

Austrian Electric Mobility Flagship Projects

5th Call

Submission deadline: 30 January 2014, 12:00

This Call is in correspondence with item 2.1 "Electric Mobility Flagship and Demonstration Projects" of the Climate and Energy Fund's Annual Programme for 2013



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Preface

The Climate and Energy Fund has supported electric mobility in Austria since 2008, giving rise to numerous pioneering projects and initiatives in this field. Against this background, the Climate and Energy Fund commissioned an evaluation of its “Austrian Electric Mobility Flagship Projects” technology programme in 2012/13. The results of the analysis are excellent, testifying that the programme has been highly effective and plays a key role in bringing electric mobility as a whole closer to the market. The Climate and Energy Fund will therefore continue its successful “Austrian Electric Mobility Flagship Projects” programme for 2013.

The present Call has several new aspects. The key change is that the programme now supports not only large flagship projects addressing the whole electric mobility system, but also smaller, cooperative R&D projects which investigate specific topics in greater detail.

The main research focus on vehicles, users and infrastructure will be extended by explicitly addressing innovative components for electric and hybrid drive trains including auxiliaries, and recycling issues. Due to the mission-oriented nature of the Call, project applicants are entirely free to develop their own methods of creating technological solutions. The goal is to exploit the creative potential of Austrian companies and research institutions, and to involve more closely innovative SMEs and existing projects. In the long term this should lead to a reduction in the cost of vehicles, while simultaneously increasing their range and usability; this will further enhance the competitiveness and marketability of electric mobility.

The extension of the project portfolio, the opportunity for focused research in cooperative R&D projects and the introduction of new topics constitute yet another important step in the development of Austrian electric mobility solutions in accordance with the overall strategy of the Climate and Energy Fund.

We cordially invite you to submit your innovative project proposal and contribute to shaping Austria’s sustainable electric mobility future.



Theresia Vogel
General Manager, Climate and Energy Fund



Ingmar Höbarth
General Manager, Climate and Energy Fund

1.0 Key items at a glance

Electric mobility offers the opportunity to substantially reduce greenhouse gas emissions from transport, and to create a sustainable, interoperable mobility system. Therefore the Climate and Energy Fund supports technology- and implementation-oriented electric mobility projects designed to integrate user, infrastructure and vehicle-related components, systems and services into a comprehensive electric mobility system.

An amount of 4 million euros in funding is available for the 5th Call. These funds are intended to support one flagship project which addresses electric mobility as an overall system, as well as several smaller R&D projects dedicated to hitherto hardly considered thematic areas with high development potential.

All submitted projects should contribute significantly to reducing the costs of the electric mobility system, which are currently a key obstacle to broad market penetration, and to involve stakeholders who have so far not participated in electric mobility research, especially SMEs.

The full set of proposal documents must be submitted via eCall (<https://ecall.ffg.at>) by the submission deadline of 30 January 2014, 12:00.

The criteria for the evaluation of the proposals are described in the Technical Guidelines (see 4.1).

Please note:

If the proposal does not meet the formal requirements for project submissions in accordance with the conditions and criteria of the respective funding instrument (see Section 4.0) and if the deficiencies are not rectifiable the proposal will be excluded from the further procedure and will be formally rejected without exception in accordance with the principle of equal treatment of proposals. A detailed check list specifying the conditions and criteria of the respective funding instrument can be found at the beginning of the application forms.

Overview	Instruments	
	Flagship Project	Cooperative R&D Project
Brief description	Large-scale research and demonstration project experimental development	Cooperative R&D project industrial research or experimental development
Topics	Call Topics Assignment of instruments to sub-topics (see Section 3.0)	
Electric vehicles: extended range and reduced costs	X	
Needs-based electric mobility services	X	X
Innovative charging, booking and billing systems	X	
Innovative components for full and/or partially electric drive trains including auxiliaries		X
Recycling and reuse of battery and hybrid vehicle components		X
Key data	Key Data of Instruments	
Funding amount	min. € 2 Mio.	min.€ 100.000 to max. € 500.000
Funding rate	max. 60 %	max. 80 %
Duration	2 to 4 years	max. 3 years
Cooperation required	Yes, see Technical Guidelines	Yes, see Technical Guidelines
Indicative Budget	€ 3 Mio.	€ 1 Mio.
Submission deadline	30 January 2014, 12:00	
Language	Englisch	Englisch
Contact	DI Ralph Feichtinger Telephone: 05/77 55-5044, ralph.feichtinger@ffg.at E-Mail: leuchttuerme-e-mobilitaet@ffg.at	
Information on the Web	www.ffg.at/leuchttuerme-der-elektromobilitaet-0	

2.0 Objectives and scope

2.1 Strategic objectives of the Programme

Through the development and use of innovative technologies the “Austrian Electric Mobility Flagship Projects” funding programme aims to help improve the efficiency of the transport system, to drive forward interoperable cross-border electric mobility offerings and to contribute to reducing energy consumption to achieve a positive environmental impact in a sustainable manner. The main focus is placed on the efficient use of energy, the development of an intelligent energy and transport system and the use of renewable energy sources.

