A year of living dangerously

On the back of the latest round of Feed-in Tariff cuts, we take a look at the Continent’s complex relationship with subsidies and consider if the industry can survive without governmental assistance – and where we can all find hope...

The last 12 months could well be described as solar’s year of living dangerously. Our decade of boom slammed into a bust: global economy and, tellingly, the subsidies that are so vital to our industry were the first to go.

Germany, Italy and France have all cut subsidies this past year, while Spain has undergone major reductions in recent years as well. This has led to negative external ramifications, which have clouded the overall market. Of course, many companies with predominantly regional sales focused on Italy and France have closed up, while falling solar panel prices world-wide due to oversupply have led to the demise of many manufacturing based operations.

However, solar PV installations in Germany are not expected to decline sharply from 2011 levels, since falling module prices globally will likely offset the lack of government incentives, lifting capacity levels above 6GW for 2012, according to several analyst firms. And while Germany is anticipated to retain its top position in total solar PV installations, China is closing in on the number two spot for the year.

The unpredictable cuts to Europe’s feed-in tariff schemes threaten the recession-hit renewable sector with disaster, the head of the solar industry’s business association told EU policy site, EurActiv. An economic slowdown worsened by strong global competition has increased reluctance among banks to lend to solar energy firms. And that in turn could spell calamity if investor uncertainty over the future pricing of solar electricity was factored in, said Reinhold Buttgereit, secretary-general of the European Photovoltaic Industry Association.

“We need a stable support scheme, not one you can only trust for 4-8 weeks,” he said, adding that a low but stable tariff would settle frayed investor nerves. In Germany over the last few weeks we’ve seen discussion about immediately stopping support schemes or reducing them by almost 50%,” he said. “This would be a real disaster for the industry.”

Q-Cells conundrum

The recent events were thrown into sharp relief when the German solar power company Q-Cells filed for insolvency in early April, and became the fourth such firm to go bankrupt in four months, signalling a quickening solar recession. Solon SE, Solar Millennium AG and Solarhybrid AG have all declared bankruptcy due to a cocktail of plunging equipment prices, overcapacity and falling government subsidies.

“The executive board has reached the conclusion that a going concern of the company cannot be restored on a sufficiently secure legal basis,” a Q-Cells statement said. Five years ago, Q-Cells was valued at €8 billion and at one point, it was the world’s largest maker of solar cells. But as cheaper competition grew abroad and government subsidies were whittled away at home, its stock fell.

End of the gold rush

However, the clean-energy recession caused by massive over-capacity in the
solar panel market could have unexpected benefits for the nascent renewable industry, industry insiders say. “There’s going to be some contraction and consolidation but I think that will benefit the environment as a lot of the quick shops that were set up to flood the market with panels will not make it through that wave,” says Christopher Burghardt, vice president of the First Solar energy firm. “It will lead to a much more mature industry instead of the Wild West growth which we’ve had in the last years,” he added. “When you have an explosive market somewhere, everybody rushes in and so it’s a gold rush.”

The EU’s 2020 targets all but guaranteed a market for panels and, as economies of scale led to a drop in manufacturing costs, prices also began to fall from an average panel price of $1.75 per watt at the beginning of 2011, to a predicted $1.10 by year’s end. The corresponding subsidy cuts stoked a worldwide solar panel glut, as China entered the clean energy market at the same time, investing a mammoth $30 billion in its solar industry.

Speaking at a Eurelectric conference, Reinhold Butgereit, said that the prospect of retrenchment did not keep him awake at night. But “the most important thing is to find the most cost-effective and acceptable way of harmonising the [feed-in tariffs] system,” he said.

Over the Pond

In America, the boom and bust scenario was highlighted when the Solyndra solar panel factory went bankrupt, and laid off 1,100 workers, after receiving $535 million in federal loan guarantees. First Solar has also indirectly benefited from $3.073 billion in loan guarantees from the US Department of Energy, $1.46 billion of which was used for loans by a syndicate of lenders including Goldman Sachs, Lending Partners LLC, and Citigroup.

Burghardt said that the guarantees had been a “critical enabler” for First Solar projects, and that the firm was the lowest-cost maker of solar panels.

“The projects we’ve got loan guarantees for are solid,” Burghardt said. “They’ve been commercially vetted by banks and insurance companies. There is no question of the government taking risks, because they are secure.” And with the cost of solar power dropping, its long-term competitiveness with fossil fuel energy sources can only improve.

Burghardt said that the industry’s current consolidation period would be “a very favourable thing” in the long-term because it would allow production below investment costs, with “risk tolerance” factored in.

China’s gain

China, the world’s largest solar panel producer, is likely to become the largest market for solar devices in 2012 as Europe sees its market for the products contract. China’s capacity to generate solar power is expected to double to about five gigawatts this year, according to Solarbuzz, a US-based solar industry consulting firm.

