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EUROPEAN CLIMATE, INFRASTRUCTURE AND ENVIRONMENT EXECUTIVE AGENCY (CINEA)

D.6.3: Data Management Plan

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Summary

List of Acronyms

Abbreviation / Acronym	Description
DMP	Data Management Plan
MP	Master plan
FAIR	Findable, Accessible, Interoperable and Reusable
GDPR	General data protection regulation
WP	Work Package
MP	Master Plan
PU	Public
EHOO	Ennshafen OÖ GmbH
DAFNI	DIKTYO AEIFORIKON NISON TOY AIGAIOUAE – NETWORK OF SUSTAINABLE GREEK ISLANDS
IPR strategy	Intellectual property rights strategy

Executive Summary

The Data Manager of the project (Circle Magellan), through this deliverable, will provide a complete Data Management Plan (DMP) by M6 and 30. The DMP will allow project partners to manage research data and outputs so balance is achieved between the level of openness

(OA practices) and the possible restrictions needed to ensure adequate exploitation of the IP generated or other justified legitimate interests. All partners commit to managing all their research data according to FAIR principles.

Firstly, SEANERGY will produce raw data throughout its WPs. The data will be then processed and analysed into manageable forms (reports, tables, codes, etc.). Secondly, the data will be preserved using appropriate metadata schemes in trusted data repositories. The IPR strategy of the project will help determine which preserved data will be made openly and freely accessible (shared) for re-use and reproducibility. The data generated will be of several types: data findable, data accessible, data interoperable, data re-usable and curation and preservation.

1. Introduction

The SEANERGY project is an EU-funded initiative under the Horizon 2020 Research and Innovation Program aimed at supporting the creation of the best possible setting and conditions for the EU energy transition, through the development and implementation of sustainability and an educational path centred on the port ecosystem. The objective of this initiative is to explore the potential of ocean energy technologies in the European Union. It brings together researchers, industry experts, policymakers, and other stakeholders from across the EU to identify and assess the most promising ocean energy technologies and their associated costs, benefits, and risks. The project focuses on six main types of ocean energy technologies, including wave, tidal, ocean thermal, salinity gradient, offshore wind, floating solar, and aims to provide insights into their technical feasibility, economic viability, and environmental sustainability.

SEANERGY brings together a group composed of 12 participants from 9 EU countries capable of playing a key role in supporting the creation of the SEANERGY Master Plan (MP), which is meant to be an aggregator of information and guidelines that will allow all the port industry's stakeholders, regardless of their geographical context, to assess, plan and execute the necessary activities towards transforming ports into clean energy hubs.

The ultimate goal of the SEANERGY project is to contribute to the development of a sustainable, reliable, and cost-effective ocean energy sector in Europe, which can help the EU to achieve its climate and energy goals.

1.1 Purpose of the document

The Data Management Plan (DMP) defines all the procedures to handle the data collected or generated and how they are processed and preserved. It describes the approach to making the SEANERGY data Findable, Accessible, Interoperable and Reusable (FAIR) by indicating what data will be generated, collected, and processed, what standards will be applied, how research data will be preserved, and what parts of the datasets will be shared for evaluation purposes.

The dissemination level of this D6.3 deliverable is 'PUBLIC' (PU). Magellan Circle as WP6 leader is responsible for it, and its main contributor, with the assistance of all partners of the consortium. EHOO and DAFNI are the appointed peer reviewers for the first deliverable (D6.3).

2. Data Handled by the Project

SEANERGY will handle different types of data which can be organized into three categories:

- Administrative data
- Open research data
- Technical data

This chapter will describe these data categories while providing information on their management and sharing.

2.1. Administrative data

This category refers to the data produced by the project management activities within **WP6**, such as meeting minutes, recordings, internal reports (for historical purposes), and follow-ups. In terms of deliverables, they include:

- **D6.1 - Management and quality plan**
- **D6.2 - Data management plan- Final version**
- **D6.3 - Data management plan**

The data is collected by the management team, which includes the project manager, the WP leaders, and the task leaders. It is stored in Own Cloud, which is a collaborative application that provides different basic functionalities and extensions. Preliminary guest accounts have been requested for all the members of the Consortium: they can have access to all available information linked to the Project. This administrative data is confidential and sensitive: this information is available only to the members of the Consortium.

