# transFORMAT-LINK

# Supporting the transformation process: Linking NECP planning and reporting with project implementation at municipal level

Climate Change Centre AUSTRIA
24. Österreichischer KLIMATAG
Stadt und Land im Fluss
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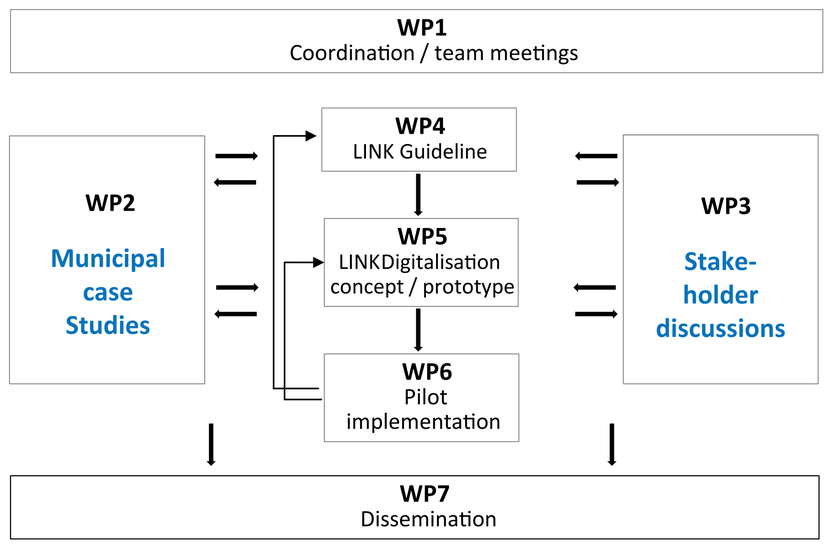
TU Wien

## 1. Introduction

SUSTAINABLE DEVELOPMENT GOALS — 7 AFFORDABLE AND CLEAN ENERGY — 11 SUSTAINABLE CITIES AND COMMUNITIES — 13 CLIMATE ACTION

- The **National Energy and Climate Plan (NECP)** is the key policy instrument to ensure that the **goals of the Energy Union** are achieved by **2030**, with an outlook to 2050.
- The importance of renewable energies for achieving the energy and climate targets is obvious. With regard to the **availability of renewable energies**, there are **spatial dependencies** and therefore **potential conflicts** of objectives in terms of **land use**, for example with regard to **nature conservation** and the **preservation of biodiversity**. There are **challenges for spatial planning**, particularly as a result of the division of responsibilities between the federal government, provinces and municipalities within Austria.
- Looking at the Austrian NECP, spatial planning is mentioned as an important instrument. The **central question is how the current situation could be improved** with regard to the **link between the national** planning and reporting **level of the NECP and the local project implementation level**.

## 2. Methodology




**Analysis** of responsibilities and obligations to fulfill the NECP requirements **>>> Stakeholder discussions** (at federal, provincial, and municipal level)

**Determine** possibilities to implement energy and climate targets in ***local development concepts (ÖEKs)*** **>>> Case studies**

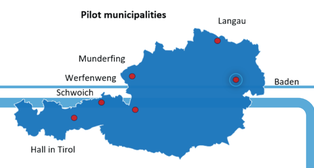
**Development** of a catalog of minimum requirements and criteria to be applied in the preparation or revision of ÖEKs **>>> LINK-Guideline**

## 3. Project objectives

The aim is to make **a contribution on the way to climate neutrality**. The transFORMAT-LINK project addresses the following NECP-relevant aspects:

- **Facilitating project implementation at municipal level** by removing obstacles resulting from insufficient transparency
- Creating a **consistent approach** to avoid adaptation to climate change by defining minimum **requirements for ÖEKs**
- **Catalog for ÖEKs** supports development of **renewable energy projects**
- **Web-tool** to support **planning and reporting** for **NECP implementation >>> acceptance**

