

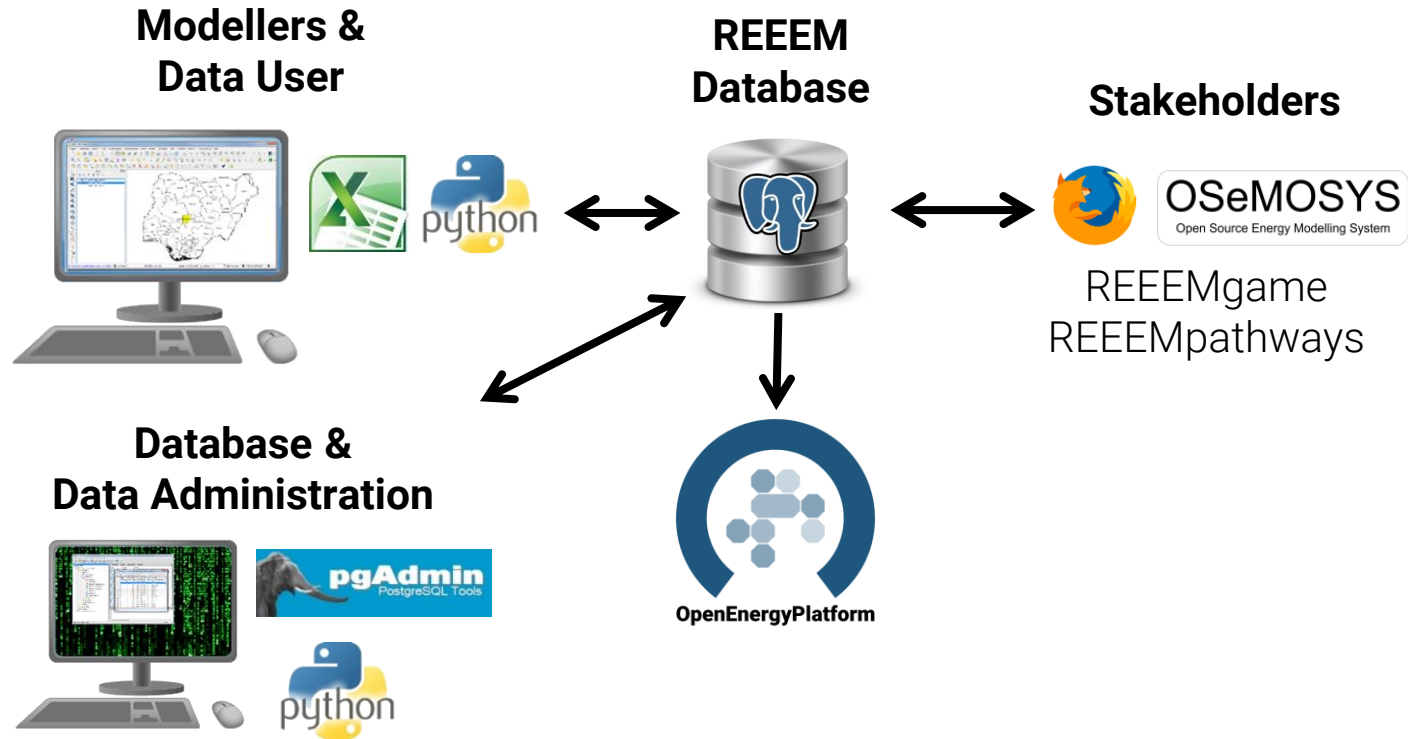
Data management in the REEEM project

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REEEM – Database Concept



REEEM – Technical Properties

REEEM Database

- Project internal database
- Sensitive and open data
- PostgreSQL
- Hosted by DTU



OpenEnergyPlatform

- Community project
- Only open data
- PostgreSQL
- Hosted by OvGU (Magdeburg)
- Web interface + API



Level 1: Schema

v0.2 (current version)

ISO 19115	Schema name	Definition
003	boundaries	legal land descriptions. examples: political and administrative boundaries
004	climate	processes and phenomena of the atmosphere. examples: cloud cover, weather, climate, atmospheric conditions, climate change, precipitation
005	economy	economic activities, conditions and employment. examples: production, labour, revenue, commerce, industry, tourism and ecotourism, forestry, fisheries, commercial or subsistence hunting, exploration and exploitation of resources such as minerals, oil and gas
	demand	consumption and use of energy. examples: peak loads, load curves
	grid	energy transmission infrastructure. examples: power lines, substation, pipelines
	supply	conversion (generation) of energy. examples: power stations, renewables
007	environment	environmental resources, protection and conservation. examples: environmental pollution, waste storage and treatment, environmental impact assessment, monitoring environmental risk, nature reserves, landscape
016	society	characteristics of society and cultures. examples: settlements, anthropology, archaeology, education, traditional beliefs, manners and customs, demographic data, recreational areas and activities, social impact assessments, crime and justice, census information
	model_draft	modelling sandbox, temp tables. examples: ego_grid_loadareas. !no version control!
	scenario	scenario data
	reference	sources, literature

