

COMPAct energy storage by alternative Storage – Phase 2

Publieke samenvatting / Public summary

Aanleiding

The increasing implementation of renewable energy systems, i.e. solar PV panels, in the built environment is hindered by the mismatch in supply and demand of the generated electricity. By storing the excess energy as thermal energy to be used on-demand, the overall sustainability of a residence can be efficiently improved.

Doelstelling

The COMPAS project will develop a technology that stores excess renewable electricity as thermal energy in a highly compact and cost-effective system. The energy storage density of the system will be up to six times higher than that of thermochemical storage, while being an order of magnitude cheaper than batteries.

Korte omschrijving

The project partners, TNO and De Beijer RTB, will build upon the results from the first phase of the technology development to scale up the technology to an integrated prototype system. Experimental results will prove the effectiveness of startup and heat management strategies, while reactor and system modeling will help to understand the dynamics of the system and define a control strategy in later development phases. An alternative concept will look at a key modification to the system which replaces a major contributor to the overall cost with a much less expensive component, while achieving the same efficiency and compactness of the original concept. Next to this, a thorough

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Algemene informatie / General information

Penvoerder / Secretariat
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Publicaties en materialen / Publications and attachments

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techno-economic assessment and evaluation of the business case will give insights into the best commercialization strategy. Various scenarios will be evaluated based on daily, weekly, or seasonal storage durations with identification of the best business model for each scenario.

Resultaat

COMPAS-2 will answer the outstanding research questions following the first development phase with an experimental prototype and full system model to allow for demonstration of the technology in a follow-up project. The drafting of a technology implementation plan will give recommendations for the next steps through the commercialization phase.

De data in deze applicatie is afkomstig van de Rijksdienst voor Ondernemend Nederland (RVO) en wordt in samenwerking met de Topsector Energie ontsloten.

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