NET ZERO CITIES
SGA2-NZC

NET ZERO CITIES

Data Management Plan
Version 2

Deliverable D3.11

Authors: Johan Diaz (LGI), Arya Arabshahi (EuC)

Funded by
the European Union

Disclaimer

Table of content

Table of figures

Table of tables

Abbreviations and acronyms

Acronym	Description
CA	Consortium Agreement
CC	Common Creative
DMP	Data Management Plan
DPO	Data Protection Officer
DoA	Description of Action
DOI	Digital Object Identifier
EC	European Commission
FAIR	Findable, Accessible, Interoperable and Reusable
GA	Grant Agreement
GDPR	General Data Protection Regulation
HE	Horizon Europe
IPR	Intellectual Property Rights
ISSN	International Standard Serial Number
M	Month (of the project)
MEL	Monitoring, Evaluation and Learning
NDA	Non- Disclosure Agreement
NZC	NetZeroCities
NZCDL	NetZeroCities Data Library
PII	Publisher Item Identifier
PMO	Project Management Office
PU	Public
ORDP	Open Research Data Pilot
SENS	Sensitive
URL	Uniform Resource Locator
V	Version
WP	Work Package
WPL	Work Package Leader

Summary

This deliverable aims at updating the mapping of all the data produced, used and collected by the SGA2-NZC project. It will be used by participants of the project to identify good practices, regulations and procedures in place for the SGA2-NZC project and all related data. It covers data management guiding principles, data security applicable to the work conducted under the SGA2-NZC project, as well as a map of the scope and lifecycle of the data produced through all the Work Packages.

Keywords

Data Management Plan, Data licensing, NetZeroCities, FAIR, data security, Open Access

1 Introduction

1.1 Deliverable scope

This Deliverable aims to update the description on how all the data generated and collected by the NetZeroCities projects, or Mission Platform, is handled, including the creation of the City Data Roadmap. At the time of publication of this Deliverable, this includes three Grant Agreements: NZC, SGA-NZC and SGA2-NZC. It includes the sources, types and formats of this data, and how this data is processed and stored to make them findable, accessible, interoperable and reusable, according to the principles of FAIR data management. The purpose of the Data Management Plan is to contribute to good data handling during the project's lifetime, and to describe how such data is curated and preserved. The Data Management Plan (DMP) is a living document to be updated as the implementation of the project progresses and when significant changes occur.

1.2 Intended readership/users

Internally in the project:

- All project participants who are responsible for, or in any way involved with, data collection and data handling can use this document, for instructions on how to handle, store and process data.
- All project participants can use this document to get an overview of all data collected in the project and how this is processed and stored.

External audience:

- All relevant stakeholders, who are interested in the Mission Platform-related activities and research topics, can use this document to get an overview of the data collected in the project, how to access this data, and, if applicable, how to re-use this data in their own activities.
- All persons, who voluntarily participate in the pilots and contribute data to the project, can use this document to learn how the project processes and stores their data.

1.3 Objectives and scope of the document

The DMP describes the data management life cycle for the data to be collected, processed and/or generated by the SGA2-NZC project, as a HE project. The DMP aims at defining the management strategy of data generated during the project with the purpose of making research data findable, accessible, interoperable and re-usable (FAIR). The DMP addresses the following points:

- description of the city date roadmap to advance in the operationalization of cities' data.
- the handling of data during and after the end of the project,
- what data will be collected, processed and/or generated,
- which methodology and standards will be applied,
- whether data will be shared/made open access, and
- how data will be curated and preserved (including after the end of the project).

2 Data management guiding principles

2.1 Horizon Europe framework

The Data Management Plan aims to provide a strategy for managing key data generated and collected during the project and optimize access to and re-use of data. The DMP is intended to be a 'living' document that will outline how the project data will be handled during and after the project, and so it will be reviewed and updated at regular intervals.
The SGA2-NZC Data Management Plan is realised within the Work Package 3 (WP3), Project and Impact Management. It follows the principle of Open Access according to the H2020 guideline summarized in the diagram below.

