



TANGO-W
Transformative capacity in energy-food-water

Urban Monitoring & indicator frameworks for urban UTC evaluation

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About TANGO-W

The TANGO-W project is an applied research project that develops urban transformative capacities (UTC) as a novel governance ability at the interface of food, energy, and water. TANGO-W follows Wolfram's (2016) capacity building approach, adopting a needs and requirements-based focus on the capacity building priorities of urban stakeholders. At the heart of TANGO-W is the two-level capacity building approach. At the urban level, TANGO-W designs and implements Urban Living Labs 2.0 (ULL). At the European level, TANGO-W establishes a transdisciplinary Community of Practice (CoP) as an integrative coordinating transformation system. Both provide the spaces for the development of UTC according to the needs of urban actors in several dimensions (i.e., transformative governance formats, shaping new transformation roles, self-organisation, and technical skills and tools). At the same time, the ULLs and CoPs act as novel governance formats at the local and EU levels to accelerate urban change in a desired, sustainable direction. The activities of TANGO-W result in policy recommendations for replication and upscaling measures as well as in training concepts and pilot courses that support capacity building in TANGO-W fellow cities.



Technical references

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Executive summary

This document describes the conversion of the customised TANGO-W KPI's and targets into target and indicator schemes. It is a guideline for the implementation of the TANGO-W Impact Monitoring system within the ULLs.

Impact monitoring within the TANGO-W project has two major goals – to monitor achievements in Urban Transformative Capacities during the project and to provide a learning space for sustainability impact in the participating cities.

The background (European Green deal and TANGO-W vision) and basic model has been described already in the document “Tango-W Impact Monitoring and Adaptive Indicators” (deliverable D3.1). This document also contains the definition of goals for the impact monitoring within TANGO-W and some key questions concerning the two major areas:

- UTC impact Monitoring including a definition of the UTC focus areas of this project
- Sustainability impact monitoring including a generic monitoring model for systemic impacts depending on different activities in urban development projects

The document D2.2 “Tango-W Good Practice Playbook” describes impact assessment as integral part of a transformative governance structure. It again describes the differences between UTC and sustainability impact monitoring and provides a guideline for observation areas plus some examples for indicators in the different field of observation. It also introduces the OECD framework for reviewing indicators as a basis for the definition of ULL specific indicator schemes.

The document D2.3 “Tango-W ULL design guide” includes guiding questions and a definition of important areas for UTC monitoring for each of the ULLs. Described there are also the difference between process monitoring and long term impact monitoring and the relations between different actor types which might have relevance for the impact of each of the ULLs. Finally some critical success factors are listed together with guiding questions addressing replication and strategies.

In this document “Tango-W Urban Monitoring and indicator framework for urban UTC evaluation” we provide specific proposals for indicator definitions within each of the ULLs depending on the actual definitions of goals and measures planned.

The final impact monitoring model with goals and indicators after implementation within all ULLs will be described in the “Tango-W Monitoring and Indicator framework for UTC evaluation” (deliverable D3.2).



General Impact Monitoring principles

Monitoring purpose

The most important function of monitoring is to support learning individually and learn from each other:

- Within the ULL – monitoring to be able to react to deviations from original plans
- Within the cities – learn how to increase UTC and about helpful management structures and processes (including monitoring)
- Within Tango-W – report and discuss with others in order to get helpful ideas and hints
- Beyond Tango-W – report about learnings and good practices in order to help other projects

In particular impact monitoring aims at:

- Monitoring of achievements concerning **Urban Transformative Capacities (UTC)** during the project and providing a proven approach and lessons learned to the cities for future projects concerning transformative capacities and governance structures
- Monitoring of achievements concerning the scope of the **Urban Living Labs** (food, energy, water) - „**sustainability monitoring**“ - and learning about the methodology of impact monitoring in the different thematic areas

Guiding questions shall support those processes:

- For personal reflection
- For reflection within group
- To help us to make a summary in the project results

Three different perspectives are important within this context:

- ULL perspective (short term, within project scope): Which capabilities can we develop within the ULL that help us reaching the ULL goals? -> this is handled by process monitoring, with a focus on transformation room/social and temporal architectures
 - City perspective (long term, beyond projects):
 - Which capabilities can we develop within the ULL that help us to improve future projects? -> this is covered by the UTC impact monitoring
 - How can we monitor sustainability impact of all our development projects? -> this is part of the sustainability impact monitoring
 - Tango-W perspective: What can we learn about critical success factors for the development of urban transformative capabilities? -> this is covered by the CoP exchange and reflection and also by UTC impact monitoring
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UTC Impact Modell for TANGO-W-ULLs

In the larger context of urban development UTC is regarded as a key success factor for achieving development goals of the city. Six focus areas have been defined for the TANGO-W project.

