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# Topic taxonomy and metadata to support renewable energy digitalisation

Andrea MICHIORRI, Anna Maria SEMPREVIVA, Sean PHILIPP, Paula PEREZ-LOPEZ, Alain FERRIERE, David MOSER

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# CONTEXT

- Inhomogeneous data availability
  - For research and industry
  - Hinder innovation
  - For research: non replicable studies
- Partial nomenclature standardisation
  - Often siloed by field or technology
  - Difficult product integration from different vendors

# OBJECTIVE

## What

- Facilitate the use of renewable energy related data
- Link with Open and FAIR Data
- Potential applications:
  - Research in RES & sustainability
  - Facilitate interaction between systems
  - Facilitate certification, LCA or NDSH

## How

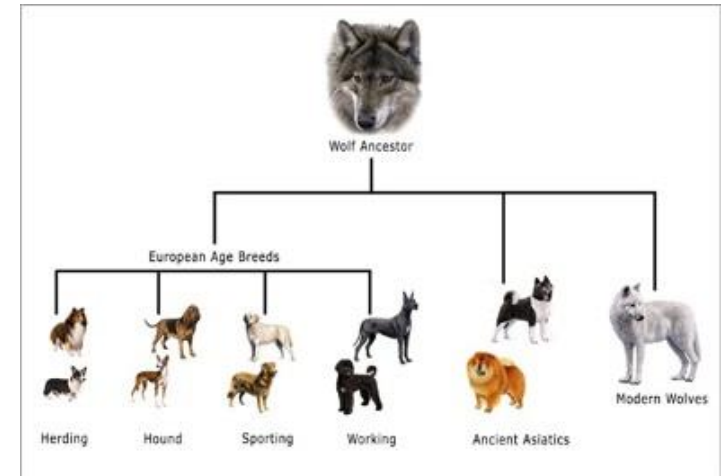
- Develop a taxonomy of RES topics and metadata
  - Building and linking to existing works (ex: EU taxonomy, wind power subjects and metadata, maintenance, agri-voltaic...)
  - Covering the whole industry
  - Covering technologies and transversal topics (LCA, DNSH)
  - Expandable (adding new technologies)



# DEFINITIONS

A **taxonomy** is a scheme of (hierarchical ) classification, in which things are organized into groups.

Ex: animal taxonomy



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**Metadata** is data that provides information about other data but not the content of the data

Ex: author, publishing year, title...



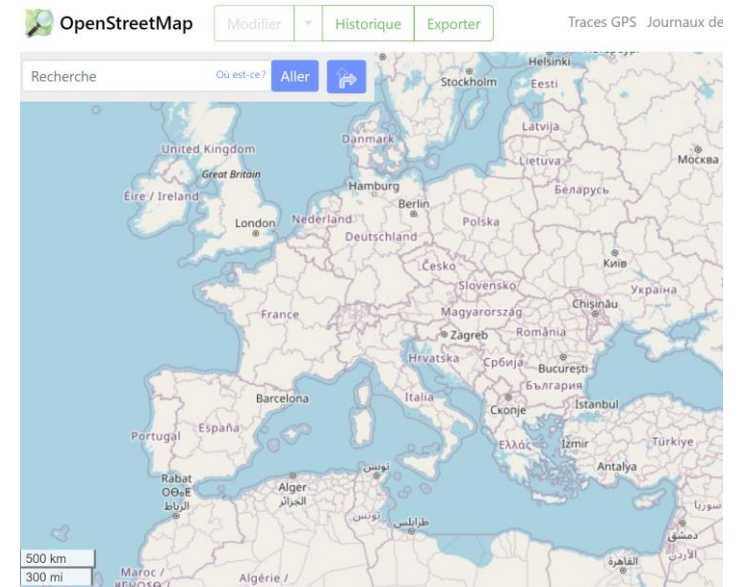
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**Open data** is data that can be freely used, re-used and redistributed by anyone. Legally and technically usable

Ex: OpenStreetMap, data.europa.eu...



