intersolar EUROPE PREVIEW

Intersolar Europe Conference: 9-10 June
Exhibition: June 10-12, 2015

Europe's largest solar industry gathering kicks off in Munich once again this year, with an expected 42,000 people joining Intersolar Europe's conference and exhibition at the ICM – Internationales Congress Center München.

The exhibition, which covers a full range of solar products and services, offers the chance to get up close and personal with some of the biggest companies and potential game-changers in the industry and to seek out future and niche markets. Meanwhile the conference will discuss an extensive series of topics while pinpointing key trends in the sector.

The event acts as platform and catalyst for presenting solar innovation and development to delegates from around the world, with many international companies coming to learn from and do business in Europe, one of the world's largest PV markets.

In Europe, subsidies for solar continued to fall this year, with the era of feed-in tariff support appearing to be drawing to a close across the board. The German government, for example, is progressively reducing funding in accordance with its Renewable Energy Sources Act. Meanwhile government support for large-scale PV completely ended in April for the UK, one of the more dominant solar markets last year.

As a result, new PV installations in Europe were down 36% in 2014, from 11GW installed in 2013 to just 7GW the following year, with only the UK showing improvement, according to the European Photovoltaic Industry Association (EPIA).

Nevertheless Europe has already installed considerable amounts of solar capacity, so it is now looking at new ways of integrating solar power into the grid. Furthermore the decline in subsidies has led to a demand for new business models, set to be a major topic of conversation at this year's show, as businesses look to new ways of financing operations without leaning on the traditional means of funding.

Indeed, there are signs of the market maturing, with Italy becoming the first country to introduce grid interconnection rules for energy storage marking a significant new trend in the sector. Furthermore, under Germany's energy transition, the Energiewende, the government issued competitive tenders for the first time as an alternative allocation of subsidy support.

Intersolar will of course not concentrate solely on 'Euro-centric' matters. Despite record-breaking drops in oil prices, the enduring decline in PV module prices has allowed for a sustained demand for solar installations globally, with solar becoming the most inexpensive source of power in many parts of the world. Reflecting solar's global presence, the show will present seminars, talks and workshops on the full range of existing and emerging PV markets, featuring top analysts and senior industry figures.

Away from the continental perspective, as electricity begins to move up on the power agenda, a special 'Innovative Mobility' exhibition will be introduced, showing new electric transportation and charging technologies.

In other technological advancements, on-site consumption will remain a big issue this year as the end of feed-in tariffs means it makes economic sense to keep energy on-site rather than export to the grid. Meanwhile the industry is starting to take up the integration of energy management systems and work alongside smart technology companies.

The focus on energy efficiency goes hand in hand with the surge in energy storage innovations, another technological focus for the show. Electrical Energy Storage (EES) Europe increases its profile this year by having its own conference for the first time. The continent's largest exhibition covering battery and energy storage technologies debuted last year next door to Intersolar, reflecting technology costs and market conditions tilting in favour of the budding storage industry.

The main Intersolar Award returns for its eighth edition on 10 June alongside an innovation prize handed over to outstanding solutions in the industry. This complements the inclusion of the new 'Innovations at Intersolar Europe' session, which offers a concise glimpse into the vast amount of new products and projects launched by exhibiting companies this year.

There will also be a specific focus on the rise of photovoltaic-diesel hybrid systems. Despite being more suited to remote but sunny regions, the prospect of combining PV with diesel generators, is gaining traction especially with mining companies, who stand to gain a 70% cost advantage using by wind and solar combined with diesel generation instead of relying on diesel alone.

With momentum in Europe steadying, companies are looking to streamline the traditional energy consumption model, improve PV efficiency and find new ways of gathering capital. A year of innovation will be essential to keep moving forwards.

Solar Media will be exhibiting at Intersolar Europe. Come and say hello to our editorial and events teams at booth A2.112 and find out more about our publications and growing events portfolio. You can also pick up copies of our various publications at stand A1.393.

Big issues and new opportunities

With a volatile energy market and a fast-expanding solar sector, there are plenty of topics for the industry to stay on top of. Intersolar Europe will explore a number of issues aimed at helping the industry find new business opportunities and understand key market trends. *PV Tech Power* looks at three of these in more detail

Energy management

The benefits of smart technology can no longer be ignored, with powerful digital computer phones in the pockets of most Europeans offering the means to manage our energy usage remotely with the flick of a button.

Furthermore, emerging energy storage technologies could be combined with smart systems to provide solutions to some of the solar industry's long-established pitfalls. The intermittent electricity generation of many renewables including solar could be mitigated by improved energy efficiencies so talk of smart buildings, smart grids and smart cities is all the rage.

Energy management systems can be used to control the flow and consumption of electricity in households while keeping costs to a minimum and conserving as much energy as possible. How to design smart grids and decentralised energy storage systems is a key question for such a young, burgeoning industry.

For example, the unveiling of Tesla's Powerwall, a stationary storage system for homes, businesses and off-grid communities, made waves in the news recently with its tantalising retail price. Meanwhile, inverter manufacturers and building services companies are offering new energy management systems that combine PV, battery storage systems and heat pumps, to increase on-site consumption and boost efficiency.

