

Smart Energy Windows

Publieke samenvatting / Public summary

Aanleiding

Photovoltaics is an attractive solution for the development of autonomous off-grid products that need electric power. The Application of Smart Energy Windows is an interesting option for energy conservation in the built environment. Known technologies like electrochrome, photochrome and thermochrome have serious disadvantages because of lack of control, lack of comfort or complicated installation.

Doelstelling

The goals of the project is to have electronics that are autonomous in operation, when installed horizontally in Madrid. The lifetime of the electronics need to be at least proven for 5 years in accelerated lifetime testing. The glass need to be installed just like normal glass by glass fitters and assembled within 5 minutes by glass factory personal. The costs target is to get under 125 euro / m². The next step is to use these electronics in generation 1 Smart Energy Glass. This product will then be used in the pilot. The pilot will be used for demonstration purposes towards architect, property owners and end-users of the offices spaces. A second pilot will be aimed at proving the benefits of Smart Energy glass in terms of saving on the air-conditioning and lighting need.

Korte omschrijving

The Peer+ Smart Energy Windows solution is based on liquid crystal and strives towards an autonomous (cable-free installation, off-grid operation) system with wireless control. A key element of this system is an integrated Photovoltaics module that – in

Projectinformatie / Project information

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TKIZ01016

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Algemene informatie / General information

Penvoerder / Secretariat
Solar Energy Application Center (SEAC)

Publicaties en materialen / Publications and attachments

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Eindrapport Smart Energy Windows 2014 (TKIZ01016)

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combination with a battery - allows the system to operate autonomously. The fully functional (however nonautonomous) zeroth generation of Peer+ has been demonstrated in 2011. The goal of the current project is to develop the 1st generation, that will demonstrate autonomous functionality. An important focus of this product is to optimize the application of the PV for this product in combination with the storage of electricity in a battery.

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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