



NEMO

an open source
electricity model



Never Stand Still

Engineering

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Questions we're interested in

- Least cost generation mixes
 - Principally for 100% renewable energy in the NEM
 - Other scenarios – e.g. gas, coal/gas, CCS, RE+fossil, RE without CST
- How technology choices, placement, costs affect these mixes
- Maintaining system reliability standard
- Meeting other constraints: CO₂ emissions caps, non-synchronous penetration limits, minimum RE share

NEMO model

- Techno-economic framework with EA on top
- Principle: do bare minimum, run fast
 - Scriptable through Python
- Chronological dispatch
- Extensible, flexible generator types
- Many generator types: variable, conventional, CSP, storage (eg PSH), load response
- Enforces non-synch. penetration levels

Techniques, tools & community

- Aim for high quality software
 - Clear code to assist novice programmers
 - Modular design, defensive programming for quick changes
 - Near-complete testsuite coverage (*SHOCK HORROR!*)
- Tools
 - Python, IPython (notebooks), nose, flake8, numpy, matplotlib, DEAP
 - Source code kept in git
- Community
 - GPLv3 license
 - Web site, mailing list