



*This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101036458.*

# *Data Management Plan*

*D1.1*

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*Costa, L. & Seydewitz, T. (2022), Data Management Plan (LOCALISED Deliverable 1.1).*



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## General information about this Document

<b>Project acronym</b>	LOCALISED
<b>Project full title</b>	Localised decarbonisation pathways for citizens, local administrations and businesses to inform for mitigation and adaptation action
<b>Grant Agreement no</b>	101036458
<b>Deliverable number</b>	1.1
<b>Deliverable title</b>	Data Management Plan
<b>Deliverable nature</b>	Report
<b>Dissemination level</b>	PU
<b>Work package and Task</b>	WP1
<b>Contractual delivery date</b>	Month 6
<b>Actual delivery date</b>	Month 6, update M48 (final version)
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## Revision History

<b>Version</b>	<b>Date</b>	<b>Name</b>
Draft for review	08.02.2022	Luis Costa
Reviewed draft	28.02.2022	Luis Costa
Updated version	26.09.2023	Tobias Seydewitz
Update after review RP2	28.04.2025	Tobias Seydewitz
Final Update	30.09.2025	Tobias Seydewitz & Christiane Walter

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## List of Abbreviations

API	Application Programming Interface
CAST	LOCALISED Climate Action Strategiser
DSP	Data Sharing Platform
FAIR	Findable, accessible, interoperable and reusable
Git	Software for tracking changes in any set of files
GDPR	General Data Protection Regulation
IPCC	Intergovernmental Panel on Climate Change
SBMC	LOCALISED Sustainable Business Model Canvas
NUTS	Nomenclature of territorial units for statistics
NZBC	LOCALISED Net-Zero Business Consultant

## Executive Summary

This deliverable sets forward the updated Data Management Plan (DMP) version for the LOCALISED project. In particular, it assesses the types and nature of data to be collected and/or generated, the quality of the generated data, and details of strategies to make data compliant with FAIR principles. Further, this updated version of the DMP gives an overview about all data and tools produced within the LOCALISED project and where to find them after the end of the project.

## 1 Data Summary

This Data Management Plan presents an overview of the key data used and generated by the LOCALISED project and how it was managed to ensure that it is FAIR – Findable, Accessible, Interoperable and Re-usable.

The information presented below evolved and became more specific with the ongoing project progresses, and details, practicalities, and feedback from project partners and key stakeholders included.

The main objectives of the LOCALISED project that are most relevant to the need for a DMP are:

- To downscale energy-relevant indicators determined with the EUcalculator model to NUTS3 (and additional LAU) level and make results available to the public, as well as climate information on selected indices.
- To elaborate on two web-based tools - the Climate Action Strategiser (previously named "Decarbonization Profiler") and the Net-Zero Business Consultant - that inform stakeholders on the challenges of decarbonisation.

Data was collected and generated within each objective to serve specific purposes. For the downscaling exercise, data was generated within the consortium using the EUcalculator model (D2.3 - Library of model outputs at MS and EU level), and data was gathered from external sources like EUROSTAT to be used as disaggregation proxies (D3.3 - Database with all the relevant data for the year 2020). Information on selected climate indices at the NUTS3 level was generated from EURO-CORDEX data (D2.5 - Climate change database and other spatial data). In terms of software, an API was built to facilitate the distribution of the downscaled results (D3.4 - Data Sharing Platform Final Version).

Underlying the development of the two tools in LOCALISED are particular data and software features that, due to their nature, demand the collection/generation of significant amounts of data. The most relevant for the Climate Action Strategiser (CAST) is the routine allowing users to calculate possible combinations of adaptation and mitigation options for NUTS3-regions (D4.1 and D4.5). While in this case, much of the data will derive from the downscaling exercise previously highlighted, significant quantities of data describing relevant features of mitigation and adaptation options (e.g., costs, benefits, political feasibility, public acceptance, etc.) will be gathered from literature and existing databases of adaptation. In the case of the Net-Zero Business Consultant (NZBC), data was collected on the economic structure of NUTS2 regions concerning the sectoral contribution to the region's economic output. Regarding data generation, the NZBC provided users with a vulnerability index generated using an adaptation of the IPCC methodology (see D8.3). The final version of results of the backend model ETHOS.MIDAS and the Disaggregation workflow will be published on FZJ

Github. This data is displayed with the help of the Climate Action Strategiser (CAST) frontend (see D8.2).

