smart energy
fit4set
Initiative for intelligent, urban regions

klima+ energie fonds

smart energy Demo – fit4set

1st Call
Guide for proposers

Vienna, December 2010

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Preface

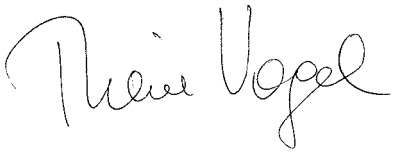
More than half of the world's population already live in cities today, and in 2050 this figure will be 70 percent according to current forecasts. The increasing urbanisation gives rise to problems and opportunities, and ecologically sensible and secure power supply will be a central theme.

Our energy system will therefore have to change: new, innovative technologies will play a central role here. Today research teams throughout Europe are already working on pioneering pilot and demonstration projects – Austria is demonstrating competence and leadership in the issue in the areas of "sustainable building", "intelligent energy systems and infrastructures" and "network-integrated use of renewable energy sources".

Now it is time to merge innovative sub-projects into a comprehensive overall concept and to create broad consortia which will take on the sponsorship. Consortia which integrate all stakeholders which are required for the system change and find solutions which integrate technologies, sociology, architecture and spatial planning. On December 15, 2010 the Climate and Energy Fund is therefore starting the two-stage funding programme "Smart Energy Demo – FIT for SET"[1]. With this the process for the implementation of demonstration projects in the area of "smart energy" which are visible throughout Europe and internationally integrated will be initiated and supported in Austria.

The vision of the Climate and Energy Fund for the programme "Smart Energy Demo – FIT for SET" is the first implementation of a "smart city" or a "smart urban region",i.e. a district, a residential area or an urban region in Austria which, with the use of intelligent, green technologies, will become a "zero emission city" or "urban region" where the people will live sustainably.

We invite you to help build the city of the future!



DI Theresia Vogel
Managing Director of Climate and Energy Fund

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[1] The abbreviation "SET" stands for the European "Strategic Energy Technology Plan" ("SET Plan").

01. The most important details in brief

Vision and objectives

The vision of the Climate and Energy Fund for the programme "Smart Energy Demo – FIT for SET" is the first implementation of a "smart city" or a "smart urban region", i.e. a district, a residential area or an urban region in Austria which, with the use of intelligent, green technologies, will become a "zero emission city" or "urban region" where the people will live sustainably. Here the particular focus is on mainly urban demonstration projects in which existing and already largely well-developed technologies and systems are integrated into interacting overall systems.

The strategy envisages a two-stage process to achieve the programme objectives.

1st call: Creation of consortia with a transnational network; vision and concept development
2nd call: Implementation of "smart energy" pilot and demo projects

The aim of the first call is to support the creation of consortia, whose partners jointly develop their "smart energy" vision and their implementation concept as preparation for subsequent demonstration projects. As early as in this first stage, the consortia are to take transnational networking into account.

Target groups

- Companies (from industry/large enterprises to SMEs), in particular
  - Power supply companies, energy service providers
  - Real estate 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.)
  - Actors from spatial and traffic planning
- Research institutions
- Provinces, towns, municipalities
- Consumers (e.g. business enterprises, test households etc.)
- Citizens' representatives, NGOs
- Actors from at least two other EU countries which can contribute, among other things, to ensuring the exploitation of the project results in future European "SET Plan" consortia.

Content orientation

In terms of content this call mainly covers the themes of communication, networking, storage, the interface between people and technology, power generation, energy consumption, energy distribution and storage technologies, mobility technologies.
The projects of the 1st call must have a scientific orientation and show how scientific monitoring of the subsequent demonstration project will be conducted. Synergies with ongoing and completed research projects are explicitly desired.

Budget

As part of the 1st call of the programme "Smart Energy Demo – FIT for SET" funds up to EUR 2 million are provided.

Project type and funding intensity

In this 1st call of the programme "Smart Energy Demo – FIT for SET" only projects of the project type "Technical feasibility study for demonstration projects" (TFS-DEMO) can be submitted. To ensure the desired interdisciplinarity in the project implementation only cooperative projects are allowed.

The maximum funding intensity is 50% for small and medium-sized enterprises, 40% for large enterprises and 80% for research institutions and others.

Application forms and language

For submissions the corresponding forms on the homepage https://ecall.ffg.at must be used. The applications must be submitted in English.

Procedure and jury's results

For all applications which have positively passed the examination of formalities follows the actual technical and content-related assessment by the jury. This is done by independent national and international experts. All people dealing with the assessment procedure or present at the jury meeting are sworn to secrecy about the information disclosed to them within their mandate. There is also a check of the economic performance (credit rating) of the companies by internal experts at the Austrian Research Promotion Agency FFG. If necessary, more detailed explanations concerning the application may be obtained from the funding agency.

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

Expected schedule

Submission deadline: 31.3.2011, 12 noon
Examination of formalities: April 2011
Jury's results: May 2011
Decision of the Executive Committee: May 2011

Information and advice

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E-mail: smart-energy-demo@ffg.at
www.ffg.at

02. Orientation and objectives of the programme

2.1 Vision of "Smart Energy Demo – FIT for SET"

In view of the clearly changing framework conditions great efforts will be necessary to modify the energy system. New and innovative energy technologies will play a central role here. Throughout Europe considerable efforts are being made to take a step in this direction with pioneering pilot and demonstration projects.

