



ENER
MAPS

ENERMAPS GATEWAY

How to support energy data management
Dr. Diane von Gunten



The EnerMaps project has received funding from the European Union's Horizon 2020 research and innovation programme under [grant agreement N°884161](#)

 [EnerMaps.eu](https://enermaps.eu)

ENERMAPS PROJECT



EnerMaps aims to improve **data management and accessibility** in the field of **energy research** for the **renewables industry**.



Duration : April 2020 to April 2022 - Budget of 1 million € - www.EnerMaps.eu



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CURRENT SITUATION –ENERGY DATA



Energy data in **separated databases**, no quality-check.



Scientific data is **stored but not easy to find**, so not re-used.



Lack of **visualization** and analysis tools.



Data-related **know-how** of target groups is low.





CHALLENGES - OPEN SCIENCE

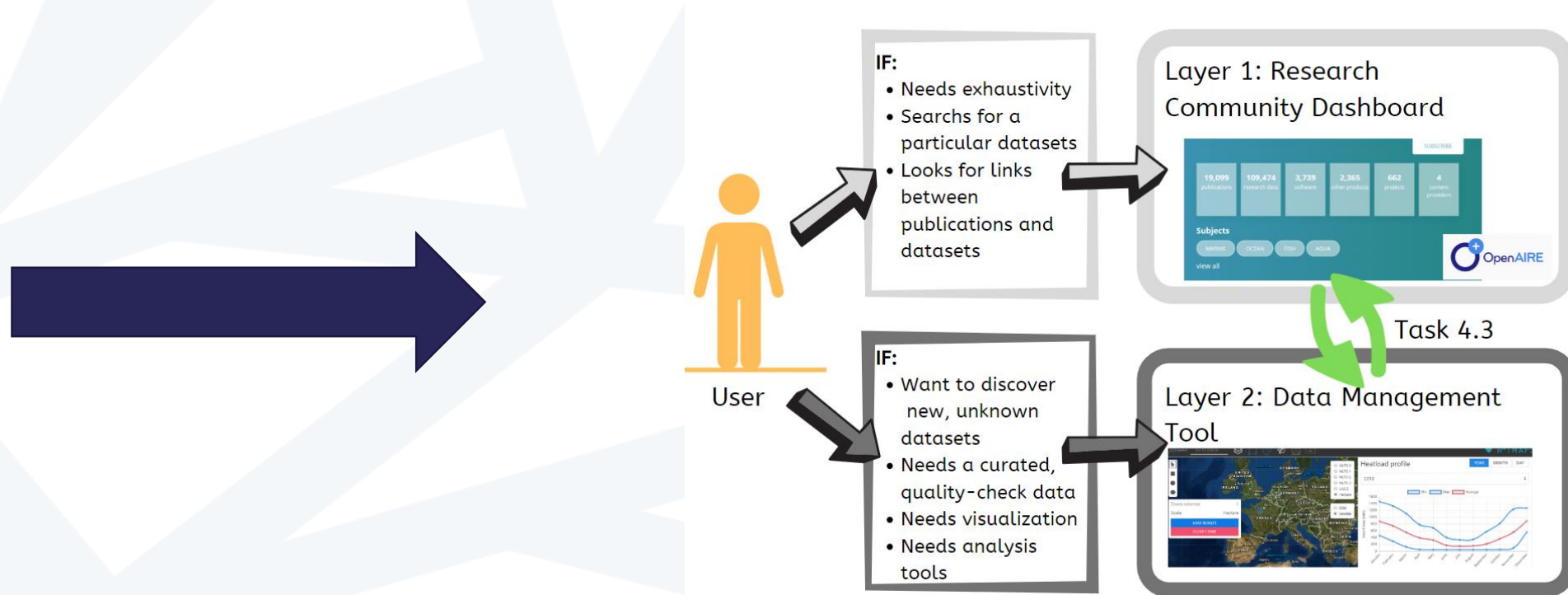
- Projects last 2-3 years it is difficult to keep data long term
- Unclear licenses
- Unclear methodology (not clear how data was created or measured)
- Access to software and model are not always open-source, «black-box» effect.
- Difference between countries, data providers, etc. in an inter-connected grid.