## 1.1 Types of data in the project

A survey across the consortium has revealed several types and data formats to be gathered/generated, see Table 1. Data in the LOCALISED project is categorised into 3 cases:

**Case 1:** Data is generated or collected entirely on your behalf or your institution, e.g. running your models or collecting/recording field data.

**Case 2:** Data results from a re-compilation of data from third parties and potentially your data, e.g. collecting yield data from different sources like Eurostat and FAO by appending your records.

**Case 3:** Data from third parties that is used to compute new data, e.g. downloading climate data from CDS and generating a dataset of weather extremes.

Case 1 data will be created for country-level runs of the EUcalculator model and the gathering of businesses' decarbonisation perspectives, vulnerability, and emerging technologies. Case 2 data will be generated across WPs 2, 3, 4, 5 and 7. Specific examples of this type of data refer to data from power systems, topographic databases and infrastructure (land use, road network) or the composition of businesses at the NUT2 level. Finally, case 3 data will be used mostly in WPs 2, 3, 4 and 5 and refers to the generation of extreme climate indices and solar and wind-power capacities per NUT-level, socio-economic data, and existing sets of adaptation/mitigation measures and existing inventories of emissions, risks, and vulnerabilities performed around the eurozone.

Regarding data formats, there are several, but mostly orbiting around tabular (e.g., Excel, CSV) and spatially explicit information (e.g., GeoJSON, shapefiles). Also, some data was in the form of text, especially data collected from stakeholders' opinions or from energy policy documents or adaptation strategies.

**Table 1: Data generated and collected in LOCALISED**

WP	Data	Format	Comment	Open / Restrictions	Ethics considerations	Case
WP1	Impact assessment data	.xlsx, .jpeg and .doc	Obtained from project partners and stakeholders engaged in project activities	Atomic data restricted to internal use. Results at the aggregated level will be openly	None for data coming from partners. Data gathered from stakeholders will be based on explicit consent	1

WP	Data	Format	Comment	Open / Restrictions	Ethics considerations	Case
				available.	and a voluntary basis.	
WP2	Country-level decarbonisation pathways	.json	Obtained from EUcalculator model	Open	None	1
WP2	Climate extremes of common weather variables	.csv .geojson	Processed from EURO-CORDEX	Open	None	3
WP2/ WP4	European power system models	.shp .csv	Data from different open accepted models.	Open at an aggregate EU level. Local grid data can imply restrictions to be evaluated case by case during the project.	None	2
WP3	Topographic databases and infrastructure (land use, road network)	.shp .csv .xlsx	Data gathered from official APIs and web platforms	Open	None	2
WP3	Downscaled decarbonization indicators at NUTS3 level	.csv	Downscaled from EUcalculator	Open	None	2
WP3	Solar and Wind - power capacities per NUT-level	.csv	Obtained using in-house model	Open	None	3
WP3/ WP4	Socio-economic data per NUT level	.csv .xlsx	Data gathered from official APIs and web platforms	Open	None	3
WP4	Collection of adaptation and mitigation measures/ options and their qualities/ KPIs/ characteristics	.xlsx .db	Data gathered from local, regional and national adaptation and mitigation plan repositories	Open after publication	None	2
WP4	Feasible mitigation and adaptation measure sets	.txt	Obtained from WP2, WP3, and WP4.1	Open	None	3
WP5	SECAP oriented SDG indicators	.xlsx	Data from various sources, SDG platform, local	Restricted to internal use but final	None	2