The Climate and Energy Fund therefore supports technology and implementation oriented electric mobility projects designed to integrate user-, infrastructure- and vehicle-related components, systems and services into a comprehensive electric mobility system.

The technologies to be developed must be able to demonstrate their practical viability both in Austria and abroad, thereby strengthening the Austrian automotive supply industry and, in doing so, securing and creating jobs.

2.2 Call objectives

Previous projects carried out under the “Austrian Electric Mobility Flagship Projects” programme have led to the development of various components for an interoperable, viable electric mobility system. These range from vehicle components, charging infrastructure and billing systems to routing services and transnational cooperation. Based on previous experience and evaluation of the research programme “Austrian Electric Mobility Flagship Projects” in 2012, the 5th Call has the following focus:

- **Mission orientation:** the proposer is actively encouraged to submit innovative ideas and solutions to achieve the specified goals of this Call.
- **Cost reduction:** submitted projects must contribute significantly to reducing the costs of the electric mobility system, which are currently a key obstacle to broad market penetration.

- **Usability:** the solutions and systems developed must be accepted by users (end customers, future technology buyers, etc.) in order to ensure their rapid adoption and implementation.
- **Greater involvement of innovative SMEs:** the Call is aimed at greater involvement of innovative SMEs (indicators: number of SMEs, proportion of project costs covered by SMEs, knowledge transfer to SMEs) and new stakeholders who have so far not participated in electric mobility research, as well as cooperation with, and involvement of, foreign partners in the project proposals, over and above the formal requirements of the relevant funding instrument.
- **Networking with other projects:** submitted projects must take into consideration results available from ongoing and completed projects (including results from other funding programmes, see 2.3), and should be networked with these projects.

A key criterion in evaluating the submitted proposals is the contribution they make in achieving these goals.

In the 5th Call the realisation of these goals will be achieved through the use of two funding instruments:

- The flagship project should broadly develop and demonstrate appropriate solutions to challenging topics that are vital in establishing electric mobility. Only experimental development projects may be submitted.
- In addition to ongoing and completed projects, smaller scale R&D projects should examine topics which have so far received minor consideration but are nonetheless important in establishing electric mobility. Industrial research as well as experimental development projects may be submitted.

2.3 Relationship/interaction with relevant instruments and programmes

Relationship to thematically relevant programmes

Funding for research and development projects involving components and parts of conventional vehicles

is granted under the General Programmes of the Austrian Research Promotion Agency (FFG). In 2013 the "Mobility of the Future" programme will launch a call for cooperative projects dealing with vehicle technologies in the field of fuel cells and hydrogen, thermal management as well as alternative energy sources and storage units. Funding for cooperative R&D projects focusing on power grids and smart grids in the context of electric mobility as well as other energy technologies is available under the "e!Missi0n.at" programme. Implementation measures for intelligent overall transport systems are covered by the programme "Innovations for Green and Efficient Mobility – Implementation Measures from the ITS Action Plan". These topics thus do not form the focus of the present call.

Relationship of calls under the "Model Regions of Electric Mobility", "Austrian Electric Mobility Flagship Projects", "E-Mobility for All: Urban Electric Mobility", "Implementation Measures from the ITS Action Plan" and "klima:aktiv mobil" programmes

- The call "Model Regions of Electric Mobility" focuses on technologies and electric mobility services based on renewable energy that are already on the market, making them available to a wider public via new business and usage models and aims to establish a close network between the model regions. In contrast, the call "Austrian Electric Mobility Flagship Projects" combines the development of Austrian technology not yet ready for the market with the demonstration and testing of user-oriented systemic solutions for new electric mobility offerings with the aim to develop them into marketable solutions. Close cooperation between projects and stakeholders is recommended in order to guarantee close networking as well as interoperability of the various solutions and

systems between existing and new flagship projects, model regions or other electric mobility initiatives.