# DEFINITIONS

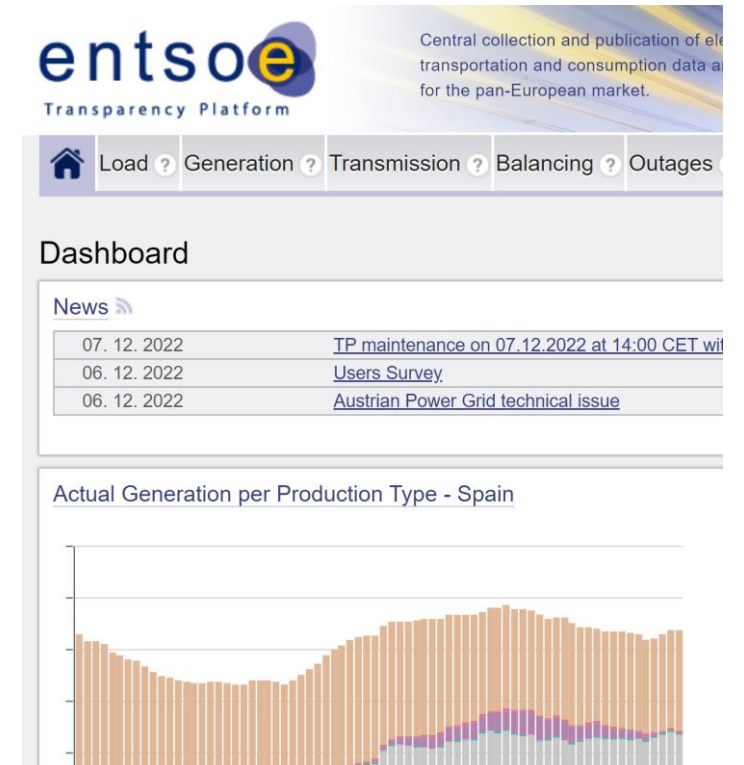
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**FAIR data** are data which meet principles of findability, accessibility, interoperability, and reusability (FAIR).

Ex: ENTSOE transparency platform



# NEEDED: A CATALOGUE FOR FAIR R.E. DATA

Topics

Metadata

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- ★★★★☆ & plus
- ★★★★☆ & plus
- ★★★★☆ & plus

## Marque

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- [REDACTED]
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# A COLLABORATIVE WORK

**Andrea MICHIORRI, coordination**, Centre for Processes, Renewable Energies and Energy Systems (PERSEE), MINES Paris - PSL University, [France](#)

**Anna Maria SEMPREVIVA, Wind data expert**, Department of Wind Energy and Energy Systems, Technical University and of Denmark, DTU, Risoe Campus, Frederiksborgvej 399, Roskilde, 4000, [Denmark](#)

**Sean PHILIPP, EU taxonomy expert**, AIT Austrian Institute of Technology GmbH, Giefinggasse 2, Vienna, 1210, [Austria](#)

**Paula PEREZ-LOPEZ, Life cycle assessment expert**, Centre Observation, Impacts, Energie (O.I.E.), MINES ParisTech, PSL Research University, Sophia Anti-polis, [France](#)

**Alain FERRIERE, Concentrated solar power expert**, Laboratoire PROMES-CNRS, 7 rue du four solaire, Font-Romeu Odeillo, 66120, [France](#)

**David MOSER, PV expert**, EURAC Research, Viale Druso, 1, Bolzano, 39100, [Italy](#)

# A COLLABORATIVE WORK INSPIRED BY THE GROUNDBREAKING...

Andrea MICHIORRI, coordination, Centre for Processes, Research  
- PSL University, France

