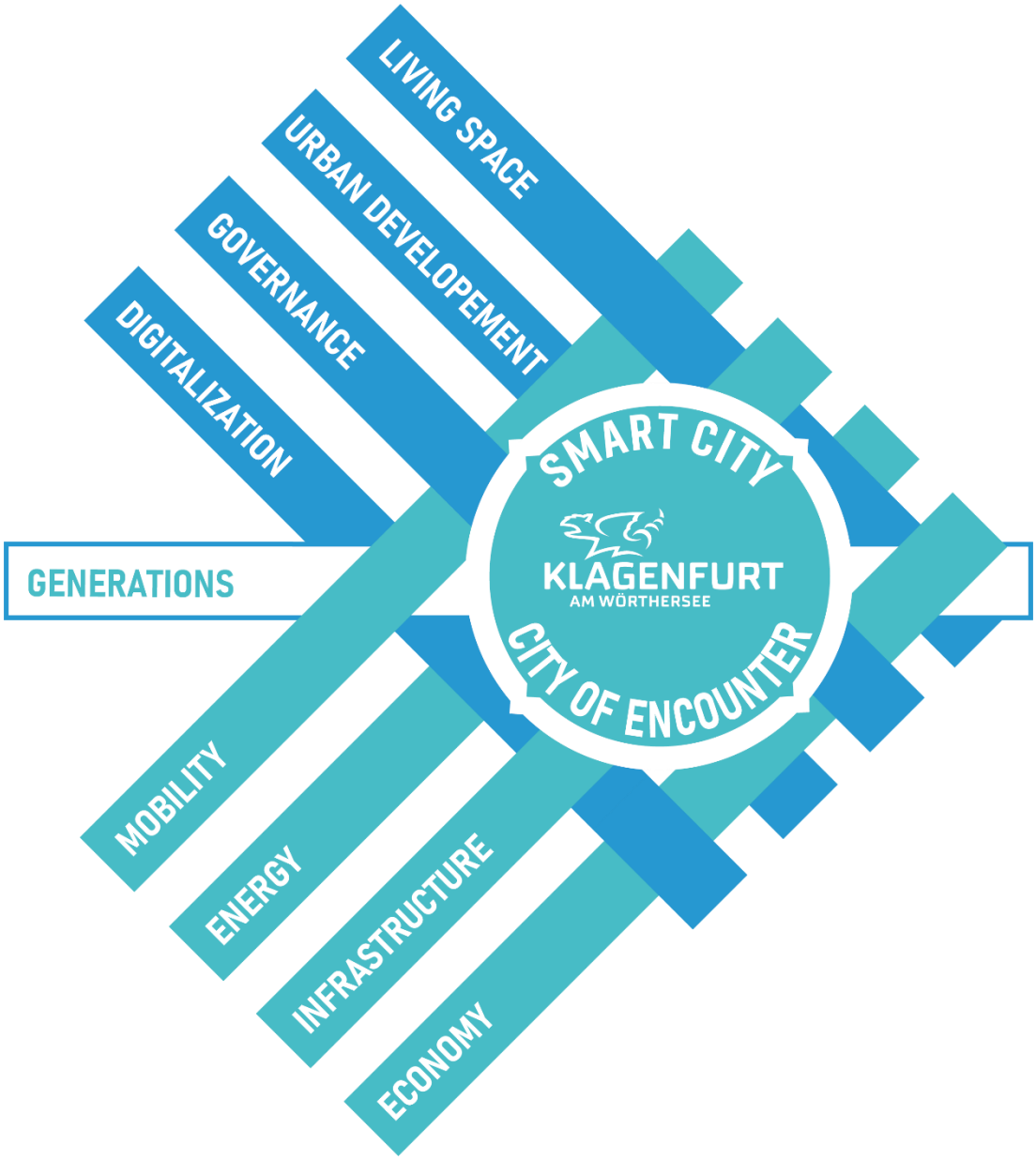
Smart City Strategy

Klagenfurt on Lake Wörthersee



Version 6.1

Introduction

The Smart City Strategy of the Provincial Capital of Klagenfurt on Lake Wörthersee describes the ambitious goals of the city and the measures and projects derived to ensure sustainable, socially and environmentally friendly development for current and future citizens of the city. The basic idea of a Smart City has already been anchored in the urban development concept STEK 2020+ and in the mission statement.

The Municipal Department of Climate and Environmental Protection, together with the Asset Management of Stadtwerke, was commissioned to organize a working group to carry out preliminary work for a comprehensive Smart City Strategy by the Mayor and Stadtwerke board member at the beginning of 2017. In a facilitated workshop with scientific accompaniment, a vision, strategic principles and eight fields of action were proposed in May 2017 by the core team, consisting of the technically responsible managers of the city and Stadtwerke.

The interim result was presented at the meeting of the Klagenfurt City Senate in September 2017. In the form of a fundamental decision, the City Senate commissioned eight working groups to elaborate the eight fields of action of the Smart City Strategy in detail. This was followed by the definition of strategic goals, main indicators with target values and recommendations for action in form of a detailed list of measures and projects in eight parallel working groups for each of the eight fields of action.

In the meetings of the City Senate on 20.11.2018 and the Municipal Council on 27.11.2018, the Smart City Strategy of the Provincial Capital of Klagenfurt on Lake Wörthersee was adopted and attached to the Mission Statement 2019 of the City of Klagenfurt a. Ws. The Department of Climate and Environmental Protection was commissioned with the coordination for the implementation of the Smart City Strategy in cooperation with the internal city departments and Stadtwerke Klagenfurt as well as with the preparation of an annual monitoring report. In order to be able to take current and future developments into account, the Smart City Strategy is designed as a living paper.

In April and November 2019, a workshop with the core team was held to clarify the further approach. In parallel, the action field-specific contents were elaborated and optimized in recurring working group meetings for each action field.

Based on the results of the workshops, the Department of Climate and Environmental Protection updated version 4.4 of the Smart City Strategy to version 5.0, which was published in December 2019. The 1st monitoring report was presented to the City Senate in December 2019, whereby the synchronization of the indicator system with the SDGs was already proposed.