PARTICULARITY OF THE ENERGY FIELD

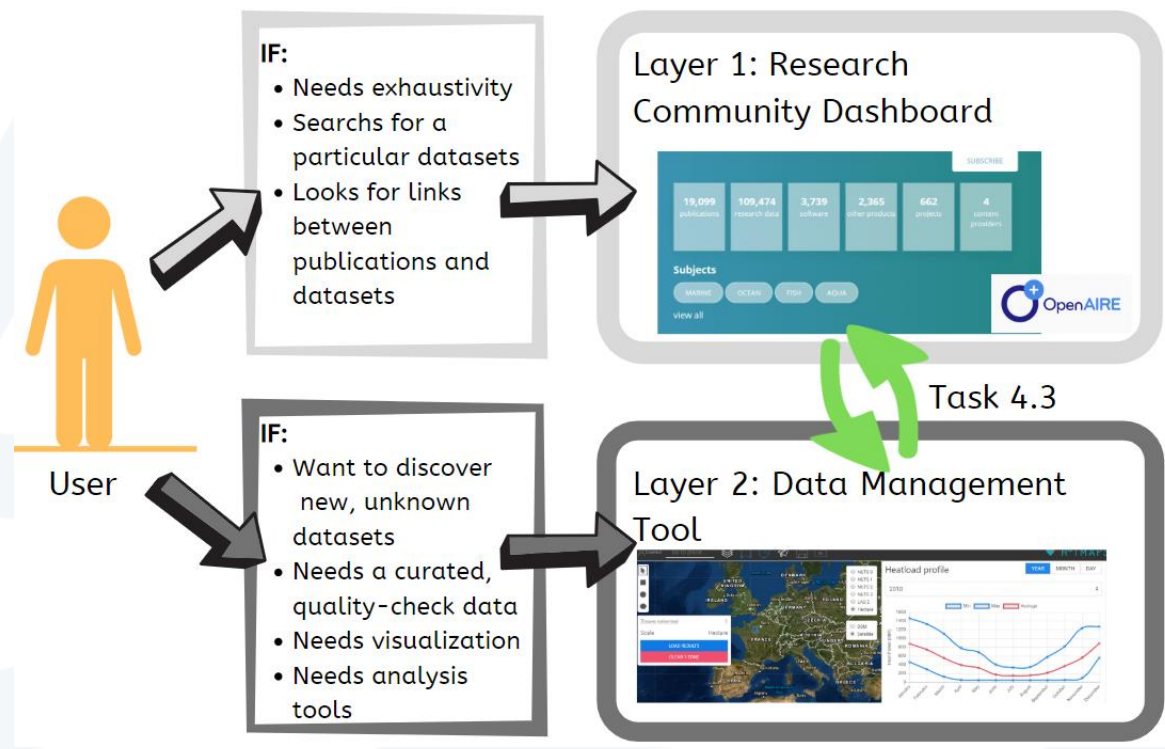
Strong differences between the user needs, high data needs from non-technical actors





OUR CONCEPT

We propose two entry-points for data management for our users which function as a coherent tool.





LAYER 1 : COMMUNITY GATEWAY

The screenshot shows the ENERMAPS Energy Research community gateway. At the top left, there is a 'BETA' badge and the ENERMAPS logo. The navigation bar includes 'DEPOSIT', 'LINK', 'SEARCH', 'ABOUT', 'MANAGE', and a 'DV' button. The main header is 'Energy Research' with 'Subscribed' and 'Invite users' buttons. A search bar contains 'Research outcomes' and 'Search by title, author, abstract, DOI, orcid...' with a 'SEARCH' button and a link to 'Advanced Search'. Below the search bar is a statistics table:

SUMMARY	PUBLICATIONS	RESEARCH DATA	SOFTWARE	OTHER RESEARCH	FEATURED DATASETS
	310,842	1,081	26	2,366	6

The 'FEATURED DATASETS' cell is highlighted with a red arrow pointing to it from the text 'Additional Tab with the link to the visualisation tools'. Below the table, there is a paragraph: 'The Energy Research community gateway is supported by the EC H2020 ENERMAPS project (884161). It aims to provide a Gateway to publication and data related to the field of energy planning and research.' and a 'Subjects' section listing 'Energy Management, Power2gas, European Green Deal, Nuclear energy, SECAP, Wind energy, Power2X'.