As a result of the shrinking overseas market, China is pursuing domestic demand through targeted policies. The national feed-in tariff stands at 1 yuan (16 US cents) per kWh this year, with several areas such as Liaoning and Shandong provinces providing higher rates. Under the Chinese government’s Five-Year Plan for the Solar Industry (2011-15), the nation aims to reduce the cost of solar power to 0.8 yuan per kWh by 2015 and 0.6 yuan per kWh by 2020.

In Europe, North America and Australia energy prices are dictated partly by government policy and partly by the market. However, in China government policy has a stronger influence, and it is the Chinese government’s support for their solar companies (almost €20 billion in 2011) which enabled them to undercut prices in America and Europe and offer products 30% below cost price.

One European commentator says Chinese manufacturers are “pushing the rest of the world out of the market and creating a monopoly on technology. Beijing knows that solar is more valuable than sitting on all the oil and gas resources of the earth.”

The fight back

Some southern Europe countries are fighting back against China’s attempt to dominate the global market.

In imitation of China’s strategy, the French government has confirmed that its PV power plants will be eligible to receive a 10% bonus on top of the feed-in tariff if at least 60% of the installation’s modules are made in Europe, in an effort to support European manufacturers.

And Italian Prime Minister Mario Monti announced in April that his government intends to introduce a tax on the carbon content of fuels, the proceeds from which will be devoted to financing renewable energy production. The plan still needs to be approved by the government.

Part of the rationale for the move is a desire to help the Italian economy by supporting
the transition to a green, zero carbon economy, while also helping it reduce its deficit and debt levels.

The measure follows Italy last week raising its 2020 renewable energy targets and revising a planned to reduce incentives for solar and other forms of renewable energy production.

Italy depends on imports to meet 87% of its electricity demand. It now already has sufficient installed and planned solar PV capacity to meet its 2020 target some eight years ahead of schedule. The Italian government believes – quite rightly – that switching to solar PV not only reduces this dependence, it also adds to GDP and generates jobs.

**EU targets**

The EU has set individual goals for member states to get a portion of their energy from renewable sources as the 27-nation bloc works toward an overall 20 percent target by 2020. Italy is one of only two EU nations planning to resort to “cooperation mechanisms” to achieve their 2020 renewables target, the other being Luxembourg. European Renewable Energy Council data show. It could bode well for economically crippled Greece.

“...the energy sector gives Greece an opportunity to become a hub for the European Union,” Premier Papademos said recently. While boosting revenues for Greece, Helios will also help the EU to meet clean-energy targets, he said, without commenting on the potential for virtual power sales. Germany (for example) needs “serious plans for covering the gap that the retirement of nuclear plants will create,” Papalexiopoulos said. The country, which itself has about 25,000 megawatts of installed solar capacity, can’t offer investors the same returns as Greece because of the climate, he said.

“Greece has so much sun; the solar potential is higher than any other country in Europe.”

“Insane bets”

Some European countries like Italy and Spain made “insane” bets on solar power at the expense of other renewables by subsidising the technology too generously, the chief executive of an Italian environmental private equity fund said recently. “Solar will definitely be the solution 20 to 30 years from now worldwide, but what has happened in the last five years in Europe is completely insane,” Nino Tronchetti Provera, chief executive of Ambienta, said in an interview.

“You cannot have countries like Spain and Italy which are almost bust because of the interest they have to pay to serve their (public) debts, spending billions and billions to produce a small share of electricity,” he added.

"Italy was about to spend 15 billion Euros a year on solar to produce just 2 percent of electricity which is a third of its total energy consumption," Provera said. “It was too much. For solar to be competitive you need the cost per kilowatt hour to be much lower, as it is still five or six times higher than other types of energy."

**French elections**

To further muddy the waters, presidential elections in France threaten to further derail the continent’s solar industry... depending on who you speak to. In an article published in the French daily Le Monde in October last year, a group of MPs from the “ecological” wing of the Socialist party vaunted the “social-ecology” of François Hollande over the “environmental passivity of the right”. They claimed that after 10 years of centre-right leadership, “France invests nine times less than Germany and five times less than China in clean energy” and highlighted that “no French business figures among the top 10 producers worldwide of wind turbines or photovoltaic panels”. The politicians rued that in terms of wind farm production per inhabitant, France lagged in thirteenth place in Europe and highlighted that there was still no offshore production in France – though since then Sarkozy has awarded tenders to build offshore wind farms to produce 2GW of energy.

“...What has happened in the last five years in Europe is completely insane”

The politicians concluded that only François Hollande could reverse France’s fortunes in the area of renewable energy, and green lobby groups certainly seem to back this thinking. For example, Greenpeace France notes that the Socialist candidate has called for the EU to increase its greenhouse gas emissions target to 30% by 2020, something Sarkozy has refused to support, and rates Hollande as “engaged” in terms of developing alternatives to fossil fuels, while it believes Sarkozy is stuck in the past on this issue.

