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Ionic Liquid-based Hybrid Power Supercapacitors

Fact Sheet

Project Information

ILHYPOS

Grant agreement ID: 518307

Project closed

Start date

1 December 2005

End date

31 May 2009

Funded under

Sustainable Development, Global Change and Ecosystems: thematic priority 6 under the Focusing and Integrating Community Research programme 2002-2006.

Total cost

€ 2 866 168,00

EU contribution

€ 1 643 184,00

Coordinated by

ENTE PER LE NUOVE
TECNOLOGIE, L'ENERGIA E
L'AMBIENTE

 Italy

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Objective

The ILHYPOS project has the scope to develop a green, safe, and high energy and power Hybrid SuperCapacitors for application as peak power smoothing device in fuel cell (PEM) powered electric vehicles and, as a second option, in delocalised energy production (e.g. CHP = Combined Heat and Power Production) plants using PEMFC. The technical and cost targets of the project remain risky and challenging in terms of specific power, specific energy and cycle ability, because, after the innovative results of a previous EC Project named SCOPE, they are really able to significantly impact and expand the use of supercapacitors in energy systems. The challenging results expected at the end of the project are:

- display a maximum voltage (V_{max}) = 3.5 V; - reach a maximum specific energy of more than 15 Wh/kg of stored energy; - display an ESR < 5 mohm in order to reach a maximum specific power of 7 kW/kg, leading to practical power densities of more than 2 kW/kg during 5 seconds according to the EUCAR procedure;
- reach the cycle life target of at least 100,000 cycles with 20% maximum loss of capacitance, cycling between the maximum voltage and half of this same maximum voltage;
- reach a low cost of 25 Euro/kW (50 Euro/kW in the Joule-Thermie objective); and - get a power loss lower than 50% by reducing the operating temperature from +60°C to +20°C. These results will be experimentally verified by realizing prototype supercapacitor modules scaled up to a size of 5-10 kW suitable for the use in the transport sector.

Fields of science (EuroSciVoc)

[social sciences](#) > [social geography](#) > [transport](#) > [electric vehicles](#)

[engineering and technology](#) > [mechanical engineering](#) > [vehicle engineering](#)

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[natural sciences](#) > [chemical sciences](#) > **[polymer sciences](#)**
[engineering and technology](#) > [environmental engineering](#) > [energy and fuels](#) > **[fuel cells](#)**



Programme(s)

[FP6-SUSTDEV - Sustainable Development, Global Change and Ecosystems: thematic priority 6 under the Focusing and Integrating Community Research programme 2002-2006.](#)

Topic(s)

[SUSTDEV-1.2.1 - Fuel cells and their applications](#)

[SUSTDEV-AERO-2004-Hydrogen-1.1 - Fuel Cell and Hybrid Vehicle Development](#)

Call for proposal

FP6-2004-HYDROGEN-1

[See other projects for this call](#)

Funding Scheme

[STREP - Specific Targeted Research Project](#)

Coordinator



ENTE PER LE NUOVE TECNOLOGIE, L'ENERGIA E L'AMBIENTE

EU contribution

No data

Total cost

No data

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Total cost

No data



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Total cost

No data



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Total cost

No data



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Total cost

No data



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Total cost

No data



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Total cost

No data



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Total cost

No data

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European Union, 2025

