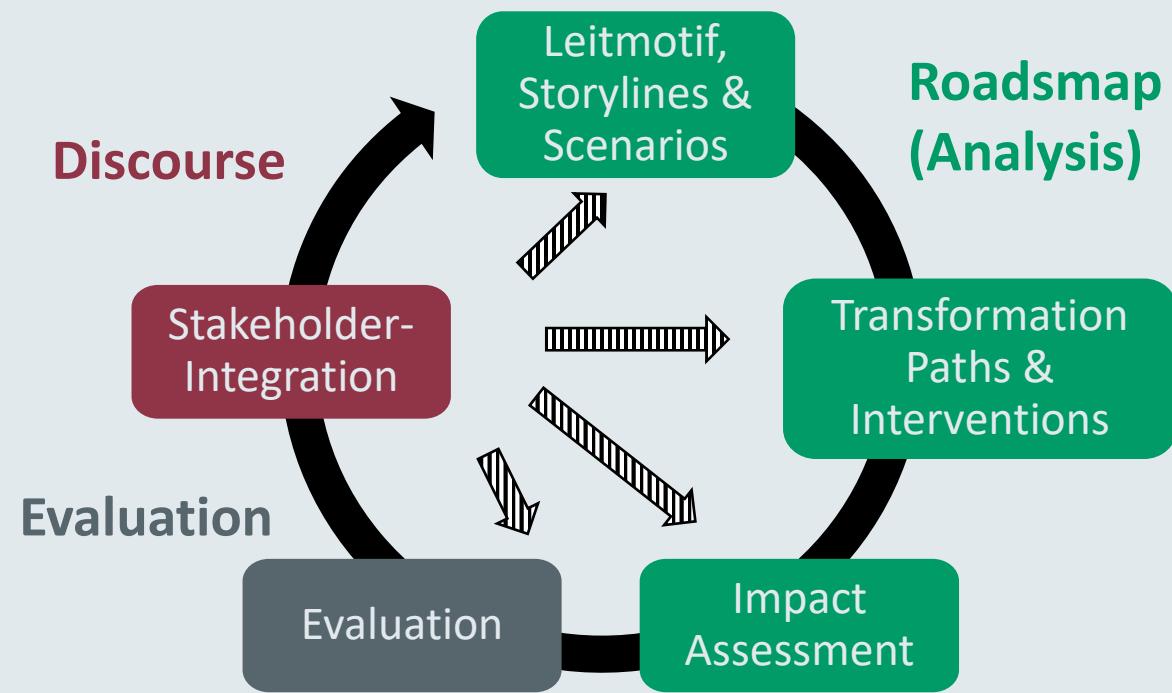
The **goals** of the energy transition can be achieved through various transformation paths (so-called **Roadmap**), which are always due to **exogenous influences** (e.g. international energy prices, European legal frameworks) or endogenous factors (e.g. acceptance of measures, exit from coal-fired power generation) to be readjusted again.

SPONSORED BY THE



Federal Ministry
of Education
and Research

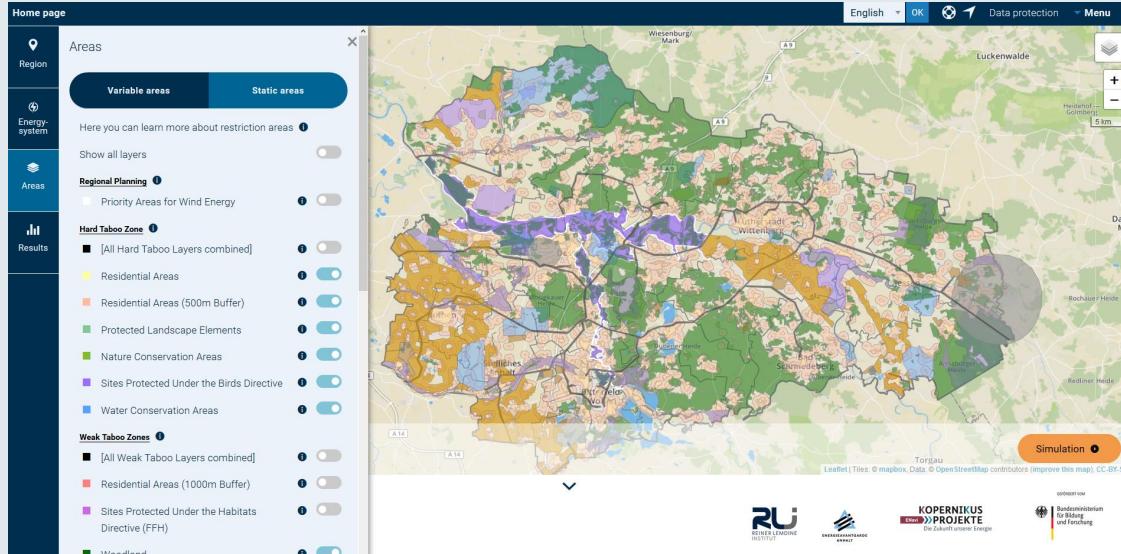
ENERGY TRANSITION NAVIGATION SYSTEM



Through **stakeholder integration** and comparison with **real laboratories and model regions**, the science-based analysis are subjected to a practical test. The results of the discourse flow back to the Roadsmap for optimization.



STAKEHOLDER EMPOWERMENT TOOL – SUPPORTING REGIONAL ENERGY TRANSITION IN SAXONY-ANHALT



- › Browser based tool for regional energy supply scenarios with spacial references and contraints (land use/availability)
- › Enables multiple local stakeholders to participate in an early stage of the energy transition process
- › Facilitates public discourse of conflicting interests on one joined basis.
- › Vary parameter of the energy system, check spacial restrictions, let the model calculate and get your energy supply scenario

› https://wam.rl-institut.de/stemp_abw/

STAKEHOLDER EMPOWERMENT TOOL – SUPPORTING REGIONAL ENERGY TRANSITION IN SAXONY-ANHALT

Home page English OK Data protection Menu

Areas

Region Energy-system Areas Results

Variable areas Static areas

Here you can learn more about restriction areas ⓘ

Show all layers

Regional Planning ⓘ

- Priority Areas for Wind Energy ⓘ

Hard Taboo Zone ⓘ

- [All Hard Taboo Layers combined] ⓘ
- Residential Areas ⓘ
- Residential Areas (500m Buffer) ⓘ
- Protected Landscape Elements ⓘ
- Nature Conservation Areas ⓘ
- Sites Protected Under the Birds Directive ⓘ
- Water Conservation Areas ⓘ

Weak Taboo Zones ⓘ

- [All Weak Taboo Layers combined] ⓘ
- Residential Areas (1000m Buffer) ⓘ
- Sites Protected Under the Habitats Directive (FFH) ⓘ

Simulation ⓘ

Leaflet | Tiles: © mapbox, Data: © OpenStreetMap contributors (improve this map), CC-BY-SA

GEFÖRDERT VOM

PROJEKTE Die Zukunft unserer Energie

ENavi **EDUCATION and Research**

The Kopernikus Project ENavi | 8

DECISION THEATRE



› Mobility Transition Model (MoTMo)

- › models mobility demand in Germany based on individual choices and interactions

› Decision Theatre

- › discussions between researchers and stakeholders
- › experiment with the model, view consequences of decisions immediately
- › explore potential futures & improve the model itself

SPONSORED BY THE