Participation	Urban participative structures
Decision-making	Political and administrative decision processes
Visioning	Urban vision (full scope)
Resources	Resources available for future transformative projects
Reflexivity	Urban learning processes and experiences
Stakeholder Capacities	Capabilities available for all relevant stakeholders, specific sustainability monitoring model and processes

Impact monitoring should look at direct results from the ULLs but also on the critical success factors which enable results:

- **UTC results:** This part of monitoring will look at capabilities which are developed within the scope of the ULLs according to the UTC areas mentioned above.
- **UTC critical success factors:** This part of monitoring focuses on critical success factors within the project structures that support or hinder the development of such capabilities. These observations are most relevant for learning from the ULL projects.

UTC impact monitoring guiding questions

This chapter has been taken from the document D2.3 "Tango-W ULL design guide". It is replicated here because of its relevance for the definition of indicators.

The ULL shall report important developments within the UTC areas. The following questions, although not fully covering all aspects, should help to develop an appropriate monitoring structure.

UTC area	Guiding questions for an UTC monitoring
Participation	How did the project establish participatory structures, integrating citizens and different types of organizations in defining goals, planning, implementation of measures and review? Which level of participation was achieved (Information only, consultation, hearings during decision preparation, full co-decision)?
Decision-making	How was decision making organized within the ULL during different phases of the project (who was involved, how many persons of which group, way of deciding, etc.)? Which decision making structures were established in the project?
Visioning	Which vision areas were covered by the ULL? Which changes were necessary during the project with respect to vision or goals and what were the reasons for change?
Resources	Which critical resources (budget, personal resources, knowledge) were available, which were missing during the project? Which changes of social architecture and role assignment (including personal changes) occurred and what were the reasons for change?



Reflexivity	Which learning processes were established? Which important learnings for future projects (especially on UTC related critical success factors – not only ULL direct goals) were found?
Stakeholder Capacities	Which critical capacities of stakeholders were developed by different participating groups and individuals (knowledge and skills, network resources/social capital, financial resources) with respect to future activities?

The ULL shall also monitor the critical relationships to improve the understanding of critical success factors for UTC generation. In order to support the project managers, guiding questions are formulated for the most important relationships.

Relationship	Guiding questions for an UTC monitoring
PM & Client	<p>How did the client influence the design of the project, especially the nature and depth of participation and decision-making?</p> <ul style="list-style-type: none"> • Number of meetings between client and PM <p>How did the client influence the definition of the vision?</p> <ul style="list-style-type: none"> • Which vision areas were mainly influenced by the client? • Was the vision fully agreed upon by all stakeholders and the client? <p>How much time was available for reflection and learning within the ULL? Were political representatives involved in the learning process? Have there been any external influences and disturbances which hindered the participation and decision or learning processes?</p>
PM & Admin	Describe how cooperation and knowledge exchange between departments took place.
PM & Con.	<p>Which critical observations were provided by the consultants during different project phases? Which helpful (or irritating) interventions by the consultants happened during the project? How did the project management deal with the external impulses? How did the consultants support the learning process?</p>
PM & experts	<p>How were the participating experts selected, which knowledge was regarded as critical? How were the experts integrated into the project structure?</p> <ul style="list-style-type: none"> • Number of meetings with PM to develop goals and measures
Politics & Client (PM)	<p>How did politics influence the selection of participants and available resources? By whom did influence occur? Was there any influence on the decisions made by the project team? What kind of (helpful or hindering) influence? Was politics helpful for motivation of the participants? How much was the developed vision shaped by influences from politics? Did politics accept ULL results (especially vision and measures)?</p>
Experts & Stakeh.	<p>How was transfer of specific knowledge to stakeholders organized? How often do internal experts meet with stakeholders to share their knowledge? In which areas was knowledge transfer successful? If it was not successful for a specific area, what was the reason for that?</p>
PM & Stakeh.	<p>What methods were used to make decisions and who was involved?</p> <ul style="list-style-type: none"> • Participating groups (number of persons, frequency of meetings) during planning and steering processes



