

PROJECT FINANCE

NewsWire

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US Policy Outlook for Renewable Energy

The United States went to the polls on November 6. President Obama was returned to another four years in the White House. Democrats picked up another two seats in the US Senate where they are expected to have an effective majority of 55 seats to 45 for the Republicans. The Republicans lost seats in the House, but still retain a majority of 16 out of 435 House seats in total.

A panel of veteran Washington lobbyists for renewable energy companies talked 34 hours after the polls closed about what the election results mean for the US renewable energy market.

The panelists are Joe Mikrut, formerly tax legislative counsel of the US Treasury under President Clinton and currently a partner at Capitol Tax Partners, Jonathan Weisgall, vice president for legislative and regulatory affairs for MidAmerican Energy Holdings, a large utility holding company that owns two US utilities, two natural gas pipelines and a large number of wind, geothermal and other renewable energy projects, Gregory Wetstone, a former chief lobbyist for the American Wind Energy Association and currently vice president of governmental affairs for Terra-Gen Power, a growing renewable energy developer with significant wind, geothermal and solar holdings, John Stanton, formerly general counsel of the Solar Energy Industries Association and currently vice president for government affairs for SolarCity, and Richard Glick, senior policy advisor to the US Secretary of Energy in the Clinton administration and currently vice president of government affairs for / continued page 2

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IN OTHER NEWS

CALIFORNIA voters approved two ballot initiatives on November 6 that will affect tax burdens in the state.

Proposition 30 increased the statewide sales tax rate from 7.25% to 7.5% starting on January 1, 2013.

Proposition 39 will require companies that operate in California as well as other states to determine the amount of income they earn in California for state income tax purposes based on the percentage of sales in the state as a percentage of their total sales. Companies have had the option since January 2011 to apportion income to California based on a single-factor formula — sales — or a three-factor formula — property, payroll and sales. (For most companies, sales are / continued page 3

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Iberdrola Renewables, the US development arm of a global utility headquartered in Spain. The moderator is Keith Martin with Chadbourne in Washington.

MR. MARTIN: The US elections this week produced a better result for Democrats than had been expected even two weeks ago. Congress is expected to return to Washington for a “lame duck” session in mid-November. It has a packed agenda as almost all significant business had been put off pending the elections. Now it is time to get down to work.

The lame duck session will run until the end of the year with the existing members of Congress, a significant number of whom are leaving office, and a new Congress will return in January.

The US election results were good for renewable energy, but more for general support than specific new legislation.

The Republicans criticized Obama relentlessly during the campaign for the economic stimulus that the president persuaded Congress to enact in early 2009. They said it added too much to the national debt without bringing the unemployment rate down quickly enough, but if anyone benefited from the stimulus it was the renewable energy industry.

In the three years from 2009 through 2011, this market felt like running on a treadmill turned up to warp speed. The stimulus gave renewable energy companies grants for 30% of project costs as a temporary measure to replace a weak tax equity market. It gave them an expanded program of loan guarantees for renewable energy through the US Department of Energy. Both programs are now winding down.

In general, renewable energy in the United States has been driven by tax incentives at the federal level and by renewable portfolio standards in 29 states and the District of Columbia

that require utilities to provide a certain percentage of their electricity from renewable energy.

When President Obama took office in 2009, he did so with an ambitious agenda to promote renewable energy. The real goal was to address global warming. Shifting electricity generation to wind, sunlight and other forms of renewable energy and away from fossil fuels was a way to help.

A year and a half later by the summer of 2010, the agenda had stalled. The “cap-and-trade” program to control carbon emissions failed in the House. A national clean energy standard, a federal green bank and help making it easier to build new transmission lines were further casualties.

Meanwhile, the market hit turbulence of its own making. It is hard for renewable energy developers to get utilities to sign long-term contracts to buy electricity. On top of that, low natural gas prices are making it hard for renewable energy to compete.

Renewable energy became highly politicized. Republicans in the House have been pursuing a noisy investigation into Solyndra and other asserted failures in the DOE loan guarantee program.

Joe Kelliher, a thoughtful former Republican chairman of the Federal Energy Regulatory Commission, said part of the problem was a new class of

Republican freshmen in the House took office believing that US support for renewable energy started with the Obama administration and, as a consequence, they were opposed to it.

