REINER LEMOINE INSTITUT

OTTO VON GUERICKE UNIVERSITÄT MAGDEBURG

Fraunhofer IEE

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

Supported by:
Federal Ministry for Economic Affairs and Energy

on the basis of a decision by the German Bundestag

OpenEnergyPlatform

Extension of the Open Energy Platform (OEP) for Scenario Data

A web-platform to improve transparency and reproducibility of energy system analyses

Objectives and Technical Properties

Main Objectives
The OEP helps to increase transparency, reproducibility and quality in energy system research. Each developed module focusses on a specific aspect of the process from raw data to result data. The OEP aims at giving support to modelers to provide a proper documentation of data, code and assumptions used for a publication. It also provides the possibility to directly connect a model to the database to import and export data using an API.

Project Objectives
The research project SzenarienDB aims at developing and improving features to represent energy system scenarios in the OEP. Addressed modules are the creation of an open energy ontology, improvement of the scenario fact sheet, development of a structure for scenario data and many more.

Technical Properties
The platform software is written in *Python* and *Django* and the source code is published under the open software license AGPL-3.0.

Related Project

SzenarienDB

Existing and new modules and functions of the OEP

You can describe, find, and compare energy system models, frameworks as well as concrete studies and scenarios with the various **Fact Sheets**. You can link your code to the model description and give specific information about methods and assumptions.

The Factsheets are a standardized collection and presentation of information about modelling frameworks, models and scenarios used in climate and energy system modelling. It is presented in a format which emphasizes key points concisely. The use of interactive fields and pre-defined responses is designed to filter for existing entries.
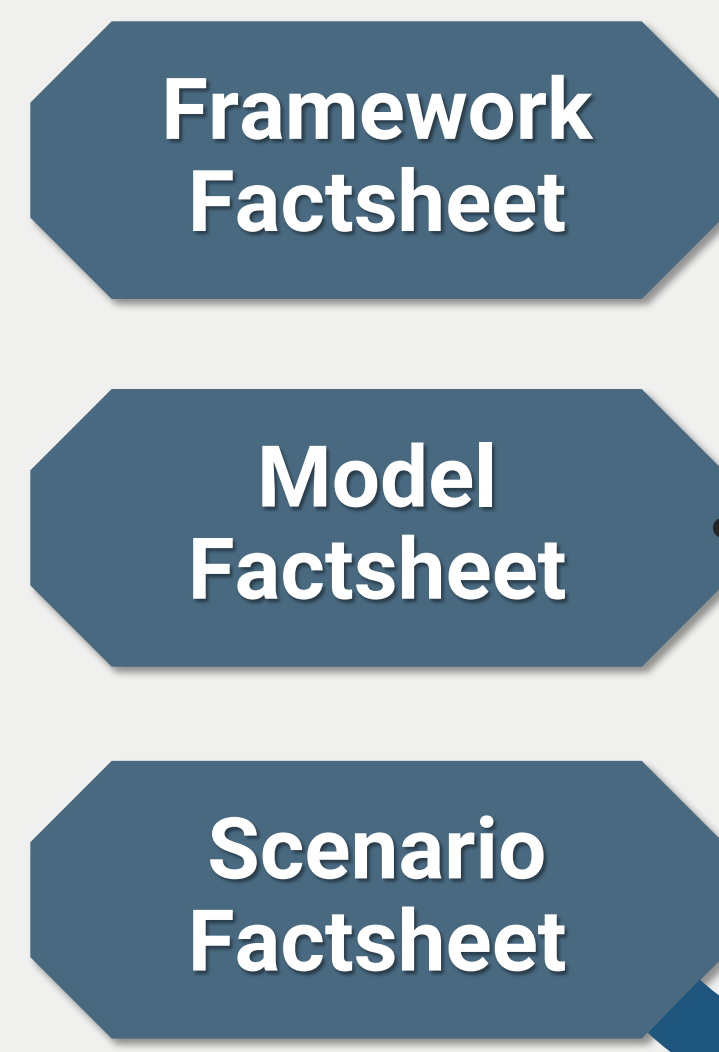
You can link your **Code** (framework, model/application) to another platform or repository.

You can harmonize your wording with other researchers using the **Glossary**. Access to data and code doesn't mean that the results and conclusions of a study are understandable. Within discussions it is a crucial point to "use the same language". In the glossary the expressions used in the Fact Sheets and in the data tables can be explained and discussed.