- Participating groups (number of persons, frequency of meetings) in meetings with mainly technical issues

Could all stakeholders provide their specific knowledge and take part in decision making (in order to make practical and needs-oriented decisions)?
Who is involved in the evaluation of the achieved results besides the stakeholders and the project management?

Sustainability Impact Monitoring guiding questions

Similar some guiding questions can be defined for the monitoring of sustainability impact within the ULLs:

- What is the ULL's impact on local/regional strategies, projects or other development related measures?
- Which long term development goals have been defined for the municipality?
- Which long term development goals on a higher level or within a larger context (like the EU Green Deal or the global SDGs) might be of specific relevance for the ULL and/or the municipality?
- How can the impact be measured or monitored with a short or midterm timeframe?

Sustainability impact of projects/programs can be monitored within different systemic areas (see general Monitoring model in document D3.1):

Economy	Regional value added, Regional markets and jobs, regional business models
Ecology	Regional impact on planetary boundaries
Social system	Impact on social capital, justice and cohesion
Political system	Governance and participative processes
Knowledge/ technology system	Knowledge/technology generation and exchange
Individuals	Sustainable behaviour , good life for all

Specific sustainability goals within a larger context might be:

Impact dimension	Potential impact
Economy	Value added + details (profit, salary total, investments, etc.) Established relations (supply chain, cooperations) Market impact (products, pricing, market communication) Jobs generated (with at least minimum standards) Quality of business model (ownership, quality of relations incl. co-determination, fair and transparent payments, etc.)
Ecology	Impact on planetary boundaries (biosphere, water, land-usage, biogeochemical flows, etc.) and standard impact



	categories (e.g. climate, emissions, waste, resource consumption)
Social system	Quality of work places, income generated by employees, social contributions
Political system	Governance aspects (all kinds of contributions incl. lobbying and corruption), taxes, transparency to the public and co-determination
Knowledge/technology system	Knowledge/technology generated and shared and potential impact of it
Individuals	Impact on behaviour (ecological and social) Contribution to the good life for all Products available and their relation to need satisfaction Income generated Individual learning

ULL specific Impact Monitoring

In the following we summarize the actual proposals for impact monitoring within the different ULLs. A detailed description of goals, monitoring questions and indicator proposals will be given in the following chapters.

ULL Impact Monitoring Overview

The purpose of this table is to give an overview about major differences and similarities between the different ULL cases.

ULL	Case	Goals (summary)	UTC Monitoring Learning areas	Sustainability Monitoring, Potential short term impact areas	Sustainability Monitoring, long term perspective
Norrtälje	strategic	Urban farming Feasibility study and guideline for aquaponics system; Sociocratic decision making - interdepartmental decision-making group of the city	Role model (PM board); Decision process (incl. process goals); Stakeholder involvement (and interactions)	Economy Politics Knowledge	circular economy impact model in the area of urban agriculture
Marker	Strategic +prototype	New solutions for food, water and energy management; water savings and sustainable food production plan and pilot	Role model (PM, civil servants); Citizen and stakeholder involvement; Decision process Knowledge transfer (awareness); Resources available (budget, time); Water and Food Group interaction	Economy Ecology Knowledge Individuals	Nexus impact model
Stockholm	strategic	Urban farming New regulations for planners Implementation plan, potential study Indicator scheme	Role model (PM, civil servants); Citizen and stakeholder involvement; Decision process Knowledge transfer (awareness, resistance); Resources available (budget, time);	Economy Ecology Social system Politics Knowledge	Impact model for urban agriculture – potential integration in green space index