Due to Corona, only one meeting of the core team could be held in 2020. Here, the course was set for three major changes to the Smart City Strategy, which were subsequently elaborated and are now available in version 6.1.The changes include the adaptation of the Smart City Strategy 6.1 to the SDGs (Sustainable Development Goals), derived from this the introduction of a 9th field of action - Generations, in order to be able to give the social aspects of the strategy a greater consideration and to take the adaptation of the goals of the strategy to the new national and international climate protection requirements into account.
Based on successful emission reductions, the greenhouse gas reduction targets for 2030 can be adjusted from 40% to 70% and the overarching goal to reduce emissions by 90% by 2050 can be moved forward to 2040.

The implementation status of the measures and projects in the fields of action is recorded in the 2nd monitoring report.
During the year 2021, the field of action 9 - Generations is to be elaborated in more detail as well as a system of indicators is to be defined for the SDGs.

In the current version of the strategy paper version 6.1, the proposed measures and projects with the assigned SDGs are kept in a separate appendix (Appendix 1). The Smart City-relevant measures and projects from the already existing concepts and initiatives of the provincial capital Klagenfurt on Lake Wörthersee are collected in a supplementary appendix (Appendix 2). A total of 48 experts from the city, Stadtwerke and external organizations have been involved in the creation of the Smart City Strategy so far.

Table of Content

Vision

Smart City Klagenfurt on Lake Wörthersee is an emission-neutral, energy-efficient and resource-saving living space with a high urban quality of life and responsible citizens, which is very well connected in the Alps-Adriatic region.

Strategy

Smart City Klagenfurt on Lake Wörthersee serves to solve complex technical, ecological, economic and social challenges in the growing urban agglomeration of the provincial capital Klagenfurt on Lake Wörthersee in the central region of Carinthia.

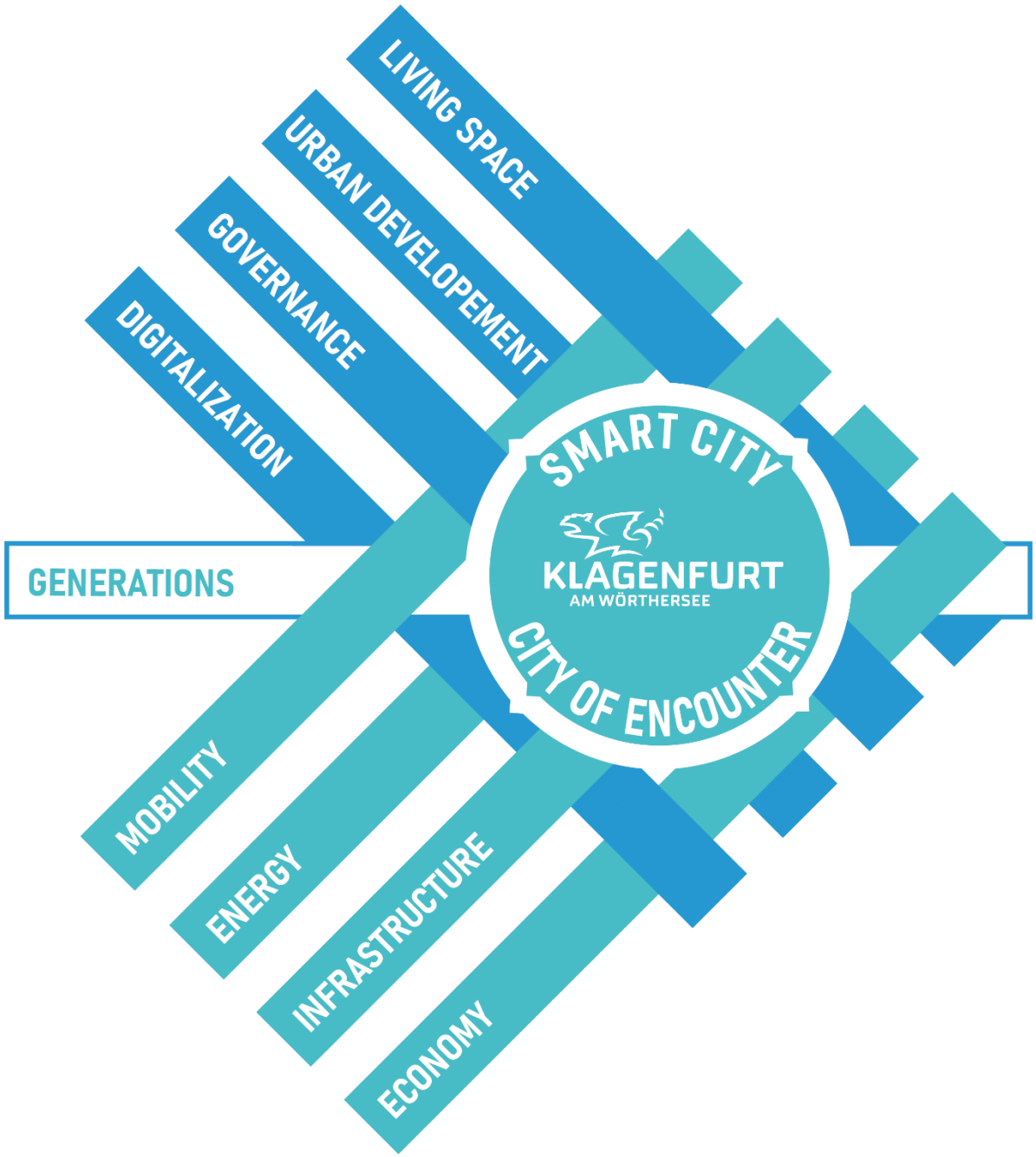
Klagenfurt on Lake Wörthersee has decided to initiate a dynamic process as a Smart City in order to competently meet the demands of the future. Klagenfurt on Lake Wörthersee provides space for innovation and creates quality foundations for urban quality of life for a responsible, post-fossil, digitalized society. Active development takes place through a participatory process and in cooperation with cities and communities in the agglomeration area.