WP	Data	Format	Comment	Open / Restrictions	Ethics considerations	Case
			implementers and more	report open		
WP5	Baseline Emission Inventory (BEI) and Risks and Vulnerabilities Assessment (RVA)	.xlsx	Calculation procedures connected to previous task and WP2 WP4	Restricted to internal use	None	3
WP5	Energy strategies linked to renovation wave and climate change	.doc	From European Directives (EPBD, EDD and RED), and national regulations	Open	None	1
WP6	Opinions on climate change and impacts on groups in 3 focus regions	.xlsx	Data generated via empirical surveys (Q Study)	Open	Survey privacy	1
WP7	Vulnerability of businesses to decarbonization	.csv	Survey results, stored at CMCC servers	Restricted to internal use	Companies' privacy should be considered	1
WP7	Indicators of business risk at the NUT2 level	.csv	Data from Eurostat	Open	None	2
WP7	Vulnerability index for businesses at NUTS2 level	.csv	Methodology developed in-house	Open	None	2
WP7	Assessment of emerging mitigation technologies and solutions	.doc	Data from expert elicitation and literature review	Open	Survey privacy	1
WPs 4,5,6, 8	feedback gathered through user consultation for co-development	.csv .txt	Obtained from interviews/ workshops/ questionnaires	Restricted to internal use, aggregation used for publication	None, voluntary participation	1
WP9	Scientific materials from speakers and experts	.doc	Participation in webinars/ seminars	Open	Previous consent required to the participants	1

The data generated/gathered in the LOCALISED project is expected to be most useful to municipalities, businesses and citizens concerned with or promoting decarbonization and adaptation activities. The data also benefits cities participating in the project and associated partners. In addition, data could also be useful for the scientific community

dealing with energy-relevant topics such as energy modelling or regional development. The data generated by the project in the tasks outlined above (along with those from other activities and tasks) has been made available principally through three publicly accessible outlets: a database of downscaled decarbonisation indicators at LAU and NUTS3-level (DSP), the Climate Action Strategiser (CAST) and the Net-Zero Business Consultant (NZBC). To facilitate the transfer and integration of the data generated between specific project outputs and the LOCALISED tools via their APIs (see Table 2), the common data format JSON was evaluated for the necessary flexibility.

## 2 FAIR data

### 2.1 ***Making data findable, including provisions for metadata***

Specific keyword and metadata terms and conventions will be defined as the data is produced and online tools are created. Naming conventions shall be developed on project levels and will follow standards (e.g. ISO) where such standards are applicable.

The naming convention are documented in the metadata for the dataset. For generic repositories, the search keywords will be extracted from the metadata and provided as part of the descriptive metadata for the dataset. If there is a use of subject-specific repositories, the search keywords will follow the standard utilised by the given repository, e.g. following a specific ontology. The project will adhere to the best practices of Search Engine Optimisation (SEO) for each LOCALISED tool. This means they will be easily discoverable by search engines, using HTML meta tags to describe the content of the tools in a clear and easily understandable manner. The project will heavily advertise the presence and location of the online tools.

Each data owner is responsible for deciding the file naming conventions and including a clear version-control guideline. Version control will follow the file naming conventions that include a version control in the file name.

### 2.1 ***Making data openly accessible***

#### 2.1.1 ***Accessibility for project partners***

Unless ethical issues arise, all data generated in the LOCALISED project are available for the project partners throughout their lifetime.

Applications developed within the LOCALISED project are shared via repositories. Final versions are public and can be used openly (see 2.1.2), earlier versions are still available for project partners if needed. Partners have stored their metadata following their institutional rules in regard to publications. Details and an overview about all public data is described in Table 2. FZJ publishes the software on the FZJ Github Repository. The main software here is ETHOS.MIDAS. The main dataset of LOCALISED, the disaggregation data is shared via the LOCALISED Data Sharing Platform (DSP), which

is running on a separate virtual machine at FZJ and will be kept online after the end of the project. Due to the size of the full data set no other solution was feasible. Other smaller datasets required to run the applications are embedded in the repository.

### **2.1.2 Accessibility for the public**

The results of the LOCALISED project are fully accessible to the public unless ethical issues regarding particular data arise or constraints in the background section of the consortia agreement apply. Data provided via the LOCALISED APIs and tools are fully accessible to the public (D.4.2). The datasets contained within and presented by each tool are viewable directly within the tools themselves or extractable in a widely usable format (e.g., .xlsx) for further analysis. They are also available via the data sharing platform (DSP) developed in the project. Table 2 gives an overview of methods and software used to generate results.

