Plan Overview

A Data Management Plan created using DMPonline

Title: PhD research project: "The potential of flexibility in chemical processes in the context of the energy transition"

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Template: TU Delft Data Management Plan template (2021)

Project abstract:

PhD research project aiming to find to what extent flexibility can be achieved in the chemical industry and what implications this would have for the chemical and power sector.

ID: 85718

Start date: 01-02-2021

End date: 01-02-2025

Last modified: 05-07-2022

Copyright information:

PhD research project: "The potential of flexibility in chemical processes in the context of the energy transition"

0. Administrative questions

1. Name of data management support staff consulted during the preparation of this plan.

Nicolas Dintzner

2. Date of consultation with support staff.

2022-02-04

I. Data description and collection or re-use of existing data

3. Provide a general description of the type of data you will be working with, including any re-used data:

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Type of data	File format(s)	How will data be collected (for re-used data: source and terms of use)?	Purpose of processing	Storage location	Who will have access to the data
Anonymized transcripts / interview Summary	.pdf	Produced from notes written during interviews done to answer the first research question	Provided a privacy preserving version of the data for long term archival	TU Delft OneDrive	Svenja Bielefeld and Andrea Ramirez
Chemical process models	Aspen Plus files	Input models are in-house models and will be shared within the group. Output model will be made publicly available after the project has finished.	1) Input models for my work, 2) Output of my work	TU Delft OneDrive	Svenja Bielefeld and Andrea Ramirez
Simulation results (techno-economic and environmental performance indicators)	.csv	Data will be generated by myself	Basis for publications	TU Delft OneDrive	Svenja Bielefeld and Andrea Ramirez
Time series of electricity generation from RES	.csv	From publicly available sources (tbd)	To simulate fluctuations in electricity supply	TU Delft OneDrive	Svenja Bielefeld and Andrea Ramirez

4. How much data storage will you require during the project lifetime?

- < 250 GB

II. Documentation and data quality

5. What documentation will accompany data?

- README file or other documentation explaining how data is organised
- Methodology of data collection
- Data dictionary explaining the variables used
- Data will be deposited in a data repository at the end of the project (see section V) and data discoverability and re-usability will be ensured by adhering to the repository's metadata standards

Supporting material (anonymized transcripts) will be stored in a public archive with a documentation

file (README), indicating where to find the associated publication (for more documentation), as well as detailed information about what is being shared (folder structure, time of interview,...). We will also provide a copy of a consent form used during this research.

Together with the models and the results, we will release an explanation of terms and variables, together with the input data and assumptions that have been made. Either as an excel sheet (pdf) or a README document (pdf).

III. Storage and backup during research process

6. Where will the data (and code, if applicable) be stored and backed-up during the project lifetime?

- OneDrive

For the interview data, we will organize the data as follows: The OneDrive repository will contain a folder for Interviews, with one subfolders per interview containing the anonymized transcript, the consent form and handwritten notes.

For the models, a separate OneDrive repository will be used.

IV. Legal and ethical requirements, codes of conduct

7. Does your research involve human subjects or 3rd party datasets collected from human participants?

- Yes

8A. Will you work with personal data? (information about an identified or identifiable natural person)

If you are not sure which option to select, ask your [Faculty Data Steward](#) for advice. You can also check with the [privacy website](#) or contact the privacy team: privacy-tud@tudelft.nl

- Yes

The first part of the project consisted of interviews, hence there was personal data involved in this part. For the remaining project the work will include modelling and simulation, so no personal data will be involved after the interviews.

8B. Will you work with any types of confidential or classified data or code as listed below?

(tick all that apply)

If you are not sure which option to select, ask your [Faculty Data Steward](#) for advice.

- Yes, data which could lead to reputation/brand damage (e.g. animal research, climate change, personal data)
- No, I will not work with any confidential or classified data/code

See above.

9. How will ownership of the data and intellectual property rights to the data be managed?

For projects involving commercially-sensitive research or research involving third parties, seek advice of your [Faculty Contract Manager](#) when answering this question. If this is not the case, you can use the example below.

The datasets underlying the published papers will be publicly released following the TU Delft Research Data Framework Policy. During the active phase of research, the project leader from TU Delft will oversee the access rights to data (and other outputs), as well as any requests for access from external parties. They will be released publicly no later than at the time of publication of corresponding research papers.

10. Which personal data will you process? Tick all that apply

- Names and addresses
- Email addresses and/or other addresses for digital communication
- Signed consent forms
- Data collected in Informed Consent form (names and email addresses)

- company in which they work (name)
- job description (is it their job title ? Or elements of a standard type of job?)

11. Please list the categories of data subjects

Data subjects are professionals working in the domain of the power sector and the chemical industry within companies located in the Netherlands.

12. Will you be sharing personal data with individuals/organisations outside of the EEA (European Economic Area)?

- No

15. What is the legal ground for personal data processing?

- Informed consent

16. Please describe the informed consent procedure you will follow:

All study participants will be asked for their written consent for taking part in the study and for data processing before the start of the interview.

17. Where will you store the signed consent forms?

- Same storage solutions as explained in question 6

The OneDrive repository will contain a folder for Interviews, with one subfolders per interview containing the anonymized transcript, the consent form and handwritten notes.

18. Does the processing of the personal data result in a high risk to the data subjects?

If the processing of the personal data results in a high risk to the data subjects, it is required to perform a [Data Protection Impact Assessment (DPIA).](#) In order to determine if there is a high risk for the data subjects, please check if any of the options below that are applicable to the processing of the personal data during your research (check all that apply).
If two or more of the options listed below apply, you will have to [complete the DPIA](#). Please get in touch with the privacy team: privacy-tud@tudelft.nl to receive support with DPIA.
If only one of the options listed below applies, your project might need a DPIA. Please get in touch with the privacy team: privacy-tud@tudelft.nl to get advice as to whether DPIA is necessary.
If you have any additional comments, please add them in the box below.

- None of the above applies

22. What will happen with personal research data after the end of the research project?

- Anonymised or aggregated data will be shared with others
- Personal research data will be destroyed after the end of the research project

V. Data sharing and long-term preservation

27. Apart from personal data mentioned in question 22, will any other data be publicly shared?

- No other data can be publicly shared - please explain below why data cannot be publicly shared
- All other non-personal data (and code) underlying published articles / reports / theses

Interviews: Participants don't agree that their names and the name of their employer will be shared.
Modelling: Chemical process models and supplementary code will be published as Aspen Plus models or code, results will be published as .csv files

29. How will you share research data (and code), including the one mentioned in question 22?

- All anonymised or aggregated data, and/or all other non-personal data will be uploaded to 4TU.ResearchData with public access

30. How much of your data will be shared in a research data repository?

- < 100 GB

31. When will the data (or code) be shared?

- As soon as corresponding results (papers, theses, reports) are published

32. Under what licence will be the data/code released?

- CC BY

VI. Data management responsibilities and resources

33. Is TU Delft the lead institution for this project?

- Yes, the only institution involved

34. If you leave TU Delft (or are unavailable), who is going to be responsible for the data resulting from this project?

Andrea Ramirez Ramirez (c.a.ramirezramirez@tudelft.nl)

35. What resources (for example financial and time) will be dedicated to data management and ensuring that data will be FAIR (Findable, Accessible, Interoperable, Re-usable)?

No additional resources will be required.