Targets

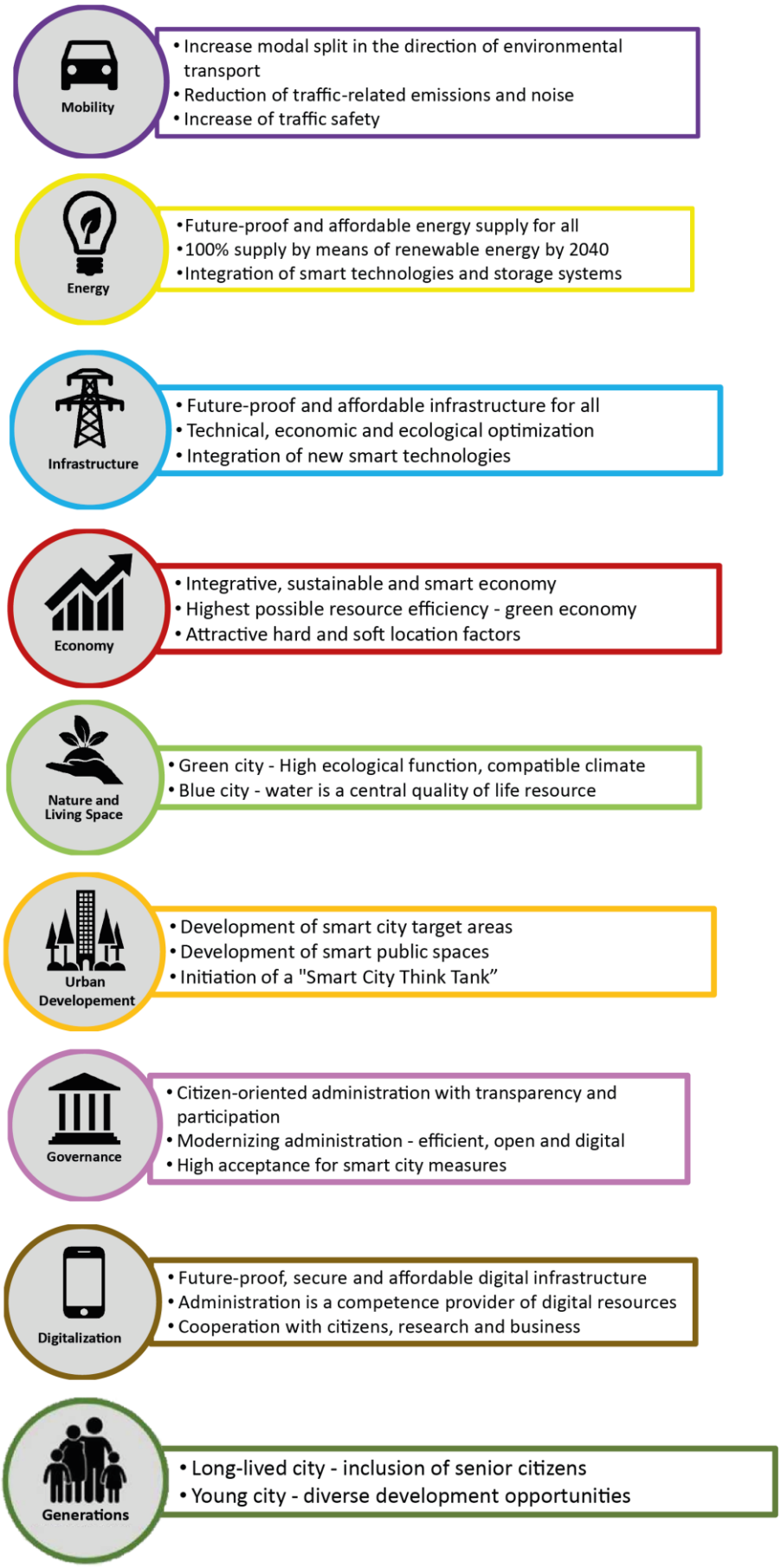
Based on the concepts and political resolutions already in place, the overarching target is to reduce greenhouse gas emissions in the city of Klagenfurt on Lake Wörthersee by 70% until 2030 and by 90% until 2040, realted on the baseyear 2011. At the same time, the good quality of life for the population and future generations is to be further improved and sustainably secured. Considering the 17 Sustainable Development Goals (SDGs) of the United Nations, the global sustainability goals of the UN Agenda 2030 are to be fulfilled.

Fields of action

The developed fields of action cover existing concepts and initiatives of the city as well as requirements on a national and international level. The Smart City Strategy Klagenfurt on Lake Wörthersee thus combines decisive guidelines and ideas that serve to identify the city as a Smart City.



The strategic targets of the 9 fields of action



Smart City Klagenfurt a. Ws. – Fields of action	
Fields of action	**Presence in existing concepts**
1 – Mobility	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ
2 - Energy	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ
3 - Infrastructure	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ
4 - Economy	Ⓐ Ⓒ Ⓔ Ⓕ Ⓖ Ⓗ
5 – Nature and Living Space	Ⓐ Ⓑ Ⓒ Ⓓ Ⓕ Ⓖ Ⓗ
6 – Urban Developement	Ⓐ Ⓑ Ⓒ Ⓓ Ⓖ
7 - Governance	Ⓑ Ⓒ Ⓓ Ⓔ Ⓖ
8 - Digitalization	Ⓑ Ⓒ Ⓓ Ⓔ Ⓖ Ⓗ
9 - Generations	Ⓐ Ⓒ Ⓔ Ⓗ

Comparison of the content of the fields of action with existing concepts and initiatives of the city of Klagenfurt on Lake Wörthersee as well as with Smart City-relevant requirements at national and international level:

Ⓐ **Urban development concept Klagenfurt om Lake Ws. 2020+**

The location and its environment - positioning in the Alpe Adria region, sustainable urban development - securing the quality of the environment, maintaining and improving the high quality of life, strengthening the competitiveness of Klagenfurt on Lake Ws. as a business and employment location;

