

Competitive passivating contact technology for PV

Publieke samenvatting / Public summary

Aanleiding

The 25.6% world record c-Si solar cell is based on amorphous silicon passivating contact technology. However, base materials alternative to amorphous silicon exist for passivating contacts, which not only have comparable passivating and conductive properties, but also have other technological or industrial advantages, such as higher transparency or better thermal stability.

Doelstelling

In order to maintain a competitive edge in Dutch solar cell knowhow and equipment manufacturing, the goal of the COMPASS project is to explore, combine, and demonstrate high-performance and manufacturability of such novel, high-potential passivating contact materials that are being developed in the Netherlands.

Korte omschrijving

The novel passivating contact stacks and conductive layers developed by TU/e, TUD, AMOLF, and Solmates will be tested by replacing parts of well-controlled device structures, such as silicon heterojunction (SHJ) and/or n-Pasha solar cells made by ECN, with these layers. In parallel, at Solmates, Levitech and ECN, implementation of the novel layer deposition processes will be tested in their industrial tools and a first optimization will be performed to estimate the industrial applicability. In the meantime, ECN and TUD will work on the best design for a high-efficiency solar cell with two passivated contacts. At the end of the project, the contributions of the different partners will be combined in a solar cell with the contacts of both

Projectinformatie / Project information

Projectnummer / Project number

TEID215022

Subsidiebedrag / Grant amount

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Algemene informatie / General information

Penvoerder / Secretariat

Technische Universiteit Eindhoven

Publicaties en materialen / Publications and attachments

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polarities passivated.

Resultaat

The project will result in know-how on the critical parameters of the developed passivating contact layers, both individually and combined in a solar cell with a targeted efficiency of 23%. Moreover, an inventory of the industrial applicability of the fabrication process of such a cell, based on cost and scalability, will be made.

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

Voor meer informatie over de Topsector Energie, ga naar www.topsectorenergie.nl.

Voor meer informatie over de TSE / Energie-Innovatie regelingen die RVO aanbiedt, ga naar www.rvo.nl/tse.