

More than 35 researchers and engineers work full-time with solar energy at IFE, and their research fields include both the sustainable production of silicon for solar cells, development of new types of solar cells and modules, large-scale solar power plants and data analysis, and integrated solar energy such as floating PV, PV in combination ...

Innovation and installation of eco-friendly solar power is increasing dramatically, and the demand for silicon is growing at a pace. Norway can help to meet this demand with the cleanest silicon in the world.

This is why Norway is an excellent location for solar cell production. Virtually every single kilowatt powering Norwegian households and mainland industry comes from renewable hydropower. The ecological footprint of solar panels made with materials from Norway is therefore extremely small.

Solar panels in Norway can cost between 40,000 and 130,000 kroner on average for a detached house. In comparison, solar cells cost between 2,500 and 3,000 kroner per square meter, and more design-friendly solar tiles cost between 3,500 and 4,000 kroner per square metre, according to home improvement site bolingsmart.no .

Experiments in SINTEF's climate lab demonstrate that solar cells work very effectively in Norway in spite of the rain and cold. But there is one thing that owners should be aware of if they want to get the most from the sun's energy.

Solar cells can be mounted on roofs or integrated into buildings. Facades with integrated solar panels may in some cases have corresponding square meter prices to facades of copper or natural stone, while contributing free energy. In the construction of climate-neutral houses, solar cells have nearly become default.

In Norway, around 97% of the country's energy already comes from hydro-power, though sustainable home design extends well beyond the concept of clean energy. Most homes, highlighted by National Geographic, are equipped with smart metres, which empower homeowners to harvest solar energy, store it, and sell it back to energy companies.

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Norway has seen an increase in solar power capacity in recent years, but in winter solar panels face a big problem: snow. Researchers modelled how much extra electricity could be generated if solar panel surfaces were designed to repel snow and ice.

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