**UN targets**

Against this turbulent backdrop, the UN has recently called to double global consumption of renewable energy over the next two decades. “It’s possible if we show political leadership,” Ban Ki-moon said about the goal that falls under a sustainable energy initiative aiming to have universal access to power by 2030. Currently, renewable energy accounts for about 16 per cent of world consumption.

“We have to be very austere in using energy... We have to completely change our behaviour, at home, at the office,” the UN secretary-general added at an event hosted by the Center for Global Development think-tank in Washington.

About 1.3 billion people on Earth – a fifth of the global population – lacks access to electricity, while 2.7 billion do not have clean fuel to cook their food and heat their homes, relying instead on open fires or furnaces that burn coal, wood or animal waste.
“Energy is central to jobs, transport, water, sanitation... climate,” Ban said after meeting with finance ministers from the G20 most powerful economies.

The United Nations is expecting some 120 heads of state and government to attend the Rio+20 meeting on sustainable development in Brazil in June, with a focus on developing a plan for implementation and action.

The European Union has vowed fresh funds Monday to help developing nations provide sustainable energy to 500 million people by 2030.

European Commission president Jose Manuel Barroso pledged 50 million Euros ($65 million) over two years for technical assistance and said EU nations would seek hundreds of millions of Euros more to support investments in sustainable energy for developing countries.

Speaking at the Center for Global Development event, Danish Development Cooperation Minister Christian Friis Bach noted that fossil fuels received four to five times more subsidies worldwide than renewable energy.

**Further hope**

The UN’s calls for more renewables will be some succour to industry leaders, and while ours is far from a subsidy-free industry, we’re very close to the Holy Grail of grid parity, which will help the cause massively. In the meantime, European producers will doubtless be looking to Ukraine for salvation.

Solar power capacity in Ukraine is forecast to double this year, spurred by the completion of Europe’s biggest photovoltaic plant in December and incentives a third higher than anywhere else in the region. Developers in the former Soviet republic may add panels with 300 megawatts of capacity after last year installing about 200 megawatts, according to the Association of Alternative Fuels and Energy Market Participants, the main lobby group tracking PV installations in the nation. It had just 2.5 megawatts in 2010.

The plant is being developed as part of the country’s national Natural Energy project. Launched by the State Agency of Ukraine for Energy Efficiency and Energy Conservation in 2010, the Natural Energy project aims to build 2,000 MW of clean energy capacity in Ukraine and produce 30 percent of the country’s energy from renewable resources by 2015.

The Okhotnykovo plant, which will cover the equivalent of 207 football fields, is being built by Activ Solar, an Austrian Company. According to Activ Solar CEO Kaveh Ertefai, a "project of this scale means a radical change of solar energy development in Europe, while securing Ukraine’s position as renewable energy provider.”

Worldwide News Ukraine said the current largest solar power plant in Europe “is located in Italy and produces 72 MW.” However, on its list of the world’s largest photovoltaic power plants, the website PV Resources puts that Italian plant, at

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Montalto di Castro, at 84.2 MW. In addition, it has a German plant at Finsterwalde at 80.2 MW.

Although it relies on Russia for three-quarters of its oil and natural gas requirements, according to the CIA World Factbook, Ukraine is an energy exporter, supplying electricity to Hungary, Moldova, Poland, Romania, Russia and Slovakia. Ukraine’s renewable energy projects are reportedly funded with profits the country earns from selling carbon emissions credits under the Kyoto Protocol. In 2009, Ukraine sold some its carbon emissions credits to Japan for $400 million. The Okhotnykovo solar farm is expected to further offset Ukraine’s carbon emissions by 80,000 tons.

President Viktor Yanukovych’s efforts to develop Ukraine’s renewable energy industry contrast with steps to rein in solar subsidies in Germany, Italy and Spain after incentives for the industry pushed installations past government targets. Manufacturers led by Sharp Corp (6753), and Schneider Electric SA (SU) are stepping up work in Ukraine.

The nation offers a feed-in tariff fixing a price of 46 euro cents ($0.61) a kilowatt-hour for utility-scale solar projects, 59 percent higher than Greece, which has the next highest rate in Europe. The rates are little changed since their introduction in April 2009 and are fixed until 2030.

In contrast, German 2013 electricity futures for 2013 cost the equivalent of about 5.2 euro cents a kilowatt-hour, according to Energy Broker prices on Bloomberg.

The subsidies, meant to compensate for the risk of doing business in Ukraine, may spur runaway growth as it did in western European nations that offered above-market rates for solar power, said Martin Simonek, an analyst at Bloomberg New Energy Finance.

Right now, we’re in a state of flux, and as we’re all aware, nothing is guaranteed. But if Ukraine can take up some of the painful shortfall experienced by many of our sector’s European producers, it’s worth the investment. We’ll strive for subsidy-free grid parity in the meantime, keep everything crossed for a global economic recovery and come back stronger than ever.

Hopefully, in a very short period of time...