## 4. Findings (using the example of Baden bei Wien)



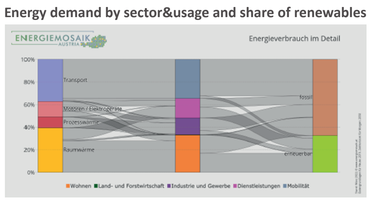

### Municipality profile of Baden

| General information & municipal energy- and climate-relevant programmes | |
|---|---|
| **Bundesland** | **NÖ** |
| **Gemeinde** | **Baden** |
| **Fläche** (Statistik Austria) | 26,9 km² |
| **Bevölkerung** (Statistik Austria) | 26 017 |
| **ÖROK-Raumtyp** | Stadtregion – ländlicher Verdichtungsraum |
| **ÖEK/STEP mit Energiebezug** | ja |
| **Energiekonzept** | Klima- und Energiekonzept 2022 |
| **KEM-Gemeinde** | Baden – Energiekur 3 |
| **KEM-Beitritt** | 2010 |
| **KEM-Phase** | Weiterführungsphase 3 |
| **e5-Gemeinde** | ja |
| **e5-Beitritt** | 2011 |
| **e5-Umsetzung (2021)** | 0,779 |

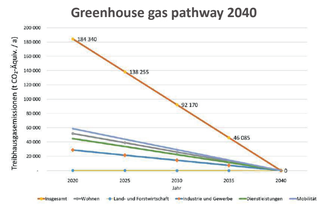
| Land use and population density | | |
|---|---|---|
| Flächennutzung | Gemeinde ha | Gemeinde in % |
| Katasterfläche | 2.689,57 | 100,0 |
| Bauflächen | 159,97 | 5,9 |
| Landwirtschaftl. Nutzflächen | 573,34 | 21,3 |
| Gärten | 469,88 | 17,5 |
| Weingärten | 280,85 | 10,4 |
| Alpen | - | - |
| Wald | 766,52 | 28,5 |
| Gewässer | 50,80 | 1,9 |
| Sonstige Flächen | 388,22 | 14,4 |
| Dauersiedlungsraum | 2.023 | 75,2 |
| Wohnbevölkerung je km² | Gemeinde 2020 | Gemeinde 2011 |
| Katasterfläche | 965 | 933 |
| Dauersiedlungsraum | 1.283 | 1.240 |

### Climate and energy-relevant analysis

Energy demand by sector&usage and share of renewables




Greenhouse gas pathway 2040

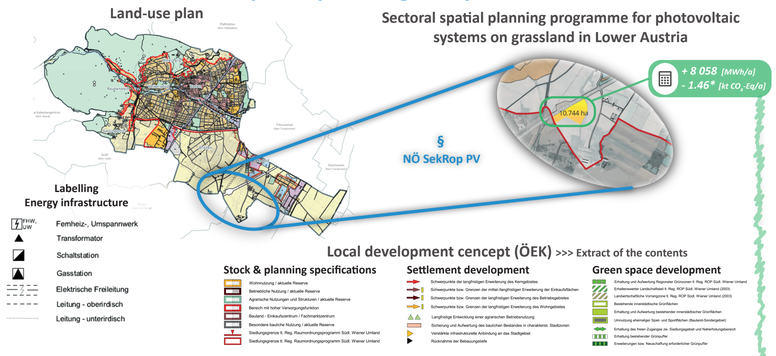



Energy demand and $CO_2$-Eq by sector

| ENERGIEMOSAIK AUSTRIA | Wohnen | Land- und Forstwirtschaft | Industrie und Gewerbe | Dienst-leistungen | Mobilität | Insgesamt |
|---|---|---|---|---|---|---|
| **Energieverbrauch in MWh pro Jahr** | 239.000 | 2.100 | 107.700 | 123.600 | 250.600 | **723.000** |
| **Treibhausgasemissionen in $CO_2$-Äquivalent pro Jahr** | 44.260 | 480 | 27.750 | 24.350 | 91.580 | **188.420** |

### Spatial planning analysis

Land-use plan



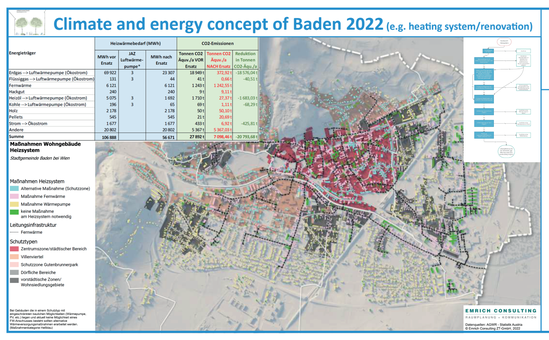

Sectoral spatial planning programme for photovoltaic systems on grassland in Lower Austria