Austria has good opportunities to make a substantial contribution to such demonstration projects which are visible throughout Europe with technological fields of strength, e.g. in the areas of "sustainable building", "intelligent energy systems and infrastructures" and "network-integrated use of renewable energy sources". However it is necessary to merge innovative sub-projects into a comprehensive overall concept and to have broad consortia act as project providers. With this two-stage call the process for the implementation of demonstration projects in the smart energy area which are visible throughout Europe and are internationally integrated will be initiated and supported in Austria.

The vision of the Climate and Energy Fund for the programme "Smart Energy Demo – FIT for SET" is the first implementation of a "smart city" or a "smart urban region", i.e. a district, a residential area or a region in Austria which, with the use of intelligent, green technologies, will become a "zero emission city" or "urban region" where the people will live sustainably. Here the particular focus is mainly on urban demonstration projects.

The term "city" means towns of more than 10,000 inhabitants while "urban region" means the area surrounding the town (criteria which characterise a city are, among others, densification, various central functions, public transport network, traffic junction, etc.).

Here "smartness" is not only a technological approach but also an a priori interdisciplinary approach with particular emphasis on the interface between people and technology.

A "smart energy demo" project is measured according to the following criteria:

- Sustainable greenhouse gas balance
- Use of the latest technologies with high resource and energy efficiency
- Intelligent and system-oriented solutions to optimise the energy systems (optimum use of renewable energies and maximum system efficiency while taking cost effectiveness and quality of supply into consideration at the same time)
- Modal split: distribution of the volume of transport to different modes of transport, with soft mobility and public transport being preferred to motorised individual transport here
- Social and organisational innovations with the integration of users
- Clear chances of implementation by involving investors at an early stage
- Clear contribution to ecological sustainability

To implement a "smart city" or a "smart urban region" an interdisciplinarily composed consortium is required which, besides expertise expertise in individual technological questions (e.g. electrical and thermal energy, communication, transport technologies etc.) also provides planning and social science expertise and know-how on the interface between people and technology.

The programme "Smart Energy Demo – FIT for SET" is therefore about the **integration of technologies and systems** into interacting overall systems. The development and further development of individual technologies remain in the background. These are supported as part of other programmes of the Climate and Energy Fund.

The big challenge is to develop a clearly defined process which integrates all affected groups of actors where, at the end, there are implemented "smart energy" demonstration projects and which prepares the consortia for participation in corresponding EU activities.

Smart energy is a system of systems in which, with the interaction of technology and people, sustainability and climate protection are the winners!

2.2 Situation at the outset

National developments

The Climate and Energy Fund funded a series of projects from 2007 to 2010 which are paving the way for "smart energy demo projects" and therefore provided the perfect conditions for Austria to also be successful at the European level, e.g. as part of the SET Plan: in the research programme New Energies 2020 the area of focus of energy systems, networks and consumers has been established since 2007. A series of individual projects are being implemented or have already been completed. The first smart grids model region is currently coming into existence. Energy-efficient building technologies were also promoted in New Energies 2020. In the area of buildings there are demonstration projects on residential areas and "energy plus" buildings, with results in particular from the programme „Building of Tomorrow Plus".

In the area of transport, the projects of the Climate and Energy Fund calls with the titles "Leuchttürme der E-Mobilität" (Technical beacons of electric mobility), "Verkehrs-auskunft Österreich" (Austrian Transport Information) and "Modellregionen der E-Mobilität" (Model Regions of E-Mobility) in particular are pioneering. Other
results from the Austrian Ministry for Transport, Innovation and Technology (BMVIT) programmes A3plus, I2V and ways2go are also available.

With the climate and energy model regions initiated by the Climate and Energy Fund, awareness of climate protection in the regions was hugely increased. A regional manager was appointed as a coordinator and point of contact for further developments.

European developments

In 2007 the European Union showed the way with the 20% target (20% more energy efficiency, 20% more renewable energies, 20% CO_2 reduction by 2020). Now the European Parliament is already pursuing much more ambitious energy goals. In view of Europe's increasing energy dependence and the instrumentalisation of energy as a political lever, by the target date of 2050 it is demanding the reduction of greenhouse gas emissions by up to 80%, the increase of energy efficiency by 35% and the share of renewable energies to 60% of total energy consumption in the EU compared with 1990.

To take the particular challenges in the area of energy into account the European Commission has started the Strategic Energy Technology Plan (SET Plan) in cooperation with the member states[2]. In certain thematic areas it offers big opportunities for Austria (e.g. smart grids, smart cities, renewable energies) which have to be used and the national fields of research have to be strengthened. As well as several other instruments of the SET Plan, the so-called "European Industrial Initiatives" (EII) which are either in preparation or already started are important for the Climate and Energy Fund.
The industrial initiatives need to be funded by public-public-private partnerships, and here the first "public" stands for EU community funds, the second "public" for national funds and "private" for industry funds. A communication of the EU Commission on the theme of funding for technologies to reduce CO_2 use[3] speaks of a total of up to EUR 70 billion which is going to be invested in technological development (research, demonstration, distribution) as part of the SET Plan in the next 10 years. The SET Plan will become an important pillar of European energy technology policy and has the potential to open up major technological and economic opportunities for the corresponding companies. If Austria does not participate, a long-term systematic disadvantage must be expected.

