

March 2012 – Briefing-Paper – China Solar Development

China's National Target for Photovoltaic during the 12th Five-Year-Plan (2011-2015) twice increased
 Early March 2011 China's State Council, in the course of its National People's Congress (NPC), announced through various measures to support the installation of up to 5 GW until the end of 2015. The catastrophic event at Fukushima / Japan however prompted Chinese energy planners in Beijing to set a 10 GW in April. Late November, the National Energy Administration (NEA) approved a further increase to up to now 15 GW by 2015. Overriding reasons for the second increase were the introduction of a national feed-in-tariff (FIT) at the end of July, and to partially absorb some of the domestic output in an attempt to compensate the sluggish international demand. First of all however, substantially reduced system prices reached a politically acceptable level, thus allowing a greater deployment. At the end of 2011 approx. 3 GW were installed, i.e. in the remaining four years until the end of 2015 China could experience on average 3 GW annually. Common understanding is however that substantially more will be installed. 2012 forecast suggest that up to 5 GW will be installed.

Adjustment of the National feed -in-tariff for photovoltaic entered into force on January 1st, 2012
 In August 2011 China has introduced a national feed-in tariff for photovoltaic systems, regardless of the type, size, and location. The, at the same time, foreseen future adjustment of tariffs was carried out for the first time on January 1st, 2012.

National Feed-In-Tariffs for grid-connected photovoltaic – Last update January 1st, 2012		
Region	Time: RMB / €-cts // kWh (incl. VAT)	Time: RMB / €-cts // kWh (incl. VAT)
Country wide	Given to projects approved before the 01.07.2011 and connected to the grid until 31.12.2011: 1.15 RMB / kWh // €-cts 13,73 / kWh	Starting from January 2012: RMB 1 / kWh = €-cts 11,94 / kWh
	Given to projects approved after the 01.07.2011 and connected to the grid until 31.12.2011: RMB 1 / kWh // €-cts 11,94 / kWh	
Tibet	Given to projects approved before the 01.07.2011 and connected to the grid until 31.12.2011: RMB 1.15 / kWh // €-cts 13,73 / kWh	Starting from January 2012: RMB 1.15 / kWh = €-cts 13,73 / kWh
Note: Although the compensation period has not been officially set, both project developers and operators usually calculate up to 25 years. Since the government anticipates yet another price reduction in the coming months, a possible further amendment of the above feed-in-tariffs may take place summer 2012 or January 2013.		
Explanation: RMB = Renminbi/national currency. Exchange rate RMB / €-cts as of March 24 th , 2012.		

Liaoning Province provides in addition to the natl. Feed-in tariff a provincial premium of 30%

The provincial Government of Liaoning in northeastern China, at the end of December 2011 announced to pay for PV plants with a capacity of at least 300 kW (without capacity limitation) which will be realized and connected to the grid by the end of 2012, an additional provincial premium. Power plants commissioned in 2013 are subject to reduce provincial feed-in-tariff of 10%.

Liaoning Province Feed-In-Tariffs for grid-connected photovoltaic – Last update January 1st, 2012	
Time	Feed-in-tariff: RMB / €-cts// kWh (incl. VAT)
Projects approved and connected to the grid between 01.01.2012 and 31.12.2012:	RMB 1.3 / kWh // €-cts 15,54 / kWh
Projects approved and connected to the grid after 31.12.2011:	RMB 1.27 / kWh // €-cts 15,18 / kWh
Explanation: RMB = Renminbi/national currency. Exchange rate RMB / €-cts as of March 23 rd , 2012.	

Main motive for the Liaoning Provincial Government is to increase its economical attractiveness. The current national tariff support scheme ignores the regional significantly different radiation values. Therefore most of the approx. 2.5 GW of new installations last year were realized in Western China, where nationwide the best energy yields are expected.

Amended guidelines of the "Rooftop and Golden Sun program" published

Mid-December the Ministry of Housing and Urban-Rural Development (MOHURD) together with the Ministry of Finance announced to adapt the applicable guidelines for rooftop and BIPV installations for the next round of bidding. Therefore public financial support for rooftop installations of RMB 7.5/W (€ 0.89/W) and for BIPV systems RMB 9/W (€ 1.07/W) is granted. These projects must be completed by the end of 2012. Projects that were realized in the eligibility period in 2011, received a 25% higher subsidy of RMB 12/W (€ 1.43/W).

Beginning of February 2012 the Ministry of Finance announced the level of public subsidies granted for the so-called "Golden Sun" projects applicable for this year. As a result, grid-connected projects will be supported RMB 7/W (€ 0.83). At the same time grants for 2011 already approved projects were retroactively reduced from RMB 9/W (€ 1.07/W) to RMB 8/W (€ 0.95/W) or by approximately 11% due to significant price decreases. The current grant covers approximately 50% of the total system cost. In addition, according to statements from Government circles, project proposals of up to 1GW could be approved this year.

