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## Plan Overview

*A Data Management Plan created using DMPonline*

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### Project abstract:

The Central and Eastern European Sustainable Energy Union (CEESEU) aims to build the capacity of public administrators in Central and Eastern Europe to develop SECAPs that promote increased energy efficiency, sustainable energy, reduced carbon emissions and improved climate change adaptability, helping the region to contribute towards meeting the EU's climate goals. In addition, The Central and Eastern Europe Sustainable Energy Network CEESSEN will be strengthened to support a green transition in the CEE and within the EU.

CEE municipalities have lagged behind their Western European peers in developing SECAPs for several reasons such as a lack of awareness and interest in the planning process, absence of expertise, lagging capacity, and failure to access resources. As well, there is a strong need for outreach strategies and/or procedural adaptations by EU-level actors, such as the CoM, that are appropriately designed to address the unique circumstances of the CEE. To address these concerns, the CEESEU project will:

- Create training materials and train local public administrators in the CEE on developing and implementing SECAPs, taking into account the specific contexts of CEE communities;
- Guide 23 CEE municipalities (alternatively, 22 plus 63 micro-municipalities) in engaging with stakeholders and carrying out multi-level governance to develop SECAPs;
- Guide CEE municipalities in financing and implementing SECAP actions;
- Improve engagement between public administrators in the CEE and with the EU;
- Offer guidance to the CoM and other EU actors on how to better reach and serve the needs of CEE municipalities in the development and implementation of SECAPs.

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# Central and Eastern European Sustainable Energy Union - Initial DMP

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## 1. Data summary

Provide a summary of the data addressing the following issues:

- **State the purpose of the data collection/generation**
- **Explain the relation to the objectives of the project**
- **Specify the types and formats of data generated/collected**
- **Specify if existing data is being re-used (if any)**
- **Specify the origin of the data**
- **State the expected size of the data (if known)**
- **Outline the data utility: to whom will it be useful**

### The purpose of the data collection/generation

The purpose of data collection and generation is to assist small municipalities in Central and Eastern Europe (CEE) to develop their Sustainable Energy and Climate Action Plans (SECAPs) - which require baseline emissions inventories. It will also be necessary to conduct a Risk and Vulnerability Assessment prior to the development of a SECAP. Moreover, in order to attain the intended and stated result of implementing the CESEU project, data collection will be required to inform the longer-term impacts that are to be achieved, namely:

- 650 GWh of energy savings by the end of the project;
- Improved capacity and skills of at least 645 public administrators in CEE municipalities;
- At least 25 million Euros of sustainable energy and climate change adaptation investments;
- The Central and Eastern Europe Sustainable Energy Network <ceesen.org> will attain at least 2,500 committed members.

Several subcomponents of the CESEU project are elaborated upon below, in reference to project objectives. Note that none of the data collected in the implementation of CESEU are expected to be personalized.

### The relation to the objectives of the project

Specific Objective 1: Create training materials and train local public administrators in the CEE on developing and implementing SECAPs that take into account the specific contexts of CEE communities.

Quantifiable outcomes toward this objective are as follows:

- Train and provide technical assistance to 145 public administrators (30 internationally and 115 domestically) within our consortium to effectively plan and implement SECAPs
- Train 500 public administrators outside of our consortium to introduce the SECAP process and give guidance on how SECAPs can be developed
- Encourage 73 CEE municipalities to sign Covenant of Mayors 2030 Commitment (23 from inside CESEU and 50 from outside CESEU)

Specific objectives 2-4 require no data collection, other than the below simple headcounts for SO4:

- 10 attendees in each of 25 roundtables bringing together local, regional and national policy makers (at least 250 participants) to create discussion for more efficient planning process on all governance levels and to overcome the barrier between national level policy making and local

- level implementation activities in sustainable energy and climate change adaptation actions
- 150 attendees in each of two international conferences that will bring together policy makers, public administrators and other relevant actors from CEE and EU to share knowledge and build connections

Specific Objective 5: Offer guidance to the CoM and other EU actors on how they can better reach and serve the needs of CEE municipalities in the development and implementation of SECAPs.

