Form ideas projects:

Matching of project ideas at 5th project-day, April 17 -18, Dusseldorf/Germany

1	**Title of project proposal**	***2BCYCLED*** *(2nd* life of EV **B**atteries and Re**cycl**ing) Safe Recycling and Reuse of End of Life Electrical Vehicle Batteries
2	**Description of Content**	The development of Electrical Vehicles (EV) has become a key challenge in the worldwide automotive industry. The most important technological breakthrough should come from the development of new generation of batteries. While these new generation of batteries are emerging, The 2BCYCLED consortium proposes to gather automotive industry players, together with strong academic institutions in order to **assess the technological barriers for a better battery life cycle as well as the most appropriate technologies to ensure an optimal "second life" re-use of the batteries at the end of the optimal life cycle.**
3	**Key points and sub-items for the project proposal**	The development of "a monitoring structure" and "2nd life feasibility development and recycling technology": 1- Battery recycling in new (2nd life) applications (such as stationary storage). 2- Battery reconditioning for high-reuse (such as new traction battery) 3- Battery recycling for closing resource loops (mass balance Co, Ni, Li, Cu, plastics etc).
4	**What are the objectives of the project?**	- Develop a "safe collection structure" and establish "2nd life development potential and economically feasible recycling technology " for End-of-Life EV batteries - Develop safe handling / processing of Li-ion batteries
5	**Anticipated results and benefit**	**Result:** An important result of the project is to build a safe development, testing and management environment for safe product-reuse and recycling of high power Li Ion batteries. Also potential of second life applications in terms of product liability, economic feasibility and technological barriers will be established.

		Expected impact and benefits: - easier market acceptance of high power-(Li ion) batteries; This also will result also in expanding markets for high power-(Li ion) batteries in many other sectors outside the EV automotive sector. - Better economics and sustainability for EV; An electric vehicle (EV) is already more efficient than vehicles with internal combustion engine (ICE). The ultimate CO2 emissions depend on how electricity is generated. Through this proposed research to 2nd life and better recycling of batteries, the competitive position of an EV compared to an ICE vehicle improves both economics wise as in terms of sustainability. - Job growth in the sector; New products and services to attract new jobs, by the knowledge from this project we can create new and better services in the field of battery safety, battery recycling, battery recycling and lithium recovery. With this we create additional jobs in the region. - Introduction of (cheaper) stationary storage in power grids allows easier integration of renewable energy technologies. In addition, re-using energy storage technologies in combination with Renewable Energy systems adds value to those systems, due to increased controllability through the use of energy storage technology.
6	**Measures for achieving objective**	A: Establishment of collection system (and its economy) B: Triage process-based "battery state-of-health" (battery-aging) C: Developing "reconditioning production line" and sales channel 2nd-life batteries (Alliander; launching-customer), including the removal of barriers in the field of product liability and OEM producer responsibility D: Developing Li-ion-recycling system.
7	**Efforts of Initiator**	- Description of the current management structure for EV batteries - Estimate of the number of advanced batteries to be released in future - Recommendations for a future management structure including triage (assessment of a battery's safety status) - Survey of product re-use (second life) options using laboratory battery life-span tests
8	**Potential industrial partners**	Chain partners in EV Management structure for NRW aswell as Europe wide
9	**Potential research**	Knowledge centres for EV battery re-use ("second life") & recycling

	partners	

10	**Initiator/author**		
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Rules for posting the project-ideas on www.noae.com and 5th project-day April 17 – 18, 2012 in Duesseldorf/Germany

1. **Registration:** Registration as participant for 5th Project-day – go to http://www.energieregion.nrw.de/kraftstoffe/page.asp?InfoID=10785
2. **Quality:** Only qualified proposals will be published – pre-selection via Jury-Members
3. **Layout & Limitation:** A project proposal may only be 2 pages long - **according to the following layout: Idea_Organization_Last name_First name** (Example: Battery_Company ABC_Doe_John)
4. **Publication Internet before 5th Project-Day:** Deadline for internet-publication is March 31, 2012
5. **Publication in Project-Lounge:** The project-lounge will be open April 18, 2012 from 08.30 am to 06.00 pm
6. **Kick-off for Projects after 5th Project-Day:** see final session, April 18, 2012 – 05.00 pm

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