Ⓑ **SEAP - Sustainable Energy Action Plan**

Mobility, electricity and heat generation, buildings, public relations, consumption incl. food, disposal (waste, wastewater)

Ⓒ **Mission statement of the city of Klagenfurt on Lake Ws.**

Mobility, energy, infrastructure, economy and work spaces, quality of life, administration, population, information - and communication technology, urban development, human being

Ⓓ **e5 Communities**

Development - and regional planning, municipal buildings and facilities, utilities and waste disposal, traffic and mobility, communication and cooperation, internal organization

Ⓔ **KLIEN - Climate and Energy Fund**

Buildings and settlement structures, mobility, technical infrastructure, economy and population, politics and governance

Ⓕ **BMVIT - Federal Ministry for Transport, Innovation and Technology**

Urban structure, water and wastewater, products and waste, urban management, people and environment, mobility, economy, energy

Ⓖ **Climate and energy strategy #mission2030**

Austrian, European and global framework, climate-compatible economic system, sustainability, security of supply, energy as a whole system, decarbonization, mobility of the future, research and innovation, digitalization, sustainable finance, infrastructure, climate change adaptation

Ⓗ **German Institute for Standardization**

Buildings - infrastructure - urban processes, mobility and logistics, protection and security - quality of life, digital city (ICT), energy, production and economy.

Furthermore, the following were taken into account: the Mobility Master Plan of the State of Carinthia (MoMaK 2035), the Mobility Plan of the City of Klagenfurt on Lake Ws., as well as measures and projects from the completed Smart City projects SLiKH (Smart Living in Klagenfurt Harbach) and SAKS (Smart Waste Heat Utilization through Cooling and Storage).

Measures and Projects

In 9 working groups, the experts worked out measures and projects for implementation for each individual field of action, which are listed in an appendix.

This appendix is to be understood as a working aid and serves as support and orientation for the implementation of the Smart City Strategy.

Measures and projects with financial implications must be submitted to the political bodies for decision-making after detailed planning and review of technical and financial feasibility.

1 Mobility

The Mobility Concept Klagenfurt on Lake Wörthersee 2035 is oriented towards the Mobility Plan 2014 and based on a mission statement, which forms the basis for thereupon definition of goals as well as measures and projects. The core of this mission statement is the claim to provide as many people as possible in the city and in the region with an efficient and attractive transport system for coping with their daily routes, while at the same time keeping an eye on the overall sustainable development of the city and the region. Derived from this, the orientation of the mobility concept is based on the following guidelines:

- Compact and attractive
- Powerful and efficiently networked
- Fair and social
- Safe
- Environmentally friendly and resource-saving
- Healthy

Strategic targets

Target 1: Increasing the modal split in the direction of environmental transport

Target 2: Reduce transportation-related greenhouse gas emissions, air pollutants and noise.
Assigned Sustainability Goals: **SDG11** - Sustainable cities and communities, **SDG13** - Climate action.

Target 3: Increase traffic safety - make school routes in form of bike lanes safer.
Assigned Sustainability Goal: **SDG3** - Health and well-being.

In addition, **SDG9 - Industry Innovation and Infrastructure** was added to field of action 1, which inter alia pushes for a modern and sustainable infrastructure for all residents.

Targets	Indicators	Target values
Increasing the modal split for environmental transport	Modal split Passenger numbers	In domestic traffic to 55% by 2025, 65% by 2035, and 70% by 2050. In cross-city traffic to 40% by 2025, 50% by 2035 and 60% by 2050 Tripling to 60 million per year by 2050 Doubling of ridership to 40 million per year by 2030, tripling in the long term
Reduction of emissions	GHG emissions, PM10, NO_2 air measurements Noise measurements	2025 145.000 t 2030 100.000 t 2040 90.000 t Compliance with the EU Air Quality Directive Compliance with the Ambient Noise Directive
Increase in traffic safety	Number of accidents with personal injury and traffic fatalities	Decreasing trend

2 Energy

Under the influence of the global shortage of oil and gas, caused by increasing energy consumption, decreasing flow rates and global warming, the member states of the EU launched the Strategic Energy Technology Plan (SET-Plan) in 2007 to ensure an affordable and future-proof energy supply in the long term. In the context of Smart Cities, the SET-Plan pursues the goal of developing low-carbon technologies, improving the competitiveness of innovative renewable energy technologies and realizing targeted implementation projects. In the course of ambitious European and national Smart City projects, an increased focus on the topic of post-fossil urban living is taking place. Post-Oil-Cities (POC) represent an urban development concept that makes it possible to maintain modern and highly developed structures despite reduced fossil energy resources without sacrificing comfort.[1]

A variety of funding programs at national and European level will be used to develop strategies, technologies and solutions that enable cities and their inhabitants to make the transition to an energy-efficient and climate-friendly way of life. The Climate and Energy Fund's Smart Cities Initiative focuses on funding urban demonstration - and implementation projects, while the research and technology program „City of the Future“ supports the development of new technologies, technological (sub)systems and urban services for a city of the future. The overarching target is to implement a smart city in which technical and social innovations are intelligently used and combined to continue maintaining or optimizing a high quality of life for current and future generations. By using intelligent green technologies in combination with social bundles of measures, the way towards climate neutrality shall be paved.[2] The city of Klagenfurt an Lake Ws. is consistently carrying out the gradual conversion of the urban energy system, not least with the help of the aforementioned support programs. Thus, while maintaining the high quality of life for citizens of the city of Klagenfurt on Lake Wörthersee, further steps are being taken towards achieving the climate goals of the European Green Deal.

Strategic targets

The Smart City Strategy Klagenfurt on Lake Wörthersee pursues three strategic goals in the topic area of smart urban energy supply:

Target 1: Ensure a future-proof, resilient and affordable post-fossil energy supply for all segments of the population.