- During 2013 a call for proposals will be launched for the programme "E-Mobility for All: Urban Electric Mobility", which builds on the concept and approach of the "Austrian Electric Mobility Flagship Projects". Its thematic focus is the demonstration and testing of user-friendly, systemic solutions for new e-mobility offerings in the fields of para-public transport and electric car sharing models, both in an urban context. As such, this demonstration programme provides a temporary and thematically strictly limited focus within the Climate and Energy Fund and is thus clearly differentiated from the model regions and "klima:aktiv mobil".
- The programme "Implementation Measures from the ITS Action Plan" focuses on the development of intelligent transport systems in test beds and test fields. Cooperation with e-mobility model regions and/or the use of flagship project results is certainly possible.
- While "klima:aktiv mobil" supports individual projects for vehicle fleet conversion run by municipalities and companies, the "Model Regions of Electric Mobility" programme supports the development of comprehensive model projects with regional and holistic approaches, covering all thematic aspects of electric mobility.
- It is recommended that the results of Traffic Information Austria (VAO) and "Micro-Public Transport Systems" are considered when planning the project, where this is relevant to the project proposal.

Potential applicants are encouraged to examine the programmes and initiatives listed above and to organise a meeting with the relevant programme management departments in good time.

3.0 Call topics

Submitted proposals must significantly contribute to reducing the costs of the electric mobility system, ensure the usability of the systems and solutions developed, and ensure greater involvement of innovative SMEs as well as new stakeholders who have so far not participated in electric mobility research (see 2.2).

Proposals for flagship projects (only experimental development permitted) must address **at least two of the three** call topics:

- Electric vehicles: extended range and reduced costs (vehicles) – see 3.1
- Needs-based electric mobility services (users) – see 3.2
- Innovative charging, booking and billing systems (infrastructure) – see 3.3,

combining them into a consistent and convincingly integrative project. It is particularly important to ensure user acceptance, ideally at the beginning of the technology development process; therefore R&D activities

in the fields of vehicles, infrastructure and users must address such issues by means of innovative approaches (e.g. open innovation approach), and the projects must incorporate demonstration elements to test the suitability and user acceptance of the solutions developed.

Proposals for cooperative R&D projects (both industrial research and experimental development permitted) must address at least **one** of the following call topics:

- Needs-based electric mobility services – see 3.2
- Innovative components for full and/or partially electric drive trains including auxiliaries – see 3.4
- Recycling and reuse of battery and hybrid vehicle components – see 3.5

It is not compulsory for cooperative R&D projects to include a demonstration element.

Topics	Flagship Project	Cooperative R&D Project
Electric vehicles: extended range and reduced costs	X	
Needs-based electric mobility services	X	X
Innovative charging, booking and billing systems	X	
Innovative components for full and/or partially electric drive trains including auxiliaries		X
Recycling and reuse of battery and hybrid vehicle components		X

Project proposals for all topics described in the following must present:

- a clear, quantified starting basis for the planned developments, based on the current state of knowledge and technology (current costs, current efficiency levels, technology readiness level, etc.) and
- clear, quantified project goals (target costs, ranges, emissions, technology readiness level, etc.)

3.1 Electric vehicles: extended range and reduced costs

In terms of the vehicles themselves, the widespread introduction of electric mobility is currently challenged by limited vehicle ranges and vehicle purchase costs. The submitted proposals must significantly reduce the costs for full or partially electric vehicles and significantly increase their range.¹ It must be ensured that the developed solutions lead to a reduction in greenhouse gas emissions over the entire life cycle compared with conventionally-driven vehicles.

3.2 Needs-based electric mobility services

Ensuring user acceptance right at the start of technological development (e.g. open innovation approach, usability) and using electric mobility for a variety of services offers an opportunity for rapid market penetration. Systems and solutions are to be developed to make it easier for consumers to use electric mobility and/or to enable the use of electric mobility in freight logistics applications. Special attention must be paid to integration into the overall transport system.

3.3 Innovative charging, booking and billing systems

Suitable hardware in the form of charging and refuelling infrastructure as well as booking and billing systems is essential for using electric mobility. The focus is thus on the development of innovative, application-specific

charging and refuelling infrastructure, as well as booking and billing systems for electricity and hydrogen, including billing interfaces, which go significantly beyond the current state of the art. Pure smart grid projects with an artificial connection to electric mobility are not the subject of this Call.

