

TRANS PED

TRANSFORMING CITIES
THROUGH POSITIVE
ENERGY DISTRICTS

PED CASE STUDY TEMPLATE

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PED CASE STUDY TEMPLATE

A Positive Energy District (PED) is situated within a specific spatial, social and institutional context. This makes comparing PED projects quite challenging. However, creating comparable data on PEDs is a critical prerequisite to identify common fields of action, challenges, and potential solutions. This PED Case Study Template provides a general base for the co-creation of a PED case study to situate each PED project within its specific context – enabling the description, visualisation, analysis and comparison of a wide range of parameters. The template is based upon the learnings from the TRANS-PED research project.

CREATING COMPARABLE PED CASE STUDIES

A Positive Energy District (PED) is situated within a specific spatial, social and institutional context. These situated characteristics influence how PEDs are developed, what barriers they encounter, and how they can leverage opportunities for innovation. TRANS-PED's Case Study Template helps to explore this embeddedness of PEDs and aims to develop a better understanding of how PEDs relate to their specific contexts. By developing several case studies following the structure of the Case Study Template it is possible to define which PED characteristics are unique to or fit within a specific context. It provides a means to describe how each PED diverges from its context and aims to innovate and transform particular local conditions. The Case Study Template provides a general base for the co-creation of PED case studies that situate each PED within its specific context. It does so in the form of a 'matrix', listing a range of dimensions of the PED and its context and indicating various types of information that help to analyse and discuss the PED. The matrix can be used as a tool for the step-by-step collection and co-creation of knowledge on a PED and its context. Eventually, this knowledge can be analysed, described, visualised and compared. Case studies enable PEDs to further develop and strengthen their own narratives. As such the matrix is not devised as a rigid template, but can be used and in multiple ways and be expanded to align with each PED's unique characteristics and narrative, while at the same time providing a relatively succinct basis for comparison. An Excel version of the Case Study Matrix which allows the user to structure, annotate, and render an overview of the data collection and knowledge co-creation of a PED case study, can be retrieved on the TRANS-PED website: www.trans-ped.eu.

STRUCTURING A PED CASE STUDY

The Case Study Template is subdivided in five dimensions. These dimensions can be conceptualized as different layers of the PED with various sublayers. By superimposing these layers on top of one another, the user can identify new connections and opportunities for the development of the PED.

1. TIME

Describes the evolution of the PED project, its context and other relevant projects. It includes both achievements from the past and ambitions for the future. By positioning each PED in a specific phase of development, it becomes easier to view PED projects side by side.

1.1. PROJECT TIMELINE

- Description of key moments
- Ambitions projected on a timeline

2. SPACE

Situates the PED within its geographical and morphological context and visualises the PEDs spatial and functional characteristics.

2.1 SPATIAL BOUNDARIES

- Project boundaries
- Boundaries of local context
- Location and relation to city centre

2.2 BASIC MAPS

- Topographical maps
- Green / blue networks
- Main infrastructures
- Urban morphology

2.3 TYPOLOGICAL DESCRIPTION

- High-res aerial view of the neighbourhood
- Selection and description of relevant building types

2.4 FUNCTIONS AND ACTIVITIES

- Mapping and description of relevant functions and activities

3. SOCIAL

Describes the socio-economic and socio-cultural context of the PED and identifies relevant social conditions and initiatives that characterise its urban environment and energy system.

3.1 SOCIO-ECONOMIC PROFILE

- Population density
- Mean household size
- Mean household income
- Home and landownership
- Selection and documentation of other relevant aspects

3.2 ENERGY-RELATED SOCIAL ASPECTS

- Benefactors of energy transition subsidies
- Energy poverty
- Selection and documentation of other relevant aspects
- Local social initiatives concerning energy
- Reference projects

4. ENERGY AND OTHER METABOLIC FLOWS

Unravels, maps and documents the different energy flows that are taken into account in the PED (e.g. electricity, heating and cooling, transport or embodied energy). It furthermore explores how the energy flows relate to other relevant metabolic flows such as water, waste and food – the selection of which will differ from one PED to another..

4.1 ENERGY FLOWS

- Main energy infrastructures (technical plan of the project)
- Mapping and documentation of energy flow per type
- Organization in relation to situation in neighbourhood
- Monitoring strategies

4.2 ENERGY CHARACTERISTICS

- Energy performance of buildings
- Energy norms in place
- Energy ambitions
- Renewable energy potential

4.3 GREENHOUSE GAS EMISSIONS

- Energy-related greenhouse gas emissions
- Non-energy-related greenhouse gas emissions

4.4 OTHER RELEVANT METABOLIC FLOWS

- Mapping and documentation of other relevant metabolic flows
- Existing interconnections with energy flows
- Potential interconnections with energy flows

5. GOVERNANCE AND POLICY CONTEXT

Maps and describes the stakeholders related to the projects' energy metabolism and to the broader project management. Also the different relations between the actors and the (policy) contexts in which they operate are documented.

5.1 ACTORS

- Mapping and documentation of main actors and activities along energy flows
- Mapping and documentation of main actors and activities along other relevant metabolic flows
- Governance structure of the project
- Mapping and documentation of main actors and activities along governance structure

5.2 RELATIONS BETWEEN ACTORS

- Legal relations
- Financial relations
- Other relevant relations

5.3 POLICY CONTEXT

- Mapping and documentation of relevant policies along energy flows

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Resources for PED practitioners & researchers

For more resources and project results from the Trans-PED project, visit the results section on its [website](#).



All about the Trans-PED project

Check out the Trans-PED [website](#) for details on the project, the international consortium of partners, as well as the participating PEDs.



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