



# Needs

*New Sustainable Fuel Deployment Scenarios  
for the European Waterborne Community*

## D5.3 Data Management Plan





Work Package	5
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## List of Acronyms

CSA	Collaborative and support action (project type)
DMP	Data Management Plan
EC	European Commission
EU	European Union
FAIR	Findable, accessible, interoperable and reusable (data)
GA	Grant Agreement
GDPR	The General Data Protection Regulation
HEU	Horizon Europe programme
H2020	Horizon 2020 programme
IPR	Intellectual property rights
IWT	Inland waterways transport
NEEDS	New Sustainable Fuel Deployment Scenarios for the European Waterborne Community project
RD&I	Research, development and innovation
SAF	Sustainable alternative fuel
SN	The STEERER Network
SRIA	Strategic Research and Innovation Agenda
STEERER	Structuring Towards Zero Emission Waterborne Transport project
ZEWT cPP	Co-Programmed Partnership on Zero-Emission Waterborne Transport
WP	Work package



## 1. Introduction – The NEEDS Project

The New Sustainable Fuel Deployment Scenarios for the European Waterborne Community (NEEDS) project is a Horizon Europe (HEU) collaborative and support action (CSA) project launched as part of the activities financed by the Co-Programmed Partnership on Zero-Emission Waterborne Transport<sup>1</sup> (ZEWTT cPP). Its aim is to help the Partnership members and the European waterborne transport community as a whole to find the best insights for the future deployment of sustainable alternative fuels at Union level.

Deploying sustainable energy within an existing transport network is a challenge which requires an independent and transparent analysis and overview. To be successful, it implies a timely coordination of all stakeholders, ranging from energy production capacity to storage & bunkering logistics in harbours, up to the end-users of inland waterway, maritime transport and related waterborne transport activities. Key information regarding each stakeholder and their characteristics in terms of technical readiness, emission level, actual transport capacity, costs, scalability and impact are available. Putting all parts of the puzzle together is the aim of the present project.

The NEEDS consortium will develop and subsequently apply scenario simulation techniques which will include, inter alia, regional information on transport network and hindcast data of weather conditions (for regional energy production), to simulate different scenarios of sustainable fuel deployment. Forcing certain variables as input into the model in order to study its impact on various quantities, will facilitate evaluating the viability of certain scenarios and identifying potential bottlenecks and best tactics to overcome them.

This dynamic techno-economic model is aimed at helping the Commission, the Member-States, the regional waterborne transport communities as well as the upstream (fuel/energy-related) stakeholders to evaluate the most efficient pathways towards their energy transition, for both local and regional scale. The amount of details brought into the parameters of the model will allow to run such simulation from micro to macro scale.

The model will primarily focus on variables and parameters related to the waterborne community. However, it will have an open structure that will allow to possibly include other sources of energy needs in the future, depending on the evolution of the market and sector inputs.

Moreover, the project will greatly benefit from the recommendations to be provided by its advisory body, i.e. the STEERER Network (SN), which comprises of a group of experts from various organisations across Europe, covering different segments and activities of the waterborne transport sector. It has initially functioned as the advisory body of the Horizon 2020 (H2020) project Structuring Towards Zero Emission Waterborne Transport (STEERER)<sup>2</sup>. This project advised the ZEWTT Partnership on updating its Strategic Research and Innovation Agenda (SRIA), thus paved the way for the NEEDS project via two main activities:

- its work on the sector's decarbonization targets by 2050;

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<sup>1</sup> <https://www.waterborne.eu/partnership/partnership>

<sup>2</sup> <https://waterborne.eu/projects/coordination-projects/steerer/>



- the proposed solutions to achieve the zero-emission targets, part of which involve the extensive uptake and use of sustainable alternative fuels (SAFs) and their associated technologies (propulsion, storage, bunkering, etc.).

The presence of the STEERER Network will therefore offer not only expertise but also a continuity in terms of how the wider waterborne transport sector is following and advising on the RD&I activities stemming from or in connection to the Partnership.