As the summer of 2012 gave way to a long Congressional recess and then the fall election campaign, the US Environmental Protection Agency remained on a path of tightening US regulation of mercury, SO₂, NO_x and carbon emissions from power plants. The Senate tax-writing committee voted in early August to extend production tax credits for wind farms for another year through 2013 and changed the deadline to complete projects to one merely to start construction.

In September, the Office of Management and Budget announced that Treasury cash grants paid on or after January 2 will be subject to a haircut of 7.6% under automatic spending cuts — called “sequestration” — that go into effect early next year.

Congress is facing an enormous “fiscal cliff.” On January 2, \$984 billion in spending cuts take effect over nine years, and income, estate and payroll tax rates will increase.

On top of that, Congress will need to increase the federal debt ceiling by early next year or the government will run out of money, which is always an opportunity for trouble. The temporary difficulty getting House Republicans to go along with the debt ceiling increase in 2011 led to a one-notch downgrade in the US credit rating.

More Gridlock?

With that background, Jon Weisgall, what, if anything, have the election results changed? We had gridlock in Washington the last two and a half years. Will we have more of the same?

MR. WEISGALL: It is too early tell. There has been a rush immediately after the election by leaders of both political parties to say they are prepared to work together. The really important point is that we no longer have a president who will have to run for reelection. That may make it easier for him to reach agreement on key issues. We have had a president for the last four years who has been governing more on policy, and an opposition that was determined to deny him any political advantage if he compromised enough to get something done.

MR. MARTIN: Rich Glick, what if anything has changed for renewable energy?

MR. GLICK: You have to compare things to what we would have been facing if there had been a Romney sweep. The biggest news for the renewable energy industry is that we have a president who has been a strong backer of renewable energy, and the president was reelected. His opponent was markedly less supportive of incentives for renewable energy, and those incentives became a campaign issue.

In the Senate, there has traditionally been strong bipartisan support for renewable energy. Senate Democrats, who are a key voting bloc for the administration’s programs, increased their majority.

There is bipartisan support for renewable energy in the House as well, but the Tea Party members who caucus with the House Republicans have been less keen to see the government promote renewable energy, so it remains to be seen how much the Democratic gains will translate into any specific actions by Congress. Bills must pass both houses to become law.

However, all of that said, election night was a very good night for renewable energy.

MR. MARTIN: John Stanton, I suspect / continued page 4

given double weighting in the three-factor formula.) The choice reportedly costs the state \$1 billion a year. Companies will now be limited to apportionment based on sales starting January 1, 2013. Half of the \$1 billion that Proposition 39 is expected to raise will be used for energy efficiency and clean energy programs like retrofitting schools and government buildings so that they draw less electricity from the grid.

The remaining funds go into the general revenue account of the state. The governor said during the campaign that Proposition 30 was needed to avoid steep additional cuts to spending on schools.

The votes were a watershed. There have been seven previous unsuccessful attempts in California to increase taxes through ballot initiatives since 2004.

US IMPORT DUTIES on Chinese solar cells will be mostly higher, but start later, than expected.

Chinese solar cells are subject to both countervailing and anti-dumping duties when imported into the United States. The US Department of Commerce set the final duties in October. The total duties are 23.75% for Trina, 35.97% for Suntech, 30.66% for 59 other Chinese solar cell manufacturers who made filings in the proceedings, and 254.66% for other manufacturers who did not participate. The countervailing duty had been expected to apply to imports on or after December 27, 2011 and the anti-dumping duty to apply to imports starting February 25, 2012, but the government decided to start them roughly three months later. Therefore, countervailing duties will have to be paid on Chinese solar cells imported on or after March 26, 2012 and anti-dumping duties will applied starting May 25, 2012.

The duties are imposed on the importer of record. Under US tariff law, if the manufacturer reimburses its customer for the duty, the reimbursement is itself collected as an additional duty.

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you felt really good yesterday about the election results. Do you feel as upbeat today?

MR. STANTON: The big question going forward is whether the Republican House and SuperPACs will continue their very aggressive attempt to politicize renewable energy in the wake of the election. We have seen a marked attempt by Republicans to shift from an all-of-the-above strategy on energy to isolate and alienate the renewable energy community.