3.4 Innovative components for full and/or partially electric drive trains including auxiliaries

Improving individual system components (e.g. electronic control systems, power electronics) of full or partially electric vehicles and reducing their weight makes it possible to considerably increase energy efficiency. The submitted proposals should present new, innovative approaches which go substantially beyond the conventional further development of existing solutions and lead to a significant increase in efficiency at component level.²

3.5 Recycling and reuse of battery and hybrid vehicle components

As hybrid and electric vehicles become more popular, the reuse and recycling of components of these vehicles becomes increasingly important; a subject that has so far received only minor consideration. Therefore project proposals should develop systems and solutions for the recycling and reuse of components of battery and hybrid vehicles. The programme will not provide funding for studies and basic research projects on this subject.

¹) The call itself is neutral in terms of technology type; it addresses all technologies which contribute to achieving the stated goal.

²) Battery developments are included as vehicle technologies in the "Mobility of the Future" programme in 2013 and are therefore not part of this Call.

4.0 Administrative information

4.1 Call documents

Applications must be submitted exclusively **via eCall** at <https://ecall.ffg.at>. The **project description** (scientific application) and the **cost plan** (spreadsheet part of the application) must be attached to the electronic application using the eCall upload function.

Applicants are requested to use the templates specifically prepared for the submission of projects to the individual funding instruments (see call overview).

Special attention should be paid to quantifying the project objectives. Please do not exceed the maximum number of pages per chapter specified in the application forms.

The funding conditions, application procedure and funding criteria are described in the corresponding **Technical Guidelines**. The relevant documents for the individual instruments are summarised in the following.

Overview of call documents available for download at: www.ffg.at/leuchttuerme-elektromobilitaet/downloadcenter-5-ausschreibung		
		file format
Cooperative R&D Projects IR or ED*	_ Technical Guidelines for Cooperative R&D Projects, Vers. 1.4	PDF
	_ Project Description for Cooperative R&D Projects	Word
	_ Detailed Cost Plan (by partner)	Excel
	_ Cumulative Cost Plan (overview)	Excel
	_ Declaration of SME Status (if required)**	Excel
Flagship Projects	_ Technical Guidelines for Flagship Projects, Vers. 1.4	PDF
	_ Project Description for Flagship Projects	Word
	_ Detailed Cost Plan (by partner)	Excel
	_ Cumulative Cost Plan (overview)	Excel
	_ Cost Plan for additional environmental funding	Excel
	_ Declaration of SME Status (if required)**	Excel
General cost regulations	_ Cost Guidelines_1.3 (Guidelines for the Accounting of Project Costs)	PDF

*) IR = industrial research, ED = experimental development

***) If there is no information available in the Austrian Business Compass (e.g. for associations and start-ups), a Declaration of SME Status must be provided upon submission of the proposal. In the template provided by the FFG applicants must (as far as possible) categorise their business for the last three years according to the SME definition.

4.2 Obligatory preliminary meeting

In order to clarify stipulations and requirements, the submission of a **flagship project** requires an obligatory preliminary meeting with the Climate and Energy Fund, the Federal Ministry for Transport, Innovation and Technology and the Austrian Research Promotion Agency (FFG) at the latest one month prior to the submission deadline. Applicants are requested to contact the FFG to arrange a date for the meeting. Applications for flagship projects submitted without having

conducted a preliminary discussion will be rejected for formal reasons. If the proposal also includes an application for additional environmental funding the discussion will also be attended by KPC staff, or a separate meeting must be arranged with KPC (see 4.3).

Cooperative R&D projects do not require a preliminary discussion. Applicants have the opportunity, however, to have the application checked by the FFG prior to submission.

4.3 Additional environmental funding from Kommunalkredit Public Consulting

Flagship projects funded by the Climate and Energy Fund can also be managed in cooperation between the FFG and KPC. In this case, research activities receive funding from the FFG, while investments in demonstration facilities are supported by KPC based on the 2009 Funding Guidelines of the Programme for Environmental Funding in Austria (UFI). Demonstration facilities submitted for additional environmental funding under the "Austrian Electric Mobility Flagship Projects" programme must be of key importance to the relevant research project. The research and development activities must constitute the prerequisite for the investment for which environmental funding is sought.

Demonstration facilities as specified in the Funding Guidelines of the Programme for Environmental Funding in Austria go beyond standard technologies. They serve to test and introduce new or substantially improved technologies and must be based on the research activities. The environmental effect expected (reduction in energy consumption, innovative supply of renewable energy, reduction in noise, waste or air emissions) must be able to be assessed and quantified as a prerequisite for funding. Funding can only be granted for the share of the investment which is directly necessary for achieving the environmental effect. Costs that are not or only indirectly related to the environmental effect are not eligible for funding.

Funding is based on the environmentally relevant investment costs less the corresponding reference cost model according to the Funding Guidelines of the Programme for Environmental Funding in Austria. Later submission to other funding programmes and other funding agencies (business development funding - Austrian federal development and financing bank AWS, environmental funding - KPC) is possible and subject to the relevant funding conditions.