Project NEEDS has a budget of €523,437 and is coordinated by MARIN with its consortium, which spans over five European countries, consisting of six other organisations, namely SINTEF, EICB, CERTH, BALance, WaterborneTP and SEA Europe. The project is scheduled to have a duration of 18 months, beginning on the 1<sup>st</sup> of May 2022.



## 2. Scope of the Deliverable

The deliverable presents the rationale of the NEEDS policy for data management and protection, and provides guidelines to the partners that will be handling data within the context of the project. It also offers an overview of the way in which data will be collected, processed, made accessible and further preserved by the project partners.

The present Data Management Plan (DMP) is generated in accordance with the general HEU rules and guidelines, and in particular the findable, accessible, interoperable and reusable (FAIR) data attributes set by the European Commission (EC).

For all concerns around the handling of (sensitive) data, the relevant requirements set by the European Commission will be applied, with particular attention devoted to the clauses of the General Data Protection Regulation (GDPR), whilst the principles set in the NEEDS project will be effectively retained.

The content of the deliverable is divided into several chapters, which correspond to the following questions:

- what type of data will the project collect/generate?
- where will project data be stored and how will it be secured?
- how will project data be exploited and/or shared/made accessible for verification and re-use? If data cannot be made available, why?
- how will project data be curated and preserved?
- how will associated ethical as well as privacy issues be addressed?



## 3. Data Management in the Framework of the NEEDS Project

### 3.1 Objectives of the NEEDS Data Management Plan

The project's DMP describes the management life-cycle for the data to be collected, processed and/or generated by the project.

Given the objectives of the NEEDS project, effective management of related knowledge and data will play a key role in realizing and sustaining the project's progress, thus also supporting the dissemination and exploitation of the project results.

This DMP provides guidance to all partners involved in data collection, generation and use on how to handle the full life-cycle of data in a coherent and consistent manner throughout the duration of the project, whilst respecting privacy and ethical issues, and complying with the EC attributes of data being findable, accessible, interoperable and reusable.

Guidance embraces all stages of data management, including information on what data will be collected, processed and/or generated, and how it will be handled during and after the end of the project, including storage and preservation, as outlined in the caption below.



The NEEDS DMP thus comprises specific provisions for the partners concerned with the entire data life-cycle:

- collection and generation of data: what data are being collected (volume, type, content, time period and format) and what collection activities will take place;
- processing: what activities of data processing and analysis will take place and which standards and methodologies will be used;
- storage: how and where data will be stored and who will be responsible for their security, maintenance and access management;
- access: how data will be made available and shared within and outside the project, and who determines the level of sensitivity of the data to be shared;
- archiving: how data will be made available for posterity.

### 3.2 Partners' Roles and Responsibilities

All project partners are involved in data management in one way or another. However, some have more specific roles and responsibilities:

- WaterborneTP will ensure that the personal data of the SN experts will not become public unless this has been agreed with the experts, including the manner in which the data will become public;
- CERTH and EICB will ensure that no sensitive data is publicly disclosed when working on the modelling scenarios and other related activities for their study cases – the Greek





coastal shipping network (WP2) and the Rhine IWT (WP3) respectively. They will strive to ensure a right balance between providing the necessary (aggregated) data for the project activities and not disclosing sensitive information that they may be privy to the stakeholders operating in the abovementioned areas;

- MARIN will be responsible for the use of data for the modelling tool to be developed and used by NEEDS. This will include not only the management of the modelling system and data provided by the project partners (CERTH and EICB) – some of which will be public while some will be restricted just to the project partners or to MARIN itself (e.g. the system of the modelling tool) – but also the data that external stakeholders can input in the model for running different simulation scenarios.

The NEEDS coordinator, MARIN, with the help of WaterborneTP, will play a major role in ensuring that data management provisions are effectively applied.

