



Inside Energy

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The default response to criticism of solar subsidies is that the oil industry receives subsidies. So, for the record, accelerated depreciation on drilling equipment and oil depletion allowances that made sense to encourage drilling when oil was at \$30 a barrel do not make sense at \$100 a barrel and they should end. But some perspective is needed. Oil industry subsidies amount to about six tenths of a cent a gallon. Solar subsidies are the equivalent of stopping for gasoline and instead of paying \$4 a gallon for gas the station pays you sixty cents. Solar subsidies have problems including the sheer size of them, the way they transfer money from people with modest incomes to the relatively wealthy, the door they opened for China to steal an industry we developed, and their never ending nature.

Solar power is five times as expensive as conventional power. A typical solar installation can cost \$40,000. Buyers must have that cash as they might wait a year for federal and state tax credits so the market is limited to the more affluent. However, it is lower income people who pay for those tax credits and Solar Renewable Energy Credits (SREC) in higher taxes and higher electric bills.

The mono-crystalline solar cell that powers 90% of today's solar panels was developed in New Jersey and efficiency was improved in our national labs. Those labs worked with the Dupont Company in Wilmington to develop practical materials and manufacturing processes, and to test durability. Solar companies do not use subsidies to do basic research and the technology has stalled. From 1980 to 1996 solar panels had modest subsidies and global volume increased 18 times while price dropped 60%. In the late 1990's governments around the world began offering massive subsidies. From 1996 to 2007 volume increased another 41 times but price only dropped 4% because the subsidies were so large. Why should panel manufacturers and installers lower the price when the apparent product price is less than zero?

The increased volume combined with artificially high prices created a fat target market for China. Six years ago China produced 1% of the world's solar panels, last year 50%, and they will be at 90% within three years. They achieved this success by combining labor cost advantages with production subsidies such as low cost land, low cost loans, and currency manipulation to keep the price of Chinese products low. Had U.S. industry been forced to compete on price we would have built a more robust industry and held onto a larger share of the market.

Lessons learned? No, the solar industry continues to cling to consumption subsidies after 25 years. The upfront state and federal grants just about pay for those Chinese solar modules and aren't going away until 2016. One bright spot is solar module prices have begun to drop. Governments around the world have begun cutting subsidies and so much new solar manufacturing capacity has been built in China the world's plants are operating at 25% of capacity. Over 60 % of the subsidy value is in the SREC's which, until recently, have cost Delaware power companies about \$270 each. The price dropped to about \$100 in March, a boon to electricity customers who eventually have to pay for them. Don't count those savings just yet. Industry representatives, environmental groups, and Delmarva Power are working on a plan to fix the price at \$270 for the next ten years.

Someday a high efficiency solar cell combined with a viable storage device will be invented and it will revolutionize power production. Until then solar will remain expensive and of limited use. In the meantime, onshore wind power has become a mature industry and now is cost competitive with most conventional forms of power. Subsidies for wind power are scheduled to end in 2012.

David T. Stevenson, Director, Center for Energy Competitiveness