Additional Tab with the link to the visualisation tools



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LAYER 1: FEATURED DATASETS

SUMMARY	PUBLICATIONS 310,843	RESEARCH DATA 1,081	SOFTWARE 26	OTHER RESEARCH 2,366	FEATURED DATASETS 6
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Featured Datasets

*Here are listed some of the most important energy datasets as selected by energy experts.
Check them if you want to easily explore and visualize the European energy landscape, using only well-known datasets which you can trust.*

Publication . Report . 2019

Fossil CO2 and GHG emissions of all world countries

OPEN ACCESS

ENGLISH

Authors: CRIPPA MONICA; VIGNATI ELISABETTA; OREGGIONI GABRIEL; GUIZZARDI DIEGO; MUNTEAN MARILENA; SCHAAF EDWIN; LO VULLO ELEONORA; SOLAZZO EFISIO; MONFORTI-FERRARIO FABIO; OLIVIER JOS;

Publisher: Publications Office of the European Union

JRC.C.5-Air and Climate





FEATURED DATASETS

- 50 energy datasets selected by a group of experts as «critical».
- One landing page by dataset on the Gateway
- Link to the visualisation tool

Publication · Report · 2019
Fossil CO2 and GHG emissions of all world countries

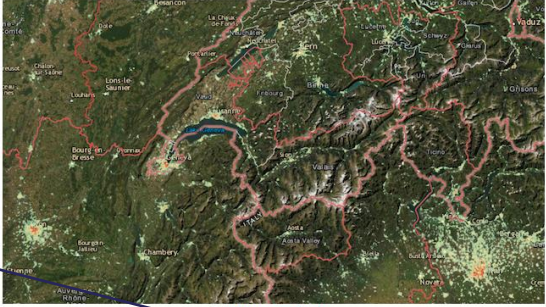
CRIPPA MONICA; VIGNATI ELISABETTA; OREGGIONI GABRIEL; GUIZZARDI DIEGO; MUNTEAN MARILENA; SCHAAF EDWIN; LO VULLO ELEONORA; SOLAZZO EFISIO; MONFORTI-FERRARIO FABIO; OLIVIER JOS;

[OPEN ACCESS](#) [ENGLISH](#)

Published: 01 Jan 2019
Publisher: Publications Office of the European Union

[LINK THIS PUBLICATION TO...](#)
[CITE THIS PUBLICATION](#)
[ADD ANNOTATION](#)

SUMMARY **ENERMAPS TOOL**



Visit Enermaps Tool



FAIRNESS ISSUES WITH FEATURED DATASETS

A dataset can be well-known and important but not as FAIR as it should be...

In this project, we :

- Reaches out to data provider
- Improves on existing metadata
- Check for consistency
- Provides a common entry point for different datasets
- Add to Zenodo so particular datasets can get a PID



VISUALISATION TOOL

Area Selection

- lau.zip
- nuts0.zip
- nuts2.zip
- nuts3.zip
- nuts1.zip
- Custom area

Active Layers Selection

- gfa_tot_curr_density.tiff

Calculation Modules

Cm empty Run CM

Cm multiply raster Run CM

task_id: d67fb...
status: SUCCESS
min: 1
max: 123
mean: 32.52459016393443
count: 61
median: 34

Heat demand Run CM

Link to Gateway



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ADVANTAGES OF THE GATEWAY

- Adapting the research graph of OpenAIRE to the energy community
- Can be integrated in a larger system creating a coherent two-layers system

CHALLENGES

- Finding the right keyword to be large enough without losing useful results





PROJECT COORDINATOR

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