My hope is that this sentiment cools significantly. If you look at the negative advertising, there was a concerted effort, by pilorying Solyndra, to undo the good will that solar companies have created in the marketplace. Polling suggests that support for solar energy among voters who identify themselves as Republicans fell from the low 90% range to the high 80% range as a result. When you look at the cross tabs in the polling data, you find that between “strongly agree” and “agree” 87% of self-identified Republicans think the federal government should play a leadership role in supporting solar energy deployment. One can only hope that the Republican leadership will look at this and think, “It was a big gamble on our part to try to alienate this one sector of our energy economy. It doesn’t seem to have worked, so let’s recalibrate.”

Production tax credits are more likely to be extended.

I agree that we could not have hoped for a better election result, and that is true in many states and especially at the federal level.

MR. WETSTONE: There is no question that the election results were a plus for renewable energy. We had more at risk in this election than in any previous election. Renewable energy became something of a partisan target during the campaign. Hopefully, we can turn that around as the passions subside.

The re-election of the president is extremely important. He is a strong supporter. His position is that production tax credits should be permanent law and refundable. He supports a federal renewable portfolio standard. You can go down the list. Governor Romney was opposed to extending production tax credits, although he softened his position in the last week or so before the election.

It is significant that Senator Harry Reid, who has been an important champion for renewable energy, remains the Senate majority leader. The Senate tax-writing committee remains chaired by Max Baucus, another renewable energy supporter. The overall make up of the committee will not change. This is a committee that voted in August not only to extend the production tax credit, but also reformulated the provision to extend the credit for wind and other non-solar renewables for any project that starts construction by December 2013, regardless of when it is completed.

Production Tax Credits

MR. MARTIN: Joe Mikrut, let me shift gears on you and drill down into the details. Will production tax credits for wind be extended and, if so, when, for how long and at what level?

MR. MIKRUT: I believe the production tax credit for wind will be extended. Renewables have generally enjoyed bipartisan support, particularly in the Senate but also in the House. There have been some pockets of resistance. The reason the tax credit has not already been extended is not opposition to an extension as much as the difficulty finding any legislative vehicle to which to attach the extension. Nothing was moving through Congress.

There should be a suitable vehicle in the wake of the election. The production tax credit extension could get done in the lame duck session as part of a tax extenders bill. The tax extenders could be folded into a larger bill that addresses the fiscal cliff issues. One would hope Congress will start with what the Senate Finance Committee proposed, which is a one-year extension, with the deadline changed to a deadline to start construction rather than put projects in service. Extenders have a very good chance of being taken up in the lame duck session or early next year, and I expect something on production tax credits to be in that mix.

MR. MARTIN: There are rumors that Dave Camp, the chairman of the House tax-writing committee, told the Republican committee members that he is okay with extending production tax credits for another year. Is that true?

MR. MIKRUT: I don't know. Mr. Camp has always been a supporter of renewables. They are important to Michigan, where he is from. The committee has examined the approximately 80 expiring tax benefits. However, it has not met formally yet to mark up a bill.

MR. MARTIN: Should the Senate Finance Committee proposal, with a change in the deadline to one merely to start construction, be viewed as the best possible outcome, with a risk that what is enacted ultimately may be a compromise that is not quite as good?

MR. MIKRUT: I think that's right. The most likely outcome is a one-year extension of current policy followed in the next Congress by an examination of all expiring tax benefits to see which should be made permanent and which discarded. So a start-of-construction rule probably is the high water mark. I do not see something more than that coming out of the House. The best one could hope for is for the House to acquiesce to the Senate position.

MR. MARTIN: Some Democrats, including Russ Sullivan, the staff director of the Senate Finance Committee, have told the wind industry that the only way to get an extension is to come in with a proposal for a phase out of the credit. Do you see a phase out being part of the discussion in the lame duck session?

MR. MIKRUT: I don't think there will be time in the lame duck session to debate the broader policy questions. This is something that I think fits better when Congress takes up general corporate tax reform.