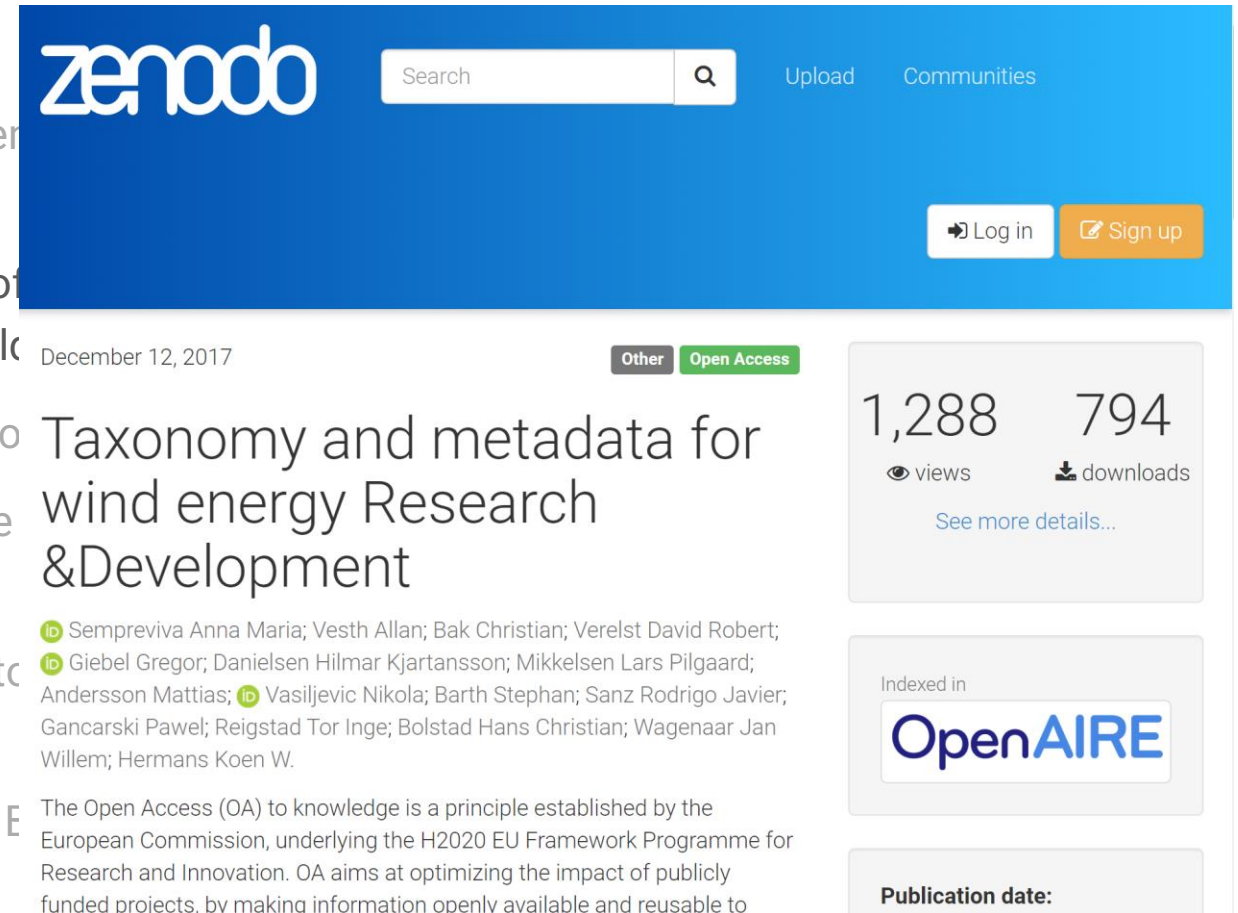
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The screenshot shows the Zenodo interface for a research paper. At the top, there is a blue header with the Zenodo logo, a search bar, and links for 'Upload' and 'Communities'. Below the header, there are 'Log in' and 'Sign up' buttons. The main content area features the paper title 'Taxonomy and metadata for wind energy Research & Development' and the date 'December 12, 2017'. There are two tabs: 'Other' and 'Open Access'. To the right of the title, statistics show '1,288 views' and '794 downloads', with a link to 'See more details...'. Below the title, a list of authors is provided, each with a small profile icon. At the bottom right, there is a section for 'Indexed in' with the 'OpenAIRE' logo, and a 'Publication date:' field.