**Table 2: Methods and software used to generate the different datasets in LOCALISED**

Work Package	Methods	Software	Open source
WP2	Percentile-based extremes	Python	Yes
WP3	Data disaggregation tool	Python; SQL	Yes
WP3	API to access the energy/emission database		Yes
WP4	Python-based, algorithmic ranking of feasible measure sets	API interfacing data to the ETHOS.MIDAS model	Yes
WP4	Selection, combination and curation of model output	API interfacing results from ETHOS.MIDAS model to the tools	Yes
WP4	Database development	.db; .xlsx	Yes
WP4	GIS Vulnerability mapping (Summation; PCA)	ArcGIS; QGIS	Yes
WP5	Calculation of SDG indicators to implement it on the platform.	.xlsx	Yes
WP6	Q Study data collection and analysis	Q Method Software	No
WP8	Frontend accessing project results		Yes

The data made open by the LOCALISED project is stored under established repositories to preserve its long-term usability – see Table 3. The repositories comprise those oriented to the scientific community but also a dedicated LOCALISED Data Sharing Platform (DSP) and webpage. Further, in LOCALISED, various repositories are used to

meet the requirements for publishing the project results, which a one-source repository cannot fulfil. Datasets are published in the Zenodo LOCALISED community, which assigns a unique identifier (DOI) to each release, making it citable and long-term available. Additionally, it is possible to publish large datasets, which is not feasible via a Git-frontend service. The code developed in the project was released on the previously mentioned Git-frontend services because Git provides the best service in terms of code sharing, version control and collaborative work. Git publishing enables Stakeholders interested in the project code to clone the developed code easily or to review it.

**Table 3: Overview of data repositories for the project**

Data repository	Comment	For which data?
Zenodo <a href="https://zenodo.org/communities/localised/">https://zenodo.org/communities/localised/</a>	General-purpose open-access repository developed under the European OpenAIRE program and operated by CERN.	All data released for public use, like the SBMC and measure table, SOIs
Localised Data Sharing Platform (DSP) <a href="https://github.com/FZJ-IEK3-VSA/LOCALISED-Datasharing-API-Client">https://github.com/FZJ-IEK3-VSA/LOCALISED-Datasharing-API-Client</a>	Implemented on the FZJ OpenStack Cloud. General Access via REST API.	Downscaled energy indicators to LAU level for all of Europe
Github CAST and ETHOS.MIDAS <a href="https://github.com/FZJ-IEK3-VSA">https://github.com/FZJ-IEK3-VSA</a>	Free and open source distributed version control system	For project APIs and model code starting November 2025
Github CAST <a href="https://api.castdev.climatemedia.de/docs#/">https://api.castdev.climatemedia.de/docs#</a> <a href="https://github.com/climatemedia/localisedprofiler/">https://github.com/climatemedia/localisedprofiler/</a>	Free and open source distributed version control system	For project APIs and code
LOCALISED webpage <a href="https://www.localised-project.eu/">https://www.localised-project.eu/</a>	Accessible to all although particular restriction on some data might apply	Communication-related activities and stakeholder engagement

The following other tools were developed in the LOCALISED project:

**Table 4: Overview of LOCALISED tools**

Data repository	Comment	Link
Climate Action Strategizer CAST	Provides regional/municipality-level emission reduction and adaptation pathways aligned with national long-term strategies.	<a href="http://localisedclimateaction.eu">localisedclimateaction.eu</a>
Net-zero Business Consultant NZBC	Provides local businesses insights into effective mitigation and adaptation options.	<a href="https://nzbc.climatemedia.de/">https://nzbc.climatemedia.de/</a>

Citizen Engager CE	Toolbox and step-by-step guide to citizen engagement in the field of climate policy, that aims at enabling the co-creation of climate policies between citizens and local decision makers in a socially just way.	<a href="https://www.localised-project.eu/wp-content/uploads/2025/06/Citizen-Engager.pdf">https://www.localised-project.eu/wp-content/uploads/2025/06/Citizen-Engager.pdf</a>
LOCALISED Sustainable Business Model Canvas SBMC	Helps organisations identify nine key parts of their business model and gives examples how to improve their own performance.	<a href="https://zenodo.org/records/14534036">https://zenodo.org/records/14534036</a>

## 2.2 Making data interoperable

For LOCALISED, proprietary data formats were, as much as possible, replaced by their open counterparts, e.g., replacing ESRI-Shapefile with GeoJSON or replacing Microsoft Excel files as OpenOffice files. To ensure interoperability of data files between different operating systems, save all data with UTF-8 encoding and OSX/Linux line endings using only line feed (LF, “\n”).