Opportunities for Austrian research and companies

To use these opportunities for the Austrian industry requires major efforts at the national and international levels. From an Austrian perspective the European industrial initiatives for "smart grids", "smart cities" and "solar energy" offer the biggest opportunities for successful participation because Austria now already plays a leading role in these thematic areas. (This does not mean involvement in other industrial initiatives should be excluded, however.)

Extensive efforts and measures are still needed on the national side, though, in order to successfully integrate these strengths in the SET activities. A mainly nation-

[2] see: http://ec.europa.eu/energy/technology/set_plan/set_plan_en.htm
[3] see: http://ec.europa.eu/energy/technology/set_plan/doc/2009_comm_investing_development_low_carbon_technologies_en.pdf

ally funded **development phase** (2011/2012) will enable Austrian actors to develop SET Plan-compatible projects which represent the right conditions for gaining considerable EU funds at a later point.

The Climate and Energy Fund programme "Smart Energy Demo – FIT for SET" is the support programme of the Federal Government to prepare Austrian companies for participation in "European Industrial Initiatives" as part of the SET Plan.

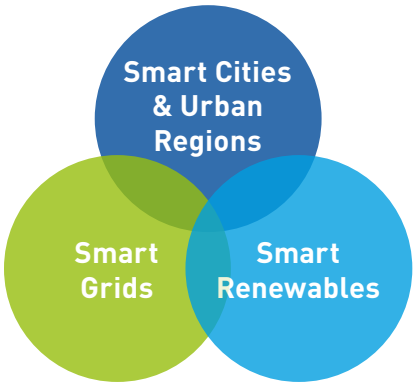

Figure 2.1

2.3 Content orientation of the programme

The programme "Smart Energy Demo – FIT for SET" aims to initiate major demonstration and pilot projects in which existing or already largely well-developed technologies and systems are integrated into innovative interacting overall systems.

The following fields of action are important for the implementation of a demonstration project in the assessment of the Climate and Energy Fund:

- Building
- Energy networks
- Other local supply and disposal systems
- Mobility
- Communication and information
- City and urban region system

In terms of content this call covers themes including communication, networking, storage and the interface between people and technology, power generation, energy consumption, energy distribution and storage technologies. Individual mobility technologies are also already largely available and have to be further developed or adapted in individual areas. Essential work still needs to be done in terms of their interaction and the interface between people and technology, however. Technical but also organisational and, in some cases, legal solutions need to be worked out here.

Difference to the programme "New Energies 2020"
The development and further development of individual technologies and basic research on the themes of "smart cities" and "smart grids" (modelling etc.) are continuing to receive support from the Climate and Energy Fund in the research and technology programme "New Energies 2020" and are therefore not part of this call.

2.4 Programme strategy

Financial support from the Climate and Energy Fund and the EU
The strategy envisages a two-stage process to achieve the programme objectives.

1. Creation of consortia with a transnational network, vision and concept development
2. Implementation of "smart energy" pilot and demo projects

The aim is to achieve an initial situation which is as beneficial as possible for the participation of Austrian consortia in the SET Plan and in particular the European industrial initiatives implemented within its framework.

This first call aims to support consortia creation and joint vision and concept development as well as the application for the second call. In the second call, large-scale pilot and demonstration projects are promoted, and here the instruments of research promotion and environmentally-related investment promotion are used. Projects which address the topic priorities of this programme but do not aim at comprehensive demonstration projects (these are in particular basic research projects and industrial research projects) are motivated and have the required thematical focus are motivated to participate to participate in the 5th call of the research and technology programme "New Energies 2020" planned for 2011.

Content of the application for the 1st call
Description of what a future demonstration project should look like, specifying quantified minimum criteria which must be proven in the application for the 2nd call, e.g. number of inhabitants, industrial enterprises, network levels, production plants and voltage level, energy source, electric power obtained in the demonstration area, penetration of electric vehicles &

charging stations, competences which future project partners need to have and their role in the project, without having to specify who will be responsible for what.

Project implementation in the 1st call
Specification and definition of details of the demonstration project: innovation content, working plan and schedule, definition of work packages, tasks and responsibilities of project partners, entire consortium, etc.Composition of consortium and involvement of all necessary actors either via the status as project partner (via eCall, is specified in the grant agreement and obtains funds) or via LOI (commits itself to cooperate/support but is not registered via the eCall, is not specified in agreement, will not obtain any funding), preparation of a concrete working plan, schedule and cost plan as the basis for application for the 2nd call.

With the support of the Climate and Energy Fund the funded projects of the second call will be prepared with the support of the Climate and Energy Fund to set up national flagship initiatives and participate in EU support programmes (FIT for SET).

Programme support and monitoring

To support interested applicants and to ensure the progress and success of the programme a programme monitoring is set up.

Stakeholder process

The Climate and Energy Fund plans to address the affected actors according to the specific target group and to "catch up" with their needs. The communication on the complex theme "Smart Energy Demo – FIT for SET" will therefore be simplified and target-oriented. Here we have developed visions of the future, and as a result implemented projects will also serve as helpful illustrative examples here.

