Reproducible Data Workflow in Open Energy System Models

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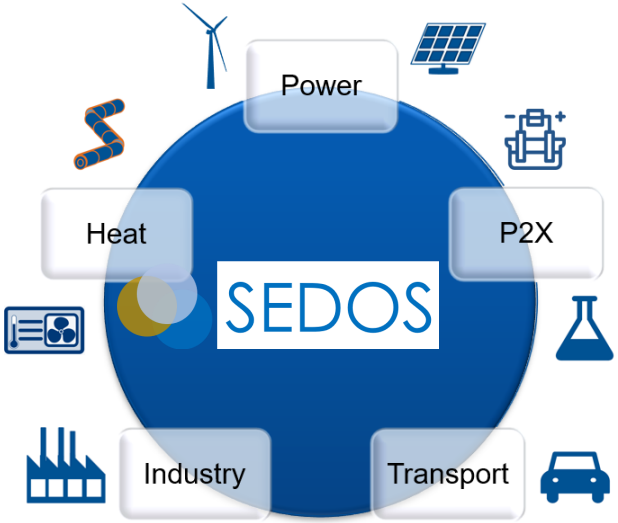
2024-03-27

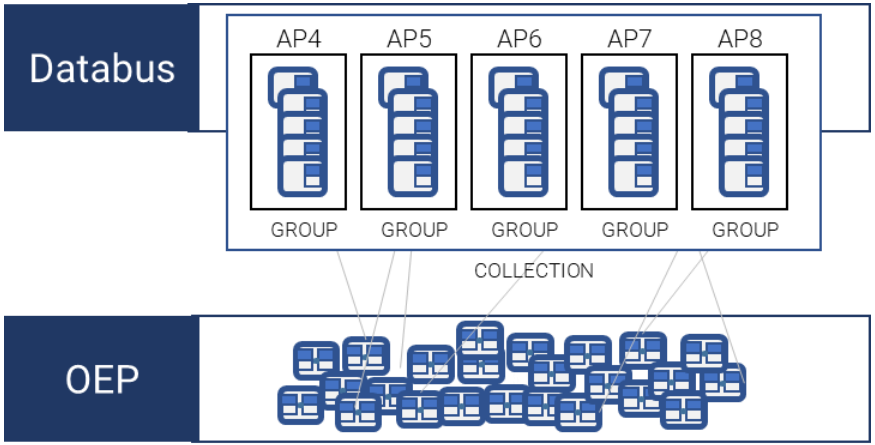
The SEDOS project

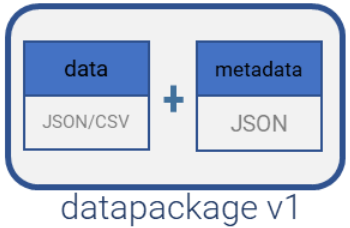
- aims to improve sector integration in energy system models (ESMs)
- we develop a sector-integrated ESM for Germany by using the frameworks FINE, oemof and TIMES and apply them to analyze selected scenarios.
- we put a special focus on effective and open data management → Documentation



Reference Energy System | **Scenario Study** | **Open Data** | **Open Source** | **GUI**

Data Management





datapackage v1

Reproducible Data Workflow

- Datapackages deployed to OEP and Open Energy Databus When artefact on databus is updated, pipeline is triggered

OpenEnergy Platform

Data Management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{
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    "id": null,
    "description": "datamodel, metadata and examples provided as datapackage",
    "language": ["en-GB"],
    "subject": [],
    "keywords": ["datamodel", "datapackage", "general energy dataformat"],
    "publicationDate": "2022-07-13",
    "context": {
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        "documentation": "https://sedos-project.github.io/.github/",
        "sourceCode": "https://github.com/sedos-project/oedatamodel/tree/main/parameter_datamodel",
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        "publisherLogo": null
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```


Metadata - OEMetadata v.1.5.1

- As energy metadata standard
- Realizes **tabular data package** specifications and the **FAIR principles**
- Ontological annotation ready
- Full licensing capabilities

Data Management

Datamodel – OEDatamodel

- Easy for parameters
- Bandwidths, versioning, documentation

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1	Europe	2015	[25]	[2.86]	{'technical_lifetime_years':'point','nominal_investment':'point'}	v1	{'technical_lifetime_years':'average'}	{'technical_lifetime_years':[DEA2020, BMWI2022], 'nominal_investment': 'IEA2012'}	
2	Europe	2030	[26,29,31]	[1.92,2.23]	{'technical_lifetime_years':'discrete','nominal_investment':'discrete'}	v1		{'technical_lifetime_years':BMWI2022','nominal_investment':IEA2012'}	
3	Europe	2040	[33]	[1.93, 2.0]	{'technical_lifetime_years':'point','nominal_investment':'continuous'}	v1		{'technical_lifetime_years':BMWI2022','nominal_investment':IEA2012'}	

Licencing

- Open licences; e.g. CC0-1.0 , PDDL-1.0 , dl-de/zero-2-0 , CC-BY-4.0

“Thanks for your attention!”

License

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