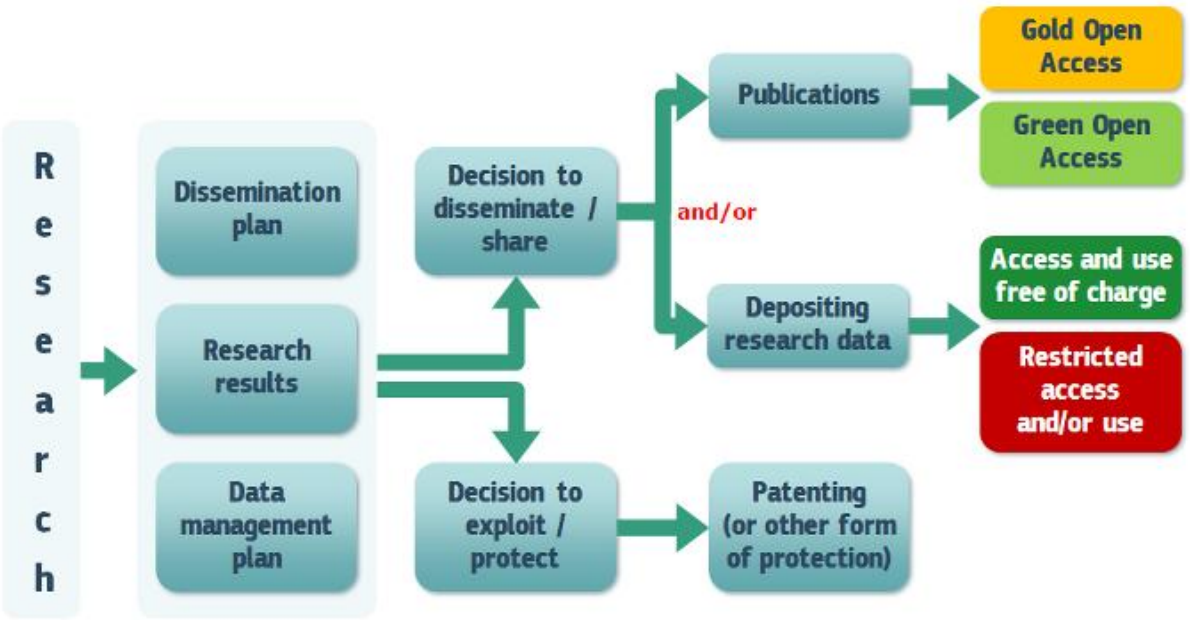

Figure 1: Open access to research data and publication diagram (source: Guidelines to the Rules on Open Access to Scientific publications and Open Access to Research Data in H2020)

The other main principles for the NZC-SGA2 Data Management report are the following:

- This DMP has been based on the template of the "Guidelines on Data Management in Horizon Europe"
- https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/temp-form/report/data-management-plan_he_en.docx
- This DMP will be updated throughout the project. The version will evolve depending on significant changes arising and periodic reviews at relevant reporting stages of the project.
- The consortium complies with the requirements of Regulation (EU) 2016/679 and of the Council of 27 April 2016 on the protection of natural persons regarding the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation - GDPR). Guidance on how these regulations interact with open-access data policy can be found here: https://www.openaire.eu/ordp/
- Type of data, storage, confidentiality, ownership, management of intellectual property and access: procedures that will be implemented for data collection, storage, access, sharing policies, protection, retention, and destruction will be in line with EU standards as described in the Grant Agreement (GA) and the Consortium Agreement (CA).

3 Definitions

Data refers to unstructured facts and figures, which are not organised in any way and which provide no further information regarding patterns, context, etc. For instance, data on production, demand, results from technical tests and so on, is unstructured data.

A **data set** is a collection of data. Most commonly a data set corresponds to the contents of a single database table, or a single statistical data matrix, where every column of the table represents a particular variable. The data set lists values for each of the variables, such as height and weight of an object, for each member of the data set. The data set may comprise data for one or more members, corresponding to the number of rows.

For data to become **information**, it must be contextualized, categorized, calculated and condensed. Information thus paints a bigger picture; it is data with relevance and purpose. It may convey a trend in the environment, or perhaps indicate a pattern of sales for a given period of time.

Knowledge is closely linked to doing and implies know-how and understanding. The knowledge possessed by every individual is a product of his/her experience and encompasses the norms by which s/he evaluates new inputs from his/her surroundings. For instance, knowledge is related to the know-how acquired in R&D projects, commercial activities or the expertise that is inherent to each partner.