Local development cencept (ÖEK) >>> Extract of the contents




### Climate and energy concept of Baden 2022 (e.g. heating system/renovation)




> High-quality density
> City of short distances
> Provide areas for energy storage spatial planning goals

**Recommendations**

Check/supplement *data bases* (e.g. AGWR)(Building register)

*Inclusion of* the clear objective of *complete decarbonization* in the ordinance on the *ÖEK*

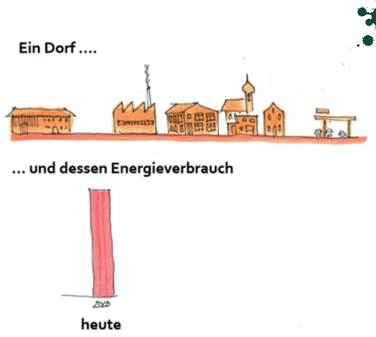
Formulation of quantitative approaches in the ÖEK
*>>> Adoption of the input from the climate and energy concept*

*Sources: (1) Municipality profile of Baden:* Statistik Austria (2023); NÖ Energie- und Umweltagentur GmbH (n.d.); own research and illustration / *(2) Spatial planning analysis:* Stadtgemeinde Baden (n.d.); Hameter (2022); Hameter (2021); Amt der NÖ Landesregierung (2022); data.gv.at - own illustration / *(3) Climate and energy-relevant analysis:* Abart-Heriszt & Reichel (2022); Emrich et al. (2022) / *(4) Climate and energy concept of Baden:* Emrich et al. (2022) (adopted)

## 5. The Tool-Concept

### A municipality and its energy consumption today … and tomorrow

- There is usually an **occasion for updating a plan** (e.g. revitalization of the city center)
- **Collect information** what has been done so far
- **Access information** via interfaces to databases (e.g. **energy spatial planning** if available)
- Use a drawing tool to **estimate renewable energy gains**
- Make information publicly accessible for discussion to **create awareness and acceptance**
- Revise existing plans according to **LINK-Guideline** and minimum requirements
- **Report energy and climate relevant indicators to supra-local administration**





**The local development concept (ÖEK) forms the framework for zoning and land use planning, which has an impact on the exploitable renewable energy potential**

- Housing
- Education
- Services
- Agriculture & Forestry
- Industry
- Recreation
- Ecosystem services
- Energy

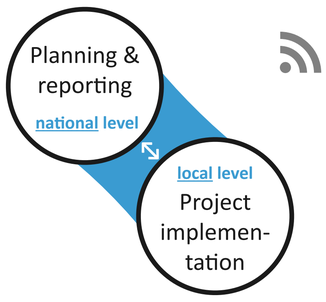
*Guideline for revision and development: **EXISTING***

- Housing
- Education
- Services
- Agriculture & Forestry
- Industry
- Recreation
- Ecosystem services

Energy - District heating and cooling networks - Renewable energy

- Collection of information
- Information for the planning task
- Drawing tool with renewable energy potential
- Calculation of NECP related indicators
- Targets definition
- Making information accessible

*Guideline&Tool: **NEW transFORMAT-LINK including minimum criteria for harmonization across the Austrian provinces***




**Login >>>** *Different access levels depending on the role*

***Role I - local level:*** "Technical": Municipal council, office management, experts; access with password.

***Role II - national level:*** „Administration", e.g. "NECP reporting": UBA/BMK/KLIEN:;access with password.

***Role III:*** "Interested public": Citizens, associations; access without password.

## 6. Preliminary & expected results

- Minimum **ÖEK requirements** are implemented via **LINK-Tool** at *https://klexi.at/* *(in development)*
- The LINK-Tool assists the development or revision of a ÖEK and provides **data for planning tasks** and **templates to collect informations (e.g. integrated spatial and energy planning)**
- Making **information accessible to the public** and selected third parties to **increase acceptance**
- Input for harmonization of **spatial planning** legislation **to achieve energy and climate goals**

## 7. References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*(Geo)data: Bundesministerium für Finanzen (data.gv.at); Umweltbundesamt (UBA) (2023): https://secure.umweltbundesamt.at/co2mon/co2mon.html*


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