In order to finally ensure "smart energy" becomes widespread we not only want to turn to the development of technology ("technology push") in all activities – we also want to aim towards the specific needs of the potential users in order to generate or use increased market demand ("market pull").

The Climate and Energy Fund has started a programme-accompanying online platform on which all information relevant for the process and the stakeholders can be found (www.smartcities.at). Different interest groups are also specifically addressed at information events (e.g. kick-off event for the first call).

2.5 Programme objectives

With the support programme "Smart Energy Demo – FIT for SET" pioneering demonstration and pilot projects will emerge in cities and districts or conurbations with support from the Climate and Energy Fund which will then ultimately be transferrable to "everyday life". Implementation of demonstration projects in rural regions is essentially not excluded but requires particular presentation in terms of the relevance for achieving the programme objectives regarding the relevance for urban developments.

The aim of the **first call** is to support the creation of consortia which then jointly develop their "smart energy" vision and their implementation concept.
The following partners can be part of the consortium, and in particular an integration of the various stakeholders in a consortium is desired as extensive as possible:

- Companies (from industry/large enterprises to SMEs), in particular
  - Power supply companies, energy service providers
  - Real estate developers, investors (e.g. banks, financial sector, risk capital)
  - Infrastructure operators (e.g. from the areas of building management, energy networks, local supply and disposal systems, communication and information systems, mobility etc.)
  - Actors from spatial and traffic planning
  - Providers of system concepts and solutions
- Research institutions
- Provinces, towns, municipalities
- Consumers (e.g. business enterprises, test households etc.)
- Citizens' representatives, NGOs
- Early involvement of actors from at least two other EU countries which can guarantee the evaluation of the project results in future SET Plan consortia

Note for the 2nd call:
The participation of two other project partners from another EU country must be specified in the application. The foreign project partners have to be integrated in the consortium agreement. Here the goal should be that the costs of the foreign project partners are covered by grants or financing provided by their respective home countries.

If the following criteria are met, the costs of the project partners from another EU country can be

recognised by the programme and financed with national (Austrian) funds:

1) the corresponding expertise is not available in Austria or participation of a corresponding organisation from Austria is not possible or is not practical
2) the participation of the foreign partner benefits the business location of Austria
3) the costs of the foreign partner are proportionate to the total project costs
4) the jury explicitly recommends funding for the foreign partner

In view of the 2nd call the early involvement of international partners is beneficial.

The aim of the **second call**, which is planned for the summer of 2011, will be to implement the concepts in demonstration and pilot projects. Those consortia which received a positive funding decision in the first call in particular are invited to submit their applications. But in principle the 2nd call is open to all eligible participants and therefore also provides an opportunity for those consortia to implement a demonstration project for which it is not possible to submit an application in the first call particularly for time reasons. The projects will be implemented in the years 2012 to 2015.

The resulting demonstration projects aim to ensure compatibility with the SET Plan calls. Within the framework of the SET Plan, the European Commission is developing a strategy jointly with the member states to significantly accelerate the development of technologies with low CO_2 emissions. With the help of European industrial initiatives and a European energy research alliance it is envisaged to establish major pioneering demonstration projects visible throughout Europe. With this SMART ENERGY DEMO initiative the goal is to create the prerequisites for successful participation of Austrian actors in the SET Plan process.

The funding is limited to projects which satisfy the criteria listed under 2.1.

03. Thematic context

The objective of this call is to support the creation of consortia. These consortia will then develop a vision and an implementation concept for their "smart energy demo" project. This has to be submitted as part of the project type "Technical feasibility study for demonstration projects" (TDF-DEMO). One partial result of projects of the first stage is the funding application for the second call in which the implementation of the projects is funded.

The consortium has to be as broad as possible (see 2.5) to be able to cover all requirements. Listed in the following are the themes and questions which may be necessary for the implementation of a "smart energy demo" project and about which the project partners have to already have much knowledge, the list is not meant to be exhaustive though. It is not intended to fully research the specified themes again. When setting up the consortium it is therefore of the greatest importance to ensure that the necessary expertise can be covered by the partners.

Submissions must consequently not concentrate on singular technology themes, instead they must be aligned in particular towards the interaction of several of the listed content areas and their implementation in major demonstration projects. The following sections are written with the aim of presenting these areas in particular and should make it easier to identify components for demonstration projects. These should not be seen as themes of calls in their own right, however.

With regard to the corresponding specific need for research in this regard (in particular with a basic research character) see the planned 5th call of the research and technology programme "New Energies 2020".

Content of the application for the 1st call
Description of what a future demonstration project should look like, specifying quantified minimum criteria which must be proven in the application for the 2nd call, e.g. number of inhabitants, industrial enterprises, network levels, production plants and voltage level, energy source, electric power obtained in the demonstration area, penetration of electric vehicles & charging stations, competences which future project partners need to have and their role in the project, without having to specify who will be responsible for what.

Project implementation in the 1st call
Specification and definition of details of the items mentioned above: innovation content, working plan and schedule, definition of work packages, tasks and responsibilities of project partners, entire consortium, etc.). Composition of consortium and involvement of all necessary actors either via the status as project partner (via eCall, is specified in the grant agreement and obtains funds) or via LOI (commits itself to cooperate/support but is not registered via the eCall, is not specified in agreement, will not obtain any funding), preparation of a concrete working plan, schedule and cost plan as the basis for application for the 2nd call.