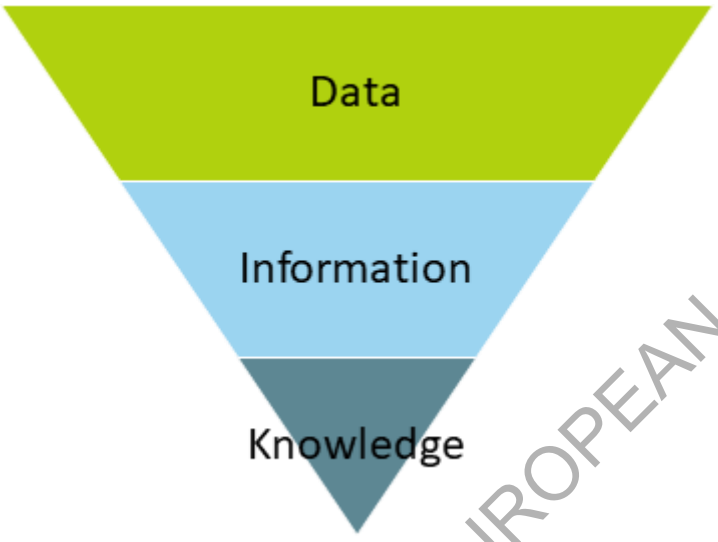

Figure 2: Knowledge Management hierarchy

4 Open data guidelines

4.1 Generic guidelines on open data: platform and publications

All European Union funded projects must try to disseminate as much information as possible and additionally the NetZeroCities project was signed up to the "Open Research Data Pilot (ORDP)" which means that it is committed to give open access to data generated during the project unless it goes against our legitimate interests. In this regard, the main purpose of the DMP is to ensure the accessibility and intelligibility of the data generated during the NetZeroCities project in order to comply with the Guidelines of the "Open Research Data Pilot".
As a project participating in the ORDP in H2020, the DMP's data management strategy of NetZeroCities is focused on the observation of FAIR (Findable, Accessible, Interoperable and Reusable) Data Management Protocols. Project outputs are to be made available by the project consortium as open source, open science and open data.

4.2 Making data findable, including provisions for metadata

Naming conventions

Files and folders at data repositories will be versioned and structured by using a name convention consisting as follow: *FileType_FileVersion/Number_ NetZeroCities _PartnerNumber-PartnerName_YYMMDD.FileExtension (ex. D1.5_NetZeroCIties_P1-CEA_210603.doc)*
FileType are:

- D stands for Deliverable
- DS stands for DataSet
- F stands for File (generic, ex. images, table, document)

Version numbers

Individual file names and datasets will contain version numbers that will be incremented at each revision (v*xyz*). For publications, versioning is in general not necessary.

Zenodo provides DOI versioning of all datasets uploaded to their communities, which allows us to edit and update the uploaded datasets after they have been published. This also allows us to cite specific versions of an upload and cite all versions of an upload.

4.3 Making data openly accessible

Data made openly available as the default

In order to maximise the impact of NetZeroCities research data, the results are shared within and beyond the consortium. Selected data and results will be shared with the scientific community and other stakeholders through publications in scientific journals and presentations at conferences, as well as through open access data repositories.

How will the data be made accessible

NetZeroCities open results will be made accessible according to the Rules on Open Access to Scientific Publications and Open Access to Research Data in Horizon 2020.

Mission Portal: The Mission portal is the main interface for cities to access the project results and methodologies, submit their climate city contract for EC and consortium review, access the interface to apply for the Pilot Cities Programme, etc. City users have the possibility to opt out at any time and delete their personal account.

Open data: All open results (data, software, scientific publications) of the project will be openly accessible at an appropriate Open Access repository (i.e. Zenodo) as soon as possible. Specifically, research data needed to validate the results in the scientific publications will be deposited in a data repository at the same time as a publication. Non-public research data will be archived at the repository using a restricted access option.

Scientific publications: Regarding open accessibility, there are two main types, which are explained below, and which will be considered for scientific publications from NetZeroCities:

- Green open access (self-archiving)

Green open access or self-archiving means that the published article or the final peer-reviewed manuscript is archived by the researcher itself in an online repository, in most cases after its publication in the journal. The journal must grant the researcher the permission to self-archive the final peer-reviewed article, at the latest, 12 months after publication. For finding suitable green open access publishers, researchers are encouraged to consult RoMEO (http://sherpa.ac.uk/romeo), a searchable database of publisher's policies regarding the self- archiving of journal articles on the web and in Open Access repositories.

- Gold open access (open access publishing)

Gold open access means that the publication is available by the scientific publisher as open access. Some journals require an author-processing fee for publishing open access. Author-publishing fees for gold open access journals can be reimbursed within the project period and budget. Some publishers allow the researcher to deposit a copy of the article in a repository, sometimes with an embargo period. For finding suitable gold open access publishers, researchers are encouraged to consult the Directory of Open Access Journals (https://doaj.org/), a service that indexes high quality, peer-reviewed open access academic journals that use an appropriate quality control system.