### 3.3 Document Potential Update(s)

The DMP will be updated over the course of the project in case significant changes arise, such as (but not limited to): changes in consortium policies, changes in consortium composition and external factors (e.g. new consortium members joining or existing members leaving) or changes in applicable European Union (EU) legislation. The deliverable outlining the project exploitation plan – D5.6 Plan for the Exploitation of Results – will also look on how to manage the data after the end of the project, and will in effect provide an update of the relevant parts of the current DMP.

### 3.4 Data Management Plan and the General Data Protection Regulation

This DMP is developed in line with the General Data Protection Regulation (EU) 2016/679 (GDPR) which was adopted on 14 April 2016, and became enforceable beginning the 25<sup>th</sup> of May 2018. The regulation contains provisions and requirements related to the processing of personal data in order to preserve data protection and privacy for all individual citizens of the European Union. Controllers of personal data must put in place appropriate technical and organisational measures to implement the data protection principles and use the highest possible privacy settings by default, so that the datasets are not publicly available without explicit, informed consent, and cannot be used to identify a subject without additional information.

According to GDPR, data is considered to be private as “any information which are related to an identified or identifiable natural person”. Thus, not all data gathered in the project is considered to be private. Private data is mostly concentrated in the work organised in the Work Package 5 (WP), because it will involve dissemination and stakeholder engagement – the SN in particular – and thus information which relates to certain persons. Some shipping operational data related to Work Package 2 are also private and thus will be properly aggregated so as to fit the modelling tool that will be developed for running and analysing proper simulation scenarios.

Private data will be collected in following potential activities of NEEDS:

- on-line survey data;
- organisation of meetings of the STEERER Network;
- subscribers to the regular NEEDS newsletter;



- conducting interviews;
- test and use of the NEEDS modelling tool (WP2 & WP3);
- etc.

In cases where data may be considered personal (for example, survey or focus group data), WP leaders and Task leaders are fully aware that they have to act in accordance with GDPR principles as required by their organisations.

It should be noted that using the legitimate interest as a lawful reason for processing data is only considered legal if the interest (in this case the interest of this project) outweighs an individual's right to privacy protection.

Each NEEDS partner contacting a stakeholder for the purposes of the project has to explain the reasons for making the contact and how his/her contact details shall be processed, if/when applicable. Furthermore, each new stakeholder to be included in the project's database will receive a standardised set of information about NEEDS as well as information on the use of their personal data.



## 4. Data to Be Collected and Generated

Data collection will take place both for content development and dissemination purposes. Regarding the former, the aim is to expand existing data to set baseline information for research, and to collect and form new datasets. Partners will record, collect and generate data (analyses) for the purpose of the project, including reporting. The dissemination purposes are the usual ones for a EU-funded RD&I project: collecting contact details of relevant stakeholders and other entities, sharing information, etc.

### 4.1 What Type of Data Will NEEDS Collect

The data to be collected is mostly associated with the information of organisations involved in the on-line surveys, interviews and the work on the NEEDS modelling tool. As such, it is foreseen that the following data will be collected:

- organisation name, address (street with number, code, city, country), website, contact point person (with information as below), type of organisation;
- contact point person; a name & surname, position in the organization, business telephone numbers (mobile and/or fixed) and e-mail address;
- relevant information – technical, operational, economic, etc. – for the purpose of scenario creation, modelling and testing (in WP2 and WP3).

Out of the above the only personal related data that are collected are a name & surname, an email address such as name.surname@company.com and business telephone numbers (optional field).

### 4.2 Purpose of Data Collection

The primary purpose of collection and processing of data within the scope of the project, is the involvement of stakeholders to carry out consultations or to support the development and use of the modelling tool. The records in the database will be used for activities such as:

- invitation of identified stakeholders for the project on-line surveys/interviews on a selective basis and depending on the topic of the survey/interview;
- directed provision of information to the identified stakeholders;
- consultation purposes to fulfil the objectives of the NEEDS project.
- forming modelling scenarios for the two case study regions



## 5. Processing, Management, Storage and Security

The collected data will be stored in the project's MS Teams folder (MARIN), on a MS Excel document, following a principle of "Data Minimization" with no association costs. Notably, only minimum personal data (e.g. name, surname, e-mail address & business telephone numbers) of the contact persons of entities (companies, organizations) identified as target groups of the NEEDS project will be stored.