2.2. Open Research data

The open research data category refers to the data resulting from the research work and all the deliverables present here will be accessible to the public. This category includes the following public deliverables:

- D1.1 Report on Stakeholders Framework & Database

- D1.2 Catalogue of technologies for Maritime and Coastal Communities and Ports.
- D2.1 Report of stakeholders' know-how limitations
- D2.2 Regional workshop co-creation results on policy and business models
- D2.3 Report of recommendations on social, financial and technological barriers
- D3.1 SEANERGY Master Plan Document
- D3.2 SEANERGY MP Webpage Prototype
- D3.3 Summary of MP & Clean Tech Presentation
- D3.4 Booklet of MP academic integration & Challenge
- D4.1 SEANERGY Handbook
- D4.2 Report of SEANERGY Train-the-End-Users Event

2.3. Technical data

The technical data category includes data related to the technical development of the SEANERGY project, which corresponds to the contents of **WP1, WP2, WP3 and WP4**. It includes all the related deliverables, both Public and Confidential.

3. Methodologies and Standards

This section covers the methodology and standards that will be applied to the project. The first section will present the FAIR principles, a guideline regarding data, and the second section will present the GDPR that concerns data protection.

3.1 Fair Principles

The FAIR Principles refer to a concise, domain-independent, high-level, and measurable set of guiding principles and practices that apply to a wide range of scientific data or metadata. They are the result of the work of a community of stakeholders representing academia, industry, funding agencies, and scholarly publishers in 2014, which was then adopted the same year by the European Commission as the data guidelines for the Horizon EU framework program. They put "specific emphasis on enhancing the ability of machines to automatically find and use the data, in addition to supporting its reuse by individuals[1].

The term "FAIR" refers to the characteristics of data or metadata of being Findable, Accessible, Interoperable, and Reusable. In practice, the elements of the FAIR principles are related but are independent and separable. Any combination of the principles can be applied incrementally. Thus, this modularity of the principles, as well as their distinction between data and metadata, facilitates their support in a wide range of special circumstances. The FAIR principles can also be applied to non-data assets which need to be identified, described, discovered, and reused in the same manner as data.

These principles constitute a general guide to the ''FAIRness'' of data. However, they are not a standard or a specification. To be more precise, they precede implementation choices and do not necessarily suggest any specific implementation solutions. Instead, they act as a guide for data implementers, publishers, and managers to evaluate whether their implementation choices are rendering their digital research artefacts ''FAIR''. They form the basis for the long-term care of valuable digital assets composed of the data produced by the research project while keeping the goal of being discovered and re-used by another research.

[1] https:/www.nature.com/articles/sdata201618

Given the definitions of ''FAIRness'', there is however a clear distinction between FAIR data and Open data, as the former does not necessarily imply the latter[2].

Indeed, while the openness of data is encouraged within the Horizon EU program, there are necessary and legitimate reasons to restrict access to certain data. Nonetheless, the ''FAIR'' principles can still apply equally to restricted data or internal data of an organization, to make them more usable and of greater value. Following the principle of "as open as possible, as closed as necessary", research data should be open by default, while setting a variable degree of openness. As illustrated by Figure 1, the more data becomes both open and ''FAIR'', the higher the benefits they bring.

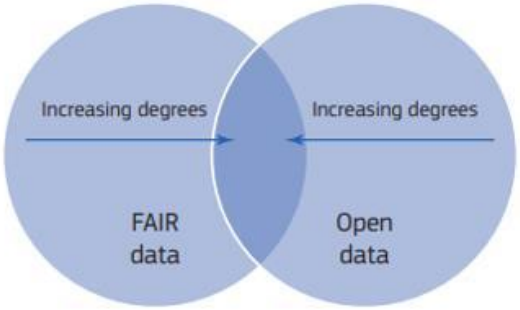

Figure 1. The relationship between FAIR and Open[3]

In general terms, the research data produced within Horizon EU should be ''FAIR''. In the following sub-sections, the guiding principles of each one of the four concepts of ''FAIR'' are exposed. We are also detailing how SEANERGY will fulfil the requirements of ''FAIR'' principles.

