Electromobility+

Trans-national Call for Proposals

Guide for Applicants

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1. The Trans-national call

1.1. Background and historical development

This trans-national funding cooperation is about to contribute to create long-term sustainable conditions for the development of Electromobility in Europe looking to 2025.

This initiative was suggested by EC as a contribution to the European Green Cars Initiative in the framework of ERA-NET TRANSPORT (ENT), which is the network of national transport research programmes in Europe. By facilitating cooperation among publicly financed transport research programmes it is ENT's goal to improve the outcome and quality of transport research in Europe. In a cooperative process facilitated by France through a position paper delivered in September 2009, the ENT countries further developed this idea, which has resulted in the trans-national call *Electromobility+.*

This call is planned to be facilitated within the framework of the ERA-NET Plus scheme. Thus, the European Commission may top-up the trans-national call budget that has been pooled from the funding contributions of the national/regional programmes involved.

1.2. Scope of the trans-national call

This trans-national research call is geared to analyse, consolidate and extend developments that will break through at greater or lesser speed and in various forms in the different countries from 2010 onwards.

The *Electromobility+* initiative opens a perspective for a real European research strategy: Trans-national cooperation has both a useful and legitimate role to play in the specific field of leadership responsibility: system organisation and the governing economic and regulatory framework. In the framework of the European Green Cars Initiative, it should be the role of the Member States, Associated States and the regions to define a structured scheme, and so contribute to build a sustainable landscape for European Electromobility in the future.

Nevertheless, there is an important dimension on Europe's industrial competitiveness, which is inherent to the *Electromobility+* initiative: potential applicants to this call cannot only contribute with research projects on strategic dimensions, but also propose applied technological research with a focus for technology-based innovation. In doing so, the process and the expected results of the ERA-Net Plus will contribute to strengthen the local industries, public research facilities, and competency clusters all over the participating countries in order to contribute to create a sustainable research tissue to reinforce European competitiveness in relation to other world regions.

The research foci proposed in the following text are designed to integrate the prospective dimension by adopting a 'second generation'[1] perspective on electricity-powered and hybrid vehicles, infrastructures, economic conditions, and regulatory instruments governing how the corresponding transport system operates.

The call has two main orientations, being

- **Strategic Research for Transport Policy and Technology**
- **Technology based Innovation / Applied Research**

Within these two main pillars, the research foci proposed condense into the five key dimensions of the Electromobility system:

- a 'macro' dimension that integrates the broader context and energy balances,
- a second dimension centred on usage patterns and the system's spatial and socio-economic operating conditions,

[1] "second generation", in distinction to the currently ongoing "first generation" (operative since 2008) of electric mobility – deployment.

- a third dimension that concerns the technical features of the storage, recharge and distribution systems,
- a fourth dimension dedicated to normative and standardisation issues, and finally,
- a fifth dimension on applied technological research.

The *Electromobility+* call will focus on fully electric vehicles, plug-in hybrid vehicles and fuel cell hydrogen vehicles. The participating countries and regions have agreed on a strictly pre-competitive scope of the joint trans-national call.

1.3. Thematic scope

The thematic scope is structured in **five key dimensions**. In addition to the following overview, Annex 1 "Key Dimensions" provides a detailed description of the key dimensions and research topics.

1. Energy and environmental policy approach
    a. Energy balances
    b. Quantitative horizons of a low-carbon vehicle fleet
    c. Externalities
    d. Raw material and recycling

2. Usage patterns, economic models, actors involved
    a. Usage patterns
    b. Economic models and tax legislation
    c. Actors involved
    d. Low-carbon vehicles in town: perspectives for housing, community facilities, office blocks
    e. Social acceptability and behavioural trends
    f. Time-course scenarios for vehicle take-on
    g. Synergies to be derived from Electromobility for the benefit of the current transport system

3. Strategic Research on technical dimensions of the recharging, storage and distribution systems
    a. Technical models of battery recharge solutions
    b. Managing the power grid
    c. Recharging and refuelling stations
    d. Co-governance of different Electromobility modes and their mode infrastructures (green cars, buses, utilities, etc.)
    e. Vehicle integration of information and communication technologies

4. Testing, trials and normative standards
    a. Performance review of the first-generation systems
    b. Safety considerations

5. Technology based Innovation
    a. Energy storage and management
    b. Powertrain
    c. Vehicle architecture
    d. Vehicle integration of information and communication technologies
    e. Auxiliary power units
    f. New service procedures for maintenance
    g. Evaluation of integrated technical systems

This list is not exhaustive. Further topics that clearly fall under one or several of the key

dimensions[2] can be considered as being eligible. A sufficient explanation needs however to be given in the proposal.

1.4. National specifications

The participating countries and regions agree on the thematic scope of the *Electromobility+* call, as presented in section 1.2. "Scope of the trans-national call". Nevertheless, some partners expressed a particular interest for specific key dimensions and wish to provide these specific thematic preferences to applicants, who plan to submit projects in their national/regional programme. Below applicants find a thematic matrix that gives an overview on the participating countries/regions and their support of the individual key dimensions.

In the framework of the *Electromobility+* call, each proposal has to be submitted centrally by the Electronic Proposal Submission System (EPSS). Additional information or documents may be requested by national/regional programmes.

The applicants should be aware that national/regional rules do apply and therefore consult closely the specific national funding conditions. The EPSS will indicate and link to such information.

The applicants should be aware that on the national/regional level, there will be an eligibility check to see if a topic is in scope with the national provisions and regulations. This may also include specifications regarding particular key dimensions (see below).

Table 1: Matrix on key dimensions by country / region

Key dimensions	FR	AT	DE	SE	FI	DK	PL	ES*	IT*	NO	NL	TR	BE*
I. Energy and environmental policy approach	X	X	X	X	X	X	X	X	X	X			
II. Usage patterns, economic models, actors involved	X	X	X	X	X	X	X	X	X	X			
III. Strategic research on technical dimensions of the recharging, storage and distribution systems	X	X	X	X	X	X	X	X	X	X	X	X	X
IV. Testing, Trials & normative standards	X	X	X	X	X	X	X	X	X	X	X		
V. Technology based Innovation	X	X	X	X	X	X	X	X	X			X	X

X = Support

**Regional representations of Flanders (BE), Andalusia (ES), Piedmont (IT)*

[2] Proposals can relate to several key dimensions. However, for practical reasons the proposal formally has to be addressed to only one key dimension, preferably the one which fits best to the proposal subject.

1.5. Budget of the call and funding provider

The figures in Table 2 reflect tentative national/regional funding budgets, which are reserved for applicants from the respective country/region.

The total available funding budget may be higher. The EC may top-up the national/regional funds with up to 50% and with a total maximum of 10 M€.

