

Editor's note

The growth of renewable energy sources is inescapable, and as the world grapples towards net zero it's only likely to get bigger. Recent figures from the International Energy Agency (IEA), suggest that solar, wind and other renewable energy sources are expected to continue growing, even hinting that there will be as much capacity added in the next five years as in the last 20.

What does this demand mean for the solar sector in particular? According to a study by REC Group, for solar energy to make a contribution towards limiting the global temperature increase to 1.5°C, around 500 to 600 GW of new solar photovoltaic (PV) capacity will need to be installed on average per year. That's the equivalent of approximately 1.2 to 1.5 billion solar panels of 400 Wp power every year.

A good thing then that we have some of the world's most innovative and forward-thinking companies within the solar industry. We'll need each and every one of them, to overcome challenges and keep up with the pace of growth. There's no doubt that renewable energy sources like wind and solar power are now playing the key role in the energy transition, but their weather-dependent nature poses challenges to grid stability. Accurate yield predictions are crucial to maintaining the power grid system's balance between production and consumption. In this issue of PES Solar, we take a look at some of the possibilities and emerging technologies for overcoming these hurdles and many more like them.

While more and more residential, business and commercial premises are turning to solar for their energy reliance, one of the fastest-growing and most promising commercial segments for solar energy applications is food retail. Supermarkets consume more electricity than almost any other retail sector, relying on power 24/7 to preserve food in refrigerator and freezer cold cases, which can amount to more than 75% of their energy costs, estimated at around €182,000 per year per store. This is an area that we were keen to explore for this issue and we hope our readers will find it as thought-provoking a topic as we do.

The importance of bringing circularity to the solar panel industry remains an important focus too. Time then for PES to take a look at how companies are helping to make this feasible and the latest innovations that may help us get there.

As ever, we're delighted in this issue to bring you the latest insight from a number of industry pioneers, as we look at the here and now of solar and attempt to glimpse what the future holds too. We do this with a balanced round-up of analysis, comment, news and views which we sincerely hope you find useful, informative and inspiring.

It's set to be a busy few weeks, months and years ahead for everyone involved in solar energy and we feel privileged to as always to be part of the journey.

Elaine M Perrigot

Elaine Perrigot
Editor



POWER & ENERGY SOLUTIONS

Directors

Stuart Gillies
Mark Wilson
Stefann Perrigot

Client Liaison Manager

Vikki Birch

Editor

Elaine Perrigot
elaine.perrigot@pes.eu.com

Associate Editors

Stephen Pearson
Zachary George

Design

Andrew Jenkins
andrew.jenkins@pes.eu.com

Production

Paul Lawson
paul.lawson@pes.eu.com

Sales Enquiries

sales@pes.eu.com

General Enquiries

enquiries@pes.eu.com

Media Partnership Enquiries

enquiries@pes.eu.com

Advertising Opportunities

sales@pes.eu.com

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P&G Media Ltd
PO Box 310, Bristol, BS10 5WT,
United Kingdom

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