[2] https://ec.europa.eu/info/sites/default/files/turning_fair_into_reality_0.pdf

[3] https://publications.europa.eu/en/publication-detail/-/publication/7769a148-f1f6-11e8-9982-01aa75ed71a1 -- page 21

3.1.1. Making Data Findable

To be ''Findable''

- (meta)data is assigned a globally unique and persistent identifier

  (Section F1 page 19 from https://ec.europa.eu/info/sites/default/files/turning_fair_into_reality_0.pdf

- Data is described with rich metadata

  (Section F2 page 19 from https://ec.europa.eu/info/sites/default/files/turning_fair_into_reality_0.pdf)

- Metadata clearly and explicitly includes the identifier of the data it describes

  (Section F3 page 19 from https://ec.europa.eu/info/sites/default/files/turning_fair_into_reality_0.pdf)

- (meta)data is registered or indexed in a searchable resource

  (Section F4 page 19 from https://ec.europa.eu/info/sites/default/files/turning_fair_into_reality_0.pdf)

SEANERGY as a HORIZON Europe project is obliged to provide a continuously updated Data Management Plan (DMP) that describes what data the project will use and produce, whether and how the data produced will be exploited or made (openly) accessible for verification, and re-use, and how the data will be curated and preserved after the end of the project.

3.1.1. Making Data Accessible

To be ''Accessible'' means:

- (meta)data is retrievable by their identifier using a standardized communications protocol

  (Section A1 page 19 from https://ec.europa.eu/info/sites/default/files/turning_fair_into_reality_0.pdf

- the protocol is open, free, and universally implementable

  (Section A1.1 page 19 from https://ec.europa.eu/info/sites/default/files/turning_fair_into_reality_0.pdf

- the protocol allows for an authentication and authorization procedure, where necessary

  (Section A1.2 page 19 from https://ec.europa.eu/info/sites/default/files/turning_fair_into_reality_0.pdf

- metadata is accessible, even when the data is no longer available

  (Section A2 page 19 from https://ec.europa.eu/info/sites/default/files/turning_fair_into_reality_0.pdf

In compliance with the Horizon EU rules regarding Open Access (OA) (cf. 4.1 infra) to scientific literature, SEANERGY will make any scientific publication accessible online for free under the scope of the project. We will choose the most suitable approach (SEANERGY choose the "gold" OA) to peer-reviewed scientific publications that might result from the project. The publisher will be chosen amongst those who respect both the authors' interests and accept the terms

of open access publication (with an embargo period). On one hand, research data will benefit from open access in a specific part of the project website, tailored to different levels of internal and external stakeholders. On the other hand, Partners will use an open-access repository that will be connected to the tools proposed by the EC (e.g., OpenAIRE), to grant access to the publications and bibliographic metadata in a standard format, including the information requested by the EC.

3.1.2. Making Data Interoperable

To be ''Interoperable'' means:

- (meta)data use a formal, accessible, shared and broadly applicable language for knowledge representation.

  (Section I1 page 19 from https://ec.europa.eu/info/sites/default/files/turning_fair_into_reality_0.pdf)

- (meta)data use vocabularies that follow ''FAIR'' principles

  (Section I2 page 19 from https://ec.europa.eu/info/sites/default/files/turning_fair_into_reality_0.pdf)

- (meta)data include qualified references to other (meta)data

  (Section I3 page 19 from https://ec.europa.eu/info/sites/default/files/turning_fair_into_reality_0.pdf)

As data is still being produced, the strategy used to make them interoperable will be detailed in future versions of the DMP

3.1.3.Making Data Reusable

To be ''Reusable'' means:

- R1. (meta)data is richly described with a plurality of accurate and relevant attributes

(Section I1 page 19 from https://ec.europa.eu/info/sites/default/files/turning_fair_into_reality_0.pdf)

- R1.1. (meta)data is released with a clear and accessible data usage license

(Section I1 page 19 from //ec.europa.eu/info/sites/default/files/turning_fair_into_reality_0.pdf)

- R1.2. (meta)data is associated with detailed provenance

(Section I1 page 19 from https://ec.europa.eu/info/sites/default/files/turning_fair_into_reality_0.pdf)