Table 2: Tentative national/regional funding budget

Country	Organisation name (funding providers)	National / regional funding contribution (tentative)
FR	Ministry of Ecology, Energy, Sustainable Development and the Sea in charge of Green Technologies and Climate Change Negotiation	3.0 M€
	French National Research Agency	
	French Environment and Energy Management Agency	
DE	Federal Ministry of Economics and Technology	4.0 M€
	Federal Ministry of Transport, Building and Urban Development	
NL	Ministry of Transport, Public Works and Water Management	1.7 M€
AT	Austrian Federal Ministry for Transport, Innovation and Technology	2.5 M€
FI	Finnish Transport Agency	2.5 M€
	Finnish Funding Agency for Technology and Innovation	
NO	Research Council of Norway	1.0 M€
	Norwegian Public Roads Administration (Transnova)	
SE	Swedish Agency for Innovation Systems	1.0 M€
	Swedish Transport Administration	
	Swedish Energy Agency	
DK	The Danish Ministry of Transport	0.7 M€
PL	National Centre for Research and Development	1.3 M€
BE (*)	Institute for the Promotion of Innovation through Science and Technology in Flanders	1.0 M€
IT (*)	Piedmont Region Directorate of Industry and Productive Activities	1.0 M€
ES (*)	Agencia IDEA, Region of Andalusia	1.0 M€
TR	The Scientific and Technological Research Council of Turkey	1.0 M€
	TOTAL	**21.7 M€**

**Regional representations of Flanders (BE), Andalusia (ES), Piedmont (IT)*

2. Formal conditions of the call

2.1. Type of research

Electromobility+ expects research projects with content on strategic research for transport policy and technology and applied research for technology based innovation. The trans-national call *Electromobility+* is open for the research types as defined in the "Community framework for state aid for research and development and innovation" (2006/C 323/01): *Fundamental research, Industrial research, Experimental development.* Strategic research contents (including so-called "policy studies") can also be addressed under specific national funding rules (e.g. contracted studies) if these rules are part of the respective national R&D programmes notified to the EC and if stated so in the respective national/regional conditions and definitions (see below).

Applicants should always refer to the national/regional conditions and definitions regarding the expected type of research as outlined in the respective national/regional information documents and/or websites, which are linked to the EPSS.

Applicants are strongly advised to consider issues of **Intellectual Property Rights (IPR)** in the composition of the projects and related Consortium Agreements already in an early stage of the project development. In case of uncertainties please contact the Call Secretariat or your national/regional contact point.

2.2. Project types in relation to key dimensions

Appropriate project types should be chosen reflecting the content of the research questions and topics as stipulated in the key dimensions. Basically all types of projects are eligible for the full spectrum of key-dimensions. Nevertheless, given the thematic scope it is expected that the prevailing type of research for key dimension 1 is "Fundamental Research", and for key dimension 5 "Industrial research" and "Experimental Development", respectively.

2.3. Type of consortia

The trans-national call is open for consortia composed of partners from at least two countries that are involved in this call.[3]

The applicants should be aware that a higher number of represented countries in a consortium will be assessed positively in the evaluation of the proposal, provided however that the scientific quality and other indicated evaluation criteria are met by the proposal (cf. "evaluation criteria").

For the building of consortia, applicants are eligible from the following countries/regions: France, Germany, Austria, the Netherlands, Sweden, Norway, Denmark, Finland, Poland, Turkey, Flanders (Belgium), Andalusia (Spain), Piedmont (Italy).

2.4. Funding rates

The funding rates will be determined by the rules of the participating national/regional programmes. Specific information on the funding rates in the respective countries/regions will be provided by the appointed contact points/persons.

2.5. Project duration

The project duration should be appropriate to the subject of the research, but not longer than **36 months** in total.

[3] The applicants in a consortium have to come from different and independent organisations. The national contact point can provide further information. Also the provisions of the EU 7th Framework Programme to this issue serve as orientation.

2.6. Project size

The project size in terms of total cost should be appropriate to the subject of the research. The figures in the table below serve as an orientation only.

Table 3: Orientation for the project size

Type of research	Orientation for the upper limit of total cost of the project
Fundamental research	1.5 M€
Industrial research	7.5 M€
Experimental development	7.5 M€

No single participating consortium partner or country/region, respectively, may assume more than 70% of the total costs of a project.

3. Procedural overview and timeline

Publication of the Call

Commonly, the call will be published on the main website of *Electromobility+* (www.transport-era.net/electromobility.html). To promote a wide-spread public attention for this call, it will also be advertised on the websites of the European Commission and on the participating countries'/regions' own websites in parallel. In addition the national/regional programmes will publish the call according to their specific provisions.

Evaluation Step 1: National/regional evaluation

On this level of the evaluation process the national/regional programmes will evaluate those proposals which feature applicants from their respective countries and regions. This step includes an eligibility check according to national/regional provisions (project in scope of topics and applicants' eligibility). At the end of this step, the national/regional programmes will together decide on one common list of proposals that will be forwarded to the second step of the evaluation.

Evaluation Step 2: International peer review

In the second step international expert panels (assigned to the key dimensions) will evaluate the proposals that have successfully passed step1. The panels will be composed of independent experts. Neither national interests nor principles of geographical return will influence the evaluation process at this stage. Each proposal forwarded to this second step shall be evaluated with the assistance of at least three independent experts appointed by the *Electromobility+* consortium. At the end of step 2, the international expert panels will decide on one common ranking list of proposals.

Selection of projects

With regard to the ranking list from the international peer review, the national/regional programmes (i.e. the *Electromobility+* Governance Board) will decide on the final selection list for funding.

Preparation of Grant Agreements and project start

As soon as the final selection list is formally approved by the European Commission, the process of preparation of grant agreements / funding contracts will start.

Timeline

14.12.2010	**Opening of the call**
13.01.2011	**Information and Brokerage Event (Cologne)**
31.03.2011 at 17:00h (Brussels local time)	**Closure of the call (*)**
01.04.2011 30.06.2011	**National Evaluation** Start End
01.07.2011 30.09.2011	**International Peer Review** Start End
31.10.2011	**Selection List** Meeting of all funding programmes
01.11.2011 31.03.2012	**Phase of preparation of national grant agreements** Start End
01.12.2011 30.06.2015	**Period for the implementation of R&D Projects** (limit for the duration of each project is 36 months) Start End

(*) NOTE: Check also for national/regional regulations and deadlines!

4. Evaluation

4.1. Criteria

The following evaluation criteria, scores and thresholds (as specified for collaborative research projects in FP7) are compulsory for the evaluation by international peer review in step 2:

S/T QUALITY "Scientific and/or technological excellence - Quality of the transnational project"	**IMPLEMENTATION** "Quality and efficiency of the implementation and the management"	**IMPACT** "Potential impact"
• Sound concept, and quality of objectives • Progress beyond the state-of-the-art • Quality and effectiveness of the S/T methodology and associated work plan	• Appropriateness of the management structure and procedures • Quality and relevant experience of the individual applicants • Quality of the consortium as a whole (including complementarity, balance) • Appropriateness of the allocation and justification of the resources to be committed (budget, staff, equipment …)	• Contribution, at the European [and/or international] level, to the expected impacts listed in the call text under the relevant key dimension • Appropriateness of measures for the dissemination and/or exploitation of trans-national projects results and management of intellectual property

Evaluation scores will be awarded globally for each of the three criteria, but not at the level of sub-criteria. The sub-criteria are issues which the expert should consider in the assessment of that criterion. They also act as reminders of issues to rise later during the discussions of the proposal.

The relevance of a proposal will be considered in relation to the key dimensions of the *Electromobility+* call. These aspects will be integrated in the application of the criterion "S/T quality", and the first sub-criterion under "Impact" respectively.

When a proposal is partially relevant because it only marginally addresses the key dimension(s) of the call, or if only part of the proposal addresses the key dimension(s), this condition will be reflected in the scoring of the first criterion. Proposals that are clearly not relevant to the call ("out of scope") will be rejected on eligibility grounds.

Each criterion will be scored out of 5. Half marks can be given.

The scores indicate the following with respect to the criterion under examination:

0 - The proposal fails to address the criterion under examination or cannot be judged due to missing or incomplete information.

1 - Poor. The criterion is addressed in an inadequate manner, or there are serious inherent weaknesses.

2 - Fair. While the proposal broadly addresses the criterion, there are significant weaknesses.

3 - Good. The proposal addresses the criterion well, although improvements would be necessary.

