

smart energy  
fit4set

Initiative for intelligent, urban regions

# Guide for proposers Smart Energy Demo – FIT for SET 2nd call

A funding programme of the Climate and Energy Fund



Vienna, October 2011



# Contents

<b>Foreword</b>	<b>4</b>
<b>01 Key items at a glance</b>	<b>6</b>
<b>02 Smart Energy Demo: Vision, concept, strategy, goals</b>	<b>8</b>
2.1 Programme vision - the Smart City concept	8
2.2 Conceptual understanding of a smart city	9
2.3 Programme strategy	10
2.4 Programme goals	12
2.5 Target group	12
<b>03 Content of the second call</b>	<b>13</b>
3.1 Instruments	13
3.2 Criteria for the content	13
3.3 Smart City flagship projects	14
3.4 Smart City cooperative R&D projects	15
3.5 Smart City R&D services (accompanying measures)	15
<b>04 Administrative notices on the call</b>	<b>17</b>
4.1 Call documents	17
4.2 Legal basis	17
4.3 Additional environmental funding from Kommunalkredit Public Consulting	18
<b>05 Contacts and advice</b>	<b>19</b>
5.1 Programme mandate and responsibility	19
5.2 Programme management	19

# Foreword

Visions of smart cities focus on outstanding quality of life, sustainable technologies and flexible mobility. Even though cities only make up 2% of the Earth's surface overall, they consume a quarter of the energy and are responsible for four fifths of greenhouse gas emissions. The trend towards urbanisation could further exacerbate existing problems such as rising energy prices and gridlock if challenges are not met with the development of intelligent, sustainable technologies.

For city administrations in particular, the "city of the future" is a challenge that must be taken seriously. We need much more than holistic solutions for resource usage and energy mix. Also crucial are flexible mobility concepts that integrate soft mobility, in other words that are climate-friendly and efficient. But new modes of citizen participation must also be found, because a city is only truly smart when its residents are involved in the developments, support them with enthusiasm and become part of the necessary changes.

Although all over the world the number of megacities with a population of more than ten million is increasing, this trend is not expected to affect our part of the world, although further growth of urban areas is forecast for Austria until 2050<sup>1</sup>. If we believe the prognoses of experts like futurist Matthias Horx, the trend in Europe is towards medium-sized towns with a good infrastructure and with differentiated settlement patterns. Smart solutions in urban areas meet these demographic challenges with visionary architecture, intelligent energy and communication technologies, and flexible choices of modal split.

The future belongs to cities. This year's Alpbach Technology Forum also concentrated on the subject of "smart cities". More than half of all people around the world now live in cities, and the trend is increasing. As the population increases, so do the challenges, especially in terms of environmental protection and energy efficiency. This is the focus of the Climate and Energy Fund's funding programme Smart Energy Demo - FIT for SET. Austrian companies are international frontrunners in many areas, from environmental technology and building technologies to electromobility. With the support of the Climate Fund, these companies are planning and implementing pioneering demonstration projects to keep standards of living high in Austria's towns and cities.

In Austria, there are already extremely progressive communities that have been actively promoting climate protection. Many activities at the community level relate to goals for reducing emissions by 2020. Interest has recently been directed towards the long-term view of climate protection goals and the corresponding prediction of the measures that would be needed to achieve the ambitious CO<sub>2</sub> neutrality goals by 2050. With its Smart Energy Demo - FIT for SET funding, the Climate and Energy Fund is making an investment in long-term planning

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<sup>1</sup> Small-scale population forecast for Austria 2010-2030 looking forward to 2050 ("ÖROK Prognoses"): while the population of Austria as a whole will increase in the medium to long term, differing trends can be expected regionally. The core cities and their surrounding areas will grow; this applies in particular to the Greater Vienna area. Less accessible regions on the other hand will lose population.

for intelligent cities: Austrian companies research new technologies and demonstrate their ideas for cities of the future. They are implementing ambitious, flagship projects in order to produce trend-setting stimuli for Austria and Europe.

This second call focuses on the concrete realisation of the first building blocks for sustainable urban development. We look forward to ambitious submissions from all over Austria, which will then be presented to an international jury.



Theresia Vogel  
General Manager, Climate and Energy Fund



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General Manager, Climate and Energy Fund

# 01 Key items at a glance

## Vision / strategy / goals

The vision of the Climate and Energy Fund for the Smart Energy Demo – FIT for SET programme is the initial realisation of a “**smart city**” or a “**smart urban region**”; in other words, a district, a residential area or an urban region in Austria that becomes a zero emission city or urban region with outstanding quality of life and living space thanks to the use of intelligent green technologies.

The main strategic goals to implement a sustainable energy supply in the setting of cities are improving **energy efficiency, increasing the proportion of renewable energy sources, and reducing greenhouse gas emissions.**

In the medium to long term, intelligent Smart City concepts bring about increased **development and distribution of Austrian environmental and energy technologies** and help secure and expand Austria’s position as a frontrunner in the field of technology.

The **main goal of the second call** is the **realisation of highly visible Smart City pilot and demonstration projects** in which existing or already fairly sophisticated technologies, systems and processes are integrated into interactive total systems. Austrian companies, municipalities and research institutes should undertake further activities to meet the SET plan (European Strategic Energy Technology Plan).