- R1.3. (meta)data meets domain-relevant community standards

(Section I1 page 19 from https://ec.europa.eu/info/sites/default/files/turning_fair_into_reality_0.pdf)

To render data reusable, the SEANERGY consortium will discuss how to add value to the data. The vision will be more precise in the DMP V2 (M18) as we do not have sufficient information

3.2. GDPR

Within the European Union, during the early stages of the internet, the 1995 Data Protection Directive was adopted. Over the last 25 years, tremendous changes in technology brought forth the need to revise data protection regulations. In 2016, the EU adopted the General Data Protection Regulation (GDPR), which is now recognized as law across the EU.

GDPR has been enforced in 2018 and provides broader data privacy for individuals, as well as new obligations for any data-processing Organization (data collector, publisher, implementor), regardless of geographical location, that collects, uses, or processes European Union citizens' personal information. Personal data security is thus improved via the enforcement of the four following aspects.

▪ **Right to be forgotten:** Article 17 mentions the obligation of the Organization, and any business partners with whom they have shared data, to delete any personal data from their systems upon request.

▪ **Data protection by design and default**: Article 25 stipulates that Organizations must set internal policies and measures to protect data by design and default and that all applications, services, and products must adhere to these policies.

▪ **Secure data processing**: Article 32 requires that Organizations be able to prove an implementation of measures to ensure appropriate levels of security.

▪ **Timely breach notifications**: Article 34 imposes hefty fines on Organizations if breaches of unencrypted data are not reported to authorities and affected individuals within 72 hours.

GDPR has been identified as one of the targets of SEANERGY. The current context of the Project shows a variety of factors bringing different barriers and obstacles for it to reach higher TRL. Amongst the legal factors, GDPR plays a data protection role and its purpose limitation (requirement that personal data be collected for specified, explicit, and legitimate purposes, and not be processed further in a manner incompatible with those purposes) can hinder our progress. For this reason, SEANERGY will anticipate these limitations thanks to legal studies in WP6 and include an assessment of factors influencing data governance, including applicable legal regimes such as the GDPR.

3.2.1. Data Management Activities and Responsibilities

Data management activities concern the whole project and need to be coordinated and monitored both at the project and work package level. Data management is also linked to the publication of project results and thus dissemination activities.

Where necessary, Magellan Circle will cooperate with the other partners in order to enable one another to fulfil legal obligations arising under applicable data protection laws (the *Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons concerning the processing of personal data and on the free movement of such data* and relevant national data protection). Access to data will be granted within the scope of the performance and administration of the Project and of this Consortium Agreement.

In particular, the partners, where necessary, shall conclude a separate data processing, data sharing and/or joint controller agreement before any data processing or data sharing takes place, which should occur in line with Appendix 3 to SEANERGY Consortium Agreement, "Actions involving Personal Data".

Therefore, the following roles and responsibilities can be identified:

- The Data Protection Officer (Magellan Circle) is responsible for:
  - Developing the data management plan and policy in cooperation with the project management in WP6 and the technical partners
  - Developing a user guide for the usage of SEANERGY living DMP
  - Advise data controllers and processors within the SEANERGY project on the processing of personal data, training of researchers, and assignment of responsibilities
  - Assist in risk assessment of personal data processing
  - Monitoring data management activities (both collection and publication) and deadlines and sending reminders to WP data managers
  - Providing support to WP data managers
  - Coordinating the writing of the DMP deliverable documents
  - Providing solutions for specific issues following project management
  - Cooperate with any national or European supervisory authority and act as a contact point for the project with such authorities

- The Work Package Data Managers are responsible for:
  - The implementation of the data management policy in their respective WPs
  - Monitoring data management activities and deadlines and sending reminders to partners
  - Offering customized help and further guidance for using SEANERGY living DMP
  - Asking partners for missing information or clarifications
  - Offering customized help and further guidance for publishing open data and open-source software
  - Monitoring that open results (data and software) are deposited in the default repository or a complementary OpenAIRE-compliant repository and sending reminders to partners
  - Monitoring that open results available in OpenAIRE are properly linked with SEANERGY
  - Contacting the quality assurance and ethics committee in case of questions and ethical and privacy issues that may forbid the publication of the data
  - Ensuring that the meta-data of data used and produced at the Work Package level is made available in SEANERGY living DMP according to the SEANERGY data management policy and guidelines on time.