Providing open access to peer-reviewed scientific publications can be ensured either by publishing in green or gold open access journals with or without author processing fees. Any scientific publications from NetZeroCities and the related bibliographic metadata must be made available as open access and announced on the project website (https://netzerocities.app) as well as in the OpenAIRE portal (https://www.OpenAIRE.eu/) and the R&I Participant Portal (https://ec.europa.eu/research/participants). To automate the process of reporting scientific publications and related research data in OpenAIRE, the publication should be deposited in an OpenAIRE-compliant repository, either by the authors of the publication (green open access) or by a scientific publisher (gold open access). While additional forms of disseminating open access papers, including academic social network sites such as ResearchGate (https://www.researchgate.net/) are possible, an electronic copy of the publication has to be deposited

in suitable open access repository in the first place. According to the European Research Council's Guidelines on Open Access, "Venues such as Research Gate or Academia.edu that require users to register in order to access content do not count as repositories. The posting of publications on a personal, institutional or project specific webpage or the deposit in a publicly accessible Dropbox account is not sufficient to satisfy the requirements either."

Green open access journals or gold open access journals without author processing fees should be preferred for disseminating scientific publications of the NetZeroCities project. Nevertheless, the journal's visibility and prestige (translated in the Impact Factor) of the journal, together with the speed of publication, should be considered when choosing a journal for publication of a manuscript. According to the EC recommendation, authors of the publication are encouraged to retain their copyright and grant adequate licences to publishers.

Methods and/or software needed to access the data
Regarding the mere access to open data deposited as data files in a data repository, there are no special methods or software tools needed. The files can be downloaded from the data repository using a standard web browser. The offline viewing, interpreting, processing and editing of data files downloaded from the data repository, it heavily depends on the type and format of the data.

How will access be provided if there are restrictions on use to data
Where a restriction on open access to research data is necessary, attempts will be made to make data available under controlled conditions to other individual researchers. In the case where restricted or embargoed data is stored in the Zenodo repository, information about the restricted data will be published in the repository, and details of when the data will become available will be included in the metadata. Data files and data sets for restricted access records are only visible to their owners and to those the owner grants access. Restricted access allows a researcher to upload a dataset and provide the conditions under which he/she grants access to the data. Researchers wishing to request access must provide a justification for how they fulfil these conditions. The owner of the dataset gets notified for each new request and can decide to either accept or reject the request. If the request is accepted, the requester receives a secret link which usually expires within 1-12 months.

4.4 Making data interoperable

Partners will observe OpenAIRE guidelines for online interoperability, including OpenAIRE Guidelines for Literature Repositories, OpenAIRE Guidelines for Data Archives, OpenAIRE Guidelines for CRIS Managers based on CERIF-XML. These guidelines can be found at: https://guidelines.openaire.eu/en/latest/.
Partners will also ensure that NetZeroCities data observes FAIR data principles under H2020 open-access policy:
https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/programme-guide_horizon_en.pdf
In order to ensure the interoperability, all datasets will use the same standards for data and metadata capture/creation.
As the project progresses and data is identified and collected, further information on making data interoperable will be outlined in subsequent versions of the DMP. In specific, information on data and metadata vocabularies, standards or methodology to follow to facilitate interoperability and whether the project uses standard vocabulary for all data types present to allow interdisciplinary interoperability.

4.5 Increasing data re-use (throughout clarifying licences)

Licensing
According to Grant Agreement, data and software are owned by the beneficiary that generates them. Notwithstanding the above owners of open results arising from the NetZeroCities project are encouraged to release their work under a Creative Commons license, preferably Creative Commons Attribution 4.0 (CC-BY-4.0, http://opendefinition.org/licenses/cc-by/). Different types of licenses will be considered.
However, an embargo period (usually 12 months for targeted journals) may be applied if the data (or parts of data) are used in published articles in "Green" open access journals.

For datasets deposited on a public data repository (i.e. Zenodo) the access is unlimited.
Restrictions on re-use policy are applied for all protected data (see Figure 1: Open access to research data and publication decision diagram), whose re-use will be limited within the project partners.
Other restrictions could include:

- the “embargo” period imposed by journals publication policy (Green Open access);
- some or all of the following restrictions may be applied with Creative Commons licensing of the dataset (attribution, non-commercial, share-alike, etc.).

Longevity
The Mission portal will remain operational at least until 2030, which corresponds to the target date of the Cities’ Mission. This will enable city users to be able to maintain access to the data stored on it.

For data published in scientific journals, the underlying data will be made available no later than by the date of the journal publication. The data will be linked to the publication. Data associated with public deliverables will be shared once the deliverable has been approved and accepted by the EC. For other public datasets not directly linked to a scientific publication or deliverable, such datasets will be made available upon assessment by the Data Controllers that it is ready for publishing, and in the final month of the project at the latest.
Open data can be reused in accordance with the Creative Commons licences. Data classified as confidential will as default is not reusable due to privacy concerns.
The public data will remain reusable via Zenodo for at least 20 years, according to Zenodo’s general policies (http://about.zenodo.org/policies/). This is currently the lifetime stated by the host laboratory CERN. In the event that Zenodo has to close their operations, they have provided a guarantee that they will migrate all content (including metadata) to other suitable repositories.

