

## **January 2013 – Briefing-Paper – China Solar Development**

### **China most likely will increase its 12<sup>th</sup> Five-Year-Plan (2011-2015) Solar Energy National Target from presently 21 to 40 GW by 2015**

China's National Energy Administration (NEA) officially released the 12<sup>th</sup> Five-Year-Plan (2011-2015) for Solar Energy Development on September 12, 2012. Accordingly, by the end of 2015 the total installed solar power generation capacity shall amount to a minimum of 21 GW which includes 20 GW of Photovoltaic (PV) and 1 GW of Concentrating Solar Power (CSP). The central government has estimated that approx. EUR 30 bln. will have to be invested, in order to facilitate the realization of this target. However, over the course of the last four months governmental officials representing different national key institutions repeatedly indicated in public that the national target of solar power generation capacities will most likely further increased to up to 40 GW which would translate into an annual average installation of approx. 9 GW from 2012 through 2015.

The main motivation for a possible further increase (already three times since March 2011) derives from a sluggish international demand, ongoing international trade disputes, significantly reduced generation costs, thus making solar PV more politically acceptable, as well to underline an undiminished political commitment on the highest level since the solar PV industry is considered one of China's seven "strategic emerging industries" and last but not least to ensure an employment of up to 500.000 people in the solar industry by the end of 2015.

Assuming the 40 GW target by 2015 will be officially confirmed, perhaps even before the approaching Chinese New Year (February 9, 2013) the question remains whether the long-term target of today 50 GW by 2020 will consequently indeed be increased to a possible 100 GW as already discussed in various circles today.

### **China's National Energy Administration announced to support 500 MW of distributed generation per Province during the 12<sup>th</sup> Five-Year-Plan Period until 2015**

On September 14, 2012 the National Energy Administration (NEA) announced to support up to 500 MW per province of distributed solar PV installations in Central and Eastern China in particular. Taking into account China's 30 provinces (excluding HK, Macao and Taiwan) the distributed generation support programme aims at 15 GW of installations between 2013 and 2015. According to the official notification each province shall submit applications for a maximum of three of such "demonstration projects/zones" within their respective jurisdiction by October 15<sup>th</sup>. The guiding principle in this context is "self generation and self consumption" and excess electricity shall be purchased by the State Grid Corporation in full. Details concerning purchasing conditions have yet to be released.

In the context of the announcement above on October 26, 2012 the State Grid Corporation issued a number of implementation guidelines designed to enable the deployment of distributed solar power generation installations effective from November 1, 2012. Most notably the previously prohibitively high grid connection fee, which in some cases amounted to approx. EUR 500.000 for a 1 MW rooftop installation spread over 10 buildings in Jiangsu Province, have been waived for systems with a capacity of up to 6 MW. In addition, technical assistance including equipment testing, the elaboration of an integration plan is provided and the entire application process to obtain all permits until the generated electricity can be fed into the grid shall not exceed 45 working days. Certainly, at this stage not all single steps have been clearly defined and involved authorities still need to sort out corresponding responsibilities along the application process.

To date, China's domestic market is dominated by large-scale ground mounted systems. The majority of such systems, due to a single universal FIT effective since July 2011, were preferably built in

Western China, thus far away from the actual load centers in both Central and Eastern China. To obtain a timely grid connection, experiencing frequent disconnections, transmission and distribution constraints became increasingly apparent, were just one of the few reasons urging the national government to pursue decentralized options throughout its densely populated and higher developed Eastern provinces. By July 2012, just around 1.03 GW of installed solar power generation capacities were considered as distributed, out of in total of approx. 4 GW according to State Grid Corporation.

### **Disbursement of Renewable Energy Subsidies announced**

On November 26, 2012 the National Development and Reform Commission (NDRC) and the State Electricity Regulatory Commission (SERC) jointly announced that companies operating solar projects with a combined capacity of 415 MW distributed over 11 provinces have received their renewable energy subsidies for the period of between Oct 2010 and April 2011. The obvious significant delay of payments has been the cause for becoming an increasing concern for project developers in recent months/years. Against this background, in March 2012 the Ministry of Finance (MOF) announced that both the “Renewable Energy Surcharge (used for FIT payments) and the Renewable Energy Special Fund (used for Golden Sun and Rooftop Program)” will be administered by MOF in future, thus aiming at to ensure a more timely disbursement of relevant subsidies.

