



SiLEAN

Welcome words from the project coordinator

Dear reader, welcome to the SiLEAN community!

Welcome to the SiLEAN community! We are excited to bring you the latest news on the SiLEAN project, a new research project pioneering low-cost & eco-friendly solar cell technology.

To meet the growing energy demand, reduce greenhouse gas emissions, and lower electricity costs, highly efficient and cost-effective photovoltaic (PV) technologies with low carbon footprints are essential.

SiLEAN is a 3-year project addressing key challenges such as the high energy and material requirements for Si wafer manufacturing, limited current generation, and the use of scarce materials like silver, bismuth, and indium. Our goal is to achieve solar cell efficiencies greater than 25.5%, while reducing Si wafer and contacting costs by 50% and lowering the carbon footprint by up to 75%.

Would you like to stay informed about the project's progress and achievements? Visit [here](#) to learn more about the project and [subscribe](#) to our newsletter.



News

The SiLEAN website is live!

Our SiLEAN website is up and running, designed to introduce you to the project and our consortium. Here, you'll find detailed insights into our progress, results, and all the latest news, along with updates on upcoming events.

Have a look [here](#). You'll find more information about our work, as well as opportunities to get involved!



Scroll through the website and explore:

- The [project overview](#)
- Interesting [News and Events](#) related to SiLEAN
- The [partners](#)

Want to get in contact? You can do that [here](#) or follow us on [LinkedIn!](#)

Project kick-off & first results coming up!

The project started in May 2024 and celebrated its kick-off with a consortium meeting in Jülich, Germany, hosted by the SiLEAN coordinator Forschungszentrum Jülich. Since then, our activities developed fast, and the first promising results are already coming up! Our strategy involves utilizing epitaxially-grown wafers that require less energy, developing alternatives to the highly absorptive hydrogenated amorphous silicon for passivation and carrier-selective contacts, creating indium-free contact layers and silver-free metallization concepts, and implementing bismuth-free interconnection methods. By addressing these key challenges, SiLEAN will enhance the sustainability of SHJ solar cells and modules, achieving higher efficiency and lower costs, ultimately enabling the upscaling of SHJ technology.



Events

Come and meet us at these Upcoming Events

- 5-7 November 2024: [Cleantech Forum Europe](#) (Chantilly, France)
- 7-8 November 2024: [7th International Workshop on Silicon Heterojunction Solar Cells](#) (Catania, Italy)
- 20-22 November 2024: [BECOME PV Workshop](#) (Brussels, Belgium)
- 4-5 December 2024: [Backcontact Workshop](#) (Delft, The Netherlands)
- 7-10 January 2025: [CES Las Vegas 2025](#) (Las Vegas, US)

SiLEAN as a Consortium

Project Partners

SiLEAN brings together a multi-disciplinary consortium with two research institutes, one university, four SME's, and one industry partner located in 5 European countries including Germany, Belgium, the Netherlands, Italy, and Switzerland, to develop advanced innovations in silicon heterojunction solar cell technology.

Want to know more about the people working on the SiLEAN project? Then follow us on [LinkedIn!](#)



Facts & Figures

Acronym: SiLEAN
Duration: 36 months
Start date: 1st May 2024
EC Funding: € 2,996,153.75



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