Content of 2nd call
Implementation of the submitted and possibly funded project

3.1 General

This area contains questions with importance covering different themes for the implementation of "smart energy demo" projects. Fundamental work seems necessary in order to define the terms "smart energy demo" more precisely and to design images for "smart energy demo". An active, interdisciplinary network of researchers and practitioners can facilitate mutual understanding and creates a joint knowledge base.

Basically "smart energy demo" projects concern systems which are composed of further systems ("systems of systems"), accordingly technological developments in particular are essential which enable interaction and a network between individual technical systems. Here it is generally important that there is thematic openness in terms of the choice of technologies (e.g. for power generation, for efficiency, storage, communication, mobility etc.); new technologies should also (be able to be) considered here. (Energy) storage in particular proves a recurring theme: stores can be buildings as well as vehicle components (e.g. batteries) and energy networks or local infrastructures (buffer effect).

On the way towards implementing "smart energy demo" it has to be clarified which incentive systems are necessary, what new business models can look like (e.g. PPP models) and how projects and structures for implementation can generally be set up. Starting points are also seen in concrete incentive models for (public) procurement.

One essential recurring theme is the interface between people and technology. It must be attractive for users, help raise awareness, provide simple opportunities for decisions and give feedback on the effect of own decisions.

3.2 Building

The knowledge base of the "building" system needs to be expanded so that not the "building system" itself for which there is already broad know-how available but rather its interaction with the environment and infrastructures is regarded. This requires fundamental collection of data, the identification of key factors for system integration and the development of suitable (simulation) methods, in particular in terms of user behaviour. The focus needs to be extended from the individual building to residential area structures. There is need for technological development in the use of buildings as (energy) stores and the networking of "plus energy" houses. Demonstration projects are seen as necessary in particular for historic old buildings, high-rise buildings and non-residential buildings (office, company buildings).
To facilitate the market entry of "smart energy" the economic potential of such concepts should be shown for different stakeholders, and in particular for real estate developers.

3.3 Supply and disposal (energy networks and other local supply and disposal systems)

In the area of (energy) supply and disposal there is also already a broad technological knowledge base. Fundamental work is necessary here in particular for security of supply in view of scenarios with a different energy mix.

There is need for technological developments in the area of system matters and technological developments in connection with the interdependence and synergy of different energy distribution networks (e.g. electricity and heating networks or gas networks) on the one hand and between energy supply systems and local supply and disposal systems (e.g. water supply systems, purification plants, etc.) on to energy generation from (waste) water systems. The integration of (mini) combined heat and power plants and activation of (electrical) end user devices via smart grids represent other technology options with the need for research.

A focal point for demonstration projects from the perspective of supply can be cities or regions with a critical amount or density of decentrally available renewable energy sources (key word: "solar village"). With the systems integrated in "smart energy demo" projects, the differentiation between energy sources, stores and users is noticeably more difficult, and associated with this is changed use of the (network) infrastructures and the development of new market and business models. The demonstration projects are therefore expected to be highly complex, and this has to be taken into consideration with the composition of the consortia and applications.

3.4 Mobility

There are also already many individual technological solutions available in the area of mobility. Technologies for local public transport in particular are very well developed. In the area of (motorised) individual transport there are also many technologies available or currently being developed (key word: e-mobility). There is also need for research here in the networking of systems (e.g. transport data network) and the interfaces towards the users (needs / behaviour). In the areas of virtual mobility, traffic control systems and technologies to improve customer benefits there is definite need for development. In demonstration projects intelligent systems for local public transport, city and regional logistics in particular need to be implemented.

3.5 Information and communication

As a connecting link between the systems communication and information technologies are an essential component of "smart energy demo" concepts and can therefore be seen through all of the individual discussed thematic and technological areas (energy management, control and regulation of different systems, network management, user information systems, guidance systems, interdependence of ICT and energy systems, etc.). Here there are fundamental questions about data security because in intelligent systems essential information about user behaviour is also necessarily exchanged.

It is important to develop and use suitable interfaces to the consumers which are seen by these as attractive and accepted and enable energy-efficient and system-supported action (raising awareness, providing simple opportunities for decisions, giving feedback on the impact of the decisions etc.). In-detail proposals have already been made here as part of previous projects of the Climate and Energy Fund or other programmes (e.g. for the development of simple visualisations of CO_2 footprints, for the communication of the regional energy balance, for different demand-response systems or also for particular inclusion of new forms of work (work at home, teleworking, etc.)). These can be used in the demo projects (if necessary in further developed form).

3.6 City and urban region system

Fundamental questions still need to be clarified in some cases in particular when regarding the "city system" and the "urban region system". On the one hand the definition of "cities" and "urban regions" (e.g. as agglomerations > 100,000 inhabitants) has to be discussed and on the other what could be the potentially most significant starting points for "smart energy demo" concepts and also possible "cul-de-sacs". Other essential questions in the context of "smart energy demo" refer to approaches in urban development (new building) versus urban regeneration (redevelopment) or correspondingly with the use of existing infrastructure versus the future security of new infrastructure. The inclusion of urban planning and development and urban sociology (e.g. incentive systems for a change in behaviour) is seen as essential.

