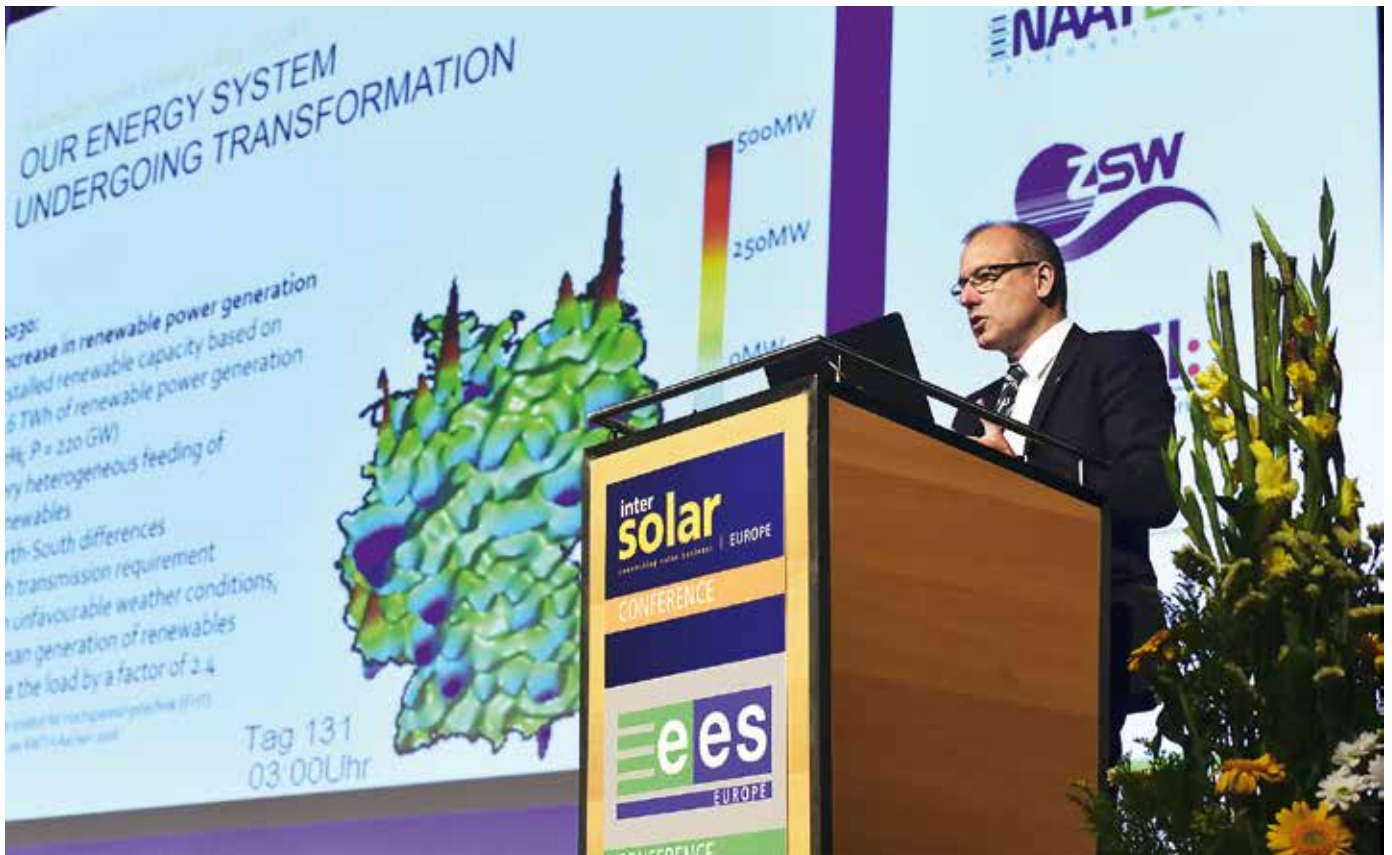


# Intersolar Conference: new growth markets



Perspective of the host country: At the opening of the Intersolar Conference, Werner Götz, CEO of the transmission grid operator TransnetBW GmbH, provided insights into the challenges facing the energy transition in Germany.

PHOTOS (3): SOLAR PROMOTION GMBH

In 2016, China almost single-handedly catapulted the photovoltaics world market upwards by 50 % thanks to its gigantic installation volume. In 2017 growth will be considerably weaker; new dynamic markets are required. Some of the candidates for this are quite surprising.

Last year, SolarPower Europe, the successor to the European Photovoltaic Industry Association, aimed to be more optimistic with its market forecasts. In its medium scenario for 2016 the association forecast a worldwide newly installed PV capacity of 62 GW. This was not optimistic enough, however. Like most analysts, SolarPower Europe (SPE) was also overtaken by reality. The actual result, which the association presented one year later at the “Global PV Markets” conference the day before the Intersolar Europe exhibition opened in Munich, lay at 76.6 GW – which was thus almost identical to the 76.7 GW from the SPE scenario with very high demand.