MR. WEISGALL: Let's remember the tax extenders bill is a relatively small part of the larger debate on the fiscal cliff. Expiring tax incentives are probably about \$20 billion of the total \$500 billion in tax hikes that are part of the fiscal cliff, not to mention the spending cuts. There is tremendous pressure from the business community on Congress to delay immediate tax increases and spending cuts that could tip the economy back into recession. We could be helped by that pressure.

MR. WETSTONE: The coming negotiations to resolve fiscal cliff issues are key to finding a vehicle for the production tax credit extension. A lot will depend on the attitude of the Republican House speaker, John Boehner. It is not yet clear whether House Republicans will be willing to come to the table to strike a deal. We have seen

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solar panels fell 77% through July on a year-on-year basis. Imports from Malaysia increased 188%.

Eight members of Congress, including Senator Ron Wyden, the incoming chairman of the Senate Energy Committee, sent the acting Commerce secretary a letter in late September asking her to take steps to prevent Chinese solar panel manufacturer from circumventing the duties by shipping Chinese wafers to other countries to convert into cells that are then returned to China to incorporate into solar panels. The letter said that the cell accounts for only 20% of the value of a typical solar panel.

TREASURY CASH GRANTS for renewable energy projects are subject to audit by the Internal Revenue Service, but the IRS can share little information with the Treasury, the IRS said in an internal memorandum.

The IRS has a "compliance initiative project" under which it will be examining a sampling of renewable energy companies that received grants (also called section 1603 payments). The IRS will be focusing, among other things, on whether a company used the right tax basis for calculating depreciation. The IRS can audit for up to three years after the due date for the tax return on which any excess grant would have had to be reported as income if the agency finds the grant was overpaid. Thus, if a grant was received in 2011, the IRS would normally have until some time in 2014 to audit.

The IRS does not have authority to ask for any grant overpayment back. However, it can insist that a company report any excess grant as income.

The Treasury has six years from when an overpayment is discovered to ask for repayment. It would like the IRS to alert it to any overpayments that are uncovered on audit.

The IRS said it is barred by a Nixon-era statute called the Privacy Act from sharing taxpayer information with the Treasury. Its findings on audit are */ continued page 7*

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conflicting signals in the last two days. We saw the stock market drop substantially in the wake of some hard-line initial comments by Boehner. But the speaker issued a much more conciliatory statement the next day. How this ultimately plays out is going to be critically important. It will be tough for the two sides to come together in the lame duck session, though there will be tremendous pressure to do so. If it does not happen then, a deal is likely in January or February that carries a production tax credit extension.

Lower corporate tax rates are expected to be part of a deal to avoid the “fiscal cliff,” but they may take until 2014 to enact.

We are looking at a two-step dance. We hope to get a one- or two-year extension, or the Senate Finance Committee version, enacted in the lame duck session or early in 2013, and then we move to the broader corporate tax reform debate. There is a potential that, as part of a broad review of corporate tax rates, Congress will look at a long-term phase down of the wind tax credit that could provide several more years of incentives, but at a declining value over time.

Sequestration

MR. MARTIN: The *National Journal* took a poll of Congressional insiders, and 79% said they believe that Congress will kick the can down the road so that sequestration will not take effect on January 2 as scheduled. Does anyone have a contrary view?

MR. GLICK: I agree that Congress will extend the deadline for sequestration, at least for the defense cuts. That came up during the presidential debates, and President Obama said flatly that sequestration of defense spending will not happen. The real question is whether sequestration will also be delayed for domestic spending.

There is a link to the renewable energy industry. Many renewables companies expect section 1603 grants on projects on which they started construction last year. These remaining

grants may not be paid until after year end 2012. The section 1603 program is on a list of programs that are subject to sequestration. There is some question about whether projects, like wind farms, that are placed in service in 2012 but do not receive a check from the Treasury until 2013, will end up with a 7.6% haircut in their grants.

We are awaiting a ruling from both the Treasury Department and the Office of Management and Budget. If Congress delays sequestration for all spending, we will be okay. If not, we need the agencies to tell us whether projects completed in 2012 will suffer a haircut.

MR. MARTIN: Has Iberdrola asked Treasury for a decision?

MR. GLICK: We have asked the Office of Management and Budget. Treasury sent us to OMB, and we are waiting for some clarification from OMB. I think you are going to see some members of Congress weigh in on the issue as well.