Third parties use
Open results produced by the project and deposited in a respective repository are usable by third parties after the end of the project. If confidentiality, security, personal data protection obligations or IPR issues related to specific research data that is needed to validate a scientific publication forbid open access, the data may be deposited in a restricted repository and access may be granted upon request and under the conditions of a restricted license.

4.6 Costs related to open access to research data

Costs related to open-access to research data in HE are eligible for reimbursement under the conditions defined in the GA, but also other articles relevant for the cost category chosen. Project beneficiaries will be responsible for applying for reimbursement for costs related to making data accessible to others beyond the consortium.
The costs for making data FAIR includes:

- Fees associated with the publication of scientific articles containing project’s research data in “Gold” Open access journals. The cost sharing, in case of multiple authors, shall be decided among the authors on a case-by-case basis;
- Project Website operation: to be determined;
- Data archiving at Zenodo and on other online data base: free of charge
- Copyright licensing with Creative Commons: free of charge.

Each partner is responsible for the data they produce. Any fee incurred for Open Access through scientific publication of the data will be the responsibility of the data owner (authors) partner(s).

5 Data mapping

The table below provides a general indication of the type and origin of data processed by a given activity.

Category	Description of data / data sets / information / knowledge	Type	Accessibility	Location of storage
CCCs and City Support	CCC documents submitted by cities (Action Database, Commitment, sel-uploaded emission inventory, Investment Plan)	City data	Restricted / Public (Mission Label)	Mission Portal / CCC Submission Space / Notion
	Data extracted from CCC (city datasets)	City data	All-consortium	Notion
	City interaction reports	Consortium data	All-consortium	Notion
	NMCs Needs Assessment Survey responses	Consortium data	All-consortium	SharePoint / Notion
	Support Needs Assessment documents	City data	All-consortium	SharePoint
	Data from Consortium expertise survey for CSGs	Consortium data	All-consortium	Notion
Cities Mission programs - Pilot City Programme, - Twinning Programme, - CESF - Summer/winter schools - Policy Labs	Programs applications (PCP/Twinning/CESF)	City data	All-consortium	Notion & SharePoint
	Programmes' working documents and deliverables	Consortium data	All-consortium	SharePoint
	Personal data from participants	Personal data	Sensitive	SharePoint & Portal
Operations / Project Management	All program deliverables	Consortium data	All-consortium	SharePoint / Notion
	Portal tools and services data (Knowledge repository, climate transition map, solutions bundle, events, etc.)	Consortium data	Public	Mission Portal
	Portal city data (CCC, data extracted from CCC)	City data	Restricted (city and super admins)	Mission Portal / Notion

	Portal user data - Personal data for city users, consortium users and other portal users (name, email, function, city) - Portal activity for users	User data	Sensitive	LGI servers
	City datasets (city support, finance, CESF, etc.)	City data	All-consortium (except for finance and CESF – restricted)	Notion
	Newsletter subscribers	Personal data	Restricted	SharePoint
	Project carbon footprint data	Consortium data	All-consortium	SharePoint
	Partnerships data	Other	All-consortium	Notion

Table 1: Overview of data types and sources

6 Data Management

6.1 Collection Process

The collection of data and datasets is taking place at various levels in the project:

- **Non-Mission Cities Support (NMC, WP1)** information from NMC is collected through the Mission Portal and the P2P community.
- **Finance & investment (WP2)** colleagues collect, support and monitor the design and implementation of investment plans and support cities through City Financial Specialist, based on cities' financial information and capabilities. Also, an identification of private capital financial vehicles is taking place, to support the implementation of Investment Plans.
- The project **Operations team (WP3)** collects personal and organisation data from consortium partners in order to support the administrative, financial, legal management of the project. It is also considered the management and monitoring of the City Expertise Support Facility (CESF)

6.2 Data storage

Data, datasets, information and knowledge generated by the project are currently stored in specific tools:

- **Microsoft SharePoint**, for all project documents and deliverables – accessible to all consortium members. Data is stored on Microsoft servers. LGI makes regular back-up copies of documents.
- **Mission Portal**, for all city-facing documents, with different levels of access. Data is stored on servers in Germany.
- **Notion**, operating under the license of partner Dark Matter Laboratories BV, which includes 14 separate workspaces, but interconnected workspaces in the NetZeroCities Notion Teamspace.
    - The NZC Notion Teamspace was launched officially to all consortium members by January 2025, as a collaborative and knowledge sharing platform. Currently, it contain multiple databases, supporting the development of the project, as well as multiple calendars, trackers, forms and relevant documents. Concerning the databases, they include, for instance, general information about participating cities, the Mission itself and select programs, as well as all interactions with cities.
    - Some restricted pages have been created, including the CESF page and the Finance & Investment page – access restricted to select accredited users – includes information about cities CCC investment plan, Capital Hub. Data is stored on Notion servers.
    - Recently, the CCC Investment Plans page is under construction.

