

SMART-A

Smart Domestic Appliances in Sustainable Energy Systems (Smart-A)

Project Summary Slides

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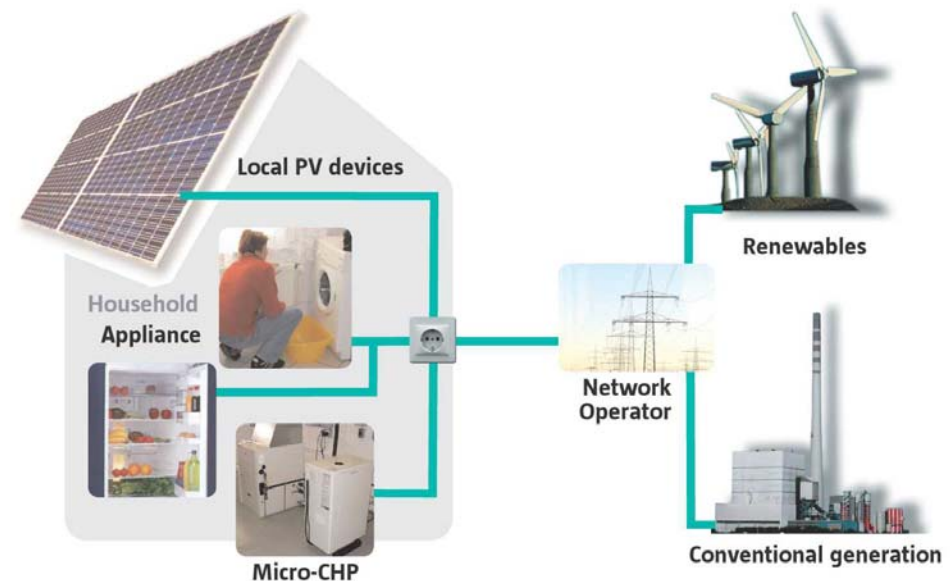
Intelligent Energy  Europe

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Smart-A – Project Summary

- The project has assessed the potential of “smart” domestic appliances as a resource for Demand Response.
- These options are compared with requirements from sustainable energy generation both on the local level as well as in larger electricity systems
- Based on an overall cost-benefit analysis, the project has developed strategies how smart appliances can contribute to load management in sustainable energy systems, which include large shares of intermittent generation, e.g. from wind or solar energy.



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Project Background

- Household appliances form a significant part of energy consumption. Recent technology developments allow for their smart operation.
- In most energy systems, the management of timing of demand is a critical issue. Possibilities for storing energy are limited and costly.
- This issue is becoming highly relevant in sustainable energy systems, which rely strongly on renewable energy and high-efficiency cogeneration.
- Improved coordination between supply and demand of energy is possible (and necessary) both locally and on the network level.
- Many concepts of “Smart Grids” expect that domestic consumers can also participate in the smart management of electricity networks, but it is not fully clear yet how this could actually be achieved.

Major Project Objectives

- A thorough analysis of technological implications, user preferences, the economic costs and benefits and the potential CO2 reduction of an improved coordination of domestic appliances with energy supply.
- Supporting the coordination between manufacturers of appliances and local energy systems, and the electricity system.
- Developing implementation models and strategy recommendations for the implementation of Smart Appliances.
- Identification of needs for harmonised communication standards.

Achieved Results (1/2)

- A clear understanding of how appliances should be designed to enable them for smart operation in the larger energy system.
- A thorough assessment of consumer preferences and objections with regard to the Smart-A concept and recommendations how they can be motivated to participate.
- A detailed analysis of the economic benefit of Smart Appliances as a Demand Response option, with a focus on the balancing of high shares of wind generation in future energy systems.

Achieved Results (2/2)

- A supplementary assessment of the interaction of Smart Appliances with local energy generation from renewable energy sources and cogeneration.
- An overall analysis of the potential and the cost-benefit ratio of Smart Appliances in different European countries.
- Recommendations for incentives for Smart Appliances, concrete proposals for implementation models, strategy recommendations for all relevant actors and a roadmap outlining how Smart Appliances could be introduced.

Partners and Contact Information



Project Website:

<http://www.smart-a.org>

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