Basically demonstration projects can be implemented both in urban and also in rural regions. With the latter there has to be relevance for urban developments.

Other questions are:

- Development of greenhouse gas balances as a management and controlling instrument
- Development of technology roadmaps to achieve "zero carbon cities" or "zero carbon regions"
- Raising awareness of users and development of lifestyles and also the danger of possible "behavioural dictatorship"
- Initiatives for the international networking of actors in ongoing demonstration projects to exchange experience and to set up transnational consortia
- Systematic evaluation and comparison of already running demonstration projects in Europe (mapping) for targeted alignment of the Austrian demonstration projects with regard to the SET Plan

04. Administrative information for this call

4.1 Parties entitled to participate / target groups

Consortia of investors, technology developers and providers, consulting and service companies, research institutions and regional authorities and more; cf. section 2.5.

Companies (organised by size)
- Micro and small enterprises
- Medium-sized enterprises
- Large enterprises

Research institutions
- Universities, other tertiary education institutions / polytechnics
- Non-university research institutions concentrating on scientific research (e.g. AIT, Joanneum Research)
- Other scientifically-oriented organisations (e.g. interest groups, associations)
- Individual researchers

Other
- e.g. municipalities and other (public) requesters as well as non-scientific associations

4.2 Budget

As part of the 1st call of the programme "Smart Energy Demo – FIT for SET" funds up to EUR 2 million are provided. For a smart city project a maximum of EUR 100,000 of funds will be granted.

For potential smart grids demo projects for a transnational network, a maximum of EUR 20,000 of funds can be applied for.

4.3 Project type and funding intensity

In this 1st call of the programme "Smart Energy Demo – FIT for SET" only projects of the project type **"Technical feasibility study for demonstration projects"** (TDF-DEMO) can be submitted.

To ensure the desired interdisciplinarity in the project implementation the projects can be submitted only as **cooperative projects**.

A **cooperation** is deemed to exist when an organisation is the project applicant ("coordinator") and at least one other project partner is involved in the project at a minimum level (defined below).

IMPORTANT: Cooperation may only be deemed as such if undertaken by autonomous companies (pursuant to EU competition law: Commission Recommendation 2003/361/EC of 6 May 2003, (OJ L 124, 20.5.2003, pp. 36-41) http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:124:0036:0041:en:PDF http://ec.europa.eu/enterprise/enterprise_policy/sme_definition/index_de.htm
and the corresponding terms of the RTD guidelines.

The cooperation criterion for a higher funding intensity is deemed to be fulfilled if
- the companies involved in a cooperation are autonomous and independent of each other
  and
- no partner bears more than 70% of the total project costs
  and
- a research institution or an SME bears at least 10% of the total costs.

Fact box "Technical feasibility studies for demonstration projects"	
Topic areas in this call	See Section 3
Project form	Cooperative projects
Parties entitled to make submissions	**All submission groups**
Project duration	from 6 to a maximum of 12 months
Max. funding intensity	max. 50% (SME), max. 40% (large enterprises) max. 80% (research institutions, other)
Admissible costs	• Personnel costs • Other costs (material costs, travel expenses) • Overheads and third-party charges
Exploitation rights	Rest with the grant recipient or project consortium

Table 4.1

The "applicant" (project coordinator) maintains contact with the funding agency, makes submissions and manages the payment transactions. Furthermore, the applicant is responsible for coordinating the contents of the work and for reporting to the FFG.

The conclusion of a corresponding consortium agreement thereby sets out the rights and obligations of the partners and highlights its cooperative and non-discriminatory character. A copy of the consortium agreement must be submitted to the FFG (see Section 4.5). A **sample consortium agreement** can be obtained at http://www.ffg.at/content.php?cid=1046; however, its only function is to assist in the preparation of a consortium agreement.

Technical feasibility studies are studies for preparing demonstration projects.

This type of project includes projects which aim to stimulate research, technological development and innovation in terms of the programme objectives of "Smart Energy Demo – FIT for SET" as a first step. This means ideal conditions are created for demonstration projects which are carried by companies in particular.

Information on international project cooperation

Basically applicants and grant recipients must be companies, research institutions or universities based in Austria. Usually as part of the call only the costs of the project partners based in Austria are eligible for funding or financing.

International project cooperations are basically desired and possible however. The foreign project partners have to be integrated in the consortium agreement here. The costs of the foreign project partners must be covered by grants or financing provided by their respective home countries. Separate applications have to be made for these from the corresponding funding agencies.

In exceptional cases foreign partners can receive funding from the Climate and Energy Fund. The following requirements must be met here:

1) the corresponding expertise is not available in Austria or participation of a corresponding organisation from Austria is not possible or is not practical
2) the participation of the foreign partner benefits the business location of Austria
3) the costs of the foreign partner are proportionate to the total project costs
4) the jury explicitly recommends funding for the foreign partner

4.4 Eligible costs for funding purposes

The Eligible costs are regulated in the "Guide for handling project costs related to grant applicants in reports" (http://www.ffg.at/kostenleitfaden).

Admissible (eligible) costs are those reasonable costs which are required for the implementation of the approved project. Furthermore, eligible costs include all expenditures attributable to the project which have been directly, actually and additionally (in addition to the conventional operating expenses) incurred for the duration of the funded research activity.