[1] Cf.: https://www.ssoar.info/ssoar/handle/document/26906#
[2] Cf.: http://smartcities.at/foerderung/smart-cities-initiative-des-klimafonds

Assigned Sustainable Development Goals: **SDG4** - quality education, **SDG7** - affordable and clean energy, **SDG11** - sustainable cities and communities, **SDG13** - climate action

Target 2: In 2040 energy supply - electricity, heating & cooling - of the city is using 100% renewable energy.

Assigned Sustainable Development Goals: **SDG7 -** affordable and clean energy.

Target 3: Integrate smart technologies and energy storage systems in the urban area.

Assigned Sustainable Development Goals: **SDG7** - affordable and clean energy

Targets	Indicators	Target values
Ensuring a future-proof, resilient, affordable post-fossil energy supply.	Energy efficiency of the Energy supply Share of renewables in energy supply Social compatibility, affordability of energy supply	Increase regional renewable coverage[3] Final energy consumption and CO^2 reduction[4] Increase residential satisfaction[3,4]
Energy supply in 2040 (electricity, heating & cooling) by means of 100 % renewable energies	Share of renewable energy sources Energy mix of electricity generation Energy mix of heat generation	Increase shares of renewables in electricity and heat consumption[4] Increase in regional renewables coverage[3,4]
Integration of smart technologies and energy storage systems	Share of renewable energy sources Storage capacity in energy supply Innovative character in the integration of new technologies	Increase local energy storage capacity[3] Increase regional renewable coverage[3]

Note: A number of initiatives are currently running regarding to the definition of indicators and their quantitative measurement. Austria-wide, there are still no concrete, calculable and measurable indicators or metrics in this regard. Spatial planning and research must provide these in the coming years. At the moment, research work on this topic is running in cooperation with the Vienna University of Technology, iSpace and the Graz University of Technology.

[3] Mach et al., 2017: Smart City Project Graz Mitte, Anhang zum Endbericht - AP 2 Institut für Wärmetechnik, TU Graz

3 Infrastructure

Technical infrastructure is understood as all structural-technical elements under and above the ground, which enable the functioning of the city. Technical infrastructure does not include social infrastructure such as kindergartens, schools, universities, sports, cultural and health facilities (these are considered separately). The technical infrastructure as basic infrastructural equipment of the provincial capital Klagenfurt on Lake Wörthersee forms the basis for social and economic activities. These are water -, waste water -, gas, district heating -, road - and electricity networks as well as telecommunication facilities, i.e. durable facilities and networks of all "material" kinds. They enable functioning accessibility, supply, economy and communication within the city.

In particular, infrastructures that are in the direct sphere of influence of the city and in the sphere of influence of other infrastructure operators, with which strategic coordination must be given, are in focus. Due to technological, social, ecological and economic change, there is a constant need for action to renew these networks.

Strategic goals

The Smart City Strategy Klagenfurt am Wörthersee pursues three strategic goals in the topic area of technical infrastructure:

Target 1: Ensure future-proof, resilient and affordable urban infrastructure for all segments of the population.
Assigned Sustainability Goal: **SDG6 -** clean water and sanitation.

Target 2: Technical, economic, and environmental optimization of infrastructure at the city level
Assigned Sustainability Goal: **SDG9 -** industry, innovation and infrastructure.

Target 3: Integrate new smart technologies
Assigned Sustainability Goal: **SDG7 -** affordable and clean energy.

Targets	Indicators	Target values
Ensuring future-proof, resilient and affordable urban infrastructures for all segments of the population.	Level of supply and affordability of technical infrastructures such as water, wastewater, gas, district heating, road and electricity networks and telecommunications facilities	Suplly level of the population in percent increasing Supply level of individual urban areas
Technical, economic and environmental optimization of infrastructures at the city level.	State of the art and degree of renewal of technical infrastructures	State of the art and degree of renewal of technical infrastructure in percent increasing State of the art and degree of renewal of technical infrastructure in relation to urban areas
Integration of new smart technologies	Number of new smart technologies	Number of new smart technologies related to urban areas / total city level increasing

4 Economy

Strategic Targets

The following overarching guiding principles apply to the field of action "Economy", which are concretized in this chapter by means of indicators as well as measures and projects.

Targets 1: Economy is all of us. Economy is therefore a cross-sectional issue with direct reference to all fields of action. Doing business in Klagenfurt on Lake Wörthersee is integrative, sustainable and intelligent.
Assigned Sustainability Goals**: SDG4** - quality education, **SDG8 -** decent work and economic growth.

Targets 2: Klagenfurt on Lake Wörthersee strives for sustainable economic development that is characterized by the highest possible resource efficiency and the greatest possible elimination of pollutant emissions and noise. By consistently implementing all dimensions of a green economy strategy, the state capital gains more quality of life and attractiveness for its residents and visitors as well as for businesses.
Assigned Sustainability Goals**: SDG9 -** industry, innovation and infrastructure, **SDG12 -** responsible consumption and production patterns.

Targets 3: Klagenfurt on Lake Wörthersee has attractive hard and soft location factors. These are of central importance in increasing the competitiveness of the business location. Embedded in relevant strategies of the state and the city, the innovation capacity is strengthened and thus the business location is sustainably consolidated**.**

The very high importance of the tertiary sector as well as the central-local function for the federal state of Carinthia gives the Smart City activities of the city a significant multiplier effect.

Due to the horizontal character of the field of action Economy with reference to all fields of action of the Smart City Strategy, there are numerous indicators that can be used to measure the progress towards Smart City. Economic incentives are of central importance in all Green Economy concepts.

Resource efficiency and location factors are outstanding areas in this regard. These in turn can be split up into the sub-areas of economic promotion, tourism, trade fairs & congresses, markets, inner city

revitalization, location marketing, leading companies, technology, innovations, start-ups, company settlement, the Alps-Adriatic region, science and research.