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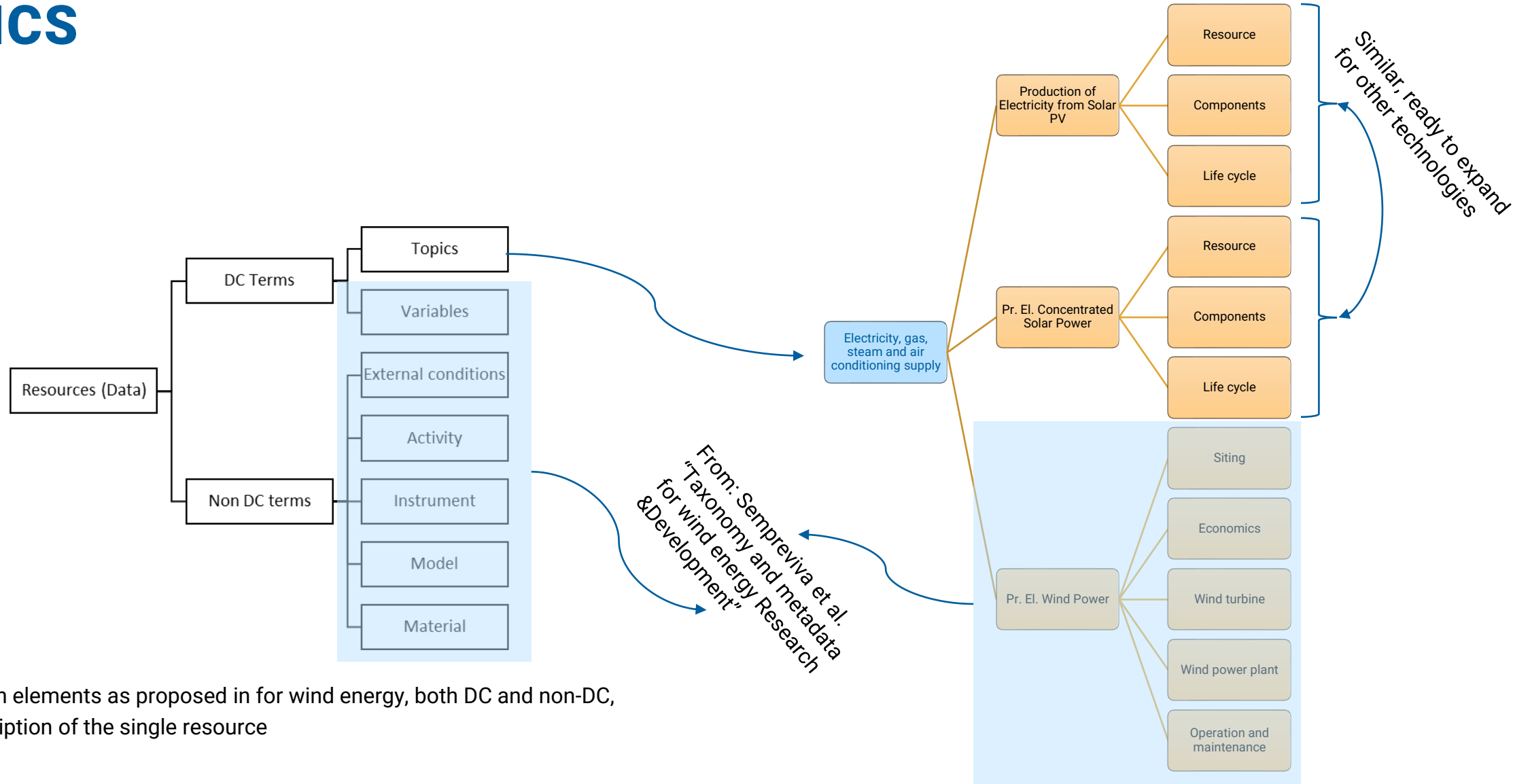
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