

Foam glass photovoltaics for building insulation and floating PV

Uniquely cheap and environmentally friendly solar modules for building integration and floating PV

(Vienna, 21.05.2024) crystalsol sees the combination of monograin PV and foam glass as a particularly promising opportunity to significantly expand the areas of application of both technologies. This innovation is now protected by a comprehensive patent that has just been filed, providing worldwide protection from now on.

Based on this patent application, crystalsol aims to collaborate with one or more foam glass manufacturers to develop modules that particularly benefit from this combination. These are primarily the excellent thermal insulation, which makes foam glass particularly suitable for insulating the building envelope (facade and roof), and the combination of buoyancy and corrosion resistance, which makes it an ideal material to produce floating solar modules ("floating PV"). Furthermore, there is the unique environmental friendliness of both components.

Foam glass is made entirely from recycled glass, typically sourced from post-consumer or post-industrial waste. This means it helps divert glass from landfills and reduces the need for new raw materials. Unlike some insulation materials that contain harmful chemicals or additives, foam glass is inert and does not emit volatile organic compounds (VOCs) or other toxic substances into the environment.

crystalsol's monograin semiconductor powders are produced directly from earth abundant elements in a low energy input bulk growth process basically without material losses and can be recycled directly after lifetimes of more than 25 years. Lifetime assessment calculations have shown that even without recycling monograin outperformed the thin film technology when silver was substituted with alternative materials and was proximate to CIGS even considering their higher achieved efficiency. Direct reuse of the semiconductor powder makes it by far the most sustainable PV cell technology.

crystalsol is seeking for partners and investors to collaboratively develop these highly promising technology.

Further informations:

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