It is often not possible to record the indicators. Therefore, progress in the field of action Economy is measured quantitatively using the following subset of indicators:

Targets	Indicators	Target values
Economic development	Employment trend (%) Labor force participation rate (%) Start-ups (number)	Increasing Increasing Increasing
Innovation – R&D	Qualified employees (number) Patents (number) Participation in EU projects (number) Broadband coverage (%) Students in STEM subjects (%)	Increasing Increasing Increasing Increasing Increasing
Resource efficiency	Vacancy rate (%)	Decreasing

5 Nature and Living Space

The green spaces in the open countryside and in the city, as well as on the buildings, enable a healthy urban climate despite climate change. National and international environmental standards for air, water, soil and noise are respected. Nature has sufficient retreat areas with high biodiversity.

The (temporary) use of urban residual areas such as brownfields, vacancy or demolition sites also contributes to higher resource efficiency. Know-how and experience from other projects and functioning initiatives should be drawn upon in the development of measures and projects.

Strategic targets

The topics addressed in the field of action Nature and Living Space focus on the preservation or expansion of public green spaces and water storage areas as well as the unsealing of the urban area of Klagenfurt on Lake Wörthersee in order to avoid an urban heat island (UHI) effect and to increase the quality of life of the residents in the long term, as well as to ensure ecological sustainability. Quality of life factors, such as recreation close to the home, are not sufficiently anchored and available institutionally.

The goal of this field of action is therefore to develop strategies as well as measures and projects that lead to an improvement in the two topics described in more detail below.

Target 1

Green City: The open landscape as a whole (forests, agrarian cultural landscape, water) is secured for recreational use and equipped with good, pedestrian accessibility and transit. At the same time, the open landscape fulfills high ecological functions and contributes to climate change adaptation and the fulfillment of high environmental standards. As producers, farms play a central and formative role in safeguarding and preserving the open landscape and its ecological function. In the populated area, trees and other vegetation-related measures and projects (e.g. green roofs and facades) create a compatible microclimate**.**

Assigned Sustainable Development Goals: **SDG1** - No Poverty, **SDG2** - No Hunger, **SDG11** - Sustainable Cities and Communities.

Green City Strategy

Green City Klagenfurt on Lake Wörthersee. Synopsis and bundled treatment of green topics (agriculture, forestry, ecology, open landscape), taking into account their interactions.

Target 2 Blue City: Water is recognized as a key quality of life resource. The issue of water in the city is addressed comprehensively. Drinking water is secured. Surface water and groundwater are of high quality, the groundwater balance is controlled to the extent necessary. Settlement areas are protected from floods. In the settlement areas, attention is paid to the water storage function of the soil and this is used extensively.
Assigned Sustainable Development Goal: **SDG6** - clean water and sanitation.

Blue City – Strategy

In the future, the topic of water in the city will be dealt with in an integrated manner (across projects, across administrations). The water agendas - drinking water, flowing and still waters, groundwater, stormwater, daywater and wastewater - are strategically organized and treated synergetically. For runoff, the possibilities of retention and receiving water are used.

Furthermore, **SDG15 - Living in the countryside**, which addresses the preservation, restoration and sustainable use of ecosystems, as well as **SDG13 - Measures for climate protection**, which focuses on the reduction of climate impacts through climate protection measures, and finally **SDG10 - Less inequalities**, with a focus on barrier-free use and equitable access to blue and green infrastructure for all residents, were assigned to field of action 5.

Targets	Indicators	Target values
Green City	Number and area of UHIs	Reduction of the total area by 20% within 10 years
	Share of open landscape	Unchanged at 62% (agricultural and forest) of the total urban area.
	Share of agricultural land	Unchanged at 30% share of total urban area.
	Number of organic farms	Share of area farmed by organic farms increases by 10% annually
	Number of bee colonies	Trend rising, must not fall below the currently existing number of 683
Blue City	Ratio of wastewater sewers combined to sewers	Share of construction of separate water systems increases by 1% in 5 years
	Groundwater temperature	Trend constant/declining, must not rise above the currently existing value of 12°C.
	High water resp. low water	According to WFD or water management plan
	Area of retention areas	Increase depending on construction activity

6 Urban Developement

The foundation of a sustainable smart city development is a development strategy that is coordinated with the spatial urban development concept. The provincial capital of Klagenfurt on Lake Wörthersee is also pursuing this path as part of its Smart City strategy - the four overarching thematic areas defined in the binding urban development concept are being continued in a focused manner:

- The location Klagenfurt on Lake Wörthersee and its surroundings - Positioning in the Alpe Adria region.
- Sustainable urban development - Safeguarding environmental qualities
- Maintaining and further improving the high quality of life
- Strengthening the competitiveness of the business and work location Klagenfurt on Lake Ws.

Strategic targets

The Smart City Strategy Klagenfurt on Lake Wörthersee pursues three strategic goals in the thematic field of urban development:

Target 1: Development of Smart City target areas.
Assigned Sustainability Goal: **SDG4** - quality education

Target 2: Development of smart public spaces

Target 3: Initiation of a "Smart City Think Tank

In addition, **SDG11 - Sustainable Cities and Communities** was assigned to field of action 6, as both pursue participatory and sustainable urban planning and development as a common goal.

Targets	Indicators	Target values
Development of smart city target areas	Number of Smart City target areas	Min. 6 Smart City target areas
Development of smart public spaces	Number of initiated and implemented pilot projects focusing on smart public spaces	Min. 1 pilot project per year
Initiation of a "Smart City Think Tank	Number of "Smart City Think Tank Klagenfurt on Lake Wörthersee" working meetings	Min. 1 working meeting per year

7 Governance

Governance is a cross-cutting issue in the Smart City process Klagenfurt on Lake Wörthersee. In addition to classic administration and corporate management, governance is understood as the implementation principle of the Smart City strategy: the field of action governance prepares the foundation for the other fields of action and is in constant interaction with them. Digital processes for the efficient design of official channels are mapped in the digitalization field of action.
The field of action governance is intended to contribute to this (guidelines):

- Improve cooperation between politics, administration, companies, science and citizens.
- To make the organization of policy and change processes more cross-thematic.
- Create awareness that the Smart City Klagenfurt on Lake Ws. affects all stakeholders and can only be successfully implemented together.