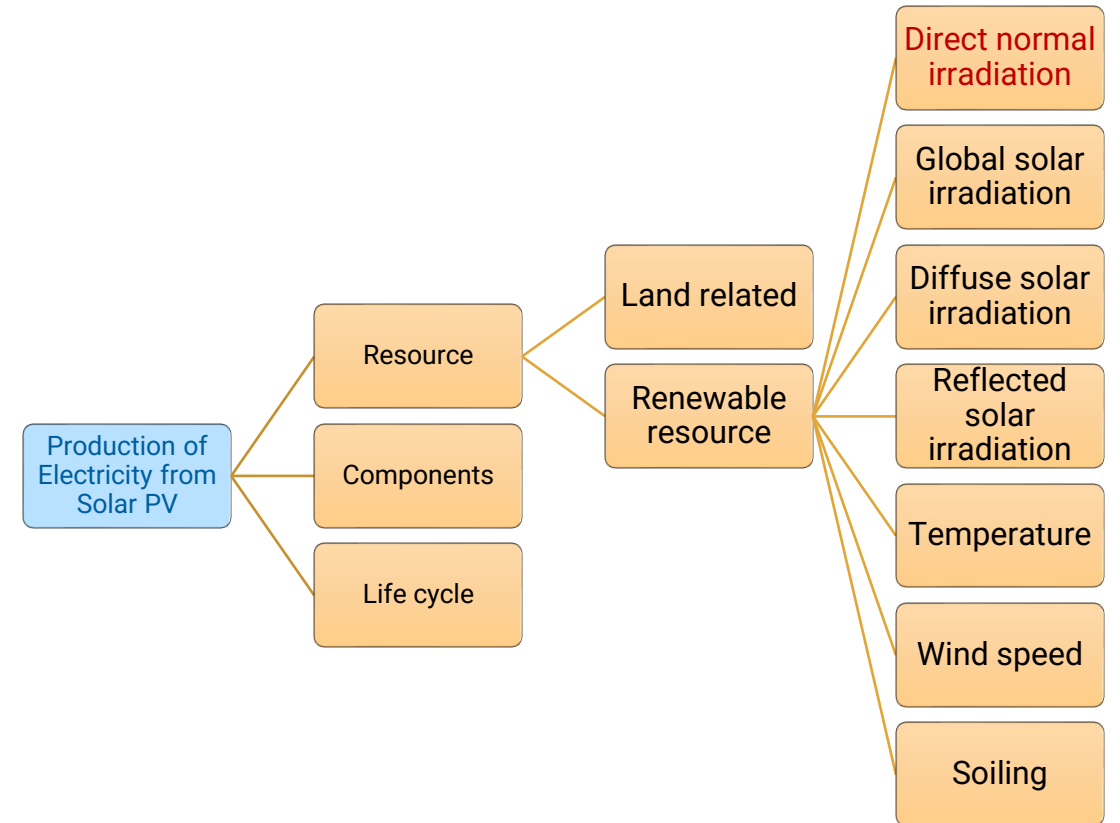
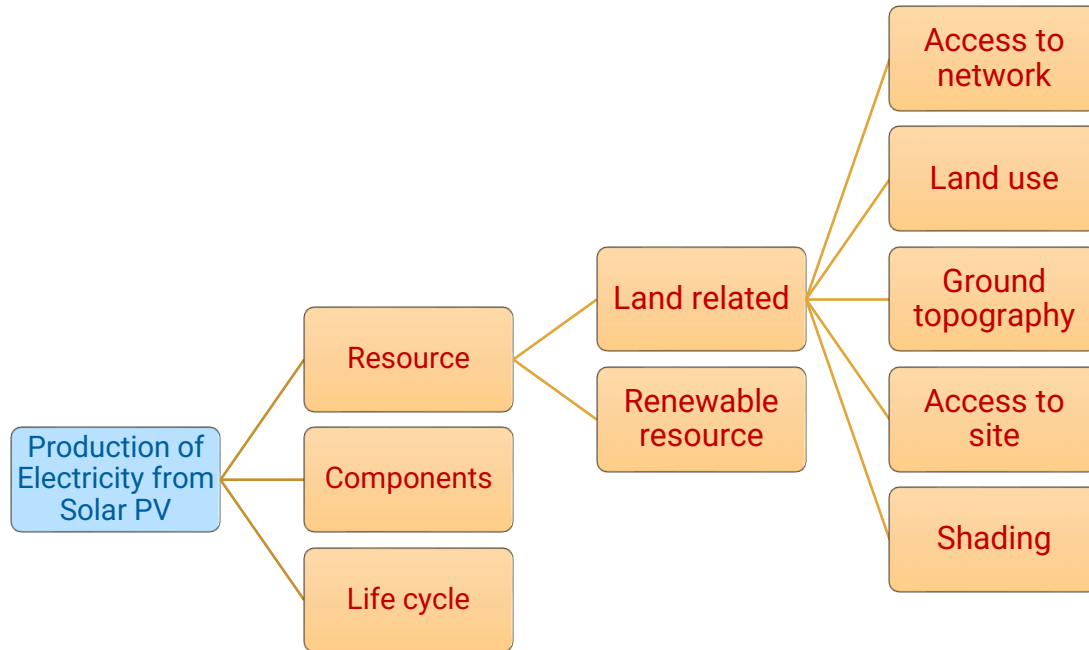
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# TOPICS