### **Results of “2012 Golden Sun Program 2<sup>nd</sup> Batch” released**

On December 14, 2012 the Ministry of Finance (MOF), the Ministry of Housing and Urban-Rural Development (MOHURD), and the National Energy Administration (NEA) jointly announced that in total 2834 MW of so-called “Golden Sun” projects received official approval and have to be implemented by June 30, 2013. Together with 1709 MW approved already in April, in 2012 alone in total 4543 MW of projects are entitled for a governmental capital subsidy of RMB 5.5/W (€ 0.66). The latter remained surprisingly unchanged, despite the fact that domestic prices for modules in particular kept falling between April and December. BIPV projects, off-grid mini-grid village power stations, and Solar Home Systems (SHS) are entitled to receive RMB 7/W (€ 0.85), RMB 25/W (€ 3.03), and RMB 18/W (€ 2.18) respectively. The five most favored destinations for the development of projects were:



Jiangsu 374 MW  
Hunan 284 MW  
Shandong 270 MW  
Zhejiang 241 MW  
Guangdong 202 MW

Note: Five provinces combined account for approx. 48% (1371 MW) of all projects approved.

According to the results, by far the single largest project applicant is the company Yingli with more than 10% (296 MW) of the total projects awarded. Yingli’s 15 projects are spread over 8 provinces. Other “Chinese first tier manufacturer” seemed to be less aggressive in getting engaged in the domestic downstream sector development with on average 1-2 projects only. Interestingly, it appears that the Golden Sun program is gaining attraction not only among domestic Chinese companies, since a few of the projects have been awarded to either Sino-Foreign invested or Wholly Foreign Owned Enterprises (WFOE) as well.

### **Introduction of China’s first Renewable Portfolio Standard – Delayed**

Already in May 2012 China’s National Energy Administration (NEA) released a draft of its Renewable Portfolio Standard (RPS) seeking public comments back then. The draft contains targets for 2015 and

aims to support the deployment of non-hydro renewable resources. Eligible sources under the RPS are wind, solar, biomass, marine, and geothermal. The RPS targets the major local power utilities and grid operators and shall ensure accelerated coordination, faster grid connection, and reduced curtailment. Overall, the RPS is designed to stimulate demand for large-scale deployment of renewable energy projects and more important that the available supply will taken up by the grid.

Initially, upon finalizing the draft of China’s first RPS, it should have been sent to the State Council for approval and was expected to come into effect in late 2012. However, recently NEA representatives indicated that due to the complicated nature and involvement of numerous stakeholders representing various ministries and other govt. institutions an implementation of China’s RPS is scheduled for the 2H2013 the earliest.

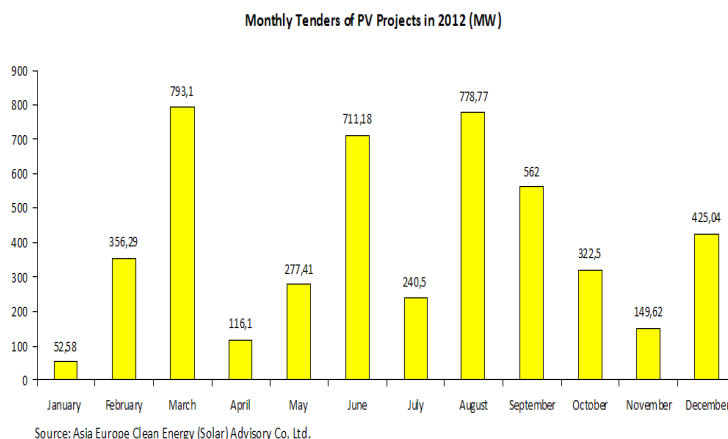
### **China published it’s White Paper on “China’s Energy Policy 2012”**

On October 24, 2012 the State Council of China officially released its second energy policy related white paper since 1991. The first white paper on “China’s Energy Conditions and Policies” were published on December 26, 2007. The latest edition clearly reflects the increased importance of clean / renewable energies in China’s energy mix, confirmed by the fact that to “vigorously developing new and renewable energy” has been stipulated second after the promotion of energy conservation and before the “promotion of clean development of fossil fuels”.