4 - Very good. The proposal addresses the criterion very well, although certain improvements are still possible.

5 - Excellent. The proposal successfully addresses all relevant aspects of the criterion in question. Any shortcomings are minor.

No weightings will be applied.

The **threshold** for individual criteria will be 3. The overall threshold, applying to the sum of the three individual scores, will be 10.

Conflicts of interest: Under the terms of the appointment letter, experts must declare beforehand known conflicts of interest, and must immediately inform the *Electromobility+* Call Secretariat if one becomes apparent during the course of the evaluation. The *Electromobility+* Call Secretariat will take whatever action is necessary to remove any conflict.

Confidentiality: The appointment letter also requires experts to maintain strict confidentiality with respect to the whole evaluation process. They must follow any instruction given by the *Electromobility+* Call Secretariat to ensure this. Under no circumstance may an expert attempt to contact an applicant on his own account, neither during the evaluation nor afterwards.

4.2. Evaluation process

The evaluation will be implemented in two steps

Step 1: Evaluation on national/regional level and

Step 2: Evaluation by international peer review.

4.2.1. Step 1 – Evaluation on national level

4.2.1.1 Submission by applicants

Proposals must be prepared and submitted electronically by using the Electronic Proposal Submission System (EPSS). The EPSS will be available via the *Electromobility+* webpage http://www.transport-era.net/electromobility.html .

For some countries / regions additional documents or data may have to be sent to the indicated National Contact Points. A link to corresponding national/regional information (web pages) will be provided within the EPSS system. Please find more detailed information in chapter 5 “How to apply?” and also in the ”EPSS manual”, which will be available for download on the EPSS webpage early January.

Proposals can relate to several key dimensions. However, for practical reasons (i.e. the evaluation procedure) the proposal formally has to be addressed to only one key dimension, the one which fits best to the proposal.

Only those proposals that have been submitted in the EPSS system before the closure of the call will be considered for evaluation. Additional information or documents may be requested by national/regional programmes. The applicants should be aware that national/regional

rules do apply and therefore consult closely the specific national/regional conditions. The EPSS will indicate and link to such information.

4.2.1.2 Evaluation by the programmes involved

The proposals that were submitted by EPSS will subsequently be provided to the respective national/regional programmes by the *Electromobility+* Call Secretariat. On this level of the evaluation process the national/regional programmes will evaluate the proposals, which feature applicants from their respective countries and regions. This includes the eligibility check according to national provisions and regulations (e.g. project in scope, applicant eligible, financial viability of applicant, etc).

After all project proposals have been evaluated and the results have been collected, the *Electromobility+* consortium will decide on a list of project proposals (no ranking) that will be forwarded to step 2 of the evaluation.

The proposal coordinators will be informed about the outcome of the evaluation of their proposal.

4.2.2 Step 2 - Evaluation by international peer review

4.2.2.1 Evaluation by the international expert panel

In the second step international expert panels will evaluate the project proposals that have successfully passed step1. The panels are assigned to the different key dimensions.

The panels will be composed of independent experts, who have skills and knowledge appropriate to the project proposals they will evaluate.

Each proposal will be evaluated by three independent experts appointed by the *Electromobility+* consortium. Neither national interests nor principles of geographical return will influence the evaluation process at this stage. The international experts will apply the evaluation and scoring methodology as described in section 4.1

At the end of the evaluation process the international experts will decide on one final ranking list of proposals.

4.2.2.2 The selection list for projects to be funded

Subsequent to the 2nd step of the evaluation process the national/regional programmes will establish a common selection list of project proposals to be funded.

Once achieved, the common selection list will be submitted to the EC, which will take this list as the basis of their funding decision (topping-up).

Subsequent to the approval of the selection list by the European Commission the common grant agreement/funding contracts can be made.

5. How to apply? Turning your idea into an effective proposal

The project proposal coordinator

For a given project proposal, the project proposal coordinator acts as the single point of contact between the participants and the *Electromobility+* Call Secretariat. The proposal co-ordinator is generally responsible for the overall planning of the proposal and for building up the trans-national consortium that will do the work.

Focusing your planned work

The work you set out in your proposal must correspond to one or more of the key dimensions indicated in the *Electromobility+* call for proposal. **Proposals that fail to do so will be regarded as ineligible.**

Who can participate?

See chapter 2. “Formal conditions of the call”.

Presenting your proposal

A proposal for the *Electromobility+* call consists of two parts[4]:

Part A will contain administrative information about the proposal and the applicants. The information requested includes a brief description of the work, the key dimension addressed[5], contact details and characteristics of the applicants, and information related to the funding requested. **Each applicant has to enter all relevant information concerning its organisation** directly into the Electronic Proposal Submission System (EPSS) described below.

Part B is a "template", or list of headings, rather than an administrative form. The template is included in annex 2 to this Guide. **Part B of the proposal has to be uploaded in the EPSS solely by the proposal coordinator.**

Applicants should follow the structure of the Part B template when presenting the scientific and technical content of the proposal. The template is designed to highlight those aspects that will be assessed against the evaluation criteria. It covers, amongst other things, the nature of the proposed work, the participants and their roles in the proposed project, and the impacts that might be expected to arise from the proposed work. Only black and white copies are used for evaluation, hence it is strongly recommended not to use coloured fonts in this document.

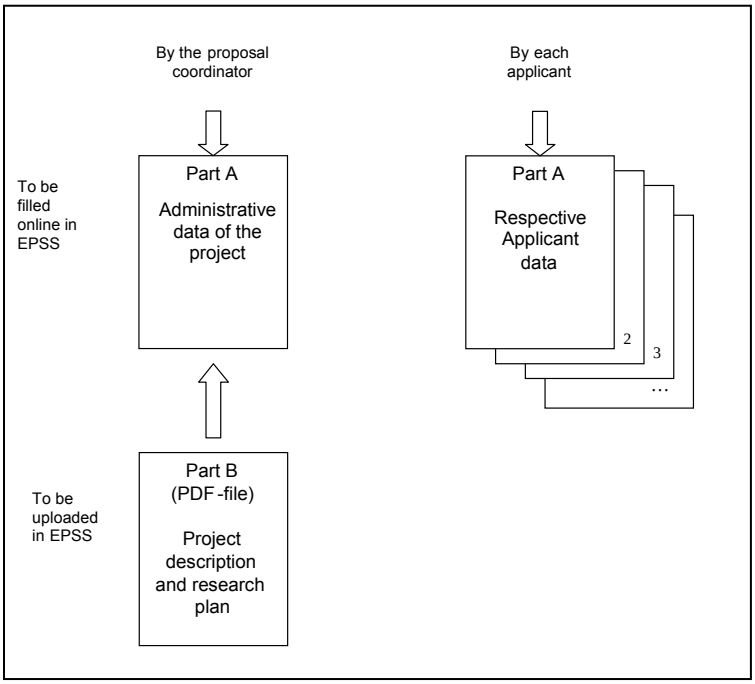
For the proposal Part B the coordinator must use exclusively PDF (“portable document format” with embedded fonts). Other file formats will not be accepted by the EPSS system. Irrespective of any page limits specified in annex 2 to this Guide, there is an overall limit of 10Mbyte to the size of proposal file Part B that can be uploaded to the system. There are also restrictions regarding the name to be given to the Part B file. Only alphanumeric characters should be used, special characters and spaces must be avoided.

[4] Additional information or documents (like cost sheets) may be requested by national/regional programmes. The applicants should be aware that national/regional rules do apply and therefore consult closely the specific national/regional conditions.