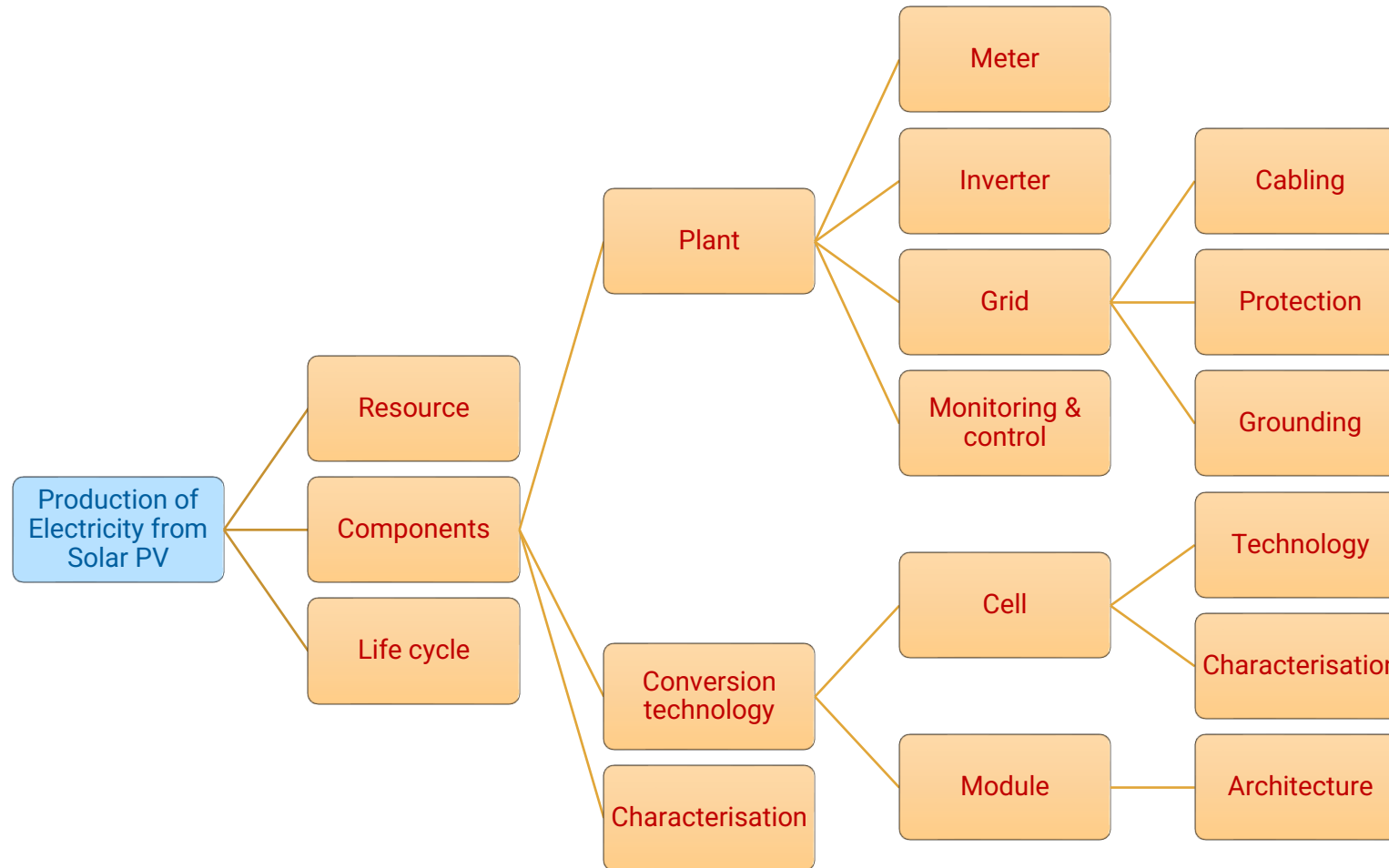


Classification elements as proposed in for wind energy, both DC and non-DC, for the description