Level 2: Table (per model)

DTU - reeem - model_draft.reeem_times_paneu_output

```

1 SELECT * FROM model_draft.reeem_times_paneu_output
2 ORDER BY id ASC LIMIT 100
3
    
```

Data Output Explain Messages Query History

	id [PK]	nid integ	dfid integ	pathway text	framework text	version text	region text	year smallint	category text	indicator text	value double precision	unit text	aggregation boolean	tags hstore	updated timestamp with time zone
1	1	1	0	Pilot	FrameworkV1	DataV1	EU28	2015	Final energy consumption Industry	Coal	1831.371	PJ	false	[null]	2017-10-27 00:00:00+02
2	2	1	1	Pilot	FrameworkV1	DataV1	EU28	2020	Final energy consumption Industry	Coal	1930.888	PJ	false	[null]	2017-10-27 00:00:00+02
3	3	1	2	Pilot	FrameworkV1	DataV1	EU28	2025	Final energy consumption Industry	Coal	1917.243	PJ	false	[null]	2017-10-27 00:00:00+02
4	4	1	3	Pilot	FrameworkV1	DataV1	EU28	2030	Final energy consumption Industry	Coal	1821.101	PJ	false	[null]	2017-10-27 00:00:00+02
5	5	1	4	Pilot	FrameworkV1	DataV1	EU28	2035	Final energy consumption Industry	Coal	1738.86	PJ	false	[null]	2017-10-27 00:00:00+02
6	6	1	5	Pilot	FrameworkV1	DataV1	EU28	2040	Final energy consumption Industry	Coal	1660.839	PJ	false	[null]	2017-10-27 00:00:00+02
7	7	1	6	Pilot	FrameworkV1	DataV1	EU28	2045	Final energy consumption Industry	Coal	1413.923	PJ	false	[null]	2017-10-27 00:00:00+02
8	8	1	7	Pilot	FrameworkV1	DataV1	EU28	2050	Final energy consumption Industry	Coal	1053.341	PJ	false	[null]	2017-10-27 00:00:00+02
9	9	2	8	Pilot	FrameworkV1	DataV1	EU28	2015	Final energy consumption Industry	Petroleum products	957.215	PJ	false	[null]	2017-10-27 00:00:00+02
10	10	2	9	Pilot	FrameworkV1	DataV1	EU28	2020	Final energy consumption Industry	Petroleum products	689.204	PJ	false	[null]	2017-10-27 00:00:00+02
11	11	2	10	Pilot	FrameworkV1	DataV1	EU28	2025	Final energy consumption Industry	Petroleum products	461.889	PJ	false	[null]	2017-10-27 00:00:00+02
12	12	2	11	Pilot	FrameworkV1	DataV1	EU28	2030	Final energy consumption Industry	Petroleum products	321.226	PJ	false	[null]	2017-10-27 00:00:00+02
13	13	2	12	Pilot	FrameworkV1	DataV1	EU28	2035	Final energy consumption Industry	Petroleum products	233.328	PJ	false	[null]	2017-10-27 00:00:00+02
14	14	2	13	Pilot	FrameworkV1	DataV1	EU28	2040	Final energy consumption Industry	Petroleum products	176.105	PJ	false	[null]	2017-10-27 00:00:00+02

OEP Metadata string per table

"license":

{ "id": "ODC-BY-1.0",

"name": "Open Data Commons Attribution License 1.0",

"version": "1.0",

"url": "http://opendatacommons.org/licenses/by",

"instruction": "You are free: To Share, To Create, To Adapt; As long as you: Attribute!",

"copyright": "© Institut für Energiewirtschaft und Rationelle Energieanwendung (IER)
der Universität Stuttgart"},

https://github.com/OpenEnergyPlatform/examples/tree/feature/metadata_v1.4/metadata

REEEM – Open Data

- Creation of presentations and tutorials
 - “Open Data Licensing” © [Reiner Lemoine Institut](#) | [CC BY 4.0](#)
- Individual consulting
- Step-by-step instructions
- Application of open licenses in process




REEEM – Challenges

- Generating basic understanding of databases
- Discussion of Open Data Licenses
- Diverse and creative data (Excel) structures from different models...
- ...

Data Structure – Comparison

Project	Level 1	Level 2	Level 3	Level 4
MEDEAS	Topic	PAV	Variable + #data	
REflex	Rubric	Category	Devision	Variable + #data
SET-Nav	Category	Variable + #data		
REEEM	Schema	Category	Variable + #data	<i>Tags: key:value</i>

Choosing an Open License

Open License		Software-License	Data-License	Artwork-License
Public Domain		CC0	CC0	CC0
Permissive		MIT	ODC BY	CC BY
Copyleft		GPL / AGPL	ODbL	CC BY-SA

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