A recovery option will be set to the correspondent MS Teams account. In order to protect data from external attacks, a back-up process will be organized. Only a limited number of users (the project partners) will have access to the MS Teams folder, where the information is stored.

There will be an "Opt-out" or "unsubscribe" option set for the people whose information had been collected. Thus, stakeholders included in the project's database will be clearly informed about the possibility to unsubscribe and have their data removed from the NEEDS mailing list or other documents, and can exercise this right when they wish to do so.



## 6. Policies for Data Access and Sharing

NEEDS will, in terms of knowledge, research data management and protection, adopt Green Open Access (self-archiving in an online repository) regarding most of its results. The related scientific information will be easily accessible and free of charge to the end-user. This will allow for the project's results to be widely accessible to everyone interested, increasing the project's dissemination and exploitation capabilities. Exceptions to this approach consist of: (parts of) the background data used for the development of the Greek coastal shipping (WP2) and Rhine IWT shipping (WP3) study cases, and the information behind the development of and access to the modelling tool (proprietary to MARIN).

The project will follow HEU guidelines for data management and open access meticulously, for their compliance regarding data quality, sharing and security.

Verification of results and re-use are, in fact, key motivations for the partners to make as much of the data public and shared, although in some cases, the desire to make data and results public has to be carefully weighed against concerns of ownership, legitimate interests, privacy and security.

The DMP has been conceived in accordance with the HEU Model Grant Agreement (GA). Project participants must take measures to make data available to third parties who should be able to access, mine, exploit, reproduce and disseminate the data. However, this provision does not change the obligation to project results, the confidentiality and security obligations (Art. 13, GA) or the obligations to protect personal data (Art. 15, GA).

The project will therefore provide online public access, free of charge to the end-user, of the majority of the material collected and produced during the project – e.g. deliverables and reports, videos and PowerPoint presentations, the access to use the modelling tool. In case some data requires permission for wider use, NEEDS partners will ensure that all this data has the correct, documented approval for use in analysis.

### 6.1 The Open Access Policy

NEEDS will aim at providing open access to publications according to the “Green” standard, meaning that public deliverables and other relevant information from NEEDS will be available on an open repository and on the website of the project. NEEDS pursues a policy to provide open access to data directly or anonymized to enable verification and re-use.

The project consortium will ensure that these public data are properly identified and released as Open Data, providing information via the EC portal for open data on request. The project consortium will take measures to preserve anonymity and appropriately curate the collected data. The aim is to enable data use that is valuable for technological and scientific evaluation of the project achievements, while respecting privacy-related issues and legislation.

Openly accessible research data can typically be accessed, mined, exploited, reproduced and disseminated, free of charge for the user.



## 6.2 Data Sharing

There is a clear objective in NEEDS to provide public access to data and knowledge to highlighting the importance of EU RD&I for and by the European waterborne transport sector and other related sectors and stakeholders – in this case in particular those from energy and logistics. In order to mitigate privacy and other risk concerns, specific provisions have been made in the Consortium Agreement on data ownership and potential disclosure risk. Data will be categorized as: public domain, shared within the consortium or private/confidential to particular partners or partner.

On request, additional or original data can be asked to be received from the responsible partners. Based on the type of data, size and level of confidentiality, the responsible partner can provide further information or data, but always in line with their own data policy and applicable legislative framework. The level of sensitivity of data used within the project is defined locally by each partner who delivers and is responsible for the respective data.