of the single resource

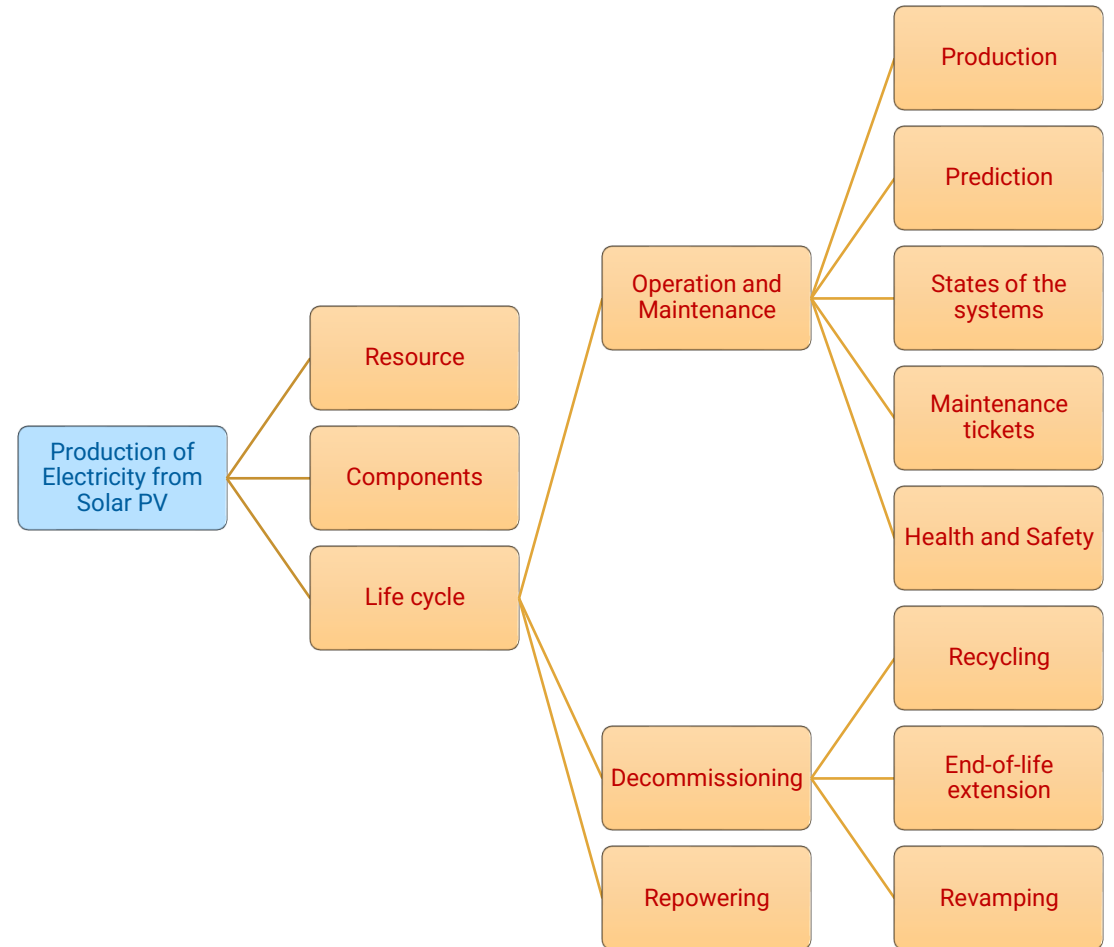
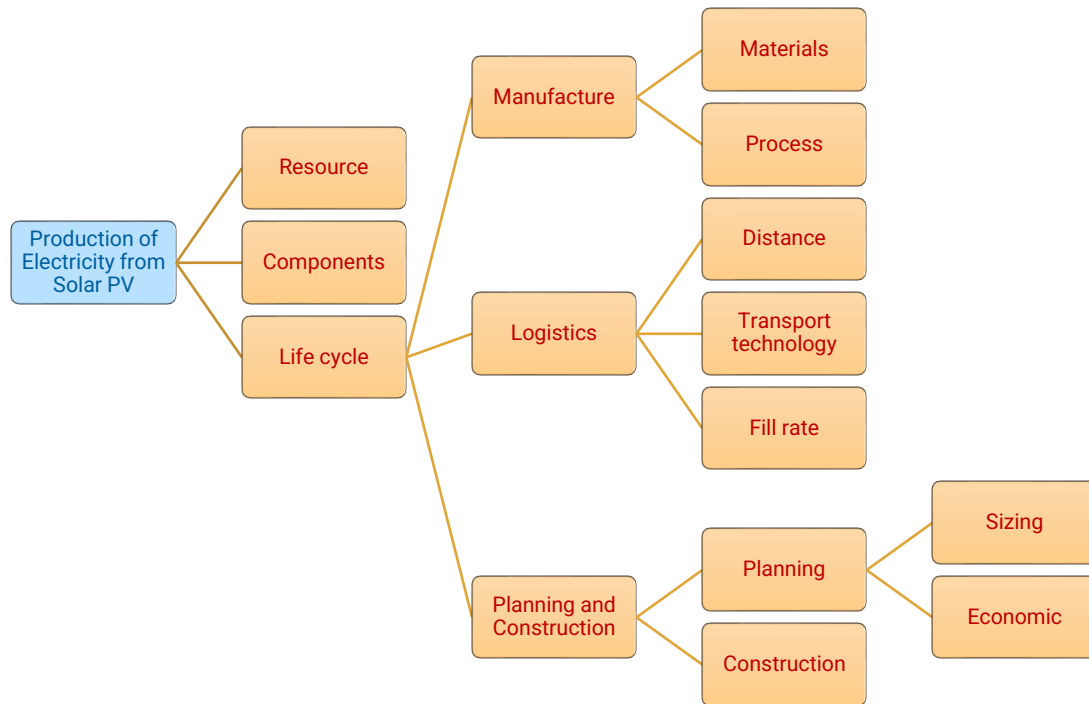
# EXAMPLE: PV – RESOURCE



