



"Don't call them tariffs," Mike Nelson, head of Washington State University's Northwest Solar Center, recommends.

"Germany is twenty years ahead"

The view abroad: From June 9 to 13, the US Solar Electric Power Association and the international World Future Council hosted a fact-finding mission to Germany for US utilities and energy associations. PV MAGAZINE accompanied the group during the tour and spoke with James Bradbury, legislative assistant to Jay Inslee.

On their fact-finding mission to Germany, the US utilities wanted to see what the differences are between Germany's "feed-in tariffs" (FITs) and US policies. The organizers were interested to see whether US utilities could see any benefits in German renewals policy – after all, German FITs are largely driven by small investors, not the country's four major utilities. The issue was not just academic – a bill proposed by Senator Jay Inslee presenting national FITs is pending in Congress.

The mission began in Freiburg, a town of some 220,000 inhabitants that vies for the title of Germany's Solar Capital. There, the 31 participants visited the Fraunhofer research institute for solar energy; toured the Vauban residential area, where entire rows of houses produce more energy than they consume; visited Solar-Fab-

rik, Freiburg's largest solar panel manufacturer; and met with representatives both of the local municipal utility, Badenova, and one of Germany's Big 4 investor-owned utilities, EnBW – and that was just the first two days.

By the end of the one-week trip, the participants had visited the headquarters of Phoenix Solar, been shown around SunPower's 6.3 MW ground-mounted array (once the largest in the world) in northern Bavaria, and spent a day at Intersolar in Munich. The visitors praised the high-level meetings in the first few days of the tour, but it seemed that Intersolar put the icing on the cake. Numerous participants commented that they simply had no idea that the German solar industry was so big. "A solar tsunami is headed to the US from the EU", one participant commented.

But first, there were misconceptions to clear up. US utilities often wonder whether large shares of solar and wind will disrupt the grid, so these representatives were surprised to hear that German utilities, which already deal with larger shares of renewables on the grid, do not share their concerns. The US also seems overcautious about solar: disconnects are sometimes required on both sides of the inverter. In Germany, installation is simpler, with disconnects only on the DC side. The final report of the the US Solar Electric Power Association (SEPA) also included another example that unnecessarily drives up the cost of solar: "In the US, buried electrical cable must be less than 600 volts and sheathed in conduit, while in Europe 1000 volt cables can be buried and marked without conduit, decreasing losses and system costs," they learned during their visit at Phoenix Solar. "Large penetration of solar should not be problematic for utilities", one participant concluded after the visit.

One argument against FITs in the US is that the US market is too splintered for any national policy to work. Many participants were therefore surprised to hear that Germany has some 900 power providers, that German power grids are privately owned, that grid operators and power providers are all unbundled, and that consumers can choose their energy provider, including 100 percent green power. Indeed, Germany seems to have proven what California could not: that market competition can foster renewables.

None of the participants knew that Germany is "Exportweltmeister" (export world champion): the value of its exports not only exceeds the value of China's, but since 2003 of every country in the world – and has done so for five years in a row. That figure is measured not in per capita terms, but in the total volume calculated in US dollars. So while more than 300 million Americans worry about keeping up with the exports of 1.3 billion Chinese, Germany – unbeknownst to most Americans – beats both countries with only 82 million people.

The secret to Germany's export success: Germans focus on their strengths and try to produce what global markets will inevitably demand. One German strength is innovation, and one inevitable global demand is energy – ergo Germany's focus on renewables and clean tech.

One of the participants from the US

had an explanation for the reluctance of German utilities to invest in renewables under FITs: as she understood the situation, utilities were completely shut out from FITs. Probably, she had heard that projects that receive compensation under FITs cannot then turn around and sell the same power again at a premium as “green power”. In other words, German utilities cannot resell green power to consumers at a mark-up if that power has already been paid for once with an FIT. When the US utility representatives learned that the profit margin under FITs was calculated to be five to ten percent, they then wondered whether there might be another reason for the lack of interest among German utilities for renewables: a ten percent profit margin might seem far less than they can get from fossil energy.

Whatever the case, the timing for the trip could not have been better. First, the German government adopted revised FITs (effective in 2009) just in time for the trip, including a change that will allow the marketing of power already paid for with an FIT as green power. Second, FITs are currently a hot topic in the US, with states such as Michigan, Illinois, and Rhode Island currently reviewing them. More importantly, US Senator Jay Inslee of Washington State has now proposed such legislation at the national level.