The glossary is extended with relations between terms to develop a common **Ontology** for the energy community.
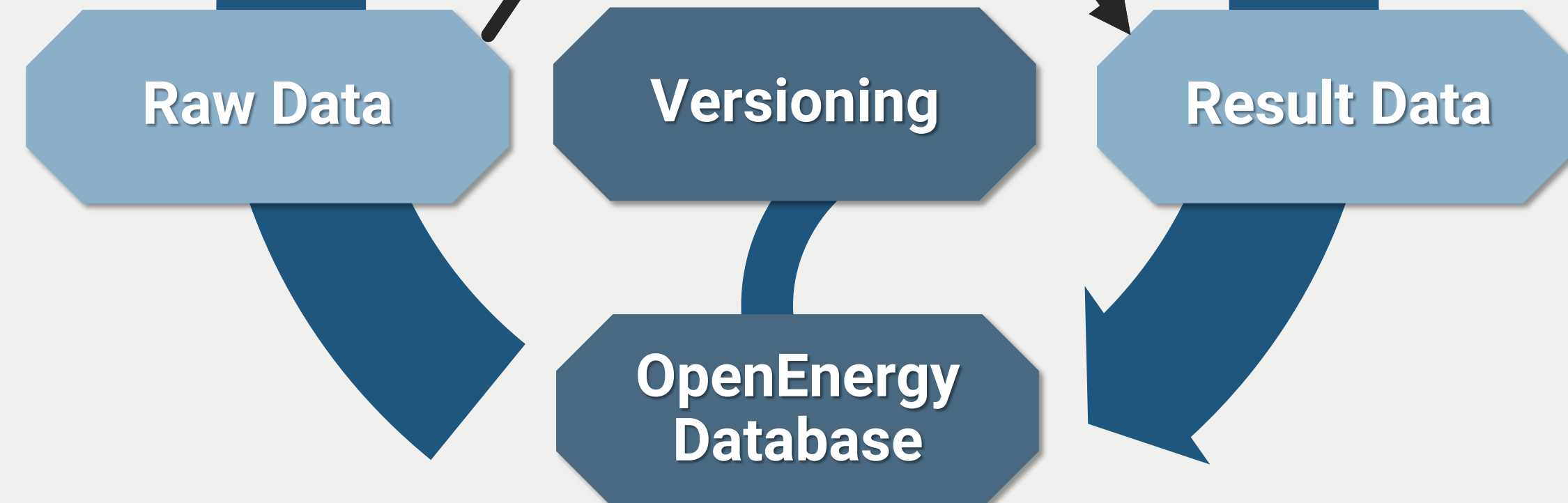
You can refer to literature (e.g. sources, papers and studies) using the **Literature**-function.

Framework Factsheet → Framework

Model Factsheet → Model

Scenario Factsheet

Ontology

Data Processing

Literature

Raw Data · **Versioning** · **Result Data**

OpenEnergy Database

The **Scenario Factsheet** plays an important role in the OEP-concept. It provides a link between the content of a study, the model and the data involved (input and output).
By linking to the ontology, the data from different studies with different structures and terms can be made comparable.

Your ideas, suggestions and wishes are welcome and can be included in the development!

The database and its content can be accessed using the visual web interface or by using the OEP **API**. In order to ease the access to required datasets the OEP provides a REST-full HTTP-interface.

Tutorials and templates are designed to make it easier for inexperienced users to get started. Experienced python users have the opportunity to use the specifically developed SQLAlchemy dialect (*oedilect*).

You can publish, receive and document data of your modelling process in the **Open Energy Database** (oedb). This includes raw data, processed data, scenario data and results. For all data in the database a minimum of metadata and an open license is required in order to improve the transparency and ensure reuse.

Popular tags:
Solar · Oil · oemof · open_FRED · open_eGo · ego v0.2 · Germany · Global · Africa · Europe · North America · Asia · NEW · South America · Oceania · Powerplant · Electricity · Heat · Gas · Renewable · Water · Biomass · Transport · Industry · Commercial · Households · Conventional · Nuclear · Coal · Wind · Biogas · 2017 · 2016 · 2015 · 2014 · France · demand · weather · supply · social · borders · grid · enviromental · economic · ODbL

Manage Tags
Manage Tags

You can assign predefined or self-created **Tags** to datasets or factsheets. They can be used as filters and can be included in searches and queries. In addition it increases visibility of similarities and differences. The categories and colours of the tags can be discussed and adapted.

It needs an active community to agree on the meaning and use of tags. You are welcome to participate and discuss and add tags.

result_id	view_id	branch_id	f_bus	t_bus	br_r	br_x	br_b	rate_a	rate_b	rate_c
1	1	24383	26709	24114	0.00054...	0.00291...	0.00000...	280		
1	2	24384	24023	24175	0.00058...	0.00312...	0.00000...	280		
1	3	24385	27049	4153	0.00061...	0.00329...	0.00000...	280		
1	4	24386	25358	28167	0.00064...	0.0034098	0.00000...	280		
1	5	24387	1080	25358	0.00043...	0.00232...	0.00000...	280		
1	6	24388	24517	24096	0.00064...	0.00342...	0.00000...	280		
1	7	24389	27365	23704	0.00065...	0.00351...	0.00000...	280		
1	8	24390	25825	26722	0.00070...	0.00376...	0.00000...	280		

Access & Participate

Visit and use the OEP
http://openenergyplatform.org/
Meet the developers
You can meet us at the Openmod workshops.
https://wiki.openmod-initiative.org/wiki/Events

Get involved and contribute
You are invited to join our discussion if you have suggestions or you want to get involved in the development.
https://github.com/OpenEnergyPlatform

You can access all modules on the internet without restrictions. In order to participate and contribute you must create a user profile. You can give information about your person and your qualifications and get in contact with other users and researchers.
You are welcome!

Acknowledgment

oemof ['ø:mɔf]
open energy modelling framework

openmod open energy modelling initiative

oemof_heat · open_eGo · open_FRED

Contact & Copyright

Contact: Ludwig Hülk
Mail: Ludwig.Huelk@rl-institut.de

Authors: Ludwig Hülk, Editha Kötter, Berit Müller, Martin Glauer (OvGU), Hannah Förster (Öko), Mirjam Stappel (IEE), Carsten Pape (IEE),