The global expansion of solar in new and established markets alike requires the grid integration of both small-scale solar installations and multi-megawatt power plants. Calculations by the Fraunhofer Institute for Wind Energy and Energy System Technology indicate that the amount of electricity from renewable sources fed into the grid in Germany in 2030 could rise or fall by up to 14GW in the space of just one hour so the industry must continue developing technology to compensate for these grid fluctuations.

Watch out for the 'Smart ideas in a smart energy infrastructure' programme to stay up to date on relevant issues.

PV hybrid diesel systems

The shift away from relying solely on fossil fuels is in evidence with a trend towards combining PV technology in hybrid systems with diesel generators. PV module prices have become too low to overlook. Newer markets in South America and Africa, which have traditionally relied on diesel generators especially in remote regions, are now seeing PV successfully compete.

Solar-diesel hybrid systems already represent profitable alternatives for large-scale industrial users in remote regions with strong irradiation and they are entering the small PV application market for rural electrification and commercial uses. This applies especially to the off-grid sector.

Even the German armed forces, traditionally reliant on diesel generators in conflict areas, intends to reduce fossil fuel consumption, which can be dangerous to procure, in favour of using mobile solar containers equipped with PV modules and battery storage systems.

You can get acquainted with these issues at the 'Solar/diesel power supply: Exploring design and pushing boundaries' show at the Off-Grid Platform of Intersolar.

Business models

With cuts in state funding continuing as a major theme for the global solar industry, new business models are essential and developing new financing initiatives is more important than ever. Stakeholders need to make solar an attractive investment proposition, so new forms of financial cooperation between local energy suppliers, project developers and financial service providers are key.

Measures now range from rental and leasing models to direct marketing of solar power to listed operating companies (yieldcos) and shares in green bonds. The emergence of the solar yieldcos has been a major story on the global market this year, but has yet to infiltrate European companies on a grand scale.

The necessity for such financial innovations comes after a switch from feed-in tariffs to auction-based subsidy support, which has been championed by the European Commission and national governments. This year Germany, France and the UK issued their first competitive tenders for supporting renewable projects. This will be discussed in detail at the 'Tenders for Large Scale PV in Germany – Experiences from the Pilot Bidding' section.

A general look at the development of large-scale PV also features in combination with a look at trends in solar finance and asset management. For residential, commercial and utility-scale projects there will be a focus on costs and the role and impact of policy and risk premium for such projects. ■

Source: Solar Promotion GmbH.

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Selected conference highlights

Global PV Markets: Europe: Preparing for the Next Level

9 June 2015 11:05am ICM Room 14A
Current market scenarios forecast a steady demand of around 10GW annually in Europe in the coming years. This session will examine how the markets from selected countries will evolve under their respective framework conditions. On the one hand, demand for PV is slowing mainly due to changes of the regulatory political landscape across a number of European countries, but on the other hand, these changes are driving demand for new applications such as PV systems combined with electrical energy storage which are responsible for the emergence of new business models. This session delivers a European Market Update and follows traditional utilities entering the PV sector.

EES: Predicting New Battery Technology Ideas and Usage Scenarios

9 June 2015 11:00am ICM Room 14C
With energy storage high on the agenda once again, speakers will share insights on deployment scenarios, expected cost developments, corresponding lifecycle assessments and anticipated technological milestones in the near future. A 'Battery Technology Roadmap for Stationary Energy Storage Applications' will also be unveiled by the Fraunhofer Institute alongside talks on specific battery applications and the stable integration of renewable electricity into micro grids.

PV Cell and Module Technology: New Opportunities to Cut Costs and Improve Performance

10 June 2015 9:00am ICM 13A
This event will feature both achieved and anticipated technological innovations by cell and module manufacturers. Selected component manufacturers will showcase their latest technological developments. A highlight will be a focus on new cell concepts aimed at lowering costs while achieving further cell efficiency gains. New module types including glass-glass, frameless and bifacial will also be under the spotlight.

Source: Solar Promotion GmbH.

Identifying New Ways to take Financing and Securitisation Forward across Europe

10 June 2015 11:00am ICM Room 13B
Feed-in tariffs drawing to a close has resulted in the emergence of new financing and securitisation models. Topics in this session include trends in solar finance and asset management, the cost of capital, the role and impact of policy and risk premium for residential, commercial and utility-scale solar throughout European markets. Edmée Kelsey, chief executive of 3megawatt, will give a detailed look into some solar financing case studies.

Smart Ideas and Smart Future: Smart Energy Infrastructure and Intelligent Homes

10 June 2015 2:00pm and 4:00pm ICM Room 13B
The smart infrastructure session assesses the implications for existing grid infrastructure of an increasing proportion of electricity generated by decentralised PV systems. It will also cover the design of future supply networks and the role of the 'smart city'. Meanwhile the Intelligent Homes section will discuss future combinations of ICT technologies, household equipment and both solar PV and solar thermal applications. This is all in the context of using smart internet-based applications to control the flow and consumption of energy in the home.


Source: Solar Promotion GmbH.