## Target group

- Provinces, towns, municipalities
- Companies, in particular
  - Power supply companies, energy service providers
  - Builders, property developers, investors
  - Infrastructure operators
  - Urban and traffic planners
- Research institutions
- Consumers
- Citizens’ representatives, NGOs

Consortia that received a positive funding decision in the first call in particular are invited to submit their applications. However, the second call is basically open to all eligible participants.

## Content orientation

The current call generally covers above all the topics and technology areas of buildings, mobility, energy networks, supply and disposal, communication and information.

Synergies with ongoing or completed research projects are explicitly encouraged.

## Budget

Funds of up to EUR 13 million have been allocated to the second call under the Smart Energy Demo – FIT for SET programme.

## Instruments and funding/financing rate

Projects in the following instrument categories can be submitted:

	Flagship project	Cooperative R&D project	R&D service
<b>Brief description</b>	Strategic cooperative R&D project with funding in excess of EUR 2 million	Cooperative R&D project – experimental development	Fulfilment of a predetermined call content
<b>Key Data</b>			
<b>Max. funding which can be applied for</b>	From EUR 2 million	EUR 100,000 to max. EUR 2 million	No funding
<b>Financing</b>	None	None	100%
<b>Funding rate</b>	35%-80%	35%-80%	None
<b>Project duration</b>	2 to max. 4 years	Max. 3 years	See Chapter 3.5
<b>Cooperation required – national partners</b>	Yes	Yes	No
<b>Cooperation required – international partners</b>	Yes – at least two	No	No
<b>Combined funding of environmental investments by Kommunalkredit Public Consulting</b>	Yes	Yes	No
<b>Indicative budget</b>	EUR 8 million	EUR 4.7 million	EUR 300,000
<b>Submission period</b>	17 October 2011 to 15 February 2012		
<b>Application language</b>	English	English	English
<b>Information on the web</b>	<a href="http://www.ffg.at/Leitprojekt">www.ffg.at/Leitprojekt</a> <a href="http://www.klimafonds.gv.at">www.klimafonds.gv.at</a> <a href="http://www.smartcities.at">www.smartcities.at</a>	<a href="http://www.ffg.at/Kooperatives-FuE-Projekt">www.ffg.at/Kooperatives-FuE-Projekt</a>	<a href="http://www.ffg.at/FuE-Dienstleistung">www.ffg.at/FuE-Dienstleistung</a>

### Submission

Applicants must use the appropriate forms found on the FFG website at <https://ecall.ffg.at>

### Procedure and jury's results

All applications that pass the formal check will be forwarded for the assessment of technical aspects and content by independent national and international experts; all those involved in the jury process or present during the jury meeting are bound by secrecy in respect of the information they obtain through this process. There is also a check of the economic capacity (creditworthiness) of the participating companies by internal experts at the FFG. If needed, further explanation of the application process can be obtained from the FFG.

Should additional investment funds for environmental purposes be requested, the FFG will also forward the complete funding application to KPC (Kommunalkredit Public Consulting) on behalf of the Climate and Energy Fund. KPC will co-operate with the FFG on the eligibility of environmentally relevant investment costs and the amount of funding in line with environmental promotion in Austria. If necessary, applicants will be contacted by the funding agencies to obtain additional information on environmentally relevant investment costs.

After conclusion of the technical and scientific jury assessment, the projects will be dealt with by the committees of the Climate and Energy Fund. The final decision on funding is made by the Executive Committee of the Climate and Energy Fund.

In the case of additional funding of environmentally relevant investment costs by KPC, two funding contracts will be drawn up:

- FFG funding contract for costs relevant to R&D
- Kommunalkredit Public Consulting funding contract for investment costs.

### Schedule

Submission deadline: 15 February 2012, 12 noon  
Examination of formalities: expected February/ March 2012

Jury's results: expected April 2012

Decision of the Executive Committee: expected May 2012

### Information and advice

Austrian Research Promotion Agency (FFG)  
Sensengasse 1, 1090 Vienna  
Tel: +43 5/77 55-5042  
E-mail: [smart-energy-demo@ffg.at](mailto:smart-energy-demo@ffg.at)  
[www.ffg.at](http://www.ffg.at)  
[www.smartcities.at](http://www.smartcities.at)

### Information and advice on combined funding of environmental investments

Kommunalkredit Public Consulting GmbH (KPC)  
Türkenstraße 9, 1092 Vienna  
Tel: +43 1/316 31-0  
[www.public-consulting.at](http://www.public-consulting.at)

# 02 Smart Energy Demo: Vision, concept, strategy, goals

## 2.1 Programme vision - the Smart City concept

In view of the need to reduce worldwide CO<sub>2</sub> emissions dramatically in the next few years, cities have a significant role to play. This applies in particular to Austria, where the degree of urbanisation has now reached 50% and is still increasing.

Sustainability and energy efficiency - these are the values used to measure the future viability of a city today. The reduction of greenhouse gas emissions has replaced targets like low traffic congestion and habitat density as a goal of town planning. The future will not be worth living without climate protection.

Town planning and development is undergoing change all over the world, and an era of "new beginnings" is starting to emerge, also in Austria. The future belongs to environmentally friendly metropolises which, even though they are highly built-up, nevertheless make economical use of resources, organise their energy supply, limit the flow of traffic, and put the landscape and work back as their central focus.