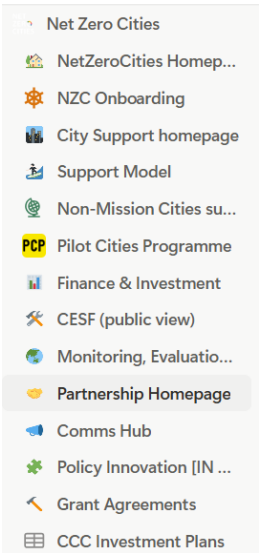

Figure 3: Main menu of the NZC Notion Teamspace

- **Teams account,** created and administrated by Climate-KIC. This account has a general section and specific channels for each of the seven themes, including project deliverables and documents. This is accessible to all consortium members.
- Other collaborative tools are used, which do not contain restricted or sensitive information, such as Smartsheet for project monitoring sheets and Miro, to facilitate brainstorming sessions.

⚠ All data and documentation related to SGA2-NZC should be documented in the platforms mentioned in this section. Partners organisations should not store SGA2-NZC documents and data on the partner organisation's drive unless it is a copy of an existing document in the platform used by SGA2-NZC.

6.3 Data sharing and re-use

6.3.1 User access management

Each platform where data is stored is managed by a designated team within a consortium partner, with varying levels of access based on user roles.

- SharePoint – managed by CKIC, with all-consortium access.
- Mission Portal – overseen by LGI/Eurocities, with consortium user, city user, and super admin access levels.
- Notion – managed by DML and LGI, with access defined per dataset, either offering all-consortium access or restricted access.

Granting and removing access - In order to streamline the onboarding process and access to the various platforms, all requests have been centralised in a ticketing system. Through this system, partners can request the grant of access to new users to all relevant platforms or the removal of those who have terminated their participation in the project. Otherwise, the same system can be used to address technical issues when using Notion, submit improvement requests, or request upgrades in access to specific pages or relevant permissions in the NZC Notion Teamspace.

⚠ Consortium members should be using the partner organisation's email addresses to ensure proper and timely granting and removing of access and protection of city data.

6.3.2 Non-Disclosure Agreement

A Non-Disclosure Agreement, related to data use and re-use, has been proposed by the coordinator, Climate-KIC Holding B.V., to be signed by each of the Consortium Partners. The purpose of this instrument is to protect Cities' data stored in the different platforms available, in the context of the delivery of the NetZeroCities (GA n°101036519), SGA-NZC (GA n°101121530) and SGA2-NZC (GA n°101139652) projects and any possible future Agreements for the continuation of the project delivery.

Under the Non-Disclosure Agreements, it is considered as "confidential information" all confidential and/or proprietary information, documents and related materials stored in the Dark Matter Laboratories BV Notion interface and the Climate-KIC Teams.

The Non-Disclosure Agreements were distributed to all Consortium Partners and currently, 13 of the Non-Disclosure Agreements are already signed, and the rest are under legal review by CKIC or by each of the Consortium Partners.

6.4 Data security, protection, privacy

6.4.1 Data security

The following guidelines will be followed in order to ensure the security of the data:

- Store data in at least two separate locations to avoid loss of data;

- Encrypt data if it is deemed necessary by the participating researchers;
- Limit the use of USB flash drives;
- Label files in a systematically structured way in order to ensure the coherence of the final dataset.

As an initial step, only the Consortium Partners will have access to the repository where dataset and metadata are filed. The protection of data will be ensured through procedures and appropriate technologies (e.g., HTTPS protocol for the encryption of all internet transactions and appropriate European and Internet security standards from ISO, ITU, W3C, IETF and ETSI). If data will be kept in a certified repository, then the security standards of that repository will apply.

6.4.2 Data privacy / personal data protection

In accordance with NetZeroCities Privacy Policy, cities are responsible for and retain ownership of the data provided in the City Dossier and contained in the documents they submitted to their personal space on the Mission Portal.