3.2.2. Compliance with GDPR Recital 78

Personal Data within the scope of the Directive. The data must be related to an identified or identifiable living individual. The individual need not be directly identifiable but may be identified by a reference number or some other tag which, in a given small group or through analysis of patterns in sufficient volumes of data, might allow an individual to be singled out from a group. Based on the kinds of data sources to be included in this research, direct personal identifiers (e.g., specific names or faces) may exist in a variety of locations within the dataset. SEANERGY's default anonymization process(es) will be 'one-way,' with source data being disposed of so that re-identification of data or decoding of anonymization tokens by reference to any 'real-world' data sets will be rendered difficult to the greatest extent possible.

SEANERGY will include downstream contractual obligations as a legal measure to respect privacy in the use of the project results.

3.2.3. Data Protection Agency Notification

The data processed in SEANERGY is unlikely to constitute Personal Data within the meaning of the EU Directive and relevant national legislation. SEANERGY is also likely to be exempted from national notification processes because our data collection is for scientific research and, thus additional institutional data protection measures, access restrictions, etc. will be put in place. We are, nevertheless, mindful that anonymization approaches must be applied to video/still images within data to avoid the risk that a token identifier might become associated with sufficient unique data points to uniquely identify a living individual. We also make sure to notify data protection authorities in jurisdictions where research activities will be carried out and specific relevant actions within it to obtain (if necessary) authorization for such activities. The exact requirements and due diligence will need to be scoped and defined within the relevant jurisdictions.

The relevant national approvals will be sought and acquired, when necessary, as the notification requirements vary from one country to another, and therefore no single timeline

can be provided for the completion of all notification procedures[4]. SEANERGY notifications, when necessary, will be carried out in line with requirements of different national legislations. Processes for notification vary from one jurisdiction to another. The following project principals have been assigned the responsibility of acting as interlocutors with their own national data protection agency. Further information on notification procedures and the relevant agencies in Europe can be found in the Article 29 Working Group documents "Vademecum on Notification Requirements" (http://ec.europa.eu/justice/policies/privacy/docs/wpdocs/others/2006-07-03-vademecum.doc).

The exact partner and contact person who will notify the relevant Data Protection Agency will be determined during the project and after the transition from Directive 95/46 to General Data Protection Regulation (GDPR) 2016/679.

3.2.4. Compliance with Article 49 of the GDPR

While our position as scientific researchers permit us derogation from the prohibition on processing (sensitive categories of) Personal Data, we are nevertheless aware that it remains incumbent upon us, to provide specific and suitable safeguards to protect the fundamental rights and privacy of Data Subjects. Some of these safeguards are already detailed above. SEANERGY further ensures that any Personal Data collected will also be treated following Article 49. In particular, collected Personal Data will be processed fairly and lawfully and will be used only for research purposes as specified in our original proposal. The data will be adequate, relevant, and not excessive concerning the purposes for which they are collected. We will endeavour not to collect and expunge all data that is not directly project-related.

3.2.5. Activities Dedicated to Ethical Considerations

The guiding principles at the heart of the SEANERGY approach are the highest ethical standards, the protection of privacy and the validity of data and its accurate representation.

[4] http://ec.europa.eu/justice/policies/privacy/docs/wpdocs/others/2006-07-03-vademecum.doc

In adhering to these principles and remaining cognizant of concerns that arise in the Work Plan, SEANERGY will take the following steps, in addition to those detailed above, toward addressing these:

- Compliance with the policy recommendations made in the Social Impact Expert Working Group EC DG ENTR Report (2012).
- The availability of partners with Ethics, Privacy and Legal expertise to all SEANERGY project staff members at the outset of the project and throughout.
- Assurance that Privacy by Design, Ethics, Legal and Societal Impact requirements are included as research and development mandates integrated into the SEANERGY project plan in compliance with GDPR Article 25.
- Test and evaluation of research results will be carried out in WP3 under the principle of informed consent.