Grand Bargain?

MR. MARTIN: Is there anybody who does not think Congress will work out a deal ultimately to avoid going over the fiscal cliff?

MR. WEISGALL: There are two parts to the fiscal cliff. There are tax hikes and spending cuts. The 79% figure that you mentioned is in line with the bipartisan view that across-the-board spending cuts are not the way to run a railroad.

That said, the sequestration part of the fiscal cliff was the result of Congress kicking the can down the road in 2011 through the end of this year.

I think there will be action on the fiscal cliff. I do not think it will be anything particularly comprehensive, and that is largely because of the need to address some of the bigger issues in general corporate tax reform, which will take time.

MR. MARTIN: So no grand bargain, but a partial bargain?

MR. STANTON: I expect between now and the end of the year there will be an agreement to come up with \$60 billion in cuts that takes us to June 1, 2013. The first six months of 2013 will be when they really try to wrap their heads around sequestration after a six-month delay.

There is consensus to provide the negotiators with breathing room to work out a deal. I think that is the best that can be hoped for in the lame duck session. I do not believe they will

pick and choose which programs should fall under sequestration. If there is a delay in sequestration, my bet is it will be across the board.

MR. WETSTONE: I think there will be a partial bargain. They have to create a sense of forward motion. All we have seen to date is a series of punts. They decided to punt and create a super committee and then the super committee ended up unable to reach a deal, and they punted, and we ended up with the sequestration deadline.

On the heels of the election, both parties will feel a need to come to grips with at least some of the fiscal cliff issues. I think we are looking at some sort of deal, probably a partial punt, either in December or early in 2013. The corporate tax part of the plan will take some effort, but I think the production tax credit is well positioned to be included either as a straight extension or as a start-construction provision.

Corporate Tax Overhaul

MR. MARTIN: There was a sense from tax people on Capitol Hill as the summer and fall wore on that the odds of a massive overhaul of the corporate income tax were receding because the necessary spade work has not been done and nobody has stepped up to say how he would pay for it. Now with the need to deal with the fiscal cliff, won't an overhaul of the corporate income tax almost certainly be part of any grand bargain?

MR. MIKRUT: Tax reform is likely to be part of the bargain. What we could very well see in the lame duck session is a down payment toward the spending and tax side of the grand bargain, with an agreement to do tax reform in the near future. The ultimate bargain will be some combination of spending cuts and revenue raisers and a commitment to corporate tax reform.

MR. MARTIN: How big of a threat is corporate tax reform to incentives like the solar investment tax credit that runs through 2016?

MR. MIKRUT: Everything will be on the table whether it is timing items like accelerated depreciation and the LIFO inventory method or permanent items like tax credits and the section 199 deduction. Everything will be examined. In 1986, we had the same examination and the solar tax credit survived. This time, I think there will be an examination of all the energy tax incentives and perhaps an attempt to rationalize everything by doing things more or less on a technology-neutral basis, assuming the decision is made to continue using the tax code to promote renewables or energy production in general.

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considered taxpayer information. The agency said in an internal legal memorandum that it can only advise the Treasury if it finds a grant recipient also claimed tax credits or failed to reduce its depreciable basis by one half the grant, since these relate to grant eligibility and compliance with the grant terms and conditions. Other information can be shared only if grant recipients consent to disclosure.

The memo is Internal Legal Memorandum 201237018. The IRS made it public in September.

PARENT GUARANTEES are a benefit to subsidiaries for which the parent company should be paid, and if a fee is not paid, then one should be imputed, the tax section of the New York State Bar Association told the IRS.

The bar association sent the IRS extensive comments on parent guarantees in September. The agency is already studying whether to issue guidance.

The bar association said guidance is "sorely needed" and suggested that it cover not just guarantees, but also other arrangements that enhance the credit of a subsidiary. However, a promise by a parent company to make future capital contributions to the subsidiary should not lead to an imputed fee to the parent.

The imputed fee should be what a third party would charge to provide the same credit support. Some have argued for use of a "yield approach," where the fee is a function of the savings in borrowing costs to the subsidiary from having the parent guarantee, but the bar association said such an approach should not be "reflexively preferred."