[5] Proposals can relate to several key dimensions. However, for practical reasons the proposal formally has to be addressed to only one key dimension, the one which fits best to the proposal subject.

You are advised to clean your document before converting to PDF (e.g. accept any track changes). Check that your conversion software successfully converts all pages and the original document (e.g. there is no problem with page limits).

Please note that proposals will be printed out on plain A4 paper. The printable zone on the print engine is bounded by 1.5 cm right, left, top bottom. No scaling is applied to make the page "fit" the window. Printing is done at 300 dots per inch.



About the EPSS

Proposals must be prepared and submitted electronically by using the Electronic Proposal Submission System (EPSS). Only those proposals that have been formally submitted in the EPSS system before the closure of the call will be considered for evaluation.

For some countries/regions additional documents or data have to be sent to the indicated national/regional contact points (see chapter 8). A link to webpages on corresponding national/regional information and requirements will be provided within the EPSS System.

You can access the EPSS via the *Electromobility+* webpage http://www.transport-era.net/electromobility.html .

Full instructions are found in the “EPSS manual”, available from the EPSS entry of above mentioned web page. The EPSS will be available early January 2011.

As a **proposal coordinator** you:

- register as interested in submitting a proposal to the call
- set up (and modify) your consortium by adding/removing applicants and provide administrative data about the proposal (Form A)
- enter your data as the applicant No. 1 of the consortium
- download the document template for writing Part B of the proposal and, when it is completed, upload the finished Part B
- submit the complete proposal Part A and Part B.

All **applicants**:

- enter and view administrative data on their organisation in the section “Applicants” (Form A)
- access the weblink to further national/regional information and requirements and related acknowledgement
- provide information on dependencies to other applicants in the proposal

Submitting the proposal

Only the proposal coordinator is authorised to submit the proposal.

Completing the Part A forms in the EPSS and uploading a Part B does **not** yet mean that your proposal is submitted. Once there is a consolidated version of the proposal, you must press the button "SUBMIT NOW" available in section "SUBMISSION".

Please note that "SUBMIT NOW" starts the final steps for submission; it does not in itself cause the proposal to be submitted.

The EPSS then performs an automatic validation of the proposal. A list of any problems ("validation error message") such as missing data, will then appear on the screen. Submission is blocked until these problems are corrected. Once corrected, the coordinator must then repeat the above steps to achieve submission.

If successfully submitted, the coordinator receives a message that indicates that the proposal has been received. This automatic message is not the official acknowledgement of receipt.

The coordinator may continue to modify the proposal and submit revised versions overwriting the previous one right up until the deadline. The sequence above must be repeated each time.

About the deadline

Proposals must be submitted on or before the deadline specified in the Timeline in chapter 3. It is your responsibility to ensure the timely submission of your proposal.

The EPSS will be closed for this call at the call deadline. After this moment, access to the EPSS for this call will be impossible.

Do not wait until the last moment before submitting your proposal!

Call deadlines are absolutely firm and are strictly enforced.

Please note that you may submit successive drafts of your proposal through the EPSS. Each successive submission overwrites the previous version. It is a good idea to submit a draft well before the deadline.

> *Leaving your first submission attempt to the last few minutes of the call will give you no time to overcome even the smallest technical difficulties, proposal verification problems or communications delays which may arise. Such events are never accepted as extenuating circumstances; your proposal will be regarded as not having been submitted.*
>
> *Submission is deemed to occur at the moment when the proposal coordinator completes the submission sequence described above. It is not the point at which you start the upload. If you wait until too near to the closure of the call to start uploading your proposal, there is a serious risk that you will not be able to submit in time.*
>
> *The submission of a proposal requires some knowledge of the EPSS system, a detailed knowledge of the contents of the proposal and the authority to make last-minute decisions on behalf of the consortium if problems arise. In your function as proposal coordinator, you are strongly advised not to delegate the job of submitting your proposal!*

In the unlikely event of a failure of the EPSS service due to breakdown of the *Electromobility+* server during the last 24 hours of this call, the deadline may be extended by

a further 24 hours. This would be notified by e-mail to all proposal coordinators, who had registered for this call by the time of the original deadline, and also by a notice on the *Electromobility+* webpage as well as on the webpage of the EPSS.

Such a failure is a rare and exceptional event; therefore do not assume that there will be an extension to this call. If you have difficulty in submitting your proposal, you should not assume that it is because of a problem with the *Electromobility+* server, since this is rarely the case. Contact the EPSS help desk if in doubt (see the address given in chapter 8 to this Guide).

Please note that the *Electromobility+* Call Secretariat will not extend deadlines for system failures that are not due to its own responsibility. Under all circumstances, you should aim to submit your proposal well before the deadline to have time to solve any problems arising.

Correcting or revising your proposal

Errors discovered in proposals submitted to the EPSS can be rectified by simply submitting a corrected version. As long as the call has not yet closed, the new submission will overwrite the old one.

Once the deadline has passed, however, no further additions, corrections or re-submissions can be accepted. The last eligible version of your proposal received before the deadline is the one which will be evaluated, and no later material can be submitted!

Ancillary material

Only a single PDF file comprising the complete Part B can be uploaded to EPSS.

Additional information or documents may be requested by national/regional programmes. They have to be submitted according to specific instructions from national/regional programs.

Withdrawing a proposal

You may withdraw a proposal before the deadline by uploading and submitting a revised version of the part B file containing the following words:

"The applicants wish to withdraw this proposal. It should not be evaluated."

If you wish to withdraw a proposal after the deadline, please contact the *Electromobility+* Call Secretariat.

6. Check list

Of importance for the consortium in general, but in particular for the proposal coordinator:

6.1 Preparing your proposal

Does your planned work fit with the call for proposals? Check that your proposed work does indeed address the key dimensions of this call.

Is your proposal complete? Proposals must comprise a Part A, containing the administrative information including applicants and project cost details on standard forms; and a Part B containing the scientific and technical description of your proposal as described in this Guide. A proposal that does not contain both parts will be considered ineligible and will not be evaluated.

Does your proposed work raise ethics issues? Clearly indicate any potential ethical, safety or regulatory aspects of the proposed research and the way these will be dealt with prior and during the implementation of the proposed project. A preliminary ethics control will take place during the scientific evaluation and, if needed, an ethics screening and/or review will take place for those proposals raising ethics issues. Proposals may be rejected on ethical grounds if such issues are not dealt with satisfactorily.

Does your proposal follow the required structure? Proposals should be precise and concise and must follow exactly the proposal structure described in this document, which is designed to correspond to the evaluation criteria which will be applied. Omitting requested information will almost certainly lead to lower scores and possible rejection.

Have you maximised your chances? There will be strong competition. Therefore, edit your proposal tightly, strengthen or eliminate weak points. Put yourself in the place of an expert evaluator; refer to the evaluation criteria given in section 4.1. Arrange for your draft to be pre-evaluated by experienced colleagues; use their advice to improve it before submission.

Do you need further advice and support? You are strongly advised to inform your National Contact Point of your intention to submit a proposal (see contact details in chapter 8).

Have national/regional rules been considered by the applicants? All applicants in your proposal should be aware that national/regional rules do apply and therefore consult closely the specific national funding conditions. The EPSS will indicate and link to such information.

6.2 Final checks before submission

- Do you have the **agreement of all the members** of the consortium to submit this proposal on their behalf?
- Is your **Part B** in portable document format (PDF), including no material in other formats?
- Is the **filename** made up of the letters A to Z, and numbers 0 to 9? You should avoid special characters and spaces.
- Have you **printed out your Part B,** to check that it really is the file you intend to submit, and that it is complete, printable and readable? After the call deadline it will not be possible to replace your Part B file.
- Double check that you respect the **font size (11 point) and the page limitations** for the different chapters!