The sole data requirement for SO5 that is not yet included in the "Purpose" statement above is:

- Influence at least 12 National/Regional Development Plans in the CESEU region (that will be aligned with the development of SECAPs for 23 municipalities) and improve at least 45 policies on the national and regional levels for sustainable energy and energy efficiency.

The types and formats of data generated/collected

For the baseline and impact emissions inventories, usage data will be gathered from:

- energy provider databases,
- municipal databases,
- national statistical databases
- regional databases (if existing)
- ministries (Ministry of Infrastructure, Ministry of Environment and Spatial Planning; Ministry of Agriculture)
- public utility databases (electricity, gas, district heating)
- national environmental agencies
- public transport providers databases
- different web databases (web platforms gathering the number of PV installations, bioplants, other electricity production plants, number of EV charging stations, use and the potential of biomass, etc.).

The data will be useful for the municipalities that are developing and implementing SECAPS. It will also be useful for other municipalities or energy experts working in the field, as the data will be used to develop training materials and conduct an evaluation of SECAP development and implementation to improve the process going forward. Developers of digital tools and researchers on SECAP planning, development and implementation might also find this data useful.

## 2. FAIR data

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

- **Outline the discoverability of data (metadata provision)**
- **Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers?**
- **Outline naming conventions used**
- **Outline the approach towards search keyword**
- **Outline the approach for clear versioning**
- **Specify standards for metadata creation (if any). If there are no standards in your discipline describe what metadata will be created and how**

#### **Discoverability of data (metadata provision)**

The metadata is stored in a searchable text format outlining dataset names, dates, formats, version

and variable description, usage conditions and downloading options. There will be a dedicated sub-page on the CEESEN homepage where the overview of public metadata is provided and upon request the data will be securely distributed to other researchers.

### **Identifiability of data and standard identification mechanism, such as persistent and unique identifiers (e.g. Digital Object Identifiers)**

UTARTU DSpace creates DOIs via DataCite for newly deposited research outputs.

### **Naming conventions used**

All files will be named uniformly when storing them for public use, based upon the following criteria:

- No special characters such as "/ \ : \* ? " < > [ ] & \$ will be used in names.
- Underscores (\_) will be used to separate terms not spaces
- Names will be 30 characters or less in length
- Names can specify the month and year of creation (MM-YYYY) at the end of the name.
- Names will be descriptive of what information they contain - so that they are understandable to someone who is unfamiliar with the research.

Some information may be described in metadata, including the following:

- Project acronym
- Partner/researcher name/initials
- Date or date range of the analysis
- Type of data
- Conditions
- Version number of the file
- Three-letter file extension for application-specific files

### **Use of search keywords**

Software library will provide basic discovery metadata online (title, author, subjects, keywords, department, etc.).

### **Approach for clear versioning**

- Versions of files will only be stored and made available when relevant
- Whenever possible, obsolete versions will be discarded or deleted (while retaining the original 'raw' copy)
- Files with multiple versions will include the letter V and the number of the version before the date - for example V1 V2 V3, etc.

### **Standards for metadata creation**

- Survey data metadata will follow the Data Documentation Initiative (DDI) standard.
- Service log data metadata coming from Estonian e-governance systems that can be made available will also be created according to DDI standards, as it contains log data on behavior in the aggregate.

## **2.2 Making data openly accessible:**

- **Specify which data will be made openly available? If some data is kept closed provide rationale for doing so**
- **Specify how the data will be made available**
- **Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g. in open source code)?**
- **Specify where the data and associated metadata, documentation and code are deposited**

- **Specify how access will be provided in case there are any restrictions**

#### **Data to be made openly available and to be kept closed**

When possible, data will be available on Estonia's Open Data Portal (opendata.riik.ee). All metadata will be made openly available via UTARTU DSpace and CEESSEN website sub-page. Data that includes sensitive and personal information will not be displayed on the Open Data Portal, it will only be used for research purposes and will be stored in an encrypted form on UTARTU servers. Any data that will be kept closed will be done so either for intellectual property protection reasons or to protect confidentiality issues.

The underlying data will be made available for other researchers when permitted by the providers of the data, i.e., the Estonian government. Analytical methods will be transparent and open, enabling other researchers to test and validate our findings and help increase acceptance within the wider scientific community.