There are already many (individual) results as the technological basis for a climate-neutral city. One of the main challenges to planning new kinds of settlement areas lies in integrating the wide variety of discrete innovative urban solutions – in other words, the focus is on **system integration** and **system optimisation**. Building restoration, photovoltaics, mobility concepts, renewable energy generation and smart grids are all areas that, when configured ideally, can ensure sustainable and climate-friendly urban development. The goal of the Smart Energy Demo programme is precisely this integration of the now mostly extremely sophisticated individual solutions.

The interdependence of the technological and social need for an emission-free city are the main objectives of the **demonstration projects** being developed in the course of the Smart Energy Demo programme. The objective of climate-neutral and sustainable smart cities needs to be implemented especially in Austria's historical cities.

**Communica-  
tion and  
information**

**Buildings**

**Mobility**

The **vision** of the Climate and Energy Fund for the Smart Energy Demo – FIT for SET programme is therefore the **initial realisation** of a “**smart city**” or a “**smart urban region**”; in other words, a district, a residential area or an urban region in Austria that becomes a **zero emission city** or urban region with **outstanding quality of life and living space** thanks to the **use of intelligent green technologies**.

## 2.2 Conceptual understanding of a smart city

Terms like “smart city”, “intelligent city” or “city of the future” are generally used to describe **realisations of the vision of metropolises with superb quality of life and ideally functioning infrastructures and services provided through implementation of technological innovations**.

Within the scope of the Smart Energy Demo programme, when **looking at a city as a (complete) system**, special attention is paid to those topics that play a key role in the efficient supply of basic commodities and energy, and the processing, disposal and recycling of resources for the “city of the future”.<sup>2</sup>

### 2.2.1 Total approach – topics and technology areas

Smart Energy Demo projects mainly deal with systems that consist of other systems (“system of systems”). In the first stage of the programme (first call), a list was drawn up of **topics, technology areas** and issues

that could be crucial to overall planning and the initial (partial) implementation:

- buildings
- energy networks
- other urban supply and disposal systems
- mobility
- communication and information

It was determined that the listed topics and technology areas should not be explored separately and that submissions should not focus on a single technology area only but should examine above all the **interaction** of several of the **specified topics** and their **application** in **large-scale demonstration projects**.

Projects submitted under the second call must in particular examine the **integration of several topics** and the **interfaces to the overall system**.

This essentially concerns technological developments that

- facilitate the interaction and networking of individual technical systems;
- form an interface between systems and, by doing so, optimise individual systems or individual solutions;
- therefore represent added value compared to a single system or single solution.

<sup>2</sup> The SET Plan Smart Cities specifically mentions urban planning and built-up environment. In addition, there are other issues relevant to planning, such as issues related to the cities’ attractiveness and quality of life. Although these are regarded as relevant in the sense of the holistic approach to the future development of cities, they are not the focus of the programme.

## City system and urban region system

Energy networks

Other urban supply and disposal systems

### 2.2.2 Research and development dimensions

Innovative measures for a smart city or smart urban region can relate to the following three research and development dimensions:<sup>3</sup>

**Technology and new methods:** building, energy, traffic and communication technologies, components and system research; includes all technological developments and innovations that could contribute to increasing energy efficiency or reducing greenhouse gases; methods are e.g. control methods, metering and monitoring methods, etc.

**Processes:** player processes (politics, business, decisions by players); process analysis and optimisation; development of business models; consideration of lifestyles and social change, quality of life and user behaviours.

**Structures (city structure, built-up environments):** integrated space, urban, traffic and energy planning; evaluation, modelling and planning tools.

The Smart Energy Demo – FIT for SET programme accordingly sets out to generate projects that are thematically holistic and focus on the implementation level of the three research and development dimensions (technologies, processes, structures).

## 2.3 Programme strategy

In order to come closer to the vision of a smart city, the Climate and Energy Fund is pursuing a combination of strategic approaches derived from the vision, the conceptual understanding of a smart city, European strategies and Austrian strengths.

Accordingly, the main strategic goals defined with a view to achieving the necessary sustainable energy supply and excellent quality of life in the setting of cities are **improving energy efficiency, increasing the proportion of renewable energy sources, and reducing greenhouse gas emissions.**

### Dividing the topics into research dimensions (structures, technologies, processes) and into research stages (basics, methods, implementation)

Implementation Methods Basics	→ <b>Application of new insights</b> in actual implementation projects	→ <b>Introduction of the newly developed technologies/technology components</b> in concrete implementation projects	→ <b>Introduction of newly developed processes</b> in conventional procedures → <b>Governance</b>
	→ Development of <b>modelling and analytical tools</b> to consider the increased complexity in the interdisciplinary area (strategic and operations planning)	→ Development of methods (above all planning methods, development of business models, etc.) to allow the newly developed technologies/components to be considered/integrated in current processes	→ Development of integrated policy instruments (new <b>funding models</b> , etc.)
	→ Development of <b>new knowledge</b> in the interdisciplinary area, relating to the analysis of urban structures	→ <b>Development of technology components</b> → Concept elaboration for <b>technological system combinations</b>	→ Research in the <b>socio-economic area</b> (e.g. user behaviour, socio-economic models) → Research of <b>economic and legal processes</b>
	<b>Structures</b>	<b>Technologies</b>	<b>Processes</b>