- Is your Part B file within the **size limit of 10 Mbytes**?
- Have you made yourself **familiar with the EPSS** at an early stage?
- Have you allowed time **to submit a first version of your proposal well in advance of the deadline** (at least several days before), and then to continue to improve it with regular re-submissions?
- Have you **completed the submission process** for your latest version?

6.3 Following submission

- It is recommended to check that all your material has been successfully uploaded **and** submitted.
- You can revise and re-submit your proposal up to the call deadline.

7. What happens next

7.1 General information about next steps

The submitted proposals will be evaluated according to the process described in this document. After step one of the evaluation proposal coordinators will be informed whether their proposal has been rejected or has been forwarded to step 2 of the evaluation.

Once the selection list of project proposals to be funded is approved, the proposal coordinators will be informed about the outcome of the second evaluation step.

7.2 Funded Projects

7.2.1 Reporting obligations

Every project belonging to the *Electromobility+* initiative has – in addition to national/regional reporting obligations - to provide common reports in English to the *Electromobility+*. This will be facilitated by the EPSS.

Half-year report

- Short Summary of the status quo in the project. This should describe: -progress made; -encountered challenges; -solutions found to the challenges; -highlights; -outlook next 6 months
- A presentation about the short summary.

Annual report

- Summary of the status quo in the project. This should describe: -progress made; -encountered challenges; -solutions found to the challenges; -highlights; -outlook next year
- A presentation about the summary.

Final report

- Summary of the final results of the project. This should describe: -encountered challenges; -solutions found to the challenges; -the results and deliverables; -highlights; -lessons learned; -remaining research questions
- A presentation about the summary.
- An article on: -the project results; -highlights; -lessons learned; -remaining research questions.

7.2.2 Presentation at events

Funded projects may be asked to present the project and results of the project at relevant dissemination events.

8. Further information and help

The *Electromobility+* call page contains links to other sources that you may find useful in preparing and submitting your proposal. Direct links are also given where applicable.

Call information
Electromobility+ call page http://www.transport-era.net/electromobility.html

***Electromobility+* Call Secretariat**

- Mr Ralf Engel, PREDIT, T: +33 14081 1568, ralf.engel@developpement-durable.gouv.fr
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- Mr Oliver Althoff, TUV Rheinland, T: + 49 221 806 4253, oliver.althoff@de.tuv.com

EPSS help desk
A user manual for EPSS is available from early January 2011 for download on the *Electromobility+* webpage http://www.transport-era.net/electromobility.html

For further questions please contact

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9. Glossary

The following explanations are provided for clarity and easy-reference. They have no legal authority.

A

Acknowledgement of receipt
Applicants are informed by email shortly after the deadline that a proposal has been successfully submitted (but not that it is necessarily eligible).

Applicant
The term used generally in this guide for a person or entity applying to a call for proposals.

C

Call for proposals (or "call")
An announcement, usually in official journals, inviting proposals for research activities in a certain theme.

Consensus meeting
The stage in the proposal evaluation process when experts come together to establish a common view on a particular proposal.

Consortium
This call requires proposals from a number of applicants, who agree to work together in a consortium.

Coordinator
The coordinator of a project proposal leads and represents the applicants of a consortium. He or she acts as the point of contact with the *Electromobility+* Call Secretariat. The proposal coordinator is by definition the 1st applicant of the consortium.

D

Deadline
For a particular call, the moment after which proposals cannot be submitted and when the Electronic Proposal Submission System closes for that call. Deadlines are strictly enforced.

Deliverable
A deliverable represents a verifiable output of the project. Normally, each work package will produce one or more deliverables during its lifetime. Deliverables are often written reports but can also take another form, for example the completion of a prototype etc.

E

Electronic Proposal Submission System (EPSS)
A web-based service which must be used to submit proposals to the *Electromobility+* Call Secretariat.

Electronic Proposal Submission System (EPSS) Helpdesk
A telephone / email service to assist applicants who have difficulty in submitting their proposal via the Electronic Proposal Submission System. See section 8 “Further information and help”.

Ethics issues table
Research activities supported by *Electromobility+* should respect fundamental ethical principles. The main issues which might arise in a project are summarised in tabular form in a checklist included in the proposal

Evaluation criteria
The criteria against which eligible proposals are assessed by independent experts. The evaluation criteria relate to S/T quality, impact and implementation. Relevance is also considered.

Evaluation Summary Report (ESR)
The assessment of a particular proposal following the evaluation by independent experts is provided in an Evaluation Summary Report. It normally contains both comments and scores for each criterion.

G

Grant Agreement (GA)
The GA is a legal instrument to provide funding to successful proposals.

I

Individual evaluation
The stage in the evaluation process when experts assess the merits of a particular proposal before discussion with their peers.

Information Day
Open event organised by *Electromobility+* to explain the characteristics of the call and a chance for potential applicants to meet and discuss proposal ideas and collaborations.

M

Milestones
Control points where decisions are needed with regard to the next stage of the project.

N

National Contact Points (NCP)
Official representatives nominated by the national /regional authorities to provide tailored information and advice in the national language(s).

Negotiation
The process of establishing a grant agreement between the national/regional programmes and an applicant whose proposal has been favourably evaluated, and when funds are available.

Non-profit
A legal entity is qualified as "*non-profit*" when considered as such by national or international law.

P

Part A
The part of a proposal dealing with administrative data. This part is completed using the web-based EPSS.

Part B
The part of a proposal explaining the work to be carried out and the roles and aptitudes of the participants in the consortium. This part is uploaded to the EPSS as a pdf file. A template format is given in Annex 2 to this Guide.

Proposal
A description of the planned research activities, information on who will carry them out, how much they will cost, and how much funding is requested

Public body
Public body means any legal entity established as such by national law, and international organisations.

R

Research organisation
A legal entity established as a *non-profit* organisation which carries out research or technological development as one of its main objectives.

RTD
Research and Technological Development.

S

SME
'SMEs' are micro, small and medium-sized enterprises. SMEs are defined in Recommendation 2003/361/EC of 6 May 2003.

T

Thresholds
For a proposal to be considered for funding, the evaluation scores for individual criteria must exceed certain thresholds. There is also an overall threshold for the sum of the scores.

W

Work Package
A work package is a major sub-division of the proposed project with a verifiable end-point – normally a deliverable or a milestone in the overall project.

10. Annexes

Annex 1 **Key dimensions**
Annex 2 **Instructions for drafting "Part B" of the proposal**

Annex 1: Key Dimensions

1. Energy and environmental policy approach

This first thematic key dimension's focus is on to profile and to compare electricity production and storage (e.g. Hydrogen) modes in European countries and their foreseeable patterns of change up to the time horizon of 2025-2030. On this background, realistic scenarios on the potential low-carbon fleet all over Europe should be achieved and the aspect of the environmental impact of Electromobility as a whole be investigated.