Cities also have the right to request the deletion or modification of their data at any time, ensuring they maintain control over their information (Section 9 – Exercising your rights, from the NetZero Cities Private Policy). Additionally, cities may request that their data be set to private, thereby restricting access as needed. The Mission Portal management team is committed to supporting cities, strictly using only publicly available data and adhering to all legal requirements to safeguard privacy. This policy underscores dedication to respecting the data privacy and security of all participating entities.

The NetZeroCities project is fully compliant with the General Data Protection Regulation (GDPR) laid out in Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC and respects regulations on intellectual property rights (IPR).

6.4.3 Data sensitivity

Sensitive data is data that is either private or confidential and includes personal user data. The proper management of sensitive data is imperative to maintain the individual privacy and remain in compliance with both EU and international regulations.

In order to ensure sensitive data is properly managed, data that is considered sensitive should first be identified. Personal user data and city data fall under this category. Thus, the main ethical and privacy issues with sensitive data arise from ensuring the data remains private and that proper consent is obtained before the data is shared or published in any way. In practice, this concerns mostly city data.

Four levels of data sensitivity have been identified:

- **Confidential -** The most sensitive information, which could cause significant harm if disclosed, such as information whose disclosure could lead to legal penalties, financial sanctions, or security risks for people and/or goods. NB: not necessarily the main category in our context
    - Example: personal user data
- **Restricted** (need to know basis): data with medium sensitivity, with access restricted on a need-to-know basis.
    - information that requires a particular qualification to handle,
    - need-to-know basis: information shared internally on a need-to-know basis to prevent unnecessary exposure, even within the consortium.

- Examples: City conversations notes and meetings transcripts, city investment plans (submitted and labelled)

- **Consortium access**: Data intended for internal use within the consortium. Restricted either because of a (low) level of sensitivity, or because of its poor value to the general public. May include:
  - data that benefits advancement of the consortium work
  - drafts, work in progress of deliverables
  - data with legal or contractual agreements that limit its sharing outside the consortium
  - Examples: SGA2-NZC grant agreements, draft deliverables, Consortium notes and meetings transcripts, agreements with 3rd party vendors
- **Public:** Data that can openly be shared with the general public without risk of harm or legal implications. May include:
  - non-sensitive data: does not contain any personal, financial, operationally sensitive information
  - pre-approved for disclosure
  - data that benefits public knowledge
  - Already public data (from public resources)
  - Examples: SGA2-NZC deliverables and publications, Mission label cities CCC (commitment+action plan), select city datasets

Measures to protect the privacy of individuals providing sensitive data will be taken in any instance where sensitive data will be collected and published. When possible, response data will be anonymized so that it cannot be directly attributed to the responder (for example, by delineating a numeric code to an individual). In addition, data will be reported in aggregated forms to further prevent any city or individual from being identified through their response. If anonymization is not possible, then the explicit permission will be received prior to the publication of sensitive data. In any case, sensitive data will always remain confidential.

7 Data Governance

7.1 Overall strategy

Currently, the project is working on a new data management strategy, based on a Data Life Cycle approach, with the objective of making city data operational and reliable. This strategy is based on the state of development of the project at the time of submission of this deliverable, and it is overseen by the Data Strategy Advisor, the DIM Sub-Committee and the Project Management Team and implemented and monitored by the Operations Theme through the project and renewed annually, leading to the submission of an updated version of that document.

7.2 The Data Impact and Monitoring (DIM) Sub-Committee

Among the three subcommittees developed to complement the governance structure of the consortium and representing the areas which are considered to be high risk for NetZeroCities, SGA and SGA2-NZC is the Data Impact and Monitoring Subcommittee (DIM). It allows for a small group to engage on critical risks in this area and provide strategic oversight for effective delivery.
The Data Impact & Monitoring Subcommittee is in charge of:

- Ensuring an overview of Data Governance and addressing overall governance risk around the project's data strategy

- Guaranteeing the Mission portal data interoperability
- Taking decisions on data and monitoring processes in view of impacts and outputs
- Ensuring strategic alignment of MEL and Data touch points across the grant agreements
- Creating space to discuss strategic relationship and partnership with third parties such as Covenant of Mayors, CDP, JRC on data-related matters.

When important topics arise that are linked to data used, processed, and shared by the consortium, the DIM Sub-Committee is the instance in charge of taking a decision on that matter. Members of the consortium that would identify a risk related to data can reach out to their WP lead or Theme PM to register a new item in the Risk Register, which informs the agenda of the Sub-Committee.