Source: own diagram ÖIR/AIT 2011

<sup>3</sup> SmartCitiesNet: Evaluation of research topics and elaboration of action recommendations for smart cities, interim report, Austrian Institute for Land Use Planning (ÖIR) & Austrian Institute of Technology, 2011

The programme focuses on **realisation in a city setting** - both in terms of **implementation planning** and also of the actual **implementation of integrative smart city solutions** ("cities as test beds").<sup>4</sup>

The Climate and Energy Fund's programme Smart Energy Demo – FIT for SET is also the funding programme chosen by the Austrian government to prepare Austrian companies for **participation in European industrial initiatives** within the framework of the **SET plan** (European Strategic Energy Technology plan). The current initiative will help set the stage for the successful positioning of Austrian companies.

The Smart Energy Demo – FIT for SET programme strategy is accordingly guided by the **European Research Strategy** for smart cities, which is based on the following key strategies:

- initiative of the European Commission and the SET plan
- focus on energy systems for smart cities
- technology-oriented research activities
- short-term implementation of new solutions
- systemic, interdisciplinary approach
- stakeholder involvement

Smart Energy Demo offers municipalities, research and industry a funding programme with incremental steps. The first call had as its focus consortium creation, joint vision and concept development (roadmap, action plan) and preparing an application for the second call.

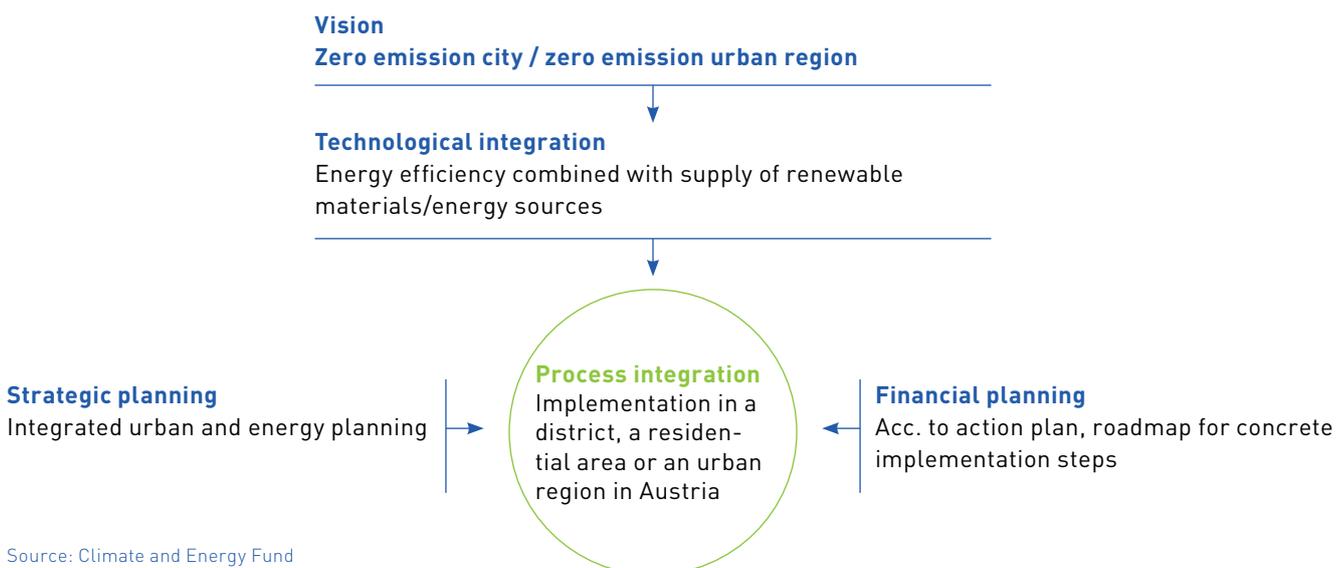
In the current, second call for proposals, **large-scale pilot and demonstration projects** in an urban context will be funded, with use made of the instruments for research funding and for funding of environmentally relevant investment. The funding programme will be continued during the next few years.

Thanks to a thematically **holistic, integrative** approach and criteria aligned with the research and development dimensions (technologies, processes, structures), in the medium and long term this will underpin strategies to significantly expedite the development of technologies with low CO<sub>2</sub> emissions.

The **strategic components** of the holistic approach of the programme in terms of a zero emission city are the following:

- strategic planning
- technological integration
- financial planning
- process integration

### The holistic approach as a strategy



Source: Climate and Energy Fund

<sup>4</sup> A "city" is defined as having a population of more than 10,000 whereas an "urban region" is the urban area (criteria characterising a city are, among others, concentration, various central functions, public transport network, traffic hub, etc.).