- Personnel costs
- Other costs (material costs, travel expenses)
- Third-party services: as a guideline, costs for third-party services (work contracts) within a

project should not exceed 20% of the total costs per partner and of the total project costs. Consortium partners may also not act as work contract partners at the same time here.
In well justified exceptional cases, which must be described in detail, higher portions (up to a maximum of 80% per partner and total project costs) may be possible, whereby the main performance portion for the project must be provided by the project partners. Subcontracts with costs of more than EUR 10,000 must be described in detail in the application.

- Overhead costs which are the direct result of research activities

Please note: Public requesters may only claim their additionally incurred costs (as part of a project). According to section 4.1.3 of the "Guide for handling project costs related to grant applicants in reports" personnel costs for people already paid from public funds cannot be billed again as part of a funded project.

Effective acknowledgement date
Eligible costs which are incurred after the grant application was received may also be acknowledged. The earliest possible effective date for acknowledgement in this regard is the date of submission, insofar as it concerns the start of a project. Otherwise only those eligible costs may be applied for as part of the project which are incurred after the official project start (= start of project as per the grant agreement) and prior to the official end of the project (for work contracts: performance period must be within the project period).

For more information on eligible costs, please see the "Guide for handling project costs related to grant applicants in reports" (www.ffg.at/kostenleitfaden).

4.5 Exploitation rights

The exploitation rights for the project results of **technical feasibility studies** rest with the applying consortium.

A general obligation to publish the research results applies. In the case of part financing by the company partner, an agreement which does not limit the exploitation rights of the company partner will be incorporated into the grant agreement.

Consortium agreement
Successful applicants will be asked to work with all project partners to set out rights to intellectual property and the procedure for the publication of results in a consortium agreement prior to concluding the grant agreement. The conclusion of such a consortium agreement is a necessary requirement for establishing the first grant instalment. While the exact details of such agreements remain within the leeway of the project partners, the Climate and Energy Fund and FFG will emphasise that the rights of individual project partners are maintained. This must be judged on a case-by-case basis, but it may mean that there should be no exclusivity clause for exploitation rights which only apply to companies. At minimum, the research institution should also have the right of further use of the development for research purposes or for use in markets in which the involved company is not active. A guide for a sample consortium agreement may be obtained from the contacts listed in Section 6.2, and these will provide assistance for successful project cooperation.

4.6 Evaluation criteria

All projects will be evaluated and ranked by a jury comprised of international experts in accordance with the following criteria:

1. Quality of the project
- Innovation content
- Technical-scientific and methodological quality
- Quality of planning

2. Relevance of the project to the programme
- Contribution of the project to achieve the programme objectives
- Topic priority according to the project submission guide, Section 3.

3. Suitability of grant applicants / project participants
- Scientific-technical competence
- Potential of consortium to implement project

4. Economic potential and utilisation
- Cost/benefit ratio of the project
- Market potential of the results

The following evaluation scheme is applied to the project type "Technical feasibility study":

	Main evaluation criteria	Sub-criteria	Technical feasibility study
1	**Quality of the project**	Innovation content	**10**
		Scientific quality and methodology	**5**
		Quality of planning	**15**
2	**Relevance of the project to the programme**	Contribution of the project to achieve the programme objectives	**15**
		Topic priority according to Section 3	**10**
3	**Suitability of grant applicants / project participants**	Scientific-technical competence	**20**
		Potential to implement project	**15**
4	**Economic potential and utilisation**	Cost/benefit ratio of the project	**5**
		Market potential of the results	**5**
	Total		**100**

Table 4.2

Scientific integrity

Funding will only be provided for those projects whose scientific quality can be proven at the time the application is filed and when the project is realised. To ensure such a level of scientific quality, the FFG is a member of the Austrian Agency for Scientific Integrity OeAWI (http://www.oeawi.at/statuten.html).

As part of its membership, the FFG supports compliance with the rules of proper scientific practice. As part of the formal review of applications and in the case of suspected scientific misconduct, the FFG will pass on the relevant facts and required documents to the Commission for Scientific Integrity of the OeAWI. The OeAWI will decide whether to initiate an independent investigation and will undertake such an investigation if required.

If circumstances which verify a lack of scientific quality of the proposed project or confirm scientific misconduct (e.g. plagiarism) come to light during the investigation, the FFG may, at its discretion, request that the application be revised or refuse it on formal grounds. In the case of already funded projects, this may lead to a reduction, withholding or request to return committed or already paid funds.

4.7 Legal basis and EU conformity

The legal basis for the technical feasibility study project type consists of the RTD guidelines pursuant to Section 11 Sub-para 1 to 5 of the Research and Technology Promotion Act (FTFG) of the Federal Minister for Transport, Innovation and Technology as amended on 19.11.2007 (file no. BMVIT-609.986/0011-III/I2/2007).

05. Procedure

5.1 Submission and consultation

This guide forms the basis for submitting project applications. The Climate and Energy Fund has commissioned the Austrian Research Promotion Agency (FFG) to act as the funding agency.

Only the forms which have been specified for project applications (part A and B) may be used for submitting project applications. Applications must be submitted via eCall. Guide and forms for project applications are available in the download centre at https://ecall.ffg.at

Prior to submission, each grant application must be registered on the homepage of the Climate and Energy Fund http://www.klimafonds.gv.at/home/foerderguide.html in order to obtain a KLIEN number. This number must be listed in the eCall during the course of the application process.