The association does not, however, count the PV systems newly installed in any one year, but those which are newly connected to the grid. In China this made a big difference in 2016 as up to 4 GW had already been put

up in 2015, but only joined the grid in 2016. With a huge official growth of 34.5 GW, the country helped shoot the worldwide new installations in 2016 up by over 50 %, according to SPE statistics. In 2017, the general expectation is for considerably weaker PV growth, but SPE Head James Watson remained optimistic at the conference: “There is a good chance that the market could even pass the 80 GW mark in 2017.” For 2021 the medium SPE scenario forecasts new installations of approx. 110 GW.

Europe could then once again play a larger role than last year, in which the PV market shrank by 22 % to 6.7 GW. For 2017 the medium SPE scenario reaches 8.8 GW and even 15.7 GW for 2021. “We feel there is reasonable optimism in the market,” said Watson: “Solar is becoming the cheapest electricity source.” However, “we still have a long way to go,” as the electricity market in Europe is overcrowded with coal and nuclear power plants.

## The Netherlands is a GW market

In Germany, the former PV leader, optimism is certainly spreading once again. "We are seeing growth in all segments," said David Wedepohl, Director Communications and Markets at the German Solar Association. Especially PV systems for commercial and industrial use are in demand: "It has taken a while, but now the sector is really taking off," Wedepohl continued. Due to the limited tendering volume for utility-scale PV systems, the government aim of adding 2.5 GW a year will still not be reached in 2017, however.

There was a surprise in the neighbouring Netherlands, which until recently nobody had apparently had on their list of PV growth drivers. But a newly installed capacity of 525 MW last year already indicates that the Dutch market is increasingly gaining speed. Jaap Baarsma, President of the sector association Holland Solar, explained the reasons for this. Until 2016, PV growth in the Netherlands was mainly driven by net metering, and photovoltaics played almost no role in the auctioning. But biomass has now reached the envisioned installation maximum and onshore wind power is coming up against acceptance problems, said Baarsma.

As a result, photovoltaics won the largest share of the tendering round in the first half of 2017 for the first time, with a sizeable 2.6 GW. "One of the main reasons why the market has changed dramatically is the growing competitiveness of solar," explained Baarsma. Holland is going to become a gigawatt market – if not already this year, then next year. This small country (one fifth of the population and one ninth of the area of Germany) is predicted by Baarsma to have a gigantic installation volume of 3 GW in 2020.

## 1 GW expected in Turkey

Lara Hayim, Solar Analyst at Bloomberg New Energy Finance, also expects 1 GW of newly installed capacity in Turkey in 2017. So far the Turkish PV market has mainly lived off so-called unlicensed systems with a capacity of at most 1 MW, of which several have often been combined together directly next to one another. Hayim estimates that of the 6 GW approved so far, only half will be implemented as many project developers are too inexperienced. Additionally, the government is trying to force activity towards licensed systems through higher transmission fees and tougher requirements. Of the 600 MW which already obtained approval in 2013 from a tendering in this sector, only 13 MW have so far been built, however, as high charges and long-winded approval procedures have frightened off investors.

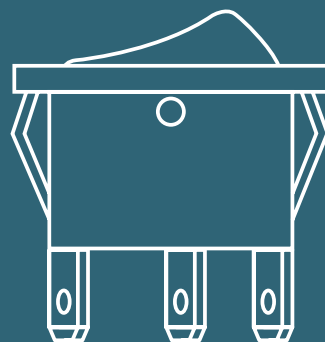
The government additionally wishes to tender one huge 1 GW solar farm a year, but the winner must build an integrated 500 MW solar factory in Turkey, however: one which covers silicon ingots to the solar modules

# Off-Grid Experts

Workshop 28. - 29.09.2017

Tech-Day 27.09.2017

## Switch on Off-Grid



- **Off-Grid energy supply**
- Solutions for **rural electrification**
- **Industrial applications**
- **Solar water pumping & water purification**
- Applications for the **leisure market**
- **BOSS** Business Opportunities with Solar Systems

### Tech-Day:

- Detailed product trainings

[www.off-grid-experts.com](http://www.off-grid-experts.com)



**A special guest: The Indian Energy Minister, Piyush Goyal, gave an insight into the Indian PV market.**

themselves that will supply the solar farm. Approval for the first farm in the Karapinar region went in March to a joint venture between Hanwha Q Cells and the Turkish company Kalyon Enerji. Given the many conditions attached, Hayim believes that activities in Turkey will move towards rooftop PV systems in the future, with net metering regulations currently at a preparation stage.