Obligatory preliminary meeting with KPC

If a proposal for a flagship project also involves funding of a demonstration facility in accordance with the Funding Guidelines of the Programme for Environmental Funding in Austria, a mandatory joint advisory meeting with experts from FFG and KPC must be held at least four weeks prior to the submission deadline, unless KPC has already participated in the preliminary discussion mentioned in 4.2. Applicants are requested to

contact the FFG to arrange a date for the meeting. The advisory meeting serves to assess whether the planned investment is eligible for funding as a demonstration facility in the respective call. Environmental funding will not be granted if such an advisory meeting has not been held.

Application

The application shall be in the form of ONE project application which must be 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. The additional specifications are designed to enable KPC to assess the demonstration parts and the expected environmental effects.

The following supplementary information is required:

- Cost of facility broken down into trades/items, assembly costs, planning costs, own work capitalised; a separate cost sheet for the environmentally relevant additional investments (investment costs beyond standard technology reference facility) must be uploaded via eCall.
- In-house contributions must be costed at hourly rates and quotations must be provided for third-party services (must be available at the date of the final accounts at the latest).
- Clearly comprehensible description and quantitative prediction of the environmental effect – the environmental effect is shown by comparing the demonstration facility to the status quo or a reference plant producing the same output using conventional technologies (example: comparison of energy consumption [MWh/a] by energy source before and after the implementation of the demonstration facility).
- Presentation of the feasibility and market potential of the demonstration plant.
- Feasibility analysis with operating costs and profits of the demonstration facility in comparison to the status quo or a reference plant.

If no information on the environmental effect and the costs of the demonstration facility is available on submission of the proposal the applicant must provide reasonably substantiated estimates.

Procedure after project submission

Please consult the relevant Technical Guidelines (see 4.1) for more information about the project selection procedure following submission of the application. Flagship projects involving applications for both R&D funding and environmental funding will additionally be sent to Kommunalkredit Public Consulting GmbH (KPC)

for further processing. Experts from KPC will then check compliance with the funding requirements and prepare a funding proposal for the investment cost portion.

If necessary the relevant funding agency may contact applicants to request additional information.

In the case of additional funding from KPC two funding contracts will be drawn up:

- FFG funding contract for R&D-related costs
- KPC funding contract for environmentally relevant investment costs

Further information on environmental funding is available at:

www.umweltfoerderung.at/kpc/de/home/umweltfoerderung/fr_betriebe/weitere_frderungen/demonstrationsanlagen and

www.umweltfoerderung.at/uploads/rechtliche_grundlagen_ufi.zip

Experimental Development FFG

Demonstration Facility KPC

Austrian Electric Mobility Flagship Projects

“Experimental Development” denotes the acquisition, combination, formation and use of existing scientific, technical, economic and other relevant knowledge and abilities in the development of plans or concepts for new, modified or improved products, procedures or services. It also includes, for example, other activities for the definition, planning and documentation of new products, procedures and services as well as the preparation of drafts, sketches, plans and other documentation, provided these are not intended for commercial purposes.

Demonstration projects are of a highly innovative character and are directly related to the R&D project. The implementation risk is high. The demonstration plant is based on the research activities and the expected environmental effect can be assessed. Investments immediately required for achieving the environmental effect are eligible for funding.

5.0 Legal Basis

Research funding is subject to the Guidelines for the Promotion of Industrial/Technological Research and Technology Development (RTD Guidelines) pursuant to Section 11 (1-5) of the Research and Technology Promotion Act (FTFG) of the Federal Minister for Transport, Innovation and Technology dated 19 November 2007 (file no. BMVIT-609.986/0011-III/I2/2007) and of the Federal Minister for Economics and Labour dated 30 November 2007 (file no. BMWA-97.005/0002-C1/9/2007). (www.ffg.at/Allgemeine-Richtlinien)

The company size shall be established in accordance with the corresponding SME definition specified in EU competition law (from 1 January 2005: SME definition according to Commission Recommendation 2003/361/EC dated 6 May 2003, Official Journal L 124 dated 20 May 2003, p. 36–41).

All EU regulations shall be applicable as amended.

Investment costs for demonstration facilities will be funded on the basis of the Guidelines for Environmental Funding in Austria in accordance with the Environmental Aid Act (Federal Law Gazette No. 185/1993) as amended.

This Guide for Proposers is published both in German and English, whereby in case of doubt the English version shall prevail.

6.0 Contact

Programme mandate

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