

AMIRIS – The Open Agent-based Market Model

How to get involved and profit from our model

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Christoph Schimeczek, Kristina Nienhaus, Ulrich Frey, Evelyn Sperber, Seyedfarzad Sarfarazi, Felix Nitsch*, Johannes Kochems, A. Achraf El Ghazi



German Aerospace Center (DLR), Institute of Networked Energy Systems, Curiestr. 4, 70569 Stuttgart
* Felix.Nitsch@dlr.de, AMIRIS@dlr.de

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AMIRIS Model

The open **Agent-based Market** model
for the **Investigation of Renewable and Integrated energy Systems**

- Type: Agent-based model for power markets
- Logic: Trading and operation of power generation plants and flexibility options
- Strength: Model business-oriented behaviour under uncertainty and different regulatory framework conditions
- Temporal resolution: \leq hourly
- Spatial resolution: Market zone(s) and market coupling
- Results: Electricity prices, full load hours, market values, costs for support instruments, etc.
- Speed: Fast execution speed due to framework FAME
- Availability: Development since 2008; OS since 2021 at <https://gitlab.com/dlr-ve/esy/amiris>

AMIRIS Examples

Open configuration files to test AMIRIS and provide a starting point for your analyses

- Aim: Provide example configurations for AMIRIS
- Germany2019: Scenario of DE day-ahead market in 2019
- Austria2019: Scenario of AT day-ahead market in 2019
- Simple: Minimal working example with dummy data
- License: Fully open access
- Availability: <https://gitlab.com/dlr-ve/esy/amiris/examples>