## Focus on Mexico

On the American continent the U.S. market is naturally dominant. After a record expansion of 14.8 GW last year, GTM Research expects 12.6 GW this year; the 2016 level is not expected to be reached again until 2020. A large question mark here is thrown up by an application by the bankrupt module manufacturer Suniva to the U.S. International Trade Commission – especially as SolarWorld Americas supports it. According to this, the U.S. government should apply a penalty tariff of 0.40 US-\$/W on all imported solar cells, and introduce a minimum import

price of 0.78 US-\$/W for solar modules. System prices would then once again reach the level from 2015, said GTM analyst Benjamin Attia at the conference: “That brings significant risk to the pipeline.”

The biggest PV market so far in Middle and South America has been Chile, but it is weakening somewhat because the new transmission line between the northern and central grids is suffering delays. In Brazil it is the economic crisis which is having a clear negative effect on PV projects. The devaluation of the Real “threatens at least 42 % of Brazil’s contracted pipeline,” says GTM analyst Attia. Two rounds of tendering planned for 2016 were cancelled. Even so, the Ministry of Mines and Energy still wants to hold a new auction before the end of 2017, reports Rodrigo Lopes Sauer, CEO of the Brazilian PV association ABSolar.

All eyes are thus currently focussed on Mexico. After the deregulation of the energy market at the end of 2015, developers of solar power plants received approvals for over 3.2 GW (AC) from the first two auctions for electricity from renewable sources. The plants are

**Attentive audience: International PV experts discussed technological trends, market developments and new business models.**





to be installed in 2018 and 2019. For the third auction, Joscha Rosenbusch, advisor at the German Association for International Partnership (GIZ) in Mexico, expects results to be announced in November 2017.

## Movement in Southeast Asia

In covering the boom region of Asia, the conference this time set a focus on the emerging markets in South-east Asia. With an expansion of 756 MW, the Philippines moved ahead of the previous leader Thailand in 2016, which installed 726 MW of new capacity. The reason for the rise in the Philippines was the coming end of the feed-in tariff program. For 2017, Tetchi Capellan, President of the Philippine Solar Power Alliance, initially expects a massive drop in installation figures to approx. 50 MW, but she is still optimistic, however. After all, the Philippines have the highest electricity prices in the region, higher even than in Japan; solar is already cheaper than coal. PV installations could thus rise back to 250 MW again in 2018 through auctions in the private sector, according to Capellan's estimations.

For Thailand, Thomas Chrometzka, Director Renewable Energy at GIZ Thailand, also forecasts a shrinking market in 2017. As a few government programs have been scaled back, he assumes a figure of 500 MW. New programs for small power producers and net metering are in planning, however, and promise to deliver growth again as of 2018.

Malaysia and Indonesien, which both installed below 100 MW in 2016, are set to catch up with Thailand. Malaysia awarded large-scale solar PV plants totalling 451 MW at an auction in December 2016 and plans to award a further 460 MW in 2017. The Indonesian Energy Ministry announced a feed-in tariff in July 2016, which is to be paid for a total of 250 MW in the first phase for PV systems. Izumi Kaizuka, analyst at RTS Corporation in Japan, estimates that the annual installations will rise to 500 MW by 2019.

Vietnam is still in its infancy here. Regulations announced in April for a feed-in tariff still have to be fine-tuned, says Frank Haugwitz, owner of the consultancy Asia Europe Clean Energy (Solar) Advisory in Peking. He still believes, however, that 600 to 800 MW could be installed by 2020, saying: "Vietnam is one of the next hot-spot markets in solar."

Johannes Bernreuter

### Further information:

ABSolar: [www.absolar.org.br](http://www.absolar.org.br)  
Asia Europe Clean Energy (Solar) Advisory: [www.aecsa.com.de](http://www.aecsa.com.de)  
Bloomberg New Energy Finance: <https://about.bnef.com>  
German Solar Association – Bundesverband Solarwirtschaft: [www.solarwirtschaft.de](http://www.solarwirtschaft.de)  
GIZ: [www.giz.de/mexiko](http://www.giz.de/mexiko), [www.giz.de/thailand](http://www.giz.de/thailand)  
GTM Research: [www.greentechmedia.com/research](http://www.greentechmedia.com/research)  
Holland Solar: [www.hollandsolar.nl](http://www.hollandsolar.nl)  
Philippine Solar Power Alliance: [www.philsolaralliance.org](http://www.philsolaralliance.org)  
RTS Corporation: [www.rts-pv.com](http://www.rts-pv.com)  
SolarPower Europe: [www.solarpowereurope.org](http://www.solarpowereurope.org)

# inter solar

connecting solar business | INDIA

India's Largest Exhibition and  
Conference for the Solar Industry  
Bombay Exhibition Centre, Hall 1  
Mumbai

- Rub shoulders with over 12,000+ key players – thousands of opportunities every day
- What comes next with technology and markets – keep your finger on the pulse
- See, be seen, share – boost awareness, stay top-of-mind, shape B2B developments

DEC  
05-07  
2017  
[www.intersolar.in](http://www.intersolar.in)



with special exhibitions

**e es** POWER DRIVE  
INDIA | INDIA

**eenergy decentral**  
India | POWERING BIOMASS



Exhibit now!