## 7. Data Curating and Preservation

A substantial amount of data will be collected and analysed, and impactful results will be published. In order to preserve this data and provide long-term access, the project partners will define hosting sites and archives for data and publications. Besides the aforementioned archive from the MARIN TEAMS system, each partner is responsible for preserving the original data sets based on their own data policy and legislative framework in terms of archiving.

At project level, the information collected and knowledge produced will be disclosed mostly via deliverables, working documents and reports which will be stored and preserved on the NEEDS website. In addition, the project will offer the possibility to use the NEEDS modelling tool, which will be hosted on the MARIN website, but which will also be accessible via the NEEDS one.



## 8. Ethical Issues

NEEDS will collect and process data in accordance with all applicable ethical guidelines and industry standards, in particular the EU's Data Protection Directive, the General Data Protection Regulation and others. NEEDS partners will rigorously apply HEU ethical standards in all dimensions of the project's work.

Privacy and data protection are the major ethical issue for NEEDS to address. The project team will adhere to the principles of ethical research practice, namely to conduct the research fairly and ethically, in the spirit of openness and with the highest standards of integrity. At all times the project will seek to adopt best practice in terms of research governance and other legislative requirements and endeavour to minimize any impact or potential impact on the environment from research activities.

### 8.1 Confidentiality and Informed Consent

In general, there are two key rules for the NEEDS partners in terms of analysis, data storage and dissemination:

- that it is well documented and approved who has access to use and receive the information;
- there will be no dissemination of personal information without written consent. The analysis of data will not reveal or publish the intelligence from specific respondents to questionnaires or interviews/discussions.

Respondents will be presented by anonymous codes and addresses coded by broad areas to prevent tracking (there is a good body of experience on how to avoid data tracking), unless it has been agreed with them that they can be presented directly. Where possible, NEEDS will produce standard templates and statements for customized translation informed consent, in compliance with the ethical regulations. It will state clearly that the information collected will:

- be handled in a confidential manner;
- only be used for exploratory research purposes;
- identifiable data will not be disclosed to any external partners.

“Informed consent” within NEEDS means that external experts, practitioners, stakeholders, citizens or any person outside the project who is asked to participate in project activities (surveys, interviews, questionnaires, workshops, etc.) have a clear appreciation and understanding of the facts, implications and future consequences of any input and information they provide to the consortium.

Therefore, whenever external people will be involved in NEEDS, the following procedure will be taken:

- participants will be informed about the purposes of the research and what use will be made of the information they provide;
- they will be formally asked to respond on a voluntary basis;
- they will be informed that they may cease participation at any time, and for any reason;
- they will be able to choose whether they want to provide their personal data, or not;





- they will be asked to provide indication of informed consent. All information in public reports will be presented in an anonymized way ensuring that none of the inputs/views can be traced directly to a person or entity.

## 8.2 Copyright/Intellectual Property Rights

The partners will jointly own most of the new data to be generated within the course of the project. Online and archival sources will be cited and clearly acknowledged in the research outputs. Permission will be sought from secondary sources to share the findings of the research on public website.

Provisions have been made within both the GA and the Consortium Agreement to address intellectual property rights (IPR) issues. To safeguard project IPRs, without decreasing the impact of the project results within the wider community, it is important to find the right balance between public and private information. Appropriate protection will be given to the sensitive data pertaining to the modelling system and the modelling scenarios.



## 9. Conclusions

As presented in the previous chapters, the NEEDS project will follow the guidelines and principles of the Open Research Data from HEU, and will strive to make its research data FAIR.

Since a significant part of the NEEDS research data is foreseen to consist of stakeholder input through interviews, questionnaires, etc., a balance has to be found between the different contractual and ethical obligations of the project. But as the data can be anonymised, the ethical standards can be maintained while also making research data FAIR.

Furthermore, the partners will respect the IPR, confidentiality and other relevant rights and obligations related to the sensitive data used for the two study cases – the Greek coastal shipping and the Rhine IWT shipping – as well as regarding the modelling tool to be developed and used in the project lifetime and afterwards.