Open Science
in Energy System Analyses
Statements, Implementation and Initiatives

07 / 2017
Research Field

Transformation of Energy Systems

Our team, our vision and work in the field of Open Science to support the transformation of energy systems

The Reiner Lemoine Institut

Statements on Open Science

Working with Open Source and Open Data

How to improve our open science activities

The Institute
Reiner Lemoine Institut

The Research Field
Transformation of Energy Systems

- **Non-profit research institute**

- **100 % subsidiary of the Reiner Lemoine Foundation (RLS)**

- **Established 2010 in Berlin**

- **Managing Director: Dr. Kathrin Goldammer**

- **Approx. 25 employees in three research fields:**

  - ➤ **Transformation of Energy Systems**

  - ➤ **Mobility with Renewable Energy**

  - ➤ **Off-Grid Systems**

Identification of renewable energy potential based on GIS analyses

Energy system optimization with in-house open-source models

Field tests and operation optimization with data analysis and simulations

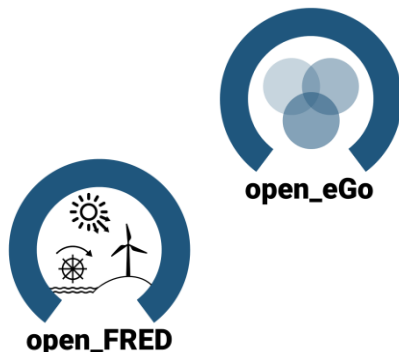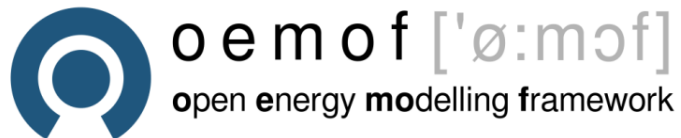**Grid computation and site optimization for storage**

Database systems

RLI
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Statements on
Open Science in energy system modelling

- Open Science is the movement to make scientific research, data and dissemination **accessible to all levels** of an inquiring society, amateur or professional and includes all fields of the scientific work.

- Our team is mostly working in public funded research projects. We believe this work, information and results **must be accessible to the public**.

- We believe that the fundament of our research is not a tool that we have to hide but the **experience and innovative capacity** of the individual researcher.

- We leave our developments open to comments and improvements instead of presenting the results only after finishing the research. Science is not something you reach on your own but only by **collaborating with other researchers and the community**.

- "We believe that more openness in energy modelling increases transparency and credibility, **reduces wasteful double-work and improves overall quality**. This allows the community to advance the research frontier and gain the highest benefit from energy modelling for society."
[borrowed from the openmod][1]

[1] http://openmod-initiative.org/manifesto.html

REINER LEMOINE INSTITUT

Working with Open Source and Open Data

We are founding partners of the openmod initiative – a grass root initiative of 250+ modellers across Europe.

RLI is one partner of the developer group of the open and collaborative developed open energy system framework (oemof).

Through to our (publicly financed) projects we support the development of the OpenEnergy Platform (OEP). The OEP is continuously developed by the community to provide tools to improve the transparency and quality of energy system modelling.

In the project open_eGo RLI and 3 other research partners develop a transparent, inter-grid-level operating grid planning tool.

One of our core projects is to improve database structures and workflows for transparent modelling and model linking with consistent data. One of the database projects is open_FRED.

Reproducibility - oep

- Workshops about reproducibility in energy system analyses
- Community product

  http://oep.iks.cs.ovgu.de/

- Not bound to a specific project
- Continous development

How to improve our openscience activities ?

- Open science Policy (RLI) −Beispiele? Worauf achten?

- Open access journal (openmod)

    - Tips zum Vorgehen?

    - Empfehlungen für orga/review software?

- Open peer review (Erfahrungen?)

- Umgehen mit Lizenzanforderungen der gängigen paper (elsevier, Springer,…)

- oep: Konzept zur Bewertung von Daten(sätzen)

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Thanks – and back-up information

And this is whom you are talking to

Questions?

If you have any questions concerning our work, our institute or the openmod – don't hesitate to ask

Dipl. Ing. Berit Müller is head of the Team "Transformation of Energy Systems" at the Reiner Lemoine Institute. As founding member of the open energy modelling initiative (openmod initiative) and speaker of the transparency working group of the platform "system analyses" from the Federal Ministry for Economic Affairs and Energy in Germany, she is active in promoting open data and open energy models for trans-institutional cooperation. She is responsible for project development as well as project management in the field of optimised energy systems and transformation research. She has a focus on stakeholder integration along all steps of the process of transforming the energy system. This focus was already improved in her former positions as manager for the "Berliner NetzwerkE" (a network of enterprises of all sizes dealing with energy efficiency and renewable energy lead by the Berlin Energy Agency) and as team leader of the "Energieseminar" (a department of the Technical University of Berlin which is implementing energy related projects in the context of society and environmental protection).

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Back-Up Information

In the openmod initiative 250+ modellers across Europe are exchanging about their models and experiences – especially with going open and improving transparency. They promote the idea of open-source and open-data modelling in energy research and energy policy advisory. http://www.openmod-initiative.org

Communication channels are:

- A mailing list

- Workshops twice a year since Nov 2014
  (Berlin, London, Stockholm, Milano, Frankfurt)

- A common wiki and a growing platform https://wiki.openmod-initiative.org/wiki/Main_Page
  http://oep.iks.cs.ovgu.de/

- A recently installed discussion forum https://forum.openmod-initiative.org/categories