a. Energy balances

- Investigate the "Well to wheel" by integrating the diversity of Europe's countries energy-mix profiles
- Contribution from EV and PHV to CO2 reduction: standardizing calculation methods
- How the interconnected energy distribution networks all over Europe will cope with an increasing demand related to the recharging of electric vehicles? Will "Smart Grids" offer an Inter-European Solution or only be efficient on a national level?
- Usage of hydrogen in cars as part of an electricity storage strategy

b. Quantitative horizons of a low-carbon vehicle fleet

- Achieve detailed, realistic scenarios of the potential size of EV, PHV and FEV at the horizon 2025-30; Building scenarios for low-carbon vehicle market penetration

c. Externalities

- Impact of low-carbon vehicles on the social costs of mobility: global environmental dimensions.
- Global Environmental impact of Electromobility
- Electromobility's impact on non-atmospheric external effects (land use, congestion, safety)
- Assessment of the environmental and social economic impacts of Electromobility as a whole – all externalities included (e.g. electric cars substituting public transportation, walking, bicycling)
- Recycling of batteries and any other vehicle components (all vehicles)
- Availability of rare raw materials and possible substitutes

d. Raw material and recycling

- Studies on innovative and efficient recycling technologies

2. Usage patterns, economic models, actors involved

Different usage patterns are going to shape vehicle type (onboard technologies, design) and recharge and refuelling (Hydrogen) system, with different consumer expectations and degrees of willingness to pay (WTP) for service costs. – On the other hand, the introduction and use of EVs might also have an impact in the evolution of mobility behaviour. In addition to key dimension's 1 more quantitative scenario approaches, this key dimension's challenge is about the integration of qualitative aspects related to user' needs and expectations, which are expected to be subject to foresight studies.

a. Usage patterns

- Analysis and typologies of user profiles and usage patterns
- User needs, expectations and WTP (Willingness-to-pays) towards vehicle design and services
- Expected changes in mobility behaviour due to the introduction and use of EVs
- Usage of fuel cells as range extender in EV's

b. Economic models and tax legislation

- What is the user's full all-in cost calculation for low-carbon vehicles?
- What kind of tax incentive models are available to facilitate business / household consumer adoption of low carbon vehicles?
- How is tax legislation on electricity or hydrogen expected to cover the revenue from tax on fossil fuels?
- Where will the money for introducing and maintaining joint-coverage infrastructures come from?
- What economic models / governance models to deal with energy price variation (price variation according to the actualized market value versus governance of stable energy prices)

c. Actors involved

- What are the conditions to create sustainable cooperative partnerships in order to secure a resilient long-term market? Which structures such a system should have?
- Comparison of the various strategies deployed by the actors / their alliances during the first-generation phase. Where will be future need for assessment?

d. Low-carbon vehicles in town: perspectives for housing, community facilities, office blocks

- Charging systems and solutions for citizens with no parking space – overnight street parking
- Where in cities / urban areas individual Electromobility should be deployed and in what way?

e. Social acceptability and behavioural trends

- What level of social acceptability can Electromobility expect to gain from the wider public, and what will be the impacts on individual behaviours, by including sociologic and social-psychological dimensions?
- What will customer expectations on automakers be, in terms of the performances and pack options available in low-carbon vehicles of the future?
- Which effects will have different autonomous radius of EV, PHV and FEV on consumers choice and mobility patterns
- Impact of the different technologies on possible usage shares
- Will Socio-economics / new business models of Electromobility influence on mobility-related behaviour patterns? Will there be a shift from the current multi-purpose vehicle to purpose-specialized vehicles?
- How to change focus from replacing fuel engine cars to solving the transportation need?

f. Time-course scenarios for vehicle take-on

- What could be different scenarios for the release / multiplication of low carbon vehicles, under consideration of the socio-economic, social-psychological and behavioural aspects? (Realistic scenario approaches, integrating cost-benefit analysis)
- What is the expected from the public authorities?

g. Synergies to be derived from Electromobility for the benefit of the current transport system

- New intermodal mobility chains through change of usage patterns.

3. Strategic research on technical dimensions of the recharging, storage and distribution systems

Current state of the art, both conceptually and in technical terms, suggests there are several candidate for recharging and refuelling for all electric vehicles.
All these technical models warrant meticulous analysis:

a. Technical models of battery recharge solutions

- Battery technology
- Battery management
- Solutions for battery charging and exchange
- In depth study of degradations originating from fast battery recharges
- Direct effects of fast recharges on the electrical network
- Acceptability by vehicle owners of partially charging their battery packs
- Conditions to be fulfilled for a viable battery pack exchange systems. Technical needs
- What could be an efficient economic model of pack exchange solution?
- Acceptability by vehicle owners to rent their battery pack
- Battery Lifetime / Battery pack rest value: Modelling degradation due to charging / recharging

b. Managing the power grid

- Prospective on the carbon contents of electricity in the next 10 to 15 years on a European level
- Simulation of the effects of an EV and PHV park on the grid and on the carbon content of electricity
- Economic viability of fast recharging equipments
- Feasibility of providing fast recharging spots with their own primary storage device in order to avoid network unbalance when power is needed during a fast recharge of a vehicle battery pack
- Feasibility of providing all (fast and slow) battery recharging spots with their own primary intermediate electricity storage system in order to be able to store electricity during off-peak hours or when intermittent renewable sources provide much energy because of favourable weather conditions (strong winds or shiny Sun)
- Feasibility and advantages of utilizing vehicle batteries for storing energy in order to balance the grid and minimize the need to use highly carbonated electricity sources. Modelisation and calculation of the global efficiency of the system
- Acceptability of this principle by EV and PHV users
- Reward of the vehicle owner when his or her battery pack is used to store electricity by the utility company (notably to take into account battery degradation as a result of frequent charge/discharge cycles)
- Usage of hydrogen as an storage component
- Evaluation of the impact of decentralized power generation concepts on e-mobility

c. Recharging and refuelling stations

- Ergonomic studies on the recharge spots and the hydrogen storage and refuelling stations
- Technical studies for designing efficient, reliable, user-friendly and safe connecting devices. Once such an “ideal” device has been proven to fulfil all the requirements, use it as a standard
- Vehicle-infrastructure communication before (e.g. for finding the nearest available charging spot), during (e.g. for identifying the vehicle being recharged) and after (e.g. for payment) the recharge. Both wireless and by-wire communications can be used, depending on the purpose.
- Study the potential of induction charging both when the vehicle is still (traffic lights, parking…) or when it is moving (principle of continuous inductive wires embedded in main roads and streets) and study the state-of-art and the road map of standardisation
- Systems for recharging spots – slow and quick

d. Co-governance of different Electromobility modes and their mode infrastructures (green cars, buses, utilities, etc.)

- HEV's, BEV's, FEV's – vehicle and infrastructure technology integration
- Usability, ergonomics and acceptability of recharging facilities
- How to create an ergonomic, architectural and aesthetic environment that can integrate diverse recharging facilities in a coherent infrastructure?

e. Vehicle integration of information and communication technologies

- Vehicle-infrastructure communication before (e.g. for finding the nearest available charging spot), during (e.g. for identifying the vehicle being recharged) and after (e.g. for payment) the recharge. Both wireless and by-wire communications can be used, depending on the purpose (as in Focus area c.)
- Cooperative systems, Mobility services, eco-predictions for navigation (best routes)
- Focus: Intelligent Transport Systems including safety
- Evaluation of the synergies of novel guidance technologies with all types of electric vehicles

4. Testing, trials and normative standards

This section looks at upstream standardization research, which is generally a prerequisite groundwork for operational project initiatives. The first focus area is turned to performance reviews, aimed to analyze the previous 'waves' of low-carbon vehicle development and inventorying the teachings and lessons learned. In the second area, the research interest is on safety considerations, specifically on road safety aspects and user safety.

a. Performance review of the first-generation systems

- What are the experiences with large-scale tests and trials on Electromobility across Europe (since 1995)? Best and worst practices, end-user needs / social acceptability issues according to key dimension 2).
- What could be drawn from the 1st generation (2010 - 2011) of electric vehicles in economical and technological terms. Is (are) the economical model(s) used the right one(s). What are the improvements needed? Idem about the technological aspects. What are the problems, which dissatisfied the potential EV, PHV and FEV users? Is the question of the limited autonomy a true obstacle?

b. Safety considerations

- Regarding the dimension of road safety, which new kind of risks large scale Electromobility will bring (noiseless vehicles, emergency interventions)?
- Impact of new vehicle architecture / materials on vehicle compatibility (car-to-car, other vehicles)?
- Pre-normative research on new safety standards for low carbon vehicle- and infrastructure safety.
- Electro-magnetic compatibility and exposure of passengers to electro-magnetic fields.