Furthermore, the Climate and Energy Fund reserves the right to publish the name of the applicant, the fact that the grant was approved, the grant instalment, the level of grant and the title of the project, and the extent of environmental relief intended by the grant following approval of the grant.

There is the option of using FFG advisory services regarding the submission process (see Section 6.2).

All submitted project applications will only be submitted to the agencies entrusted with the settlement of the call and the programme owner for inspection purposes. All involved persons are obliged to maintain confidentiality.

All grant applications must be received by the FFG via eCall by the end of the submission deadline on 31.3.2011, by 12 noon.

Following the end of the submission deadline, all applicants will receive written confirmation of receipt.

5.2 Selection of the projects

Grant applications are evaluated in two steps.

Formal check

In the first step the FFG checks submissions for formal correctness and completeness.

Formal criteria which will result in a formal rejection of the application are as follows:

- Grant application was not received on time
- General non-compliance with the form of the grant application

Jury's results

All projects which have positively passed the examination of formalities will be subject to **technical evaluation** and a decision on the project proposals by an expert jury consisting of **national** and **international jurors** which, following individual evaluations of the allocated project proposals, conducts a joint evaluation and assessment during an expert jury meeting.

The jurors have the authority to limit projects in terms of the amounts of funding - and also the overall costs - and to make content-related requirements on the consortium by means of specifications as a prerequisite for granting financial support / funding.

Grant recommendation by the expert jury
The grant recommendation of the expert jury forms the basis of the grant decision by the Executive Committee of the Climate and Energy Fund.

The Climate and Energy Fund reserves the right to combine projects which overlap in terms of contents and to formulate corresponding requirements. The final decision on funding is made by the Executive Committee of the Climate and Energy Fund.

Confidentiality: All persons involved in the evaluation procedure or jury meetings will be committed to confidentiality with regard to information disclosed to them within this mandate.

The FFG will document any occasions on which confidential documents are handed over and returned and will take appropriate measures to minimise the risk of errors and misuse.

There is also a check of the economic performance (credit rating) of the companies involved by internal experts at the FFG. If necessary more detailed explanations concerning the application may be obtained from the funding agency.

Expected schedule
Submission deadline: 31.3.2011, 12 noon
Examination of formalities: April 2011
Jury's results: May 2011
Decision of the Executive Committee: May 2011

5.3 Drawing up contracts

The Climate and Energy Fund will provide a grant proposal, which is **limited** to a period of one month, for the projects recommended for funding by the Executive Committee. An agreement between the applicant and funding agency will be prepared once the grant proposal has been accepted **(grant agreement)**. Requirements instituted during the evaluation phase must be taken into account.

In the event that a project partner leaves the project following funding approval / the start of the project, the consortium must provide evidence that the competences required to implement the project are sufficiently covered by the remaining project partners, otherwise a new project partner must be added to the consortium. Either way, any change to the partner structure requires prior FFG approval.

5.4 Payment modalities and reporting

After the return of the signed agreement between the FFG and the applicant and after fulfilment of all requirements (in the case of a cooperative project), a copy of the consortium agreement must also be sent to the FFG. The next step is **payment of the 1st grant instalment (initial instalment)**.

The **method of payment** depends on the duration of the project, and here **technical and financial reports corresponding with the project milestones** will be required, on the basis of which there will be payment of an additional grant instalment following a positive review and approval of the report by the FFG. The final details for the reporting obligation are set out in the grant agreement.

A comprehensive **final report** (both from a technical and financial perspective) is required at the end of the project.

However, the final instalment will only be paid following a discharge provided by the FFG audit department, based on a positive evaluation of the final report.

PLEASE NOTE: For projects with a grant cash value < EUR 10,000 a one-time payment will be made following submission of the final report.

All reports must be submitted to the FFG via eCall.

Project duration (months)	**1st max. grant instalment** (initial instalment, % of TGS)	**Max. final instalment**
up to 12	50	50

Table 5.1

06. Contacts

Programme mandate and responsibility
Climate and Energy Fund
Gumpendorfer Straße 5/22, 1060 Vienna
Tel: +43/1/5850390-0
Fax: +43/1/5850390-11
E-mail: office@klimafonds.gv.at
www.smartcities.at
www.klimafonds.gv.at

Programme implementation
Austrian Research Promotion Agency (FFG),
Thematic Programmes Department
Sensengasse 1, 1090 Vienna
www.ffg.at

Information and advice
Head of programme: DI (FH) Helfried Mährenbach
Tel.: +43/57755-5044, fax: +43/57755-95040
E-mail: helfried.maehrenbach@ffg.at

DI Johannes Bockstefl
Tel.: +43/57755-5042, fax: +43/57755-95040
E-mail: johannes.bockstefl@ffg.at

Team leader: Dr. Andreas Geisler
Tel.: +43/57755-5060, fax: +43/57755-95060
E-mail: andreas.geisler@ffg.at

Documentation and other required documents for the call
You will find general information, the guide for applications and application forms at:
https://ecall.ffg.at

The following application forms are available:
Application form part A/B for technical feasibility studies
Applications must be submitted in English.