Focus of China's Future Industrial Strategy Policy

China is striving for a significant enhancement of its innovation competence and will continue its aggressive strategy of innovation in the context of the just adopted 12th Five-Year Plan (2011-2015). Between 1995-2009 the national R&D expenditure rose from 11 to US\$ 154 billion, which corresponds to an annual rate of increase of about 21%. For comparison: in Germany it was 5%/a in the same time period. China's R&D expenditure amounted to approx. 1.7% of the GDP in 2009 and is planned to rise to 2.2% by the year 2015. Reducing the technology import dependency is a goal that has already been formulated in the "National Medium and Long-term Plan for Science and Technology Development (2006-2020)". The dependency at the time over 60% should therefore then sink below 30%. In addition, China wants to gradually discard its current role as a "technology follower" and become a global technology leader.

China's current technological dependence on Western manufacturers of components, machines and systems for photovoltaics, it is estimated that approximately 60-70% is imported, should be reduced to an acceptable industrial policy level in the coming years by a targeted development of its own industrial structures (e.g. industrial clustering in Jiangsu Province). The declared aim is to cover the entire value chain in key areas of high-technology (PV) and concentrating solar power (CSP) by the end of 12th Five-Year Plan (2011-2015). In addition to creating its own industrial infrastructures, the core of this innovation-driven industrial policy is that Chinese companies also shall own the intellectual property rights. Companies are encouraged to pursue corresponding patent applications.

To enable the attainment of the above outlined objective, the new version of the “Catalogue for Guiding Foreign Investment in China [2012]” was adopted on January 30th this year. The new version replaces the previous version effective since 2007. The latter is divided into three categories (encouraged / limited / prohibited). Accordingly, foreign equipment manufacturers are explicitly "encouraged" to invest in the photovoltaic sector (high-end equipment manufacturing). Furthermore, the construction and operation of PV power plants designed for power generation is also equally "encouraged". Caused by the introduction of a national FIT from August to the end of December 2011, nationwide approx. 2.3 GW of PV power projects were tendered, constituting a significant surge compared to previous years. In a lot of these tenders, EPC contractors in particular are sought after. The call for foreign companies to get involved in the "downstream sector" as well is in view of future market growth of several GW/a possibly connected to the idea to facilitate a higher level of quality. Policymakers in Beijing are aware that the 3 GW-based experience gained by local companies so far is still no adequate guarantee of quality.

China's "Strategic Emerging Industries" as part of its future industrial policy

End of 2011 the Chinese State Council reiterated to financially support in the coming years the development and expansion of seven "Strategic Emerging Industries" (SEI) with a total investment of approx. US\$ 1.7 trillion by 2015. On the one hand to increase the industrial competitiveness, on the other, China should be positioned to become in the medium to long-term one of the leading global providers of relevant technologies, products, and services. These “SEI” contributed about 5% to China's GDP in 2010 and this share shall increase to 8% and 15% respectively by 2015 and 2020. Guiding principle in this context is from "Made in China" over "Designed in China" to eventually "Global Leadership".

The Central Government has defined as "Strategic Emerging Industries"

- Biotechnology
- Next Generation of IT
- Clean Energy Vehicles
- Energy Conservation and Environmental Protection
- High-End Equipment Manufacturing
- New Materials
- New Energy / Renewable Energy (Note: including Photovoltaic)

Ministry for Industry and Information Technology published roadmap for PV till end of 2015

In the face of China's existing overcapacity in solar factories, government circles are currently openly discussing a consolidation of the domestic PV industry and the creation of so-called "national champions". In this context the Ministry for Industry and Information Technology (MIIT) announced February 24th this year, that there should only be a manageable number of cell manufacturers with production capacity of up to 5 GW or producers of poly-silicon with 50,000 t/a in the next five years. In addition, efforts on the subject of "solar storage and grid integration" should be intensified. Along with the announcements made on behalf of the MIIT, on March 15th, 2012 the State Council released its “Report on the Work of the Government” in the course of the 11th National People's Congress. Accordingly, the original version explicitly stipulated “to curb the blind expansion of the solar industry”, however upon discussions with legislators and political advisors this wording was amended “to prevent the blind expansion of the manufacturing capacity of solar energy facilities”. The chairman of the Shanghai Social Sciences Association Mr. Qin Shaode was quoted “We should prevent the industry from over-expansion because many local governments blindly launch projects. [...] The amendment is more precise and could help encourage the healthier development of the new energy industry”. Against this background, the Chinese PV industry as it exists today is anticipated to undergo profound changes in the coming years.



Company Profile

Frank Haugwitz is an independent solar energy consultant based in Beijing since 2002. In his early years in China he was seconded by the German govt. and involved in a bilateral solar / PV energy technical cooperation program. Following this assignment he was responsible for the renewable energy component of the EU-China Energy & Environment Program until the fall of 2009. Since then he has been consulting foreign enterprises and international organizations on the development of renewable energies in general and solar / photovoltaic in particular in China. In this capacity since early 2010 he works for the organizer of Intersolar as their Head of Conference Development.

In October 2012 he founded his company “Asia Europe Clean Energy (Solar) Advisory Co. Ltd. (AECEA). His services include working with individual clients to apply his extensive China photovoltaic energy-focused insights to their specific needs. Industry experience and in-depth analysis shall assist strategy development and corporate decision making. Focus is on the regulatory framework conditions, policy, as well market and business development. His advisory services provide objective and independent research.

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