LOCALISED used a SQL-based database (DBMS) for the Localised Data Sharing Platform due to the ease of exchange of database files between project partners or shipping to end-users. Data stored in a DBMS must be normalised and preferably distributed with an entity relationship diagram. Further, include database documentation, explaining the stored attributes per table in short phrases.

Applications developed during the project have a readme explaining the dependencies and requirements to run the software and installation guidelines (like API doc) published with the code on Github. Document application code according to the documentation style suggestions of the programming language. Additionally, format source code files according to the syntax style guidelines of the language. In LOCALISED, it is preferred to prove the validity of the code by providing unit tests. Bug tracking and user feedback are organised through GitLab or GitHub's issues trackers with the partner developed the code.

## 2.3 Increase data re-use

### 2.3.1 Licensing

For data that is publicly released, the LOCALISED project adopts the [Creative Commons Attribution International Public Licence CC BY 4.0](https://creativecommons.org/licenses/by/4.0/) or later, and the [Open Data Commons Attribution Licence ODC-By v1.0](https://opendatacommons.org/licenses/by/) or later. Both licences do not have a copyleft clause and are compatible and comparable. They allow to share (copy, redistribute and use the data), to create (produce works from the data) and to adapt (modify, transform and build upon the data) as long as you give appropriate credit.

For code planned to undergo public release, the [GNU Affero GPL](https://www.gnu.org/licenses/agpl-3.0.html) licence (version 3 or later) or the MIT licence is recommended. AGPL is fully compatible with the commonly

used standard GNU GPL licence (version 3 or later), but in addition, it covers the use case of "Software-as-a-Service" (SaaS) by also requiring, in these cases, the publication of the corresponding source code. MIT license as comparison has no restrictions on the usage.

AGPL becomes relevant if someone provides access to a model as an online service by running it on a web server. Note that the suggested licence is "copyleft". This means that a derivative of a product has to be published under the same conditions. This basically makes sure that code published under such an Open Source licence will also remain open in the future. This gives free software developers an advantage over proprietary developers: software that they can use, while proprietary developers cannot use it without releasing the source as well.

In LOCALISED, partners could see the urge to sublicense code or data provided by third parties. Here, it applies the principle that the sublicense can only be as open or closed as the top license allows. If a partner needs to sublicense, priority is given to licenses that comply with the set of licenses described in this data management plan. The minimum license requirement is that the product can be released as open source.

In general, main developers decide on their own about the proper license for software. However, the main focus of the full consortium is to make all public and open accessible by using common platforms like Github and share all instructions including license there very transparent and clear.

## **2.4 Data quality**

The data provided via the LOCALISED tools has been made available to the public after reviewing the corresponding deliverable on the data production, or in case the data that has been part of scientific work fit for publication. This ensures that the data is subject to additional quality control from the review process. After data reuse is allowed, third parties may freely use it for non-commercial and educational purposes.

Additionally, WP3 for the disaggregated data, each generated datapoint was rated for quality as described in the WP3 deliverables. Table 4 gives an overview of the quality of the collected input data in LOCALISED, using the following criteria:

**High:** The produced data is sourced from a peer-reviewed publication or an external source, providing a transparent quality report. Further, this quality level comprises all data cases listed in Section 1.1 that will be published in peer-reviewed journals or reviewed by a LOCALISED partner, or a data quality report is publically available.

**Moderate:** The produced data is sourced from a peer-reviewed publication or an external source, and only minimal processing is involved in producing the output, e.g. aggregations or descriptive statistics.

**Low:** Applies to all heavily processed data without any review process involved.

These three quality classes are primarily concerned with making data sources transparent. However, they are not measuring data robustness.