			Integration in long term urban development plan of the city		
Halden	strategic	Food waste reduction, Plan and pilot Guidelines and training	Role model (PM, civil servants) Citizen and stakeholder involvement Decision process Knowledge transfer (awareness, resistance) Resources available (budget)	Economy Knowledge Individuals	Food waste impact model
Alytus	strategic	Vision and measures	Role model (foresight specific, PM and expert role); Citizen and stakeholder involvement; Vision (dimensions); Decision process (roadmap); Learning (about foresight and about roadmap areas)	Develop full set (foresight)	Full sustainability impact model
Weiz	strategic	Vision and measures Resilience and competencies	Role model (foresight specific); Citizen and stakeholder involvement; Vision (dimensions); Decision process (roadmap); Learning (about foresight and about roadmap areas)	Develop full set (foresight)	Full sustainability impact model
Klagenfurt	prototype	Energy community implementation	Role model (community, city, experts); Citizen and stakeholder involvement; Decision making; Knowledge transfer	Economy Ecology Social Politics (Smart City Board) Knowledge Individuals (energy usage)	Impact of energy communities



			(awareness, resistance)		
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Norrtälje Impact Monitoring

Goals

- Urban farming - Feasibility study and guideline for aquaponics system (incl. business model)
- Sociocratic decision making – implementation of an interdepartmental decision-making group of the city

Proposed UTC Monitoring Learning areas

- interworking between research organization and the city
- participative decision processes

The aim is to recruit a group of motivated and committed people from the various departments of the city administration, who will represent the goals of the project themselves and actively work on interdepartmental solutions.

These people should act as multipliers to stimulate relevant programmes or regulations, and as role models to make the success of interdepartmental cooperation in sustainability projects visible for Norrtälje.

In the medium term, the aim is to make visible the benefits and significance of an interdepartmental cross-cutting group in Norrtälje as a steering instrument for future complex sustainability projects. The replication of the good practices will benefit Campus Roslagen and the City of Norrtälje in the joint development and management of sustainability projects.

Leading questions:

- Which model of cooperation between CR-DEV and the municipality is best suited to support transformation processes and implement this interdepartmental group?
- Which decision methods of the interdepartmental group can support urban transformation processes?

Special interest:

- established role model within the ULL (community, city, experts): definition of the role and competence of the participants of the PM board and how these roles were fulfilled in practice
- organization of decision making and participative structures, which methodology was applied, which learnings resulted from those processes?
- citizen and stakeholder involvement in planning and decision processes: who was involved (which perspective and which interest, including city departments), intensity of involvement (frequency and level of participation)

Proposed Sustainability Impact Monitoring areas

Larger context: impact of transformation towards circular economy in the area of urban agriculture



Norrtälje could aim to develop a circular economy impact model in the area of urban agriculture based on the learnings out of the ULL. This is necessary to understand implications of the transformation of industry paradigm from large production to local, small units.

- **Economy:** classical **business model** parameters (profit and loss, resources needed, work places generated, etc.) from a regional perspective
- **Ecology:** energy consumption, pollution (CO₂ footprint and others) and waste
- **Social:** impact on job quality and income generation for employees
- **Politics:** understanding of business models and learning about helpful political interventions and setting of **appropriate boundary conditions**
- **Knowledge** about products and processes generated ("**Guide for the Introduction of Banana Aquaponics**"), distribution and reuse of knowledge
- **Individuals:** benefits from healthy and save products.

Marker Impact Monitoring

Goals

- Change mindsets and find new solutions for food, water and energy management.

Strategic Sub-Objectives

- Implementation Plan for long-term measures 2030 - 2050 beyond the TANGO-W project.
- Lessons Learned and indicators for Governing follow up projects beyond TANGO-W

Operative Sub-Objectives

- Pilot Measures with filtered and unfiltered water for water savings and sustainable food production
- Energy production for local businesses and inhabitants and communities.
- Urban farming in parcel gardens/green houses + develop sustainable food concept for deliveries to kindergarten, school, elderly homes and institutions

Proposed UTC Monitoring Learning areas

- Role of city administration, stakeholder involvement

Urban farming: The aim is to check whether the goal of citizens taking responsibility for their own self-sufficiency can be achieved through cooperation with a farmer, who thus becomes a knowledge multiplier and host of MARKER urban farming.

