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Implementation of a circular economy based on recycled, reused and recovered indium, silicon and silver materials for photovoltaic and other applications

Nadja Adamovic
Tu Wien, Austria

The main aim of CABRISS project is to evaluate and develop a circular economy not only for the photovoltaic but also for electronic and glass industry. It will consist in the implementation of: recycling technologies to recover In, Ag and Si for the sustainable PV technology and other applications; a solar cell processing roadmap, which will be used in Si waste for high throughput, cost-effective manufacturing of hybrid Si-based solar cells and will demonstrate the possibility for the reusability and recyclability of key PV materials at its end life. The developed Si solar cells will have the specificity to have a low environmental impact by the implementation of low carbon footprint technologies and as a consequence, the technology will present a low energy payback (about 1 year). The originality of the project basically relates to the cross-sectoral approach associated together with different sectors like the Powder Metallurgy (fabrication of Si powder based low-cost substrate), the PV industry (innovative PV Cells) and the industry of recycling (hydrometallurgy and pyrometallurgy) with a common goal: make use of recycled waste materials (Si, In and Ag). CABRISS mainly focuses on a photovoltaic production value chain, thereby demonstrating the cross-sectorial industrial symbiosis with closed-loop processes.

Biography

Nadja Adamovic (female), MSc in Electrical Engineering (1993), Ph.D. in MicroSystem Technologies at TU Wien (in 1996), employed at TU Wien since 1994, Certificated Project Manager since 2005 and manager of a number of EU- and national projects. She is a senior researcher on Institute of Sensor and Actuator Systems, having more than 20 years experience in micro/nanotechnologies and numerical modeling, a participant in more than 20 EU- and national projects. In the last 10 years, she researched in the field of renewable energies. She is an evaluator for EU HORIZON 2020 NMBP, ICT, Energy Calls, MSCA-ITN and COST projects. She is a member of the Austrian Photovoltaic Technology Platform. She is chairing the European Materials Modelling Council (EMMC), having the role to connect all existing material modelling activities and increase the industrial exploitation of materials modelling in Europe.

nadja.adamovic@tuwien.ac.at

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