3.2.6. Minimum Resort to Exceptions and Derogations

The GPDR allows for exceptions and derogations for personal data used for research. For example, general exemptions for processing certain categories of sensitive personal data (e.g., Article 6 and Recital 50). Exceptions for a right to opposition for processing or storage of data Article 89), and for processing of data without consent (Article 6.1.f, Recitals 47 and 157) may be applicable. SEANERGY commits to a minimum resort to exceptions and derogations in the processing of personal data within the project for research.

3.2.7. Activities Dedicated to the Protection and Securing of Personal Data

As project coordinator, Magellan Circle, shall ensure the consortium guarantees adequate treatment of personal data generated during the project. This will be done via a set of development directives and methodologies. To ensure that security systems development principles are integrated from the inception of the project best practices will be issued to the SEANERGY project to ensure the project applies adequate database encryption and security systems techniques.

Furthermore, the directives and mandates will also integrate the technical requirements of European, national, and regional data protection legislation. Partners will be required to have adequate security measures in place - both technical (firewalls, access controls, access audits,

etc.) and operational (training, incidence reporting, etc.) As both parts of the project tasks, and notification procedures, the following range of issues will be considered in establishing such directives and mandates:

- Categories of sensitive data
- Security measures for sensitive data
- Policies for fair acquisition and processing of data
- Data retention policies
- Legal Basis for the information processing
- Policies for processing compatible with the purpose
- Polices for Data Controllers and Data Processors
- Description of the technical characteristics of the data processed
- Technical features and topology of the information systems where data is stored and processed

Further consideration shall be given to the following relevant regulation, decisions, and guidelines. The following EU regulations are recognized to be relevant to the project:

- The Charter of Fundamental Rights of the EU (especially articles 3, 7, 8, and 25).
- Directive 2001/20/EC of the European Parliament and of the Council of 4 April 2001 on the approximation of the laws, regulations, and administrative provisions of the Member States relating to the implementation of good clinical practice in the conduct of clinical trials on medicinal products for human use.
- Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals concerning the processing of personal data and on the free movement of such data.
- Convention for the Protection of Individuals concerning Automatic the processing of Personal Data (Convention Nr. 108).
- WMA Declaration of Helsinki (especially articles 13, 20, 21, 22, 23 and 24, 25).

3.2.8. Shared Information and Personal Data

The Parties agree that any Background, Results, Confidential Information and/or any and all data and/or information that is provided, disclosed, or otherwise made available between the Parties during the implementation of the Action and/or for any Exploitation activities (“Shared Information”), shall not include personal data as defined by Article 2, Section (a) of the Data Protection Directive (95/46/EEC) (here in after referred to as “Personal Data”) or under Article 4.1 of the GDPR. Accordingly, each Party agrees that it will take all necessary steps to ensure that all Personal Data is removed from the Shared Information, made illegible, or otherwise

made inaccessible (i.e., de-identify) to the other Parties before to providing the Shared Information to such other Parties.

4. Ethics respecting policies

The key responsibilities of the Ethics Expert include the following:

1. Providing expert consultancy addressing ethical issues and concerns raised by project partners
2. Reviewing SEANERGY deliverables before submission and advising the deliverable lead regarding any ethical aspects of the deliverable, either via an ethics proforma or via a full review of the deliverable concerned
3. Conducting reports on Ethics Deliverables, describing all relevant issues that should be considered by project partners throughout the project implementation and beyond, to comply with the EU and national regulations and the H2020 Framework programme guidelines.
4. Consulting on notifications to be submitted to the European Commission or other Authorities when required.
5. Assessing Ethics Approval Forms submitted by partners regarding research with humans and conducting a report on any ethical considerations.
6. Assessing the SEANERGY Data Management Plan and conducting a report in the same document D6.8, D6.9, and D6.10 on any ethics or data privacy considerations.
7. Reviewing participant consent forms for SEANERGY external research participants
8. Reviewing public dissemination material including the project website
9. Providing follow-up and support on any ethics-related matter that may occur during project execution

5. Gender Dimension in SEANERGY

According to the European Commission, “With only 22% of women, the transport sector is not gender-balanced”. The new gender equality strategy 2020–2025 (European Commission, 2020a) adopted by the European Commission on 5 March 2020, proposes that Horizon Europe fund gender and intersectional research to help debunk gender stereotypes and foster equality in all domains.