Elderly home: The aim is to investigate whether involving the residents of old people's homes in the production of food, as a way of reintegrating them into society, can increase their sense of purpose and prolong their healthy lives. How successful is this access been with older people? What are the reasons why the elderly home is willing to add the role of a food producer to their traditional role of a care provider?

Of special interest are:



- Role model (PM board, civil servants): definition of the role and competence of the participants and how these roles were fulfilled in practice
- Decision process (incl. process goals): organization of decision making and participative structures, methodology, learnings
- Stakeholder involvement (and interactions): who was involved (which perspective), intensity of involvement (frequency and level of participation)
- Knowledge transfer to the public: awareness building
- Resources available (budget, time) for different project phases
- Water and Food Group interaction: quality and intensity of interaction with respect to information and knowledge exchange, cooperative planning and learning

Leading questions:

- Which role can the city take in a collective food production scenario?
- Are such production units suitable to (re-)integrate elderly people into society?

Special interest:

- established role model within the ULL (city, experts, farmer, citizens)
- stakeholder involvement during all phases and knowledge and capacities built up

Proposed Sustainability Impact Monitoring areas

Larger context: general impact of measures in the water, energy, food nexus.

Marker could develop a Nexus impact model which focuses on the interactions between measures in the different areas of food, water and energy (synergies but also potential disadvantages of joint projects).

This covers in particular (healthy) food production in green houses, saving water in general and energy production (at two sites) for local businesses and residents – which needs support by the municipality (information, motivation) to install local solar PV solutions.

A green house in an elderly home is already established, children from the kindergarten shall be invited to participate. The food production shall be sold to schools or other institutions of the community.

- **Economy:** classical **business model** parameters (profit and loss, resources needed, work places generated, etc.) from a regional perspective - Is urban farming a new market economy concept or is it a community-owned collective farm producing food for the city? What are the economic impacts for the elderly home and the town?
 - **Ecology:** all parameters of water consumption and usage, energy and food production
 - **Social:** impact on intensity of social interactions within the ULL framework
 - **Politics:** understanding of business models and learning about helpful political interventions and setting of **appropriate boundary conditions**
 - **Knowledge** and mindset of stakeholders involved
 - **Individuals:** benefits from healthy and save products, impact on quality of life.
-



Stockholm Impact Monitoring

Goals

- Elaboration of new regulations for planners. Potential study and implementation plan for long-term measures.

Strategic Sub-Objectives

- Implementation Plan for long-term measures 2030 - 2050 beyond the TANGO-W project.
- Lessons learned and indicators for governing follow up projects beyond TANGO-W

Operative Sub-Objectives

- Conducting a potential study with internal and external experts/academics, and public housing companies.
- Elaboration of a Roadmap 2024 including a revised GSI for developers and an urban farming strategy for public opens space and publicly owned amenities.
- Recommending & implementing a consultation for the approval of the GSI and the urban farming strategy.
- Decision making on an implementation plan by the SRS project steering group

Proposed UTC Monitoring Learning areas

- interdisciplinary strategy development and planning

Goal is to build a working group with urban designers, landscape architects, property owner and biologists to ensure that the potential study becomes feasible in practice.

Awareness and competences are built up in working group and awareness seminars for the whole project group (which does planning and implementation of the area of the royal seaport).

The development of a strategy for urban agriculture in Stockholm seaport includes adapting more precise goals for urban productive ecosystems – one aim is to include a goal of urban agriculture in the upcoming revision of the policy document for the royal seaport.

Another goal is the integration of productive ecosystem services in the Green Space Index Tool.

Leading questions:

- How can interdisciplinary work within ULL be organized?
- How can awareness and competences be built up within the working group(s)?
- How can specific visions and goals concerning urban agriculture be integrated into long term strategic development plans?

Special interest:

- Role model within the working groups (city administration, experts, citizens)
 - Citizen involvement and participation
 - Decision processes
 - Areas of vision covered
 - Knowledge transfer (awareness, resistance)
-



Proposed Sustainability Impact Monitoring areas

Larger context: development of a general impact model for urban agriculture

By integration of productive ecosystem services in the Green Space Index Tool this impact model could be used for all Stockholm urban planning activities.