7.3 City Data Roadmap

NetZeroCities' distinct city data collection, crucial for its MEL framework, suffers from data reliability and obsolescence challenges due to the static nature of data from CCCs, inconsistent and incomplete reporting by cities, and resource-intensive harmonisation and cleansing. The recommended action has been to establish a FAIR NetZeroCities data library (NZCDL) with automated updates and improved data cleansing, selectively prioritising high-impact indicators and expanding structural collaborations with existing European data initiatives and platforms where possible. This data library can be delivered as a standalone product alongside its integration in existing tools and tackling data reliability and obsolescence at source by improving interoperability and establishing dynamic data collection where possible.

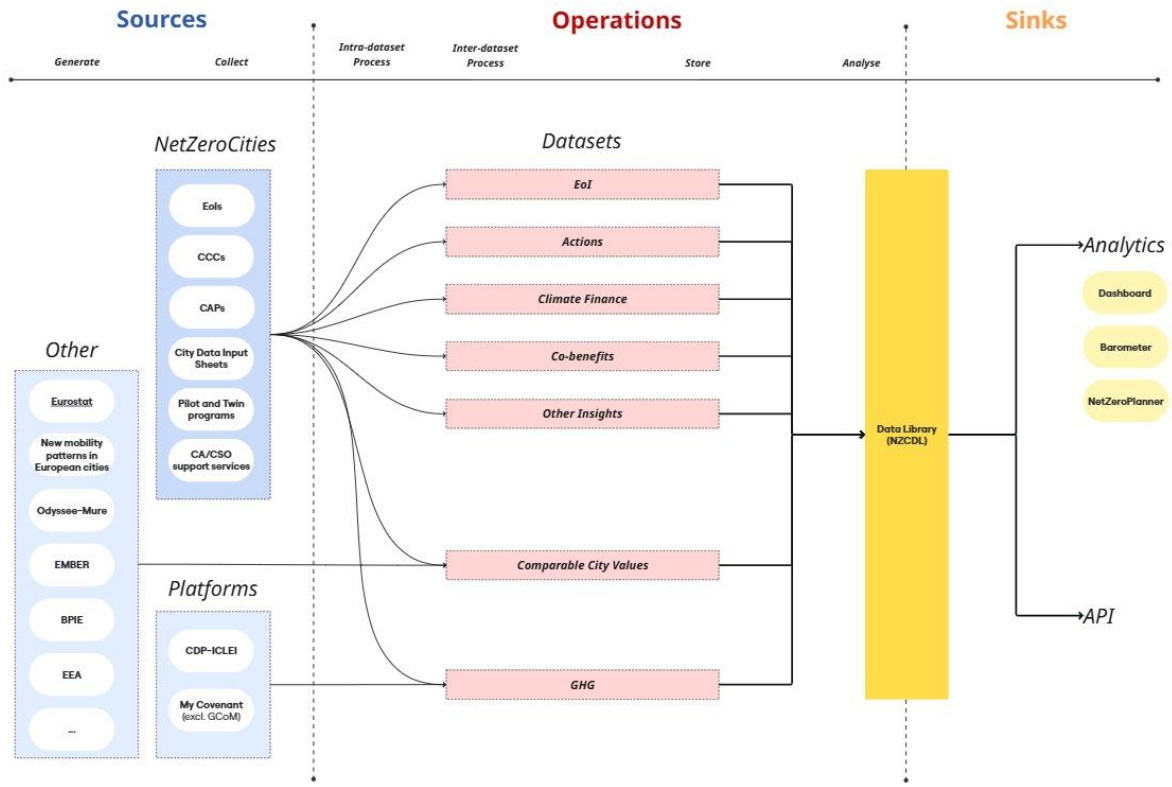

Figure 4: Data life cycle of NZC

8 Conclusion & next steps

This document describes the main principles and guidelines for the Data Management for the SGA2-NZC project under the task T3.4 Data strategy and management. As a living document, it will be updated throughout the project lifetime.

9 Bibliography

European Commission. ***Horizon Europe Programme****. Guidance for the classification of information in research projects.*

European Commission. ***Horizon Europe Programme****. Guidelines on FAIR Data Management in Horizon Europe.*

European Commission. ***Horizon Europe Programme****. Guidelines to the Rules on Open Access to Scientific Publications and Open Access to Research Data in Horizon Europe.*

European Union (2020). Intellectual property rights. *https://europa.eu/youreurope/business/running-business/intellectual-property/rights/index_en.htm*

European Parliament (2021). *Regulation (EU) 2021/695 of the European Parliament and of the Council of 28 April 2021 establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination, and repealing Regulations (EU) No 1290/2013 and (EU) No 1291/2013 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32021R0695*

European Parliament (2016). *Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC. https://eur-lex.europa.eu/legalcontent/EN/TXT/PDF/?uri=CELEX:32016R0679*