## 2.4 Programme goals

The following **programme goals** have been developed based on the vision, the conceptual understanding of a smart city, and the programme strategy:

- **Combining innovative partial projects and results to create a holistic, integrated concept in an urban setting:** In the Smart Energy Demo – FIT for SET programme, the goal is to integrate technologies and systems to form interactive, integrated systems in the areas of buildings, energy networks, other urban supply and disposal systems, mobility and communication and information. The integrated concept should describe the dimensions of technologies, processes and structures.<sup>5</sup> The development in terms of other resources (water, biodiversity, etc.) should also be considered, similarly to measures on the consumer side (such as efficiency, load management, adoption of storage functions, etc.).
- **Administration by interdisciplinary consortia with a transnational network,** whose members contribute planning and social scientific expertise in addition to expertise in the individual technological areas (e.g. electrical and thermal energy, communications, traffic technologies, etc.)
- **Realisation in an urban setting:** This call for proposals is directed towards large to mid-size Austrian cities and regions with a good infrastructure where **initial demonstration projects** are already underway within the scope of **an overall development concept for a smart city.**
- **Creating a platform:** The Climate and Energy Fund created a platform for smart city activities and the stakeholders as part of the first call. Existing knowledge about smart cities and the results being compiled on an ongoing basis in the individual projects will also be made available over time to all cities and regions. This will be ensured through continuous expansion of the web platform [www.smartcities.at](http://www.smartcities.at), networking events and accompanying measures in the form of topic-oriented studies and concepts. In this way, the Climate and Energy Fund will generate significant added value and ensure that the results are available to all those involved and are passed from one party to the next, thus

supporting the process of creating smart urban solutions above and beyond the funding provided.

## 2.5 Target group

The **target group** is organisations which can contribute to the concrete realisation of demonstration projects for a smart city. That means in particular:

- Provinces, towns, municipalities
- Companies (from industry/large companies to SMEs), in particular
  - Power supply companies, energy service providers
  - Builders, property developers, investors
  - Infrastructure operators (e.g. from the areas of building management, energy networks, local supply and disposal systems, communication and information systems, mobility, etc.)
  - Urban and traffic planners
- Research institution(s)
- Consumers (e.g. business enterprises, test households, etc.)
- Citizens' representatives, NGOs

Consortia that received a positive funding decision in the first call in particular are invited to submit their applications. However, the second call is generally open to all eligible participants; it therefore offers the chance of realising a demonstration project to those consortia that were unable to submit a proposal under the first call, but which can demonstrate an existing or draft vision and roadmap of a smart city and an action plan for its implementation.

N.B.: See section 4 for information about eligible participants and administrative rules.

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<sup>5</sup> The development and refinement of individual technologies, methods and processes that do not have this integration as a goal are secondary.

# 03 Content of the 2nd call

## 3.1 Instruments

The subject of the second call is funding of pilot and demonstration projects that are best matching with the conceptual understanding, the strategy and the goals of the Smart Energy Demo programme. Projects set up for the following funding instruments may be submitted:

- **Smart City flagship projects**
- **Smart City cooperative R&D projects**
- **Smart City R&D services (accompanying measures)**

In the case of Smart City flagship projects and cooperative R&D projects, funding will be based on RTD funding guidelines, in the case of Smart City R&D services (accompanying measures), financing will be in line with research and development services (exceptional circumstances according to §10 (13) of the 2006 Austrian Public Procurement Law (BVerG)). The latter services are defined by the fulfilment of a prescribed call content within a certain period.

## 3.2 Criteria for the content

Smart City flagship projects and Smart City cooperative R&D projects must meet the following content criteria in order to comply with the conceptual understanding, the strategy and goals of the Smart Energy Demo programme:

### **Based on the vision, roadmap and action plan for a smart city or urban region**

The pilot or demonstration project submitted must be aligned with the existing requirements/results of the first call (vision, roadmap and action plan) and refer directly to these. This also applies to consortia that were unable to make a submission under the first call, but that can show evidence of an existing or draft vision and roadmap of a smart city and an action plan for its implementation.

### **Integrative nature across content and technology areas**

Smart City cooperative R&D projects must cover at least two of the following content and technology areas in an **integrative approach to optimise the system**.

Smart City flagship projects must cover at least three of these content and technology areas:

- buildings
- energy networks<sup>6</sup>
- other urban supply and disposal systems
- mobility
- communication and information

These must be incorporated in an integrated city, energy and mobility plan and submitted based **on an integrated urban development concept** and together with **short, medium and long-term financing considerations**.

Smart City cooperative R&D projects and Smart City flagship projects should address especially the following cross-system issues and demonstrate their application:

- multi-building energy management
- interactive overall systems for energy and supply networks with at least two forms of energy
- integration of building conglomerations in energy and supply systems (networks, storage, system) and in mobility infrastructure, technologies and concepts
- cross-system integration of information and communications technologies in building, energy/supply and disposal and mobility systems.

The expected cross-system and system-optimisation features should be very strong, even in the demonstration stage, for Smart City flagship projects and guarantee the national and international visibility of the project. In the case of Smart City cooperative R&D projects, there is a lower expectation of complexity.

<sup>6</sup> Smart City cooperative R&D projects and Smart City flagship projects in the field of energy networks may disregard the requirement to deal with other content and technology areas if they are already highly complex in their approach to interactive, integrated systems in the content area of energy networks.

### Proof of commitment

Large-scale major projects with sizeable financing requirements will be needed to turn a city into a zero emission city using smart technologies, processes and structures, with several topics and technology areas used integratively to optimise systems. Demonstration projects funded under this programme are a first step towards realisation of a smart city. A requirement for the next steps is development of a **municipal overall development concept** and the correlating financing plan that takes all of the necessary stakeholders into account. These must exceed the time and content parameters of the demonstration project in the current call and above all be considered binding by municipal decision-makers. In order to ensure that municipal decision-makers continue to support measures to achieve a smart city once funding has ended, **proof of commitment** must be provided, in which the city/community confirms that it will continue to pursue this development at the end of the funding period (e.g. by means of a Letter of Intent (LoI), city/community government resolution, or similar).