- **Economy:** Specific business models (industrial or recreational farming)
 - **Ecology:** ecological impact of specific forms of urban farming
 - **Social:** specific structures developed for urban farming (e.g. cooperatives) and their social impact
 - **Politics:** understanding interdisciplinary projects and businesses and learning about helpful political interventions, changes in planning and decision processes specifically needed for urban agriculture
 - **Knowledge:** knowledge about key success factors and interdependencies concerning urban farming generated and shared
 - **Individuals:** Impact on quality of life and individual behaviour
-



Halden Impact Monitoring

Goals

- Build up knowledge how to use healthy food.
- Increase awareness and cooking skills „using healthy food“
- Reduction of food waste by recycling as many parts of the food as possible

Proposed UTC Monitoring Learning areas

- Change of individual behaviour

One major goal is to increase individual competence and sharing of knowledge.

Additionally regulations for food production (fresh food) and food quality routines could be established. By making processes within the kindergarden transparent it will be tried to enhance competence in treating food properly.

This could also cover water and energy savings and learning about sorting and reuse of waste.

Questions:

- How can social and technical aspects of sustainability measures be combined in a good way?
- How can stakeholders be involved in the awareness raising and learning process.
- How can enjoyable projects be defined and implemented?

Special interest:

- Role model within kindergarden project (city administration, management, parents)
- Stakeholder involvement
- Cooperative decision processes
- Knowledge built up and awareness generated, resistance?
- Budgets available and needed

Proposed Sustainability Impact

Larger context: Food waste impact model

The food waste impact model describes the potential impact of reduction of food waste, especially economically (by saving money) and on individual behaviour (by raising awareness people are more open for other sustainability related measures).

- **Economy:** Amount of food waste in relation to production and consumption, value saved - figures concerning resource consumption (amount of food bought by kindergardens, money needed)
 - **Ecology:** Impact on production side (less resources needed, less ecological impact), amount of waste reduced
 - **Social:** social structures established (cooking together)
 - **Politics:** impact of new role models on political structures
 - **Knowledge:** sharing of knowledge about treatment of food by other projects in that area
 - **Individuals:** impact on health and individual behaviour, personal fun and satisfaction - qualitatively by questionnaire, quantitatively estimated by number of people actively participating in measures
-



Alytus Impact Monitoring

Goals

- Development of Alytus towards a green, sustainable city.
- Recommendations to a new strategic action plan.

Sub-Goals:

- Create recommendations to a new strategic action plan for the development of Alytus from 2024 to 2026 and Alytus long-term vision 2030, aimed at achieving a green and sustainable future for the city.
- Thematic focus on energy, mobility, circular economy (waste), smart (digital) city and the long-term issues such as “comfortable (healthy) city”, “a city of opportunities”
- Learn from other UTCs experience
- Learn how to engage different stakeholders in the decision-making process and to incorporate their views into the result

Proposed UTC Monitoring Learning areas

- Participative visioning and strategic planning

Create recommendations to a long-term vision and a new strategic action plan for the development of Alytus, aimed at achieving a green and sustainable future for the city (Thematic focus on energy, mobility, circular economy (waste), smart (digital) city and the long-term issues such as “comfortable (healthy) city”, “a city of opportunities”).

Integrate different stakeholders (social companies, departments, enterprises) in the urban strategic dialogue of visioning and action planning, generating top-down/ bottom-up committed proposal for an action plan, to be decided by the city council.

Questions:

- How can stakeholders be involved in the urban strategic dialogue of visioning and action planning?

Special interest:

- role models within foresight process and developed therein
- Citizen and stakeholder involvement
- Dimensions of vision developed
- Roadmap of needed decisions

Proposed Sustainability Impact Monitoring areas

Larger context: impact model for sustainable urban development

Depending on the planned measures within the roadmap a specific set of indicators shall be developed.

- **Economy:** Impact on economy in the region and specific business models
 - **Ecology:** Impact on all relevant parameters
 - **Social:** Impact on quality of work and social life
 - **Politics:** Changes within the governance structure
 - **Knowledge:** Knowledge/technology generated and shared and potential impact of it
-



- **Individuals:** Impact on quality of life and individual behaviour





Weiz Impact Monitoring

Goals

- Create a more sustainable and liveable environment for Weiz residents.
- Become a model city for sustainable development and quality of life.