5. Technology based Innovation

Electromobility / low carbon vehicles are considered of harbouring a huge potential, but the key to that is to multiply Innovation on new technologies for components of functions and vehicles. There is a very large gap between pure ICE powered vehicles and electrical ones. The full propulsion device should be changed. Therefore, technological innovation is needed. For battery- and fuel cell-related electric and hybrid engines, the following topics should be covered and give the opportunity to design demonstrators and concrete technological, innovative products. The present key dimension is open for projects for demonstration and experimental development.

a. Energy storage and management

- Improvement of lithium-based batteries by optimising electrode materials (solid-state chemistry)
- Basic research on lithium-air batteries
- Explorative works on future generation batteries. Role of nano-materials.
- Fast recharging batteries (nano-structured materials)
- New supercapacitor materials and electrolyte
- Electronics and optimisation programmes for BMS (electrical and thermal management)
- Simulation programmes for energy use optimisation

b. Powertrain

- Materials research for inexpensive and abundant materials for permanent magnet motors
- Optimisation of permanent magnet motors (weight, size, efficiency, reliability)
- Basic research on wide bandgap materials (silicon carbide, diamond, gallium nitride)
- Design and growth of wide bandgap materials based electronic components
- Design of efficient and compact converters and inverters

c. Vehicle architecture

- New materials for new vehicle architecture (ultra thin steel, composite materials, role of carbon fibres and nanotubes…)
- Safety aspects for new materials
- New assembly techniques (soldering…)
- Innovative concepts (wheel hub motors…)

d. Vehicle integration of information and communication technologies

- Vehicle-infrastructure communication before (e.g. for finding the nearest available charging spot), during (e.g. for identifying the vehicle being recharged) and after (e.g. for payment) the recharge. Both wireless and by-wire communications can be used, depending on the purpose (as in Focus area 3)
- Cooperative systems, Mobility services, eco-predictions for navigation (best routes)
- Focus: Intelligent Transport Systems including safety

e. Auxiliary power units[6]

- Materials and devices for magnetic cooling and Peltier effect
- Large scale use of magnetic cooling and Peltier effect
- Usage of fuel cells as APU's

f. New service procedures for maintenance

- New service procedures for maintenance

g. Evaluation of integrated technical systems

- Integrated demonstration of novel vehicle concepts including guidance systems and energy transmission infrastructure
- Development and evaluation of integrative systems-of-systems
- Evaluation of technical solution with focus on innovation paths

[6] The here mentioned needs for R&D are valuable of course for cars and light trucks, but most of the subjects are also valid for railways vehicles for which a more efficient use of energy and an optimised architecture (e.g. high speed trains or tramways) is a major concern.

Annex 2: Instructions for drafting "Part B" of the proposal

This annex provides a template to help you structure your proposal Part B.[7] It will help you present important aspects of your planned work in a way that will enable the experts to make an effective assessment against the evaluation criteria (see annex 2). Sections 1, 2 and 3 each correspond to an evaluation criterion. The sub-sections (1.1, 1.2 etc.) correspond to the sub-criteria.

IMPORTANT: Language

Trans-national proposals must be submitted in English.

Additional information or documents may be requested by national/regional programmes in national language.

IMPORTANT: Page limits

Remember to keep to the page limits.

The minimum font size allowed is 11 points. The page size is A4, and all margins (top, bottom, left, right) should be at least 15 mm (not including any footers or headers).

Please remember that it is up to you to verify that you conform to page limits. There is no automatic check in the system!

Ensure that the font type chosen leads to clearly readable text (eg. Arial or Times New Roman).

As an indication, such a layout should lead to a maximum of between 5000 and 6000 possible characters per page (including spaces).

Evaluators will be instructed to disregard any excess pages.

Even where no page limits are given, or where limits are only recommended, it is in your interest to keep your text concise since over-long proposals are rarely viewed in a positive light by experts.

SUMMARY OF MANDATORY PAGE LIMITS
(conforming to font and margin sizes mentioned above).

Section		Maximum pages
1.1	Concept and objectives	2 pages
1.2	Progress beyond the state-of-the-art	2 pages
1.3	Scientific and/or Technical (S/T) methodology and associated work plan	
i)	overall strategy of the work plan	1 page
ii)	Timing of the different WPs and their components	(Gantt chart or similar)
iii)	Detailed work description broken down into work packages:	
	▪ Work package list	table 1.3a
	▪ Deliverables list	table 1.3b

[7] Part A information is to be entered in the EPSS system.

▪ List of milestones	table 1.3c
▪ Description of each work package	table 1.3d, 2 pages per WP
▪ Summary effort table	table 1.3e
iv) Provide a graphical presentation of the components showing their interdependencies	(Pert diagram or similar)
v) Describe any significant risks, and associated contingency plans.	1 page
2.1 Management structure and procedures	2 pages
2.2 Individual applicants	1 page per applicant
2.3 Consortium as a whole	2 pages
2.4 Resources to be committed	2 pages
3. Impact	2 pages for whole section
4. Ethics Issues	No maximum length
5. Consideration of gender aspects	1 page

Cover Page

Proposal full title:
Proposal acronym:

Key dimension addressed:
Proposals can relate to several key dimensions. However, for practical reasons the proposal formally has to be addressed to only one (the most relevant) key dimension.

Name of the coordinating person:

List of applicants:

Applicant no. *	Applicant organisation name	Country/Region
1 (Coordinator)		
2		
3		

**** Please use the same applicant numbering as used in Part A of the proposal (EPSS)***

Table of Contents

Proposal

1. Scientific and/or technical quality, relevant to the topics addressed by the call

1.1 Concept and objectives

Explain the concept of your project. What are the main ideas that led you to propose this work?

Describe in detail the S&T objectives. Show how they relate to the key dimensions addressed by the call, which you should explicitly identify. The objectives should be those achievable within the project, not through subsequent development. They should be stated in a measurable and verifiable form, including through the milestones that will be indicated under section 1.3 below.

1.2 Progress beyond the state-of-the-art

Describe the state-of-the-art in the area concerned, and the advance that the proposed project would bring about. If applicable, refer to the results of any patent search you might have carried out.

1.3 S/T methodology and associated work plan

A detailed work plan should be presented, broken down into work packages[8] (WPs) which should follow the logical phases of the implementation of the project, and include consortium management and assessment of progress and results. (Please note that your overall approach to management will be described later, in section 2).

Please present your plans as follows:

i) Describe the overall strategy of the work plan

ii) Show the timing of the different WPs and their components (Gantt chart or similar)

iii) Provide a detailed work description broken down into work packages:
- Work package list (please use table 1.3a)
- Deliverables list (please use table 1.3b)
- List of milestones (please use table 1.3c)
- Description of each work package (please use table 1.3d)
- Summary effort table (please use table 1.3e)

iv) Provide a graphical presentation of the components showing their interdependencies (Pert diagram or similar)

v) Describe any significant risks, and associated contingency plans.

[8] A work package is a major sub-division of the proposed project with a verifiable end-point - normally a deliverable or a milestone in the overall project.