#### **Form of data availability**

All the aggregated data will be available via DSpace and CEESSEN website sub-page.

#### **Methods/software tools needed to access the data. Required documentation and inclusion of the relevant software (e.g. in open source code)**

Metadata will be available in conventional DDI format; individual level data will be accessible in .CSV and .JSON formats. Documentation will not be required.

#### **Location of deposited data, associated metadata, documentation and code**

The data and associated metadata, documentation and code are accessible through DSpace and the CEESSEN website. Big data will be linked to hosting by the University of Tartu's High Performance Computing Center.

#### **Access (restrictions) to data**

Restricted data is accessible via password protection and a data request through the CEESSEN website sub-page. The access to the restricted data will be granted based upon data owners' reasoned decision.

### **2.3 Making data interoperable:**

- **Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability.**
- **Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary interoperability? If not, will you provide mapping to more commonly used ontologies?**

#### **Interoperability of data, including data and metadata vocabularies, standards or methodologies to facilitate interoperability.**

The metadata is stored at first on the University of Tartu personal server and after data publication in DSpace.

Whenever possible interoperable file formats will be used, such as .CSV.

#### **Use of standard vocabulary for data to allow inter-disciplinary interoperability (including mapping to more commonly used ontologies)**

Wherever possible, standard vocabulary will be used for data sets. No mapping to more commonly used ontologies will be offered.

## 2.4 Increase data re-use (through clarifying licenses):

- **Specify how the data will be licenced to permit the widest reuse possible**
- **Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed**
- **Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why**
- **Describe data quality assurance processes**
- **Specify the length of time for which the data will remain re-usable**

All data will be open-source and unrestricted unless designated otherwise by individual municipalities, national law, or EU regulations. Quality assurance will be provided by municipalities gathering data and by the project partners responsible for those municipalities.

The CEESSEN website is projected to be maintained for at least five years beyond the end of the project.

## 3. Allocation of resources

**Explain the allocation of resources, addressing the following issues:**

- **Estimate the costs for making your data FAIR. Describe how you intend to cover these costs**
- **Clearly identify responsibilities for data management in your project**
- **Describe costs and potential value of long term preservation**

### **The costs for making our data FAIR**

Free of cost.

### **Responsibilities for data management in the CEESU project**

Data Management is handled by CEESU partners during data collection and analysis, and by staff of UTARTU during preservation. The same staff will be responsible for producing standard conform metadata and storing and archiving the relevant datasets. Costs incurred for this have been budgeted and will be covered by project funding. Hosting metadata and data storage is ensured through DSpace which operates as a University of Tartu data and research object archive.

### **Costs and potential value of long-term preservation**

No costs for long-term preservation are foreseen. The potential value of long-term preservation lies mostly in the municipal data, which will allow the analysis of long-term trends in energy behavior, attitudes, and consumption. Costs for long term storage are covered by archiving data in DSpace which is separately funded by University of Tartu research infrastructure funding.

It is anticipated that the size of the databases will continue to rise as information is collected. Due to its potential uses in the public sector, UTARTU has additional incentives to maintain data after the official end-date of the CEESU project as it is anticipated that the CEESU and its team of partners will continue their work as other funding opportunities arise.

## **4. Data security**

### **Address data recovery as well as secure storage and transfer of sensitive data**

#### **Data recovery, secure storage and transfer of sensitive data**

The data and any research carried out by CEESEU will follow Estonian data protection regulations and relevant cybersecurity rules, e.g., all computers must have appropriate and up-to-date anti-virus and anti-spyware software. CEESEU will work with IT specialists at UTARTU to ensure that the best possible secure data handling methods are used.

Sensitive data or data that has been embargoed by the data donor will be stored and archived in secure data storage facilities run by UTARTU High Performance Computing Centre.

## **5. Ethical aspects**

### **To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related technical aspects if not covered by the former**

No research involving human participants is to be carried out.

## **6. Other**

### **Refer to other national/funder/sectorial/departmental procedures for data management that you are using (if any)**

The University of Tartu has dedicated Data protection protocols in place that add to the Data Management Plan stated here.