Accordingly, by the end of 2011, the share of non-fossil energy accounted for 8% of total primary energy consumption and shall increase to 11.4% by 2015. Within the “new and renewable energy chapter” solar comes fourth, after hydropower, nuclear, and wind. As to the deployment of solar PV emphasis is laid on distributed generation in Central and Eastern China while large-scale ground-mounted shall preferably be developed in Western China. The white paper further outlines that “200 green-energy counties and 1000 villages” will deploy solar on a significant scale by the end of 2015. To this end, massive investment in technical upgrading in the existing grid infrastructure in both urban and rural areas is foreseen. Moreover, by 2015 basically every Chinese shall have access to electric power, i.e. the remaining 0.5% of China’s population still living in off-grid areas shall be supplied with electric power. In this context, solar applications, i.e. mini-grid power stations are expected to be among the preferred solutions.

### **China’s Domestic Market Development in 2012 – An Indication of what is about to come**

Driven by various governmental support programmes, notably the “Rooftop Programme and the Golden Sun Programme” and the introduction of a national Feed-in-Tariff (FIT) support scheme in July 2011, China’s domestic market experienced an accelerated development compared to previous years in 2012. As to the “Rooftop and Golden Sun Programme” in 2012 alone 220 MW and 4543 MW were approved respectively. In addition, between January and December 2012 another 4785 MW of projects were put up for tender, thus the project pipeline amounted to approx. 9548 MW in 2012.



However, at this stage, it is too early to provide a relatively accurate estimation in terms of how many projects were indeed realized and have been connected to the grid in 2012. It is anticipated that in the coming weeks this information will be made available.

### **Outgoing Chinese Premier Wen Jiabao chaired a State Council's session on China's PV Industry**

On December 19, 2012 the Chinese Premier Wen Jiabao chaired a State Council executive meeting focusing on the current state of the Chinese photovoltaic industry. The meeting reiterated that the PV industry is an important part of the State Council's promotion of so-called "seven strategic emerging industries" which are considered to constitute the future pillars of China's economy.

Furthermore, admitting that the Chinese PV industry is currently facing difficulties and challenges, but also provides great opportunities to promote the large-scale deployment of solar, due to significantly reduced cost of PV power generation. During the meeting a few, although still relatively vague, policy measures were formulated. It is expected that more concrete policies are under preparation by various institutions.

#### **1) Industrial restructuring and technological upgrading**

- a. Encourage merger and acquisitions (M&A)
- b. Stricter control of further production capacity expansion along the value chain
- c. Foster technical improvement

#### **2) Standardization**

- a. To formulate a comprehensive standardization system
- b. Introduction of a compulsory certification system
- c. Strengthen market supervision

#### **3) Actively promote domestic deployment**

- a. To encourage distributed generation
- b. Expand domestic market
- c. Strengthen intl. corporation and penetration of international markets

#### **4) Optimize existing support policies**

- a. Setting of regional benchmark prices for PV power plants [Note: That might mean that the existing universal FIT will be replaced by a differentiated FIT reflecting different levels of solar insolation in future]
- b. Formulate further preferential policies

#### **5) Rigorously rely on market mechanism**

- a. Minimize governmental intervention and local market protection [Note: Apparently, local govt. still lend support to local companies in an attempt to kept them afloat]

### **Upcoming National People's Congress March 2013 – What does it may mean for solar?**

Early March the current Chinese President Hu Jintao and Chinese Premier Wen Jiabao will step down from their present positions and will make room for the next generation of Chinese leadership under the guidance of Xi Jinping and Li Keqiang respectively. Along with this once-in-a-decade leadership transition it is widely anticipated that in the field of "greentech development" new announcements will be made as part of laying out the next grand strategy for China's development in the foreseeable future.

Implications for a possible future solar PV development could be impressive. Overall, it is anticipated that China will do its utmost to ensure that its domestic solar industry will sustain the current challenging times. To this end, new domestic support programmes designed to encourage the deployment at all administrative levels are likely and consequently will absorb an even large share of locally manufactured goods. In addition, a streamlining and alignment of responsibilities and decision making power on both national and provincial level is envisaged, in order to smooth execution of projects.