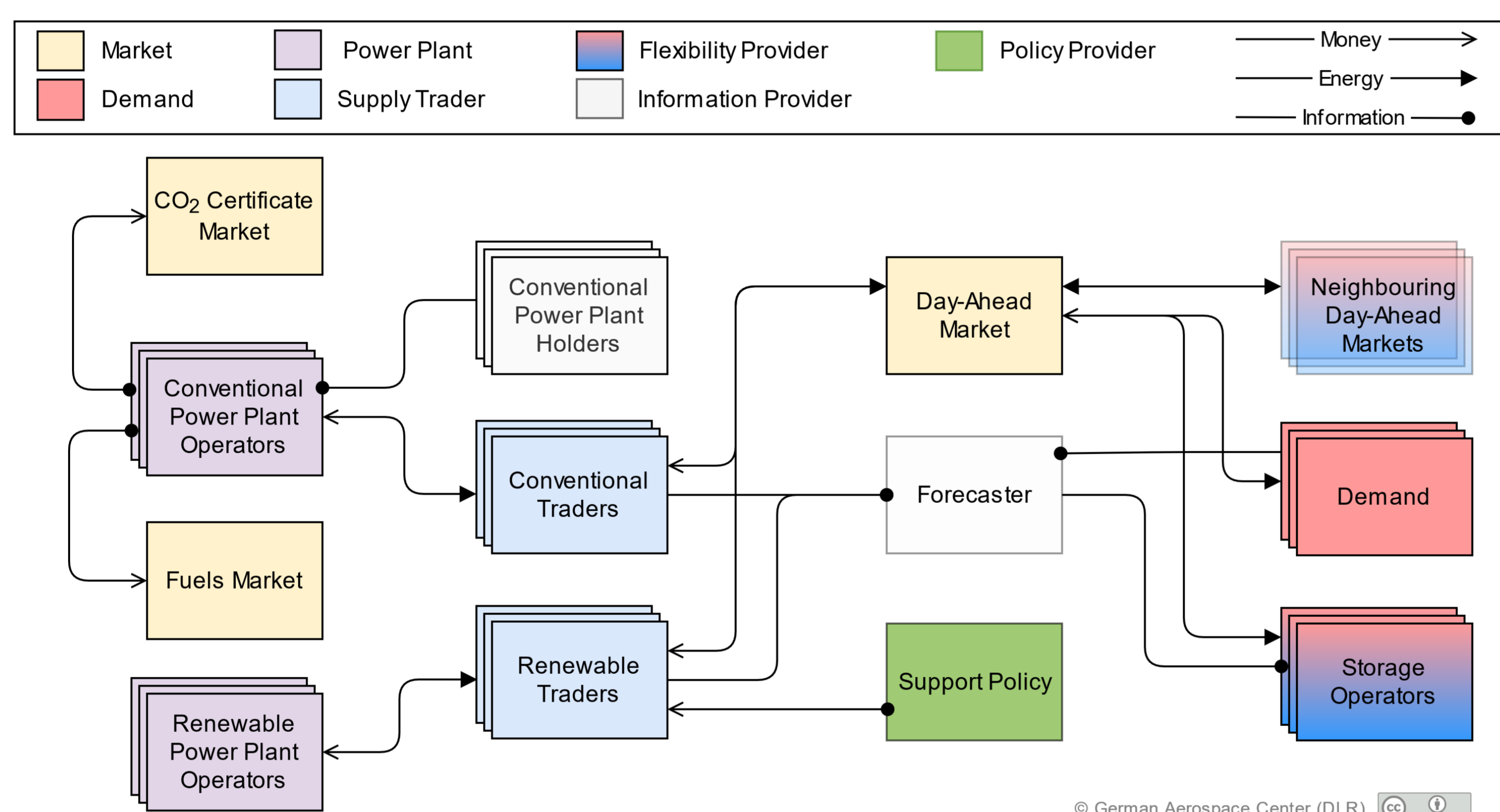


Fig.1: AMIRIS Model Structure

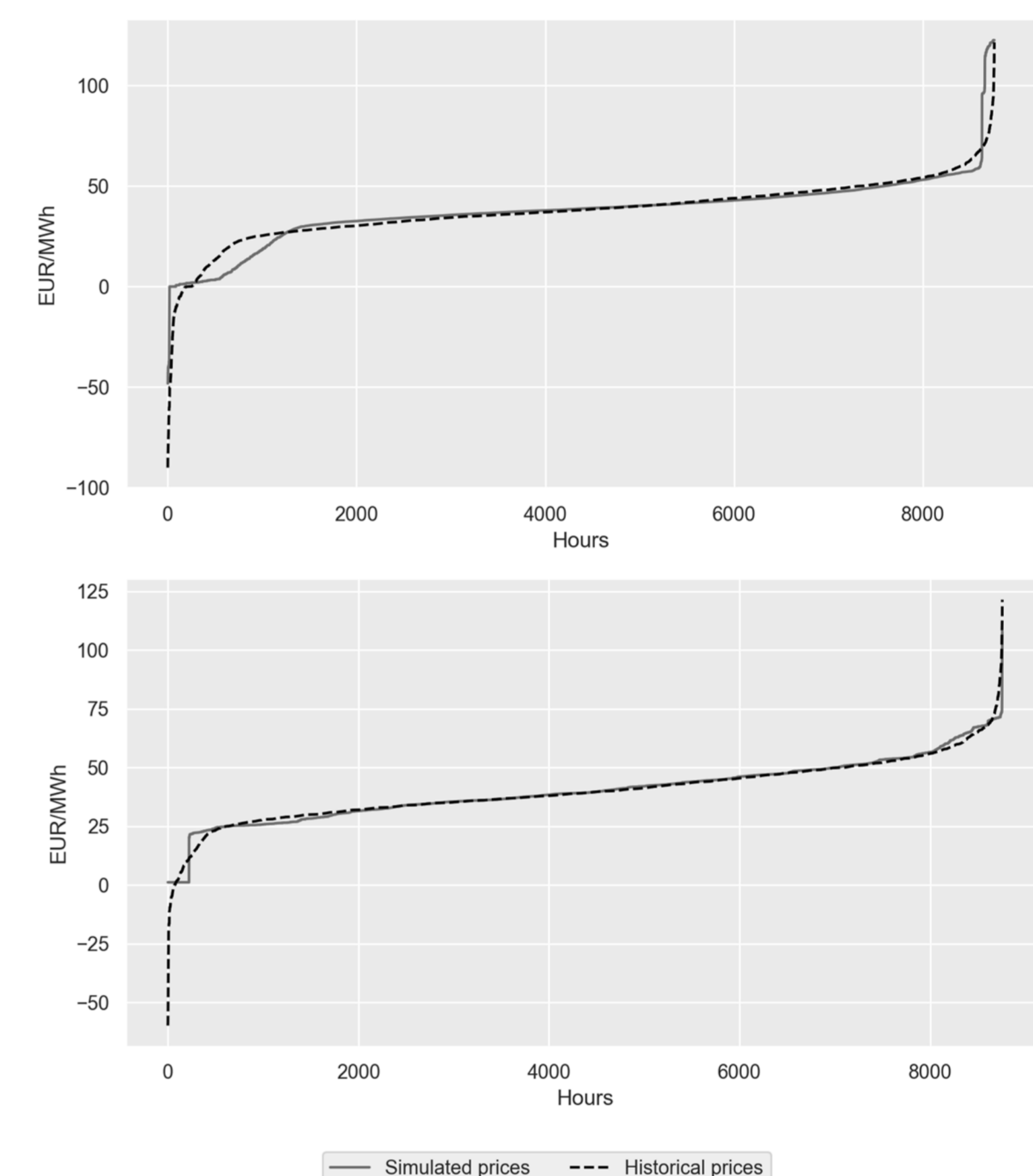


Fig.2: Price duration curves Germany 2019 (top) & Austria 2019 (bottom)

Get started!

1. Get our Python wrapper *AMIRIS-Py* via `pip install amirispypy`
2. Ensure you have Java installed
3. Install AMIRIS (and its examples) via `amiris install`
4. Run your first model via `amiris run -f <path/to/scenario.yaml>`
5. Look at your results and start your experiments using AMIRIS

Get further information: <https://pypi.org/project/amirispypy>

Get involved!

Use AMIRIS

- Ask us at openmod with tag `amiris`
- Report difficulties
- Create / publish scenarios
- Cite AMIRIS

Discuss modelling ideas!

Join forces with us in a project!

Get insights on latest projects!

Collaborate with us on extensions!

Ask us questions!

Make us enhance AMIRIS

- Post ideas using tag `amiris`
- Report issues / bugs at GitLab
- Make feature requests

Enhance AMIRIS yourself

- Improve / modify agents
- Sign Contributor License Agreement
- Make pull requests

Research and Projects

- TradeRES:** Market designs for a ~100% RES-E System
- ERAFlex II:** Realisable Energy System Optimum
- VERMEER:** Market coupling in extreme weather events
- En4U:** Aggregation of household decisions
- FEAT:** Robust machine learning decisions under uncertainty

Important Links

- Website: <https://dlr-ve.gitlab.io/esy/amiris/home>
- Gitlab: <https://gitlab.com/dlr-ve/esy/amiris>
- Forum: <https://forum.openmod.org/tag/amiris>
- Wiki: <https://gitlab.com/dlr-ve/esy/amiris/amiris/-/wikis/home>
- Javadoc: <https://dlr-ve.gitlab.io/esy/amiris/amiris>
- Zenodo: <https://zenodo.org/communities/amiris>
- E-Mail: AMIRIS@dlr.de

- FAME Framework: <https://gitlab.com/fame-framework>

Visit our website

