


Green Car Electrochemical Storage Call to be implemented jointly by NMP, Transport and Environment



Advanced eco-design and manufacturing processes for batteries and electrical components

GC.NMP.2011-1
GC.ENV.2011.3.1.3-1
GC.SST.2011.7-7

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Advanced eco-design and manufacturing processes for batteries and electrical components

Content/scope:

Further development and deployment of electrical vehicles call for **large scale production of batteries and electrical components** with **good performances** and at the **lowest possible cost**.

Research shall address the **whole value chain** including the eco-design, assembly/integration and production of batteries and electrical components (motors, battery management systems, etc.).

Eco-design should properly account for the relevant **dismantling, recycling/disposal**, and health and safety aspects of **critical materials**.





- For **near-to-market types of lithium-based batteries**, projects should focus on **manufacturing processes** of cells but also on their **integration** into manageable battery modules and packs. Advanced manufacturing processes of battery cells, should be flexible enough or reconfigurable to cope with new chemistries. Special attention should be devoted to **thermal management systems and safety issues**, which are critically dependant on battery system design.
- For **electric drivetrains and in particular motors**, the main challenge of cost reductions is to be achieved by **design improvements** in order to produce **lighter systems** with increased **power density**, while at the same time taking into account the **availability of critical materials and their dismantling/recycling**. Projects should not include design or manufacturing of the power chips themselves.



- For a significant industrial benefit, it should be possible to integrate the advanced manufacturing tools, methodologies and processes developed within the project into conventional or already existing production lines or, in case of new architectures, include new methodologies. In both cases the projects are expected to cover **small-scale production-line demonstrators**. The environmental improvements achieved should be proven via **ILCD-conform Life Cycle Assessment**. The feasibility of the **dismantling/recycling process for motors** should be **proven** at least **at bench/pilot scale** for the most critical materials.
- In order to ensure the industrial relevance and impact of the research effort, **active participation of industrial partners**, including SMEs, components suppliers, electrical vehicle manufacturers and component recyclers, represents an added value to the activities and this will be reflected in the evaluation, under the criteria Implementation and Impact.

The work should be complementary to the objective GC-ICT-2011.6.8 'ICT for fully electric vehicles'.





Advanced eco-design and manufacturing processes for batteries and electrical components

- **Funding Scheme:** Large scale integrating collaborative projects
- **Additional eligibility criterion:** The EU contribution requested must be **greater than EUR 4 million**
- **Expected impact:** Establishing the basis for a world level European automotive battery and electrical components manufacturing industry. In particular **production of cells, battery packs, electrical motors and components with the required performances at competitive costs.** **Reduction of waste production** and improvement of resource efficiency through a **more efficient recycling of critical materials.**





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- **Title: Operational guidance for Life Cycle Assessment studies of the European Green Cars Initiative**
- **Funding Scheme: Coordination and Support Actions (Supporting Action)**
- ***Additional eligibility criterion: The requested EU contribution must not exceed EUR 500 000.***
- ***Additional information: Up to 1 project will be selected.***
- **Expected Impact:** Increase in the consistency and transparency of the LCA studies carried out on electric vehicles and, more in general, on all projects performed within the green cars PPP. Support - of more solid and reproducible data - to environmental and innovation policies in fields related to the Green Cars PPP (e.g. End of Life Vehicles, Weee Directive, Sustainable and Consumption Action Plan, SET-Plan, etc)



PPP Green Cars ELECTROCHEMICAL – STORAGE Call

Activity/ Area	Topics called	Funding Schemes	Budget Million EUR
GC.NMP.2011-1	Advanced eco-design and manufacturing processes for batteries and electrical components	<i>Collaborative projects (Large-scale projects)</i>	25.5
GC.ENV.2011-3.1.3-1			
GC.SST.2011-7.7			
GC.ENV.2011-3.1.3-2 ^[1]	Operational guidance for Life Cycle Assessment studies of the European Green Cars Initiative	<i>Coordination and support action (Supporting action)</i>	

^[1] Up to one project can be funded, for a maximum EU contribution of 0.5M€