**Table 5: Overview of produced data quality**

Work Package	Data	Quality
WP2	Hazards and Impacts	Moderate
WP3	EUCalc, Eurostat and other sources	Low to High, depending on the data source.
WP4	Measures' implementation data	Moderate for mitigation measures Moderate - Low for adaptation measures
WP4	Measures' feasibility data	Moderate
WP4	Measures' descriptive data	High
WP6	Descriptive demographic data on vulnerable groups	High
WP6	Energy poverty indicators data	High - moderate
WP7	Emerging decarbonisation solutions for businesses	High
WP7	EU business vulnerability index	Medium
All WP	Opinions and subjective self-assessment, sourced via surveys	Low

#### 2.4.1 Sensitivity analysis

For LOCALISED sectoral data, as required by ETHOS.MIDAS for planning measures to reach net-zero, two main data sources are used: EUCalc and Eurostat. Both sources are used because EUCalc has a coarse resolution (national level), and Eurostat provides only collected data without projections. Including different data sources always presents a risk of inconsistencies. The magnitude of the inconsistencies was evaluated by a model task force consisting of members from PIK, FZJ, CMF, UT and IREC.

In the first step, the task force compared national data from 2015, the last year of EUCalc baseline data. For most countries and sectors, a good agreement between both datasets was found. However, some sectors, e.g., agriculture, showed deviations. These deviations are explained by the fact that EUCalc baseline data is a collection of various data sources (Eurostat, FAOSTAT, etc.).

Further, national Eurostat data from 2020 is compared with projections for the same year from EUCalc. Major deviations (>30%) are found for some sectors and countries. Especially smaller countries were frequently deviating. The model task force identified the following main causes of the deviations: 2020, the first year of the COVID-19

pandemic, was an extreme event that could not be well represented by the projections of EUCalc and the definition of sectors differ between Eurostat and EUCalc data.

In conclusion, solely EUCalc projections were used as input data for future data for internal consistency and then disaggregated with regional data, for example from EUROSTAT. Successively, SECAPs and SOIs are aligned as much as possible with the EUCalc data. Further, LOCALISED gives users the possibility to change data on their own in case they have better local data to improve their local results and make it more meaningful for their planning purposes. Additionally, ETHOS.MIDAS has functionality for an automatic sensitivity analysis to show users the most critical values, enabling them to replace them with better data. Testing showed though that the calculation times were multiple days per region and directly integrating the functionality in the frontend is not feasible. This analysis assesses how sensitive the engine is to changes in the surrounding parameters/data by varying the relevant parameters up and down (by 25%) and measuring the effect. Using this approach can help to highlight the most relevant sectors.

#### **2.4.2 Handling of local user data**

It remains impossible to check the correctness of data entered by the user. It would require a set of ground-truth data that user data can be compared to, and even then, it would be unknown if the user provides better-quality data. However, user-defined data has no impact on the data provided by LOCALISED. The modified data will only impact the result presented to the user who modified the data.

Users can bring their own data to the CAST by clicking on "Edit Region Data" in the CAST web app. Since the downscaling of data to local level has been done using so-called proxies (such as population, for example), it could be worthwhile in a follow-up project to automatically run the entire disaggregation pipeline again if a user modifies a proxy, but due to extremely high computational effort this was not implemented in the context of LOCALISED.

Modified data modifies the current state of the tool and will, hence, also be saved when a user presses the "Save State" button. Users can let the model find optimised climate action plans considering the modified data by clicking the 'Re-run optimisation' button on the dashboard, since modified model input data changes the model output.

For the CAST tool, user registration requires an email address to enable account management and result storage functionality. This personal data is processed in full compliance with the General Data Protection Regulation (GDPR). All user data is stored exclusively on servers located within the European Union, operated by infrastructure providers committed to GDPR compliance. Email addresses are used solely for the following purposes: (i) user authentication and account management, (ii) association of saved analysis results with user accounts, and (iii) essential system communications if required. No personal data will be shared with third parties or used for purposes beyond

those explicitly stated. Users retain full rights under GDPR, including the right to access, rectify, or delete their personal data.