It recommended against reducing the imputed fee for benefits supposedly conferred on the parent from having a more valuable subsidiary and suggested ignoring arguments that it might be more expensive for a third party to provide a guarantee than for the parent to do so.

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MR. GLICK: I agree that all of these energy tax incentives are going to be on the table. I anticipate that during the tax reform process, which is probably going to take at least two years, a number of these tax incentives will be phased out. There will be a transition period, and it would be foolish for the wind or solar industry or any other technology receiving a credit not to plan for that.

The question is what the industry needs to survive and actually thrive. How long do we need to get to the point where we can be cost competitive without incentives?

There are other policies we might want to pursue that do not involve the tax code and do not cost the government money. As we talked about with the grand bargain and the debt, this country is going to be fiscally constrained for some time. We need to look at policies that do not require government spending and do not reduce government revenues. We need to look at policies such as a clean energy standard or carbon tax.

MR. WEISGALL: I think it is very unlikely that the investment tax credit for solar will go away before the end of 2016. I am not aware of any tax incentive that was terminated before its end date in the last 30 to 40 years. The last time the corporate income tax was overhauled was in 1986 with strong backing from President Reagan and the Democrats led by Speaker O'Neill, and even that was a tough two-year slog. I agree with Rich Glick. We are looking at 2014 at the earliest.

I don't think we are going to see more spending from the next Congress on renewable energy. It would be nice if Congress adopted a federal clean energy standard where the federal government would require utilities to supply a certain percentage of electricity from renewable sources, but I just do not see that getting through the next Congress.

MR. STANTON: I agree with Jon Weisgall. The House tax-writing committee chairman, Dave Camp, has been very clear that the investment tax credit that is currently scheduled to run through 2016 for solar will not be repealed before the scheduled expiration date. People have been deploying billions of dollars of capital with the expectation that the credit will be available through 2016 and a sudden change in policy is just not the type of message that the House wants to send to businesses.

It will take quite some time for this grand bargain on tax deals to come together. This is a multi-year discussion. The

notion that in the wake of this bitterly fought election there is going to be a willingness to come back and quickly reach some grand bargain, I just don't see it. It is naïve and unrealistic.

The Remaining Renewables Agenda

MR. MARTIN: Rich Glick, you mentioned a federal clean energy standard. You heard Jon Weisgall say he doesn't think the next Congress will go for it. Do you really think it has a chance?

MR. GLICK: I think President Obama will make a major push for it. It was part of his platform, and I think he views it as a way to address climate change in place of the more direct approach of cap and trade, at least in the generation sector.

The strongest advocate for a clean energy standard is Senator Jeff Bingaman. He is retiring. He was chairman of the Senate Energy Committee. Even though he is leaving, I expect his replacement as committee chairman, Senator Ron Wyden, will also be an advocate. There is strong support in the Senate for such a standard. Obviously, the House is more difficult. Some House members have taken a very strong position in the past opposed to it, and none of them is leaving office. They will stand in the way.

The real question is whether the next Congress will try to write a national energy policy that addresses emissions and other energy-related issues. If yes, then there is potential for a bargain to the extent the president and the Senate push for it. The chances for a national clean energy standard, while not great, are certainly not nil. If there is a broader energy bill, this could be a part of a compromise.

MR. MARTIN: What about a federal green bank? Is the idea dead?

MR. STANTON: I don't think in the wake of all of the Solyndra bashing and the House passage of the "No More Solyndras Act" that we will see any new federal loan guarantee program for clean energy.

MR. MARTIN: Will the DOE loan guarantee investigation go away?

MR. STANTON: No, simply because it has been launched. It may assume a lower profile. My guess is the House will conclude that perhaps others looking at the same loan guarantee applications would have made different decisions on whether to lend, but there was no malfeasance. The bottom line is that if you are in the world of business, some investments succeed. Others fail. That's the nature of business.

MR. MARTIN: Hurricane Sandy is causing the news media at least to take another look at climate change. Greg Wetstone, do

you think this issue will be revisited by the next Congress?