Sub-Goals:

- Foresight process with the mayor and all stakeholders
- Working on thematic clusters for “life quality” and “sustainability
- Identifying important measures for next few years and decades (2050)
- Providing orientation for all people concerned for the future 2050
- Getting prepared for handling the fast dynamic of change: Building resilience and competences for handling these dynamic developments

Proposed UTC Monitoring Learning areas

- Participative visioning and strategic planning

Citizens are involved in vision and mission development and policy officers take co-responsibility as co-facilitators for defining transdisciplinary, transformative goals and actions and implementing them within their individual, disciplinary departments.

Questions:

- How can citizens be involved in vision and mission statement development and policy officers take co-responsibility as co-facilitators for defining transdisciplinary, transformative goals and actions and implementing them within their individual, disciplinary departments.

Special interest:

- role models within foresight process and developed therein
- Citizen and stakeholder involvement
- Dimensions of vision developed
- Roadmap of needed decisions

Proposed Sustainability Impact Monitoring areas

Larger context: impact model for sustainable urban development

Depending on the planned measures within the roadmap a specific set of indicators shall be developed.

- **Economy:** Impact on economy in the region and specific business models
 - **Ecology:** Impact on all relevant parameters
 - **Social:** Impact on quality of work and social life
 - **Politics:** Changes within the governance structure
 - **Knowledge:** Knowledge/technology generated and shared and potential impact of it
 - **Individuals:** Impact on quality of life and individual behaviour
-



Klagenfurt Impact Monitoring

Goals

- Energy community implementation - Sustainable neighbourhood development and a good practice example
- Awareness raising in the region and for the developers

Sub-Goals:

- Support replication in surrounding municipalities
- Expanding the capabilities of the Smart City Lab to advise departments of the Klagenfurt municipality on their change (transformation)
- Implementation of the Smart City Strategy
- Sustainable neighbourhood development
- HiHarbach as good practice for future neighbourhood developments
- Cheaper energy tariffs for socially disadvantaged groups (Municipal Housing)

Proposed UTC Monitoring Learning areas

- understand interdisciplinary projects and businesses, helpful political interventions for self-organized communities

The city should understand interdisciplinary projects and businesses better and should have learned about helpful political interventions in the area of self-organized communities which take over functions of public services.

In addition to the task of developing and managing sustainable research projects in cooperation with departments of the City of Klagenfurt, the Smart City Lab members' skills for planning and accompanying urban transformation processes of the city's departments will be developed. How can the Smart City LAB support bottom-up processes of the ULL as well as future urban development projects and thereby enable the development of social innovations (beyond traditional top-down control)?

Questions:

- which interactions of the city with the EEG were helpful/necessary?
- how do the city's (new) structures (Smart City Lab, IPAK, Youth Council, etc.) help future projects?
- what legal and contractual structures does the city need to provide so that social innovations (such as EEGs) can emerge and develop well?

Special interest:

- established role model within the ULL (community, city, experts)
- citizen and stakeholder involvement in planning and decision processes
- organisation of knowledge transfer

Proposed Sustainability Impact Monitoring areas

Larger context: impact of a shift towards local energy production within self-organised communities.



Energy communities could become a relevant factor for communal energy supply. We want to understand which impacts result from a shift towards local energy production within self-organised communities.

- **Economy:** which business models are economically successful? Which **parameters (on the legal and regulatory side)** are essential?
- **Ecology:** climate impact of regional PV energy vs. central large scale power stations
- **Social:** impact of EEGs on the local social structure
- **Politics:** changes with the administrative and political bodies and processes of the city
- (Transferrable) **knowledge** generated about organizational and business models – **learnings for other communities**
- **Individuals:** effects on the **energy usage behaviour** of the community members, economic effects on the individual level

Outlook

The ULLs will start to define their specific indicators based on these suggestions. Within the upcoming on-line and face-to-face CoP-Meetings there will be an ongoing discussion and review. Learnings from the ULL projects will be incorporated to define a final set of indicators which will be reported in deliverable D3.2.