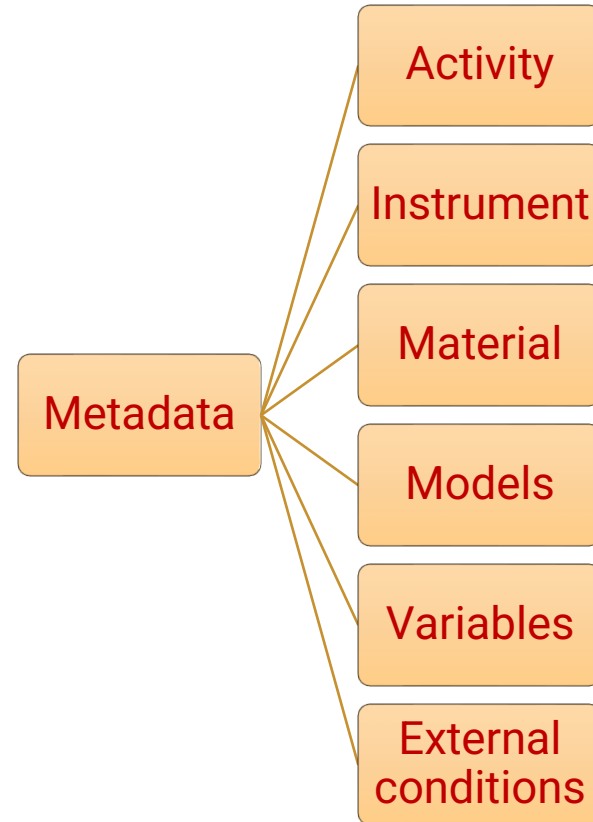
# EXAMPLE: PV – COMPONENTS



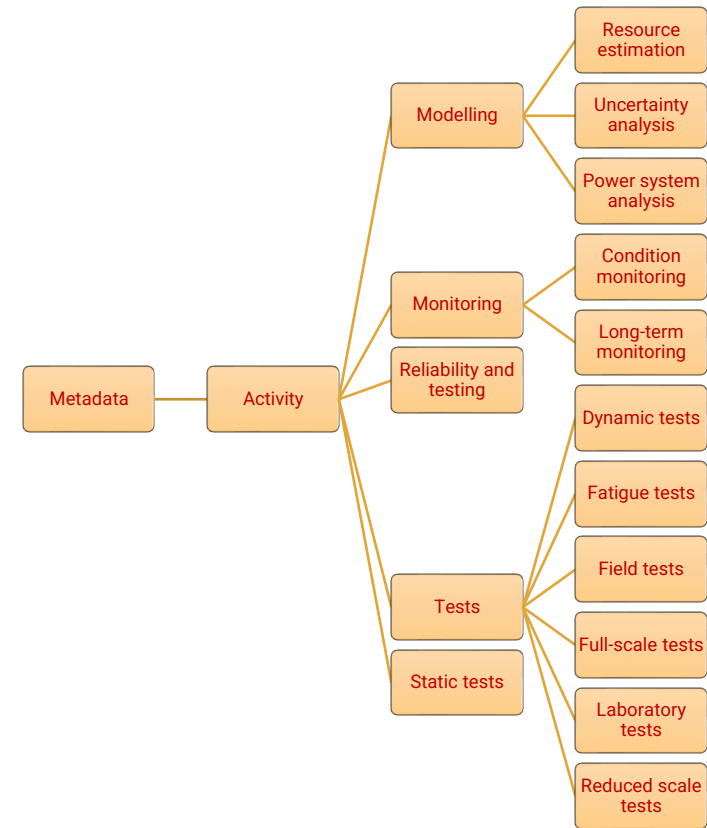
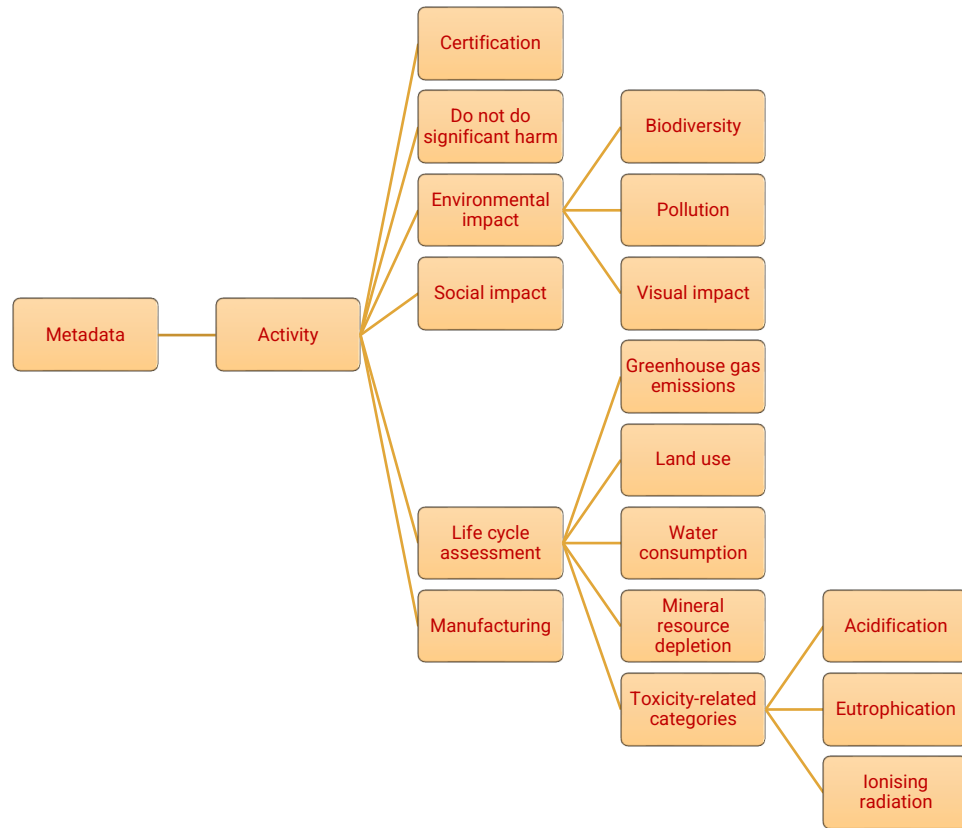
# EXAMPLE: PV – LIFE CYCLE



# EXAMPLE: METADATA



# EXAMPLE: ACTIVITY



# CONCLUSION

## Further work

- Expand to other technologies (nodes of the EU taxonomy for sustainable finance)
- Involve more experts per topic
  - At the end, it may become a standard, a CEI or ISO for example
- Develop a catalogue for FAIR Renewable Energy data

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## Acta, non verba

- The paper will be available in Open Access:
  - [https://www.mdpi.com/journal/energies/special\\_issues/energy\\_digitalisation\\_and\\_data](https://www.mdpi.com/journal/energies/special_issues/energy_digitalisation_and_data)
- The taxonomies are available for download in csv format
  - <https://cloud.minesparis.psl.eu/index.php/s/KqUCPI8yLuMPCsc>
- Both will be available in dedicated repositories (HAL or Zenodo)

Merci!

[andrea.michiorri@minesparis.psl.eu](mailto:andrea.michiorri@minesparis.psl.eu)