Note:

- The number of work packages used must be appropriate to the complexity of the work and the overall value of the proposed project. The planning should be sufficiently detailed to justify the proposed effort and allow progress monitoring.

Table 1.3 a: Work package list

Work package No[9]	Work package title	Lead applicant No[10]	Lead applicant short name	Person-months[11]	Start month[12]	End month
		TOTAL				

Table 1.3 b: Deliverables List

Del. no.[13]	Deliverable name	WP no.	Delivery date[14]

9 Work package number: WP 1 – WP n.
10 Number of the applicant leading the work in this work package.
11 The total number of person-months allocated to each work package.
12 Measured in months from the project start date (month 1).
13 Deliverable numbers in order of delivery dates. Please use the numbering convention <WP number>.<number of deliverable within that WP>. For example, deliverable 4.2 would be the second deliverable from work package 4.
14 Measured in months from the project start date (month 1).

Table 1.3 c: List of milestones

Milestones are control points where decisions are needed with regard to the next stage of the project. For example, a milestone may occur when a major result has been achieved, if its successful attainment is required for the next phase of work. Another example would be a point when the consortium must decide which of several technologies to adopt for further development.

Milestone number	Milestone name	Work package(s) involved	Expected date [15]

Table 1.3 d: Work package description

For each work package:

Work package number		**Start date or starting event:**					
Work package title							
Applicant number							
Applicant short name							
Person-months per applicant:							

Objectives

Description of work (possibly broken down into tasks) and role of applicants

Deliverables (brief description and month of delivery)

[15] Measured in months from the project start date (month 1)

Table 1.3 e: Summary of staff effort

A summary of the staff effort is useful for the evaluators. Please indicate in the table the number of person months over the whole duration of the planned work, for each work package, for each applicant. Identify the work-package leader for each WP by showing the relevant person-month figure in bold.

Applicant no	Applicant short name	WP1	WP2	WP3	…	Total person months
	Total					

2. Implementation

2.1 Management structure and procedures

Describe the organisational structure and decision-making mechanisms of the project. Show how they are matched to the complexity and scale of the project.

(Maximum length for Section 2.1 *two pages)*

2.2 Individual applicants

For each applicant in the proposed project, provide a brief description of the legal entity, the main tasks they have been attributed, and the previous experience relevant to those tasks. Provide also a short profile of the staff members who will be undertaking the work.

(Maximum length for Section 2.2*: one page per applicant. However, where two or more departments within an organisation have quite distinct roles within the proposal, one page per department is acceptable.*

The maximum length applying to a legal entity composed of several members, each of which is a separate legal entity, is one page per member, provided that the members have quite distinct roles within the proposal.)

2.3 Consortium as a whole

Describe how the applicants collectively constitute a consortium capable of achieving the project objectives, and how they are suited and are committed to the tasks assigned to them. Show the complementarity between applicants. Explain how the composition of the consortium is well-balanced in relation to the objectives of the project.

If appropriate describe the industrial/commercial involvement to ensure exploitation of the results, and how the opportunity of involving SMEs has been addressed.

i) Sub-contracting: If any part of the work is to be sub-contracted by the applicants responsible for it, describe the work involved and explain why a sub-contract approach has been chosen for it.

ii) Additional partners: If there are as-yet-unidentified applicants (from the countries/regions mentioned in the Guide for Applicants, section 2.3) in the project, the expected competences, the role of the potential applicants and their integration into the running project should be described. However, these as-yet-unidentified applicants will not be counted in the minimum number of applicants' condition regarding the eligibility of the proposal.

(Maximum length for Section 2.3 two pages)

2.4 Resources to be committed

Describe how the totality of the necessary resources will be mobilised, including any resources that will complement the requested funding. Show how the resources will be integrated in a coherent way, and show how the overall financial plan for the project is adequate.

In addition to the costs indicated in Part A of the proposal (in the EPSS system), and the staff effort shown in section 1.3 above, please indicate any other major costs (e.g. equipment).

Please ensure that the figures stated in part B are consistent with those in Part A.

(Maximum length for Section 2.4 two pages)

3. Impact

3.1 Expected impacts

Describe how your project will contribute towards the expected impacts listed in the Annex 1 "Key Dimensions" in the *Electromobility+* Guide for Applicants. Mention the steps that will be needed to bring about these impacts. Explain why this contribution requires a European (rather than a national or local) approach. Indicate how account is taken of other national or international research activities. Mention any assumptions and external factors that may determine whether the impacts will be achieved.

3.2 Dissemination and/or exploitation of project results, and management of intellectual property

Describe the measures you propose for the dissemination and/or exploitation of project results, and how these will increase the impact of the project. In designing these measures, you should take into account a variety of communication means and target groups as appropriate (e.g. policy-makers, interest groups, media and the public at large).

Describe also your plans for the management of knowledge (intellectual property) acquired in the course of the project.

(Maximum length for the whole of Section 3 – two pages)

4. Ethics Issues

Describe any ethics issues that may arise in the project. In particular, you should explain the benefit and burden of the experiments and the effects it may have on the research subject. All countries where research will be undertaken should be identified. You should be aware of the legal framework that is applicable and the possible specific conditions that are relevant in each country (EU and non-EU countries alike).

(No maximum length for Section 4: Depends on the number of such issues involved)

ETHICS ISSUES TABLE

(Note: Research involving activities marked with an asterisk * in the left column in the table below will be referred automatically to Ethics Review)

	Research on Human Embryo/ Foetus	YES	Page
*	Does the proposed research involve human Embryos?		
*	Does the proposed research involve human Foetal Tissues/ Cells?		
*	Does the proposed research involve human Embryonic Stem Cells (hESCs)?		
*	Does the proposed research on human Embryonic Stem Cells involve cells in culture?		
*	Does the proposed research on Human Embryonic Stem Cells involve the derivation of cells from Embryos?		
	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL		

	Research on Humans	YES	Page
*	Does the proposed research involve children?		
*	Does the proposed research involve patients?		
*	Does the proposed research involve persons not able to give consent?		
*	Does the proposed research involve adult healthy volunteers?		
	Does the proposed research involve Human genetic material?		
	Does the proposed research involve Human biological samples?		
	Does the proposed research involve Human data collection?		
	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL		

	Privacy	YES	Page
	Does the proposed research involve processing of genetic information or personal data (e.g. health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction)?		
	Does the proposed research involve tracking the location or observation of people?		
	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL		

	Research on Animals[16]	YES	Page
	Does the proposed research involve research on animals?		
	Are those animals transgenic small laboratory animals?		
	Are those animals transgenic farm animals?		
*	Are those animals non-human primates?		
	Are those animals cloned farm animals? I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL		

	Dual Use	YES	Page
	Research having direct military use		
	Research having the potential for terrorist abuse I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL		

5. Consideration of gender aspects

You may give an indication of the sort of actions that would be undertaken during the course of the project to promote gender equality in your project, or in your field of research. (These will not be evaluated, but will be discussed during negotiations should your proposal be successful).

These could include actions related to the project consortium (e.g. improving the gender balance in the project consortium, measures to help reconcile work and private life, awareness raising within the consortium) or, where appropriate, actions aimed at a wider public (e.g. events organised in schools or universities)

(Maximum length for section 5 – 1 page)

[16] The type of animals involved in the research that fall under the scope of the Commission's Ethical Scrutiny procedures are defined in the Council Directive 86/609/EEC of 24 November 1986 on the approximation of laws, regulations and administrative provisions of the Member States regarding the protection of animals used for experimental and other scientific purposes Official Journal L 358 , 18/12/1986 p. 0001 - 0028