As described in the SEANERGY proposal, PNO will lead this activity. At the early stage of the project, there are planned several steps, to be further updated and expanded:

1. Check Gender Equality (GE) plans of all public organisations' partners (which include organisational procedures, processes and practices integrating the gender dimension into R&I and teaching content in higher education institutions).
2. Check the actual Male/Female balance in the consortium (to be monitored within the lifetime of the project)
3. Develop a GE ecosystem analysis for better understanding and defining the gender issue in the mobility infrastructure sector. The analysis will thus deliver a specific part of the report based on women positioning in the R&D-related innovation landscape.
4. Set up a specific Gender Equality assessment workshop (based on the European Institute for Gender Equality (EIGE) framework) for the partners, which will provide some input for KPIs to be monitored, and any emerging topics and problems related to Gender will be monitored as specific project's Risks to be mitigated. (PNO will involve specific experts from NEHEM (part of the PNO group) to run a workshop on gender assessment and will constantly monitor this topic as a specific sub-task in the WP6)

6. Access and Curation

This section explains, in the first part, the strategy chosen about the access of the data (storage, access policies, licensing). The next part covers data protection and qualification.

6.1. Data Access

6.1.1. Open Access and ORDP

Within Horizon EU/2020 (HEU/H2020), the objective is to have open access to scientific information. The notion of open access here refers to "the practice of providing online access to scientific information that is free of charge to the end-user and reusable"[5], where "scientific information" includes both the peer-reviewed scientific research articles/publications and the research data underlying publications, curated data, and/or raw data. To ensure open access to all peer-reviewed scientific research publications relating to project results, which is an obligation, two routes are possible.

[5] https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-dissemination_en.htm

- Self-archiving / 'green' open access - the author, or a representative, archives (deposits) a machine-readable electronic copy of the published version or the final peer-reviewed manuscript in an online repository before, upon or after its publication. Some repository software delays access only after an embargo period has elapsed. If this is the case, the European Commission demands that open access is ensured within a maximum of six months.
- Open access publishing / 'gold' open access - an article is immediately published at a publisher or on a journal website. In this model, open access must be granted at the latest on the date of publication. A copy of the publication should also be deposited in a repository.

Whichever route is chosen, HEU beneficiaries must at least ensure that any scientific peer-reviewed publications can be read online, downloaded, and printed. They must also strive to provide the right to copy, distribute, search, link, crawl, and mine to the public, to make publications more useful. As mentioned previously (cf. 3.1.2 supra), peer-reviewed scientific publications resulting from the project will become accessible openly, thanks to an open-access repository used by partners, connected to the tools proposed by the EC (e.g., openAIRE), which grants access to the publications and bibliographic metadata in a standard format, including the information requested by the EC.

Concerning the openness of research data, the Open Research Data Pilot (ORDP) run by the European Commission “aims to improve and maximize access to and re-use of research data generated by HEU projects and takes into account the need to balance openness and protection of scientific information, commercialization, and Intellectual Property Rights (IPR), privacy concerns, security as well as data management and preservation questions.” This ORDP applies primarily to the digital form data needed to validate the results presented in scientific publications, including statistics, results of experiments, measurements, observations resulting from fieldwork, survey results, interview recordings, and images. Users can normally access, mine, exploit, reproduce and disseminate openly accessible research data free of charge.

Despite the benefits of open access, some research data cannot be made open. For this reason, the principle of “as open as possible, as closed as necessary” applies. It is, therefore “possible to opt out of research data sharing at any stage - before or after the signature of the

grant agreement - but reasons have to be given e.g., for intellectual property rights (IPR) concerns, privacy/data protection concerns, national security concern if it would run against the main objective of the project or for other legitimate reasons.", precisely the same potential reasons which may play a role in the balance.

To specify the type of data subject to open access, a Data Management Plan (DMP) is required, which is the subject of this present deliverable.

6.1.2. Data Storage

All the public information (i.e. deliverables and scientific publications) will be stored and published in the SEANERGY website https://seanergyproject.eu/ which is open to the public.