Strategic targets

Three main objectives for the implementation of the Smart City Strategy have been defined for the field of action governance. These are based on the above-mentioned guidelines and are to be achieved by means of the measures and projects described below.

Target 1: Create citizen-centric governance and ensure transparency & participation.
Assigned Sustainable Development Goals: **SDG1** - No poverty**, SDG10** - Less inequality, **SDG11 -** Sustainable cities and communities, **SDG16 -** Peace, justice and strong institutions.

Target 2: Modernize government - efficient, open and digital.

Target 3: High acceptance for smart city measures and projects.

In addition, **SDG5 - Gender equality,** due to the need to address gender-specific issues in the SCS Klagenfurt, and **SDG13 - Climate action,** which aims at adaptive capacity to climate-related hazards with the help of policies, were superimposed on Action Area 7.

Targets	Indicators	Target values
Create citizen-oriented administration and ensure transparency & participation	Number of communication tools (print, Internet, press releases, social media, etc.)	Increasing
	Number of citizen participation procedures (time series, based on actual value).	Increasing
	Develop guidelines for citizen participation	Increasing
	Establish one-stop store	Increasing
	Number of linguistically simplified ordinances	Increasing
Modernizing administration - efficient, open and digital	Number of strategic processes implemented centrally	Increasing
	Elaborated personnel development concept	Realized; Increasing
	Conduct employee surveys	Every 2 years
	Create intellectual capital statement	Realized; Updating every two years
	Develop purchasing guidelines catalog for procurement	Realized; Increasing
	Create digital agenda	Realized; Increasing
High acceptance for smart city measures and projects	Number of active feedbacks from the population and from employees of the city and municipal utilities.	Acceptance increasing
	Number of positive and critical feedbacks from the media	
	Surveys of citizens and employees	

8 Digitalization

The rapidly increasing digitization of all areas of life is a very big topic in society in general and especially in cities this is increasingly perceived in everyday life. The influence of the digitalization of the economy and society poses challenges for cities and municipalities and appeals to generate a corresponding added value through digitalization both for their citizens and for the regional economy. Social networks, online shopping, e-government, apps with a wide variety of functions, in interaction with the numerous mobile devices, enable new services and forms of communication between public administration and citizens. As a result of digitalization and the associated transformation of the urban actor structure, cities must address the question of who will control the fate of cities in the future and with what influence.

In the provincial capital of Klagenfurt on Lake Wörthersee, digitization has already been part of everyday life for many years (in some areas for decades), but for a comprehensive smart city implementation, there must be a clear quality offensive and a cross-departmental implementation of information pools that are continuously updated as part of well thought-out business processes.

In order to proceed strategically and actively, the city administration of Klagenfurt on Lake Wörthersee and its service companies of Stadtwerke Klagenfurt on Lake Wörthersee are working together to design and build digital infrastructures.
The goal is to develop strategies and competencies, to view data sovereignty (data > information > knowledge) as a location factor, and to position municipal companies and administration as digital competence carriers.

Strategic targets

The Smart City Strategy Klagenfurt on Lake Wörthersee pursues three general strategic goals in the field of smart digitization:

Target 1: Ensure future-proof, secure and affordable digital infrastructures for all segments of the population and use the possibilities of digitalization for all urban infrastructures. Due to the high importance of such basic infrastructure, the city actively shapes the development and keeps competencies and ownership within its own sphere of influence.

Assigned Sustainability Goals: **SDG4 -** quality education, **SDG9 -** industry, innovation and infrastructure, **SDG11 -** sustainable cities and communities.

Target 2: Positioning of the administration and municipal companies as digital resource and competence providers and as innovation-oriented organizations that perform their tasks with corresponding added value for their citizens and for the regional economy and, as a result, have a role model effect in the regional environment. The digital competence of employees is to be consistently expanded on an ongoing basis.

Assigned Sustainability Goals: **SDG16** - Peace, justice and strong institutions, **SDG17** - Partnerships to achieve the goals.

Target 3: Push collaboration with citizens, research and business in the topic area of digitization (citizen service, eGovernment, online offerings of the city of Klagenfurt on Lake Wörthersee and citizen participation).

Assigned sustainability goal: **SDG16 -** Peace, justice and strong institutions

Targets	Indicators	Target values
Ensuring future-proof, secure and affordable digital infrastructures for all segments of the population	Broadband network availability based on units of use (apartments, retail space, offices); take rate for this infrastructure.	In line with the federal government's broadband strategy, availability > 100Mbit/s by 2020; Increasing
Positioning of the administration and municipal companies as digital resource and competence providers	Customer satisfaction with digital services. Training certificates of employees for digital services	Increasing
Intensification of cooperation with citizens, research and business in the field of digitization	Availability of digital services and digital participation processes	Increasing

9 Generations

An intact living space is in balance between people and nature. The Smart City Klagenfurt on Lake Wörthersee enables people to live in an open, socially balanced, child- and senior-friendly, collaborative society and to actively shape their living environment. The balance between development and open space ensures low social conflict potential and a high level of satisfaction. There is generally a high awareness of resource conservation and sustainable lifestyle. Quality-of-life factors such as local supply of goods and services, affordable care (children, elderly, nursing, etc.) are not institutionally anchored.

Through the participation of those affected, adequate and people-oriented solutions are made possible. Proactive and innovative development is promoted through potential orientation. Sustainable spaces in the Smart City Klagenfurt on Lake Wörthersee should therefore be developed in a participatory manner. Not only investors but also creative people, start-ups, artists, young and old people are to be involved by means of different analog and digital formats as well as blended participation. The process-oriented development is in the foreground.

Strategic targets

Target 1 Long-lived city: Older people are integrated into city life and can age self-determined and productively in an ecologically and economically pleasant environment. Inclusion of elders is promoted through intergenerational services, smart technologies, and support for engagement.

Assigned Sustainability Goal: **SDG11** - Sustainable Cities and Communities.

