Tom Brown, Robbie Morrison, The Open Energy Modelling Initiative Community

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openmod: overview

• **grass roots community** of open energy modellers from universities, research institutions and the interested public

• participants mainly from Europe, but also from Africa, America, and Australia

• first meeting Berlin 18–19 September 2014 (some founding members started OPSD)

• promoting **open code, open data and open science**
what is open modelling?

Open refers to model source code and energy system datasets that can be freely used, studied, improved and distributed. The whole pipeline should be open:

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why open modelling?

openness . . .

- increases transparency, reproducibility and credibility, which lead to better research and policy advice (no more ‘black boxes’)
- can improve research quality
- reduces duplication of effort and frees time to develop new ideas
- allows easier collaboration
- is essential given the increasing complexity of the energy system

See also S. Pfenninger, ‘Energy scientists must show their workings,’ Nature, V542, p393, 2017.
what open models are there?

Since 2001: zero to +48 projects and more coming

**Electricity and energy system models:**

- **first wave (3):** 2001 balmoral, 2004 deeco, 2005 GnuAE
- **second wave (+3):** 2010 OSeMOSYS, 2012 TEMOA, NEMO
- **as of 2017 (+25):** Calliope, CREST, DESSTinEE, DIETER, Dispa-SET, Einstein, EMLab-Generation, EMMA, Energy Transition Model, EnergyPATHWAYS, ETEM, ficus, GENESYS, NEMO, oemof, OnSSET, pandapower, PowerMatcher, PyPSA, renpass, SIREN, StELMOD, SWITCH, URBS, WWS project
what open models are there?

Transmission and distribution grid models:

- as of 2017 (8): DINGO, GridKit, GridLAB-D, Hutcheon and Bialek dataset, OpenDSS, OpenGridMap, osmTGmod, SciGRID

Energy database projects:

what is the openmod initiative?

The openmod initiative consists of a public mailing list (370+ participants) ...
what is the openmod initiative?

...an internet forum for more intense discussions, Q & A and planning...
what is the openmod initiative?

...a collaborative wiki for collecting information on models and data...
what is the openmod initiative?

... and finally a workshop every six months for two-three days.

Next Workshop: Technical University of Munich, 11-13 October 2017

- tutorials on open software tools and open energy models
- open model and open data presentations
- breakout groups on every possible topic
The following issues are currently being tackled by OpenMod members:

- Good practice in open source projects
- Barriers to developing open source projects
- Helping data owners understand the merits of openness
- Energy data and metadata standards
- Energy model classification and cataloguing
- Open/free/libre software and data licensing
- Improved research computing skills
want to join the openmod initiative?

There is no application process or membership fee. Simply . . .

• join the mailing list
• join the online forum
• check out the website
• come to the next workshop: 11-13 October 2017, Technical University of Munich
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