REINVENT – GRANT AGREEMENT NUMBER 730053

Data management plan

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Introduction

The aim of REINVENT is to contribute to the development of pathways and strategies for the decarbonisation of four key emission-intensive economic sectors – steel, plastics, paper and food. REINVENT will co-create knowledge and co-design pathways and scenarios together with a range of key actors, providing evidence-based innovation strategies for the European economy.

As part of REINVENT's participation in Open Data Pilot on Open Research Data in Horizon 2020, an openly accessible database of innovations for decarbonisation will be created and placed on REINVENT's website and/or a repository. It will consist of approximately 80 cases of innovations across the value chain in each sector. Each case will include information on 1) which forms these innovations are taking; 2) the assessment that has been made of their carbon, economic, social, political and environmental impacts. It is this database of innovations that the data management plan (DMP) of REINVENT is devoted to.

1. Data summary

The purpose of data collection of RENVENT is to provide a mapping of innovations for decarbonisation, as well as trends and patterns within them. This mapping will be used for

- creating a database of innovations across the value chain in each sector (D2.1, D2.2, D2.3, D2.4, D2.5, D2.6, D2.7);

- selecting 5-10 case studies for further analysis, which will result in writing up innovation biographies (D2.7).

- selecting 15-20 cases for deriving an evidence-based scheme for non-technical drivers of innovation (D3.2, D3.3).

The generated database will consist of quantitative and qualitative data. It could be used by scholars working on decarbonisation transitions, as well as become a source of knowledge about innovations for a wide range of stakeholders.

The mapping of decarbonisation innovations will integrate knowledge from multiple sources – existing databases (e.g. UNFCCC NAZCA or the PATSTAT patent database), a review of existing knowledge on decarbonisation in the four sectors, interviews with stakeholders, and desktop analysis (of e.g. EU industry roadmaps). All these will then shape the innovations database.

2. FAIR data

2.1. Making data findable

To ensure data is easy to find, information about the dataset will be made visible on the website of REINVENT and announced via various research networks.

2.2. Making data openly accessible

The database of innovations that would result from mapping innovations, initiatives and trajectories (WP2) will be openly available as the default. It will be made accessible online via REINVENT's website and/or deposition in a certified and open access repository.

REINVENT will consider repositories like Zenodo, which allows researchers to deposit both publications and data, while providing tools to link them. Appropriate arrangements with the identified repository are yet to be considered.

The ambition is to make data as accessible as possible, and that accessing the data should not require specific software tools.

2.3. Making data interoperable

To allow inter-disciplinary interoperability, we will use standardised vocabularies for our data set and create a template for data collection. The vocabulary and template will be developed based on the following:

- Defining innovation

  To do this, various definitions of innovation will be engaged with (such as the OECD's 'Oslo Manual for measuring innovation'), to derive the definition of innovation that will be used in REINVENT.

- Developing criteria for including the cases of innovation

  Such factors as geography, time, level of realisation, industry and stage in the value chain will influence these criteria.

- Developing criteria for evaluating the cases of innovation

  Carbon, economic, social, political and environmental impacts are expected to be central to evaluating the selected cases.

2.4. Increase data re-use (through clarifying licences)

The dataset of decarbonising innovations produced by REINVENT will be open for re-use by third parties, including after the end of the project. The data is intended to be re-useable for approximately five years. It is expected that after this time significant changes may take

place in innovations for decarbonisation. However, provisions might be made to make the dataset open for further development by the REINVENT team and other parties.

Data quality assurance is provided by a template that will be used for their collection. The Advisory Board may also be consulted on the issue.

3. Allocation of resources

The costs for making data FAIR in REINVENT are relatively small. The creation of a database fits well into the overall aims of the project and the allocated workloads. The main additional costs involved would be mainly for back-up and security of data, as well as potential technical support with creating a user-friendly database. Respective costs will be covered from the REINVENT budget.

Leader of WP2 (Teis Hansen), the PC (Lars J Nilsson) and PAC (Ekaterina Chertkovskaya) are responsible for data management in REINVENT, with the support from all the participants and individual researchers involved in the project.

The resources for long-term preservation (costs and potential value, who decides and how, what data will be kept and for how long) will be discussed by the participants of REINVENT in due course during further stages of the project.

4. Data security

Datiq, the organisation that provides technical support for REINVENT's online platforms, ensures back-ups and security of the data. If depositories are chosen to be used in REINVENT, the security of the data will be ensured by them.

Loss of data by individuals may be a potential problem. All researchers in REINVENT are responsible for backing up their personal computers regularly in order to prevent loss of data and report immediately to the respective WP leader and the PC if data are lost.

5. Other issues

Any sensitive and confidential information will be protected, with this document being in line with 'H – Ethics Requirement' (D9.1) and POPD – Ethics requirement: Personal data' documents (D9.2) of REINVENT. The DMP will also be aligned with the Internal Communication Plan (D8.3) and be a part in the overall External Communication Plan (DACS, D7.2).

The UK leaving the EU (with UK-based Durham University being one of the participants of REINVENT) may have implications for data storage and security, which will be evaluated according to the shape Brexit takes. The DMP may be amended as the project develops.