Long-lived City - Strategy.

Bring together, network, bundle, and optimize existing offerings. Develop and adopt age-appropriate digital offerings.

Target 2 Young City: There are many offers that motivate youth to stay and live in the state capital Klagenfurt. There are numerous development opportunities for adolescents differentiated by age groups. Free spaces for youth cultures exist.

Assigned Sustainability Goals: **SDG4** - quality education, **SDG8 -** decent work and economic growth, **SDG11 -** sustainable cities and communities.

Young City Strategy.

Live an expanded concept of education. Engage young to take proactive action. Extensive participation of young people in the development of the city. Create more space, more places for young.

In addition, SDG3 - Health and well-being, which focuses on ensuring health care for all residents**, SDG5 - Gender equality**, as well as **SDG10 - Less inequalities,** were added to the field of action 9 in order to focus more on the social aspect in the SCS Klagenfurt and to address its problems more strongly.

Targets	Indicators	Target values
Long-lived City	Proportion of Older People Engaged in Civic Activities Grows	Increase to 50% formally and informally engaged (at 65+).
	Proportion of barrier-free apartments with technical support growing	20% of all apartments can be occupied by people in need of care.
	Number of intergenerational housing projects rising	Increase to at least 15 identifiable projects in the city.
	Later entry into geriatric facilities	Decrease in the proportion of people in need of nursing care in homes
Young City	Decreasing net migration U30	Reversal of the trend
	More startups + start-ups	More cf. start-ups per 10,000 p.e. like Vienna
	Growing proportion of students living in inner-city housing	50 students and 5 shared apartments p. a. more
	Vacant spaces more frequently used temporarily by alternative projects	Non-occupancy rate (of vacancy after 12 months) tends towards zero

Implementation

The strategy paper is structured in such a way that successive processing of the measures and projects proposed in the appendix, their planning and budgeting is easy and clear.

It is of utmost importance to implement demonstration projects that have positive effects on the overall process due to their lighthouse effect. In addition, this offers the chance to attract funding to Klagenfurt on Lake Ws. and to gain international and national attention.

Since almost all departments of the city and the public utility company are affected by the implementation and the participation of external organizations is also necessary for many measures and projects, a central coordination unit (Dept. Climate and Environmental Protection) has been established, which is responsible for managing the implementation process of the Smart City Strategy. In addition to managing the overall implementation process, the primary tasks of this coordination unit include initiating Smart City lighthouse projects with the submission of concrete funding project applications, monitoring target indicators, evaluating measures and projects, and reporting annually to the City Senate. In its decisions, the coordination office is supported by the core team, which is convened at regular intervals.

The Smart City Strategy Klagenfurt on Lake Ws. is to be understood as a working aid, which is continuously adapted in order to be able to take into account the experience gained and current developments. Serious changes and innovations again require the approval of the City Senate.

Overview working groups 2020

Field of action	Lead	Teammembers
Mobility	Dr. Wolfgang Hafner (Climate and environmental protection)	Dipl.-Ing. Robert Piechl (Urban planning) Dipl.-Ing. Alexander Sadila (Road construction and traffic) Dipl.-Ing. Georg Hummitzsch (Road construction and traffic) Gernot Weiss (Klagenfurt Mobil GmbH)
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Urban Developement	Dipl.-Ing. Robert Piechl (Urban planning)	Dr. Wolfgang Hafner (Climate and environmental protection) Dipl.-Ing. Bernhard Eder (STW Klagenfurt) Dipl.-Ing. Georg Wald (Urban planning)
Governance	Mag. Andreas Sourij (Magistrate's directorate)	Mag.ª Karin Zarikian (Building law-commercial) Mag. Wilfried Kammerer (Magistrate's directorate) Ing. Thoralf Bihlo (Magistrate's directorate)
Digitalization	Dipl.-Ing. Günter Koren (Surveying & Geoinformation)	Mag. Martin Florian (STW Klagenfurt) Ing. Peter Gilinger (STW Klagenfurt) Ing. Thoralf Bihlo (Magistrate's directorate) MMag.ª Dr.in Gabriele Stoiser (Population) Veronika Meissnitzer (City Communication)
Generations	Determination 2021	For now: Dr.in Birgit Trattler (Health, Youth and Family) Mag. Stefan Mauthner (Social) Mag.ª Dr.in Tanja Guggenberger (Health, Youth and Family)

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List of abbreviations

App	Application
bmvit	Federal Ministry for Transport, Innovation and Technology
Cf.	Confer
CO_2	Carbon dioxide
DIN	German Institute for Standardization
EEffG	Energy efficiency law
e5	Program for energy efficient communities
FH	University of Applied Sciences
GIP	Graph Integration Platform
IARA	Institute for Applied Research on Ageing
IKT	Information and communication technology
IoT	Internet of Things
IT	Information Technology
KDZ	Center for Administrative Research
KIHS	Carinthian Institute for Advanced Studies and Scientific Research
KLIEN	Climate and Energy Fund
MA	Municipal department / employees
MINT	Mathematics, computer science, natural sciences, technology
MoMaK	Mobility Master Plan Carinthia
NO_2	Nitrogen dioxide
OC	Operational Charging
ÖDK	Austrian Drau Power Plants
ÖPUL	Austrian Program for Environmentally Sound Agriculture
PH	University of Education
PM10	Particulate Matter
PR	Public Relations
PT	Public transport
PTI	Platform Technical Infrastructure
R&D	Research and development
RL	Guideline
SAKS	Smart waste heat utilization through cooling and storage in Klagenfurt
SC	Smart City
SEAP	Sustainable Energy Action Plan
SECAP	Sustainable Energy and Climate Action Plan
SET	Strategic plan for energy technology
SLiKH	Smart Living in Klagenfurt Harbach
STEK	City development concept
STW	Stadtwerke Klagenfurt
GHG	Greenhouse gas
TU	Technical University
UHI	Urban heat islands
Uni	University
VAO	Traffic information Austria
VO	Regulation
WE	Residential unit

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