“Don’t call them tariffs”, Mike Nelson, a pioneering solar advocate and current head of Washington State University’s Northwest Solar Center, told the delegation. (Inslee’s proposal is cleverly called the “Renewable Energy Jobs and Security Act.”) Nelson told the delegation from the US that “tariffs” sound like big government to US ears and recommended the appellation “renewable payments”. Other terms currently being tossed around include “floor rates” and “standard offer contracts”, the latter harking back to US policies instituted some 30 years ago that closely resemble Germany’s current FITs.

The organizers also learned a lot from the participants as well. “In preparing the tour, we brainstormed about what US utilities might like about FITs, and we weren’t sure”, admits Bianca Barth, who handles FITs at the World Future Council’s Hamburg office. But in the end, most utilities needed little convincing. For instance, public utilities cannot benefit from the Production Tax Credit (PTC) for wind energy because they do not pay taxes at all and therefore

have no use for a tax write-off. FITs would enable them to get started.

But some private utilities (investor-owned utilities or IOUs) also showed remarkable interest in what Germany is doing. One participant, an executive from a Midwestern IOU said that before the visit he thought that solar was 20 years away from being competitive, so he was surprised to hear that grid parity may only be two or three years away in sunny areas. More importantly, he pointed out that while utilities like his are looking to build more coal, gas, and potentially nuclear plants, none of this was going to be cheap – “electricity is only going to get more expensive, and if grid parity for solar is that close, we need to be looking at it now”, he confessed during a bus ride. “This trip will result in me taking renewables off the back-burner”, added another utility representative.

The idea of consumers becoming competitors also did not scare off most representatives of IOUs. Rather, they viewed ground-roots investments in renewables as a potential instrument for customer retention on a market that will open up to more competition anyway. And the amount of input from German communities helps overcome “NIMBYism” (“Not In My Back Yard!”). The SunPower array, for instance, is simultaneously used for a herd of grazing sheep, and the panels and the herd coexist well. “A sheep once bumped into a panel and messed it up, but otherwise we have not had any trouble. Just don’t put goats under your array; they nibble at the cables,” SunPower’s spokesperson warned.

Otherwise, he explained, the community has been supportive of the array, which is not generally perceived as an eyesore. Local electricians are generally called first when work needs to be done, so in addition to tax revenue, the village’s businesses benefit from the array. But solar and wind were everywhere. Asked what surprised him the most, one participant stated, “what really blew me away was just seeing how ‘democratized’ solar power is in Germany – panels atop so many homes and office buildings!” “Travelling to Germany was like being transported 20 years into the future. The Germany trip showed how we can create a solar future now”, stated Jim White, Senior Energy Services Engineer at Chelan County Public Utility District in Washington State. Overall, at the beginning of the trip the group of 31 visitors from the US were not yet all convinced that solar

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The Sunpower array is simultaneously used by grazing sheep.

requires urgent attention or that FITs are the most expedient way of ramping it up (see box). But after a weeklong tour, there was a clear shift towards the positive.

But a few big guys seem to have remained unconvinced. Some two months after the visit, Duke Energy Corp. and Puget Sound Energy Inc., who also took part in the trip, were quoted in the US press saying that they doubt the German approach would work in the US because of an allegedly different political and cultural setting. A spokesperson for Puget believes that the impetus behind solar is “more

environmental than financial” in the US. No doubt, Germans would be surprised to hear that their support for renewables is driven by financial interests more than environmental concerns.

The real reason for the resistance of IOUs to the German approach is different: IOUs benefit from current tax breaks, and US energy policy effectively shuts out competition from little guys – so why would big IOUs want to give up their monopolies?

James Bradbury, legislative assistant to Inslee, has heard it all before. “Sometimes you hear reliability concerns since the utility does not own the system, but that argument does not stand up to scrutiny,” he told PV MAGAZINE. The real reason for the opposition? “Having control and ownership over all of their generation is central to the business model under which IOUs have always operated. So, naturally, any policy which challenges this model is going to make them uncomfortable.” Bradbury is therefore banking on support from the public, so that Americans have the freedom to generate their own electricity profitably like so many Europeans, and from public

utilities. “We have designed this proposal with the public utilities in mind,” Bradbury openly states.

“Washington State has better solar conditions than 90 percent of Germany”, explained Mike Nelson. Of course, but while sunlight and wind are free, the equipment is expensive. Americans have apparently been waiting for prices to come down. Germany has done them the favor and now has the manufacturing base to sell to places with greater solar and wind potential. Asked what the main thing they learned on the trip was, one participant responded, “that the U.S could make solar cost-effective today if we set our minds to it. Or we could give the German solar industry what they want and not even try to compete.”

SEPA and the World Future Council will at least be doing their best to change things. Julia Hamm, SEPA executive director, told PV MAGAZINE, “SEPA intends to make fact finding missions a recurring part of its annual activities. We are already thinking about the next trip, likely to Spain.” ♦

Craig Morris

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