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Cost of solar power could come down by as much as half by 2030

KIC InnoEnergy's predictive costs tool highlights how innovation could help reduce price of solar

KIC InnoEnergy, the innovation engine for Europe's energy industry has today published a report revealing the role innovation could play in reducing the costs of producing electricity from the sun, by as much as half of their current levels, by 2030.

The report, which was developed by a working group of eight industry experts, used the new photovoltaic module of KIC InnoEnergy's [Delphos](#) modelling tool to track the effect that a range of innovations could have on the costs of solar photovoltaics over the next decade and a half*.

Over 30 technological innovations were identified as having the potential to cause a reduction in capital investment costs of 20%-30% through changes in the design of hardware, software or other processes¹.

Furthermore, the modelling showed that as innovations increased the efficiency of photovoltaic components, significant economies of scale would also be unlocked in supporting infrastructure such as cabling and fix mounting systems.

When taken alongside projected savings in the supply chain and a reduction in financing costs, the levelised cost of producing electricity from solar could come down from a current range of €75-€90 per megawatt hour to just over €40 per megawatt hour by 2030, if the innovations highlighted in the report are brought to fruition and properly implemented².

The report's publication coincides with the release of the photovoltaic module of Delphos, which builds on the success of the wind and solar thermal electricity versions of this software launched in May and October 2015 respectively.

Like its predecessors, the photovoltaic module is designed to make it easier for innovators to bring products in the field of solar photovoltaic energy to market. When used during research and development, innovators can access Delphos' vast library of existing data or input their own information, to run modelling scenarios to predict how the innovation will impact the overall cost of energy produced.

Further changes can then be made at the design phase to improve cost savings even further, well before the concept being tested enters production.



Antoni Martinez, KIC InnoEnergy's Chief Technology Officer for Renewables said:

"Innovation is at the heart of reducing costs and making sustainable energy sources, like solar, even more competitive.

"The Delphos tool allows the potential impact of new innovations to be explored and tracked in a consistent way across various photovoltaic technologies. The advantage is that it is able to provide more accurate predictions of the effect on the cost of energy that a particular innovation will have at an earlier stage in the design or decision making process than might otherwise have been the case.

"Our report shows not only how important innovations in sustainable energy are and will continue to be in providing the affordable electricity we all need, but also the important role that solar energy as a technology will continue to play in making this happen. Solar is set to become one of the cheapest sources of energy available so we must do everything we can to ensure that support for this technology remains unwavering across Europe."

Prof. Wim Sinke, Co-chairman of the European Technology & Innovation Platform for PV, said:

"This KIC InnoEnergy Levelised Cost of Energy study sheds light on the relation between research results and future costs of solar PV electricity generation. The latter is what drives PV market developments to a large extent, the former is "the knob we can turn" in labs and fabs. It thus helps to prioritise our efforts."

Delphos PV is available for free via the KIC InnoEnergy website at <http://www.kic-innoenergy.com/delphos/>.

*You can find the pdf version of the PV report at <http://www.kic-innoenergy.com/reports>

¹ p6, fig 0.1 & p55, fig 9.1 - Future renewable energy costs: solar photovoltaics KIC InnoEnergy

² p57, figure 9.4 - Future renewable energy costs: solar photovoltaics KIC InnoEnergy

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Key findings of the report include:

- The impacts of photovoltaic innovations (excluding transmission, decommissioning, supply chain and finance effects) contribute between an anticipated 22% and 30% reduction in the LCOE depending on technology.



- The impact of innovations on PV installations CAPEX will span between 20% and 30% until 2030.
- The study concludes that LCOE savings of at least 37% are anticipated for conventional c-Si technology, 49% for high efficiency c-Si technology and at least 44% for thin film.

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About KIC InnoEnergy (www.kic-innoenergy.com)

KIC InnoEnergy is the innovation engine for sustainable energy across Europe.

The challenge is big but our goal is simple: to achieve a sustainable energy future for Europe. Innovation is the answer. New ideas, products and solutions that make a real difference, new businesses and new people to deliver them to market.

At KIC InnoEnergy we support and invest in innovation at every stage of the journey – from classroom to customers. With our network of partners we build connections across Europe, bringing together inventors and industry, entrepreneurs and markets, graduates and employers, researchers and businesses.

We work in three essential areas of the innovation mix:

- Education to help create an informed and ambitious workforce that understands what sustainability demands and industry needs – for the future of the industry.
- Innovation Projects to bring together ideas, inventors and industry in collaboration to enable commercially viable products and services that deliver real results.
- Business Creation Services to help entrepreneurs and start-ups who are creating sustainable businesses to grow rapidly to contribute to the global energy ecosystem.

Together, our work creates and connects the building blocks for the sustainable energy industry that Europe needs.