### 3 Allocation of resources

The costs for making the data generated by the project 'FAIR' will be minor and covered as part of the budget assigned to the project partners responsible for producing the data and associated tools. The responsibilities for data management rest in the first instance with the project partners responsible for generating or compiling it and PIK as project coordinator. Preserving data in the long-term, so after the end of the LOCALISED project, will be handled by sharing code and data through the corresponding repository providers - see Table 3. This can be done without any considerable additional resources. The data handling for the tools is related to the sustainability of the tools and is under discussion in the consortium at the time of writing this version of the DMP. The responsibility of hosting and technical maintenance of the NZBC did move into the ownership of CMF. The data management within the Business Consultant would stay in the responsibility of CMCC and will be covered by their resources. The CAST web application Several consortium members are applying for EU LIFE Clean Energy Transition funding to ensure CAST's continued development and maintenance through partnerships with city networks and municipalities. Regardless of funding outcomes, CMF takes over the responsibility from PIK to secure CAST's availability through internal investment in hosting and basic maintenance, recognizing its value as both a reference tool and capability demonstrator for engaging with funding agencies. Without additional funding, however, the tool would not receive updates or technical support, as development personnel availability ends with the project's conclusion, potentially limiting its long-term impact and adoption.

### 4 Ethical aspects

In LOCALISED PIK serves as a legal and ethics partner. As such, PIK is dedicated to ensuring that legal requirements are complied with throughout the project, particularly regarding data protection law and that data processing activities are ethical. Data protection law may, in certain cases, prohibit or limit the possibility of making data openly accessible; see data classified as Case 1 in section 1.1. In these cases, ethical considerations will be treated following the outlines in D1.2 "Ethical Requirements" and supervised by the "Intellectual Property Rights Committee" of LOCALISED.

Based on a sound analysis of the ethical and legal frameworks applicable to the project, PIK has elaborated guidelines (such as the LOCALISED Privacy Policy) and set up appropriate legal and compliance strategies to ensure that data subjects and data owners remain in control of their personal data and subsequent use. That data is processed within the LOCALISED project in compliance with subjects' legal rights, particularly those bestowed by GDPR. This applies to all data collected and processed

within the project, including the accelerator/residential program, where data are gathered via questionnaires and interviews, the data related to the open calls, and data from dissemination activities, including personal data such as contact details from participants and stakeholders.

As such, the LOCALISED project shows deep respect for privacy and data protection as both a legal requirement and an ethical standard. All project partners regard personal data protection obligations as an ethical best practice standard in this context.

## 5 References

Coppola, G. & Shayegh, S. (2025), The LOCALISED Net-Zero Business Consultant (LOCALISED Deliverable 8.3).

Costa L., (2023), Library of model outputs at EU and MS level (LOCALISED Deliverable 2.3).

Ghaddar T.; Pflugradt N. (2024), Report with recommendations of feasible combinations of regional mitigation measures for each NUTS3 region (LOCALISED Deliverable D4.3).

Hezel, Bernd (2025) LOCALISED Decarbonisation Profiler (LOCALISED Deliverable 8.2).

Martínez Görbig, G., Flacke, J., Keller, M., Reckien, D. (2022), Database of current, planned and potential adaptation and mitigation measures (LOCALISED Deliverable 4.1).

Mont Lecocq, Enric, Pascual, Jordi (2023), BEI and RVA dynamic templates for dynamic implementation (LOCALISED Deliverable 5.2).

Patil, S.; Verstraete, J.; Pflugradt, N. (2024), Data Sharing Platform Final Version (LOCALISED Deliverable 3.4).

Patil, S.; Verstraete, J.; Pflugradt N. (2024), Disaggregation Methodology and Working Disaggregation Tool (LOCALISED Deliverable 3.1).

Patil, S.; Verstraete, J.; Pflugradt, N.; Seydeswitz, T.; Radziszewska, W. (2023), Climate change database and other spatial data (LOCALISED Deliverable 2.5).

Reckien, D., Pflugradt, N., Ghaddar, T., Martínez Görbig, G., Flacke, J. (2025), Report of risk and vulnerability levels in each NUTS3 region resulting from mitigation trajectories as well as entailing feasible adaptation measures (LOCALISED Deliverable 4.5).

Seshadri, A.; Keller, M.; Hezel, B.; Pflugradt, N. (2023), Definition of Application Programming Interface (LOCALISED Deliverable 4.2).

Verstraete, J.; Patil, S.; Pflugradt N., Radziszewska W. (2023), Database with all relevant data for the year 2020 (LOCALISED Deliverable 3.3).

Walter, Ch. (2022), Ethical Requirements (LOCALISED Deliverable 1.2).



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