MR. WETSTONE: You have the same issues with direct legislation to address climate change that were mentioned with the clean energy standard and then some. You could certainly see a path for climate legislation in the Senate, but it is not easy to see a path in the House. The interest in addressing climate change will continue to build among the American public. There will eventually be a tipping point where evidence and concern are so great that legislation will follow. I do not see enough movement in the next Congress, but the growing public concern will strengthen support for the clean energy agenda broadly, including the production tax credit.

MR. WEISGALL: I agree with the general point that Greg just made, but there was no mention of climate change in the presidential debate this year, and that is the first time since 1984. Even Dan Quayle in 1988 said the greenhouse gas effect was an important environmental issue and we need to look at alternatives to fossil fuels. The politics were against climate change, looking at the swing states of Ohio, Colorado and Virginia, for example, where Obama was trying to out-love Romney on coal and fossil fuel. That has an impact on what we would call a mandate.

The most effective way of dealing with greenhouse gas is to tax or regulate, and both of those were pretty toxic in this campaign. I see the US Environmental Protection Agency continuing to move forward with its regulatory agenda, but I do not see climate change legislation of any sort, including a clean energy standard. I do not think we came out of the election with a mandate to work on that, despite the overall positive results for the clean energy agenda. Greg Wetstone hit it on the head, which is that the growing public sentiment that climate change is a problem affects the broad agenda, but I do not see the next Congress taking direct action on climate change.

Carbon Tax?

MR. GLICK: A carbon tax is on the minds of both parties as they consider significantly reducing corporate and probably individual tax rates. In order to do that in a way that does not worsen the deficit, you have to bring in a lot of revenue. Some existing tax credits and deductions will have to be eliminated. That certainly does not get you nearly to where you need to be in terms of revenue to make up for the revenue loss associated with rate reductions. There has been increasing chatter about a carbon tax, even among some Republican and conservative-oriented groups. I could see a compromise where / continued page 10

SOUTH AFRICA signed project contracts — including power purchase agreements and implementation agreements — for 28 renewable energy projects in early November.

The agreements pave the way for the projects to close on their financing.

The 28 projects represent a total of 1,416 megawatts made up of 18 solar photovoltaic projects, representing 631 megawatts, two concentrated solar power projects, with a combined capacity of 150 megawatts, and eight wind farms, representing 633 megawatts.

The completion of these projects was met with excitement and some relief in the local market. Financial close for the projects had originally been scheduled to occur by last June, but delays caused by the finalization of internal and regulatory approvals by various counterparties had caused concern about the timetable for implementing South Africa's renewable energy program.

The renewables program — called REFIT — seeks to procure some 20,000 megawatts of renewable energy over the next 20 years. The first phase of the program had originally called for the procurement of 3,725 megawatts, but the National Energy Regulator of South Africa reportedly has approved a near-doubling of that figure. It has also been reported that 1,075 megawatts of the newly-added capacity will be allocated to solar photovoltaic projects while concentrated solar power projects will receive a 400-megawatt allocation.

There are five “bidding rounds” in the first phase staggered from November 4, 2011 to August 13, 2013.

The second bidding round, which is a step behind the 28 first-round projects, named 19 preferred projects amounting to 1,043 megawatts of total capacity. These projects are scheduled to achieve financial close by March 2013

The third round of bidding is scheduled for May 2013. / continued page 11

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carbon taxes might be a tradeoff for significant reductions in corporate tax rates.

MR. MARTIN: Joe Mikrut, you were in the Clinton administration the last time carbon tax proposals were launched. They did not go anywhere in Congress. Do you think there is any possibil-

There is growing talk in Washington about a carbon tax, but the odds are low.

ity of a carbon tax getting through the next Congress?

MR. MIKRUT: Yes. When you start looking at the tax expenditures that have to be eliminated to bring the corporate tax rate down to 25% or 28%, almost all of them would have to go. Accelerated depreciation, LIFO, all of the credits have to go. That can be very difficult. Those items are in the tax code for a reason. They largely benefit the manufacturing sector which Congress has always tried to help. There may be a pressing need for an alternative revenue source. Many people support a value-added tax. Congress generally has been averse to doing a value-added tax.

The next best new revenue source is probably the carbon tax. Its scope is almost as broad as a VAT. It has environmental benefits. It is collected at very few collection points.