### Reproducibility of project results across partner cities

The requirement that the results of projects submitted are reproducible must be met through the involvement of other cities with similar problems/general conditions/approaches to the problems. Regardless of the instruments, it is therefore a prerequisite that cities with a population of >100,000 must interact with at least one other European partner city outside Austria, and cities with a population of <100,000 must interact with one other partner city in Austria. There must be coordinated communication between the partner cities, and at the end of the project the results must be available to both cities. In flagship projects it is obligatory to include two international partners in the consortium (for detailed information about international partners please see the guides on cooperative R&D projects and on flagship projects). The exchange with partner cities in general can however also be implemented without these partner cities being represented in the project consortium.

### Link to project results from other programmes

In the years 2007 to 2010, the Climate and Energy Fund funded a series of projects to prepare the ground for smart energy demonstration projects. In doing so, it created the ideal circumstances for Austria to be successful at the European level, e.g. within the scope of the SET plan. In this second call for proposals, estab-

lishing a link to current projects or projects that have already been completed is highly desirable.<sup>7</sup>

## 3.3 Smart City flagship projects

Smart City flagship projects

- are **research and development projects** that are strategically and scientifically defined and are of substantial size with regard to their scientific and financial volume, the number of project partners and the running time
- generate **national and international visibility for Austrian technologies and methods**
- create **model solutions** for major challenges to society in the context of smart cities
- **create awareness of the topic** in the public at large.

Smart City flagship projects include the components **demonstration/pilot project** with direct reference to an action plan/measures package, **urban realisation concept (development brief)** and **financing plan** with direct reference to the vision and roadmap.

Projects submitted as flagship projects can be for districts, residential areas or entire regions, but can also be for smart implementation measures throughout a city.

In this category, **only one flagship project per city** will be funded by the Climate and Energy Fund. It may contain several demonstration components, but must be based on a joint urban implementation concept and joint financing considerations.

A prerequisite for funding is that the flagship project fully meets the content criteria and is evaluated by the jury as excellent. Critical aspects of the evaluation are **reproducibility** and the **implementation of holistic approaches** in keeping with the city system. Smart City flagship projects should demonstrate a dimension of European visibility and be particularly relevant in terms of the SET plan. Flagship projects can be divided into the industrial research category and the experimental development category. However, the percentage of industrial research may not exceed 30% of the total costs.<sup>8</sup>

<sup>7</sup> Differences to other programmes are published in detail on the FAQ page of the website [www.smartcities.at](http://www.smartcities.at) and specified within the framework of advice provided to parties submitting projects.

<sup>8</sup> Please see the guides for cooperative R&D projects and flagship projects for the definition of "industrial research" and "experimental development".

## 3.4 Smart City cooperative R&D projects

Smart City cooperative R&D projects offer cities and urban regions the possibility of functioning as **test beds** or **living labs** for intelligent technologies, methods, procedures or processes in the Smart City context or providing the corresponding basic conditions for these. For example, working with test households, prototypical technologies from the laboratory can be transferred to a real-life environment and tested or the interface between man and technology tested.

Smart City cooperative R&D projects are still on the way to (inter)national visibility; because of this, the complexity requirement of the project is lower than that for Smart City flagship projects.

In the current second call, only cooperative R&D projects for **experimental development** are included. Intelligent technologies, methods, procedures or processes that facilitate implementation of the Smart City vision should be tested in concrete applications and monitored with scientific, technical and/or business methods. Smart City cooperative R&D projects are specifically not intended to obtain completely new knowledge for the smart city or to develop completely new technologies that are still far removed from commercial applicability.

In this category, several **projects per city/urban region** will be funded by the Climate and Energy Fund. A significant aspect for participation is the **inclusion of essential users** or **application in test households/test buildings**.

## 3.5 Smart City R&D services (accompanying measures)

One of the Climate and Energy Fund's main objectives is to create an **information and knowledge platform** for Austrian smart cities. The exchange of knowledge and experiences must be ensured within the smart city community with the help of targeted methods and tools as well as prepared results. Key issues from the wide-ranging context of smart cities will therefore be agreed on as accompanying measures with the smart cities and the relevant results will be developed with all the cities and regions involved and will be made available to the public.

In addition to cities and regions as essential users, the accompanying measures need to be employed to connect stakeholders and other participants in the process in order to promote networking and to bring the right players together. The central information platform is the website [www.smartcities.at](http://www.smartcities.at), events such as round tables, progress workshops, Smart City Day, and similar invite interested parties to exchange knowledge and facilitate mutual learning.

The following topics will be advertised as accompanying measures through the R&D services instrument. **Only one assignment per topic** will be awarded.

### 3.5.1 Dynamics of Austrian cities

For a group of cities defined by the client (cities in Austria <100,000 population, other smart cities, max. 20), a set of base level data will be established using existing demographic information (e.g. age structure of the population, quantitative behaviour of men and women, percentage of Austrians, foreign nationals and naturalised citizens in the population, trends in births and deaths, immigration and emigration, fertility rates, infant mortality, life expectancy, etc.). Starting with this data, a method will be developed and applied to collect demographic data relating to Smart City topics and areas of technology. This method will subsequently be applied to other cities.

The goal is to use this socio-demographic data to identify possible effects on the cities, provinces and municipalities in the smart city setting and to extrapolate trends in population growth (demographic change 2015, 2030, 2050). The requirements and key issues will be specified in detail at the beginning of the project during workshops with the client and selected stakeholders.

The results will help cities and communities to develop (environmentally) strategic concepts and (environmentally) politically coordinated goals and as a result make better decisions in the context of their progress towards becoming a zero emission city.

An important part of this process is the **prepared interpretation** of the data and **visualisation** of the results to make them more functional both for the cities themselves and for the Climate and Energy Fund.

**Duration** from assignment: max. 6 months. The maximum project funding which can be applied for is EUR 40,000.

### 3.5.2 Gradual development of Austrian smart city profiles

The long-term goal is the (gradual) compilation of city profiles revealing various aspects of a smart city in practice and which relate to the described topics and technology areas.

The methods to be used have not yet been determined, but a reproducible methodical approach should be developed that covers as many topics as possible and can accommodate later expansion of the city profiles.

Topic-specific workshops should be designed with the client and selected experts and held as a kick-off event with a view to specifying the requirements and key issues in detail and prioritising the topics/aspects to be developed in the first stage. The basic content, methods and timeframe should also be agreed.

Based on the resulting requirements specification, city profiles should be developed for selected smart cities (initially no more than 20) in close coordination with the client. To do this, advantage should be taken of existing data (e.g. statistics, demographic data) and known indicators (e.g. CO<sub>2</sub> footprint, energy consumption, carbon dioxide emissions, energy use, etc.).

Existing observations (e.g. global trends in international, supraregional networks of cities and conurbations reflected in supraregional financial and communication flows and in the increasing movement of people and goods) should be taken into account. During this elaboration phase, there should be direct contact with the smart cities to obtain their suggestions and data.

**Interpretation** of the profiles developed and **visualisation** of the results are important factors. The consortium should be as broad-based as possible and be interdisciplinary.

**Duration** from assignment: max. 12 months, partial results after 6 months desirable. The maximum project funding which can be applied for is EUR 200,000.

### 3.5.3 Financing models

Within the scope of a study, possible forms of financing for major projects in smart cities should be described, such as citizen participation models and new financing models. City administrations and financial service providers should be involved in this work. The goal is to create a precise description of the possibilities that will help smart cities with their financial planning in the medium and long term. The specific situation in Austria must be taken into account; successful models from other countries can be included in the considerations as best practices.

**Duration** from assignment: max. 10 months, partial results after 6 months desirable. The maximum project funding which can be applied for is EUR 60,000.

# 04 Administrative notices on the call

## 4.1 Call documents

For this call for proposals, the following documents apply for **funding**:

Document	Web address
This call guide	<a href="http://www.ffg.at/smart-energy-demo-fit4set/downloadcenter">www.ffg.at/smart-energy-demo-fit4set/downloadcenter</a>
<b>Guidelines</b> of the respective funding instrument incl. evaluation scheme Flagship project Cooperative R&D project	<a href="http://www.ffg.at/Leitprojekt">www.ffg.at/Leitprojekt</a> <a href="http://www.ffg.at/Kooperatives-FuE-Projekt">www.ffg.at/Kooperatives-FuE-Projekt</a>
<b>Special</b> provisions on the funding instruments for programmes of the Climate and Energy Fund	<a href="http://www.ffg.at/smart-energy-demo-fit4set/downloadcenter">www.ffg.at/smart-energy-demo-fit4set/downloadcenter</a>
<b>Application forms</b> to be submitted <b>via eCall</b> <ul style="list-style-type: none"><li>• Project description for grant applications</li><li>• Financial plan</li><li>• Statement under oath confirming SME status</li></ul>	From the download centre at <a href="http://www.ffg.at/smart-energy-demo-fit4set/downloadcenter">www.ffg.at/smart-energy-demo-fit4set/downloadcenter</a> and from eCall
Guide for the Treatment of <b>Project Costs</b> in Funding Applications and Reports	<a href="http://www.ffg.at/kostenleitfaden">www.ffg.at/kostenleitfaden</a>
<b>RTD funding guidelines</b>	<a href="http://www.ffg.at/foerderrichtlinien">www.ffg.at/foerderrichtlinien</a>

For this call for proposals, the following documents apply for **R&D services**:

Document	Web address
This call guide	<a href="http://www.ffg.at/smart-energy-demo-fit4set/downloadcenter">www.ffg.at/smart-energy-demo-fit4set/downloadcenter</a>
<b>Guidelines</b> of the respective financing instrument R&D services	<a href="http://www.ffg.at/FuE-Dienstleistung">www.ffg.at/FuE-Dienstleistung</a>
<b>Application forms</b> to be submitted <b>via eCall</b> : <ul style="list-style-type: none"><li>• Content of the tender/specifications for financing applications, incl. sworn statement and applicant declaration (in the case of joint applications)</li><li>• Financial plan</li></ul>	From the download centre at <a href="http://www.ffg.at/smart-energy-demo-fit4set/downloadcenter">www.ffg.at/smart-energy-demo-fit4set/downloadcenter</a> and from eCall

Additional notes on the application forms:

In the financial plans, the payroll costs must be specified, in each case with the allocation to a work package as well as the overall costs for each work package.

Regarding company size, the corresponding valid SME definition according to EU competition law shall be decisive (from 1 January 2005: SME definition according to Commission Recommendation 2003/361/EC from 6 May 2003 (Official Journal L 124 from 20 May 2003, p.26-41)).

## 4.2 Legal basis

As the legal basis the guidelines for the promotion of economic/technical research and technological development (RTD funding guidelines) pursuant to Section 11 (1-5) of the Research and Technology Promotion Act (FTFG) of the Federal Ministry for Transport, Innovation and Technology from 19 November 2007 (file no. BMVIT-609.986/0011-III/12/2007) and of the Federal Ministry for Economics and Labour from 30 November 2007 (file no. BMWA-97.005/0002-C1/9/2007) are used.

All EU regulations in the currently valid version must be applied.

In the case of the "Smart City R&D services instrument", the legal basis for the exception under §10, 13, of the Federal Law on Public Procurement 2006 applies.

### 4.3 Additional environmental funding from Kommunalkredit Public Consulting

Cooperative R&D projects in experimental development and flagship projects can also be carried out as part of a cooperation venture between the Austrian Research Promotion Agency (FFG) and Kommunalkredit Public Consulting GmbH (KPC). In accordance with the 2009 funding guidelines for “environmental grants in Austria”, which are handled by KPC, the Climate and Energy Fund provides non-repayable grants for investment costs related to demonstration facilities, provided there is an **ecological benefit** (climate protection effect, noise reduction, air pollution control, reduction of hazardous waste).

In accordance with the guidelines for environmental grants in Austria, the environmentally-relevant additional investment costs form the funding basis for investment funding. The environmentally-relevant additional investment costs are calculated in accordance with the 2009 funding guidelines for environmental grants in Austria.

In the case of cooperative R&D projects in experimental development or flagship projects with a demonstration component/facilities, the project application will also be forwarded by the FFG to Kommunalkredit Public Consulting GmbH. Experts from KPC will check the funding requirements and come up with a funding proposal for the investment cost portion.

The application must be made in the form of **one** project application submitted to the FFG. In addition to the project description of the R&D part, the planned demonstration parts to be funded by KPC need to be listed in detail as a separate list of costs for the environmentally-relevant additional investments and must be uploaded using eCall. Coordination for the funding portion determined by KPC is carried out automatically by the funding agencies. If necessary the respective funding agency may contact applicants so they can submit additional information.

In the case of additional funding for the demonstration project by KPC two funding contracts will be drawn up:

- FFG funding contract for costs relevant to R&D
- Kommunalkredit Public Consulting funding contract for investment costs.

# 05 Contacts and advice

## 5.1 Programme mandate and responsibility

Climate and Energy Fund  
Gumpendorfer Strasse 5/22, 1060 Vienna  
Fax: +43 1 5 85 03 90-11  
[www.smartcities.at](http://www.smartcities.at)  
[www.klimafonds.gv.at](http://www.klimafonds.gv.at)

### Contact and strategic advice:

Daniela Kain  
Tel.: +43 1/5 85 03 90-27  
E-mail: [daniela.kain@klimafonds.gv.at](mailto:daniela.kain@klimafonds.gv.at)



### Information and advice for the investment portion of demonstration projects

Kommunalkredit Public Consulting GmbH  
Türkenstrasse 9, 1092 Vienna  
Fax: +43 1/316 31-104  
[www.public-consulting.at](http://www.public-consulting.at)

### Contact:

Karin Schweyer  
Tel.: +43 /316 31-274  
E-mail: [k.schweyer@kommunalkredit.at](mailto:k.schweyer@kommunalkredit.at)

## 5.2 Programme management



Austrian Research Promotion Agency (FFG)  
"Thematic Programmes" department  
Sensengasse 1, 1090 Vienna  
Fax: +43 1/5 7755-950 40  
[www.ffg.at](http://www.ffg.at)

### Programme management FFG:

Johannes Bockstefl  
Tel.: +43 5/77 55-50 42  
E-mail: [johannes.bockstefl@ffg.at](mailto:johannes.bockstefl@ffg.at)

### Contact and advice:

Thomas Trink  
Tel.: +43 5/77 55-50 43  
E-mail: [thomas.trink@ffg.at](mailto:thomas.trink@ffg.at)

### Advice for the submission of R&D services:

For R&D services the specifications laid down by federal procurement legislation shall apply to communication with proposers.

#### Advisory talks

The FFG is offering advisory talks on contents until 1 February 2012 if requested by potential proposers. For appointments please send an e-mail to: [johannes.bockstefl@ffg.at](mailto:johannes.bockstefl@ffg.at)

#### Formal and contract issues:

Enquiries must be submitted by e-mail, written in German and arrive at the following address by 2 December 2011, 12.00 noon: [johannes.bockstefl@ffg.at](mailto:johannes.bockstefl@ffg.at)

While ensuring non-discrimination, enquiries will be answered by 23 December 2011 and made available in PDF format on the website [www.ffg.at/smart-energy-demofit4set/downloadcenter](http://www.ffg.at/smart-energy-demofit4set/downloadcenter).

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