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Impact of Chinese producers' price dumping on European and Russia's solar PV energy market

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Abstract

Just in 2014 world solar PV energy capacity grew from 138 GW to 186 GW. Total global installed capacity is 6000 GW, therefore solar PV share already exceeded 3%. Rapid technological advance in solar PV batteries decreased their costs from the level of 5000 – 6000 USD / kW to the level of 1700 – 2000 USD / kW in five years.

In 2000's European consumers actively installed PV converters roof-top or just in the backyard. Governments pledged to buy out electricity for 15 years at prices above market. Chinese offered the same PV equipment as European competitors did, but dumped the price 2-3-fold. So Chinese won the competition due to aggressive dumping, removing market competitors, attracting external finance to compensate temporary loss. PRC has funded domestic companies in several modes, including soft loans and tax breaks. Besides that PRC owns world biggest reserves of rare earth metals and is #1 polycrystalline silicon producer in the world. EU was late to introduce protectionist measures in the market. Only in the mid-2013 additional 11.8% levy has been imposed on solar panels imports from China. Trading agreement with PRC: minimum PV panel price equals 0.56 EUR / W and maximum import volume not to exceed 7 GW / yr.

Russia's federal order in May 2013 introduced a new preferential regime for renewable energy utilities. Payback time reduced below 15 years. In September 2014 JSC 'Hewel' ('Renova' – 51%, 'Rosnano' – 49%) has put in operation 5 MW solar PV station. 'Hewel' owns PV plant in Novocheboksarsk, using Russian raw silicon resources. In spite of utilizing domestic resources, up to 60% of solar cells' cost is attributed to import components – purified gases, special glass, etc. Localization program aims to substitute 80% of import by domestic supply. 'Hewel's rival 'Eurosib' company construct 5 MW solar PV station in Abakan, Southern Siberia, using imported panels. Perspective 'Nitol' company, 'Rosnano' project, tried to build PV production facility in Irkutsk region in 2009 – 2013, but became bankrupt due to the fall in silicon prices.

In summer 2014 Chinese company 'Solar Systems' won a tender to construct in Russia solar power plants with 175 MW capacity in 2016 – 2018 (which is close to 'Hewel's potential production level). According to 70% localization requirements in this tender the company plans to build 100 MW / yr PV panel production plant in Tatarstan. 'Solar Systems' claims to finance this project by soft loans from Chinese banks. Russian PV producers are potential targets for mergers and acquisitions by stronger Chinese competitors.

Chinese producers in 2010 – 2014 have formed a new market structure in solar energy PV equipment across the globe. Chinese companies have got almost 80% of EU solar PV market by 2014. Price drop in PV panels from the level of 5000 – 6000 USD / kW to the level of 1700 – 2000 USD / kW was the key trend in the last five years. Chinese producers could start expansion to Russia by localizing PV parts production, while having access to cheaper finance from China's banks. High technology companies, such as 'Tesla Motors', effectively change patterns of energy consumption in transport and households, shaping the future.