MR. MARTIN: What odds would you place on the likelihood of a carbon tax?

MR. MIKRUT: I will say 20%.

MR. GLICK: 25%.

MR. WETSTONE: I would put the odds a little lower. It is hard to see the House agreeing to any new taxes.

State Elections

MR. MARTIN: Jon Weisgall, talk to us about California. The election results are very interesting there. The Democrats picked up

a super majority in both houses of the California legislature. California has been a guiding light for the rest of the country on renewables. What do you make of the election results in California? How will it affect the renewable energy market?

MR. WEISGALL: The politics of renewable energy in California are very different from the politics at the national level. You can go from Gray Davis, a Democrat, to Arnold Schwarzenegger, a Republican, to Jerry Brown, a Democrat, and always have strong

support for renewable energy.

There is already a 33% target for renewable energy in the state.

With this super majority,

Governor Brown yesterday talked about "with great power, there is great responsibility."

The super majority lets the Democratic legislature raise taxes. I think it will be careful about that. The voters also passed a ballot initiative to allocate the first \$5 billion of out-of-

state taxes to things like energy efficiency and other renewable energy aspects of public buildings like schools.

In terms of policy, we may see California take a serious look at increasing its renewable energy target to 40% by 2025 or 2030. The state has had a 2,200-megawatt nuclear power plant down. There is a need for more generation, and there is strong support for renewables. The constraint is transmission. The state has only about 40% of the transmission capacity it needs even to support its existing renewable energy target of 33%.

MR. STANTON: Interestingly, both Proposition 39, which raises \$1.1 billion annually, and Proposition 30, which raises \$7 billion annually, largely emanated from the fact that Governor Brown's legislative agenda has been blocked by the state legislature. The interesting thing about both is that, given the new Democratic majorities in both houses, neither would have been necessary. The additional revenue associated with Propositions 30 and 39 gives the state the ability to avoid draconian reductions in programs, which is a very good development for renewable energy in the state.

MR. MARTIN: Voters in Michigan rejected a proposed constitutional amendment by a 2-to-1 margin that would have increased the state's renewable portfolio target to 25% by 2020. It is currently 10% by 2015. Is this a sign of potential trouble in other states where RPS targets could be in danger?

MR. WEISGALL: I think it was unique to Michigan. There is

already a 10% standard by 2015. It was not a pushback as much as a failure to go forward. It was also a constitutional amendment, not a ballot measure, because the legislature would have likely overruled it. Also, you have the Michigan utilities saying let's get 10% by 2015 before increasing the target. They opposed it, and they outspent the advocates on advertising by a 3-to-1 margin.

Master Limited Partnerships

MR. MARTIN: The renewables industry has been lobbying Congress to allow master limited partnerships to be used by renewable energy companies. Do you foresee any action on that by Congress?

MR. MIKRUT: That will be an issue for corporate tax reform. One of the big issues in corporate tax reform is which legal entities should be able to operate without having to pay an entity-level tax.

We will see a rationalization of those rules in tax reform. Absent some sort of energy bill, it is difficult to see an expansion of MLP treatment for renewables before then.

MR. MARTIN: The Senate Finance Committee has been talking about taxing partnerships with \$50 million or more a year in income like corporations. That goes in the other direction from MLPs. Do you think that will be enacted as part of corporate tax reform?

MR. MIKRUT: I'm not sure. Tax reform prompts an examination of these questions. I am not so sure where everything will settle, but the issue of the appropriate treatment of MLPs, large partnerships and closely-held versus public vehicles will be debated.

MR. MARTIN: Will existing MLPs be grandfathered if the law changes?

MR. MIKRUT: Congress changed the law once and grandfathered existing MLPs, some of them with a toll charge. The transition rules are always the last thing decided in any legislative effort, and so it is something the existing MLPs will have to watch. ©

KUWAIT has launched its first renewable energy project.

Kuwait's Central Tenders Committee has issued a request for qualification to potential bidders for the engineering, procurement, construction, operation and maintenance of a combined solar and wind project called Shagaya.

The project will be a multi-technology power park consisting of 50 megawatts of concentrated solar power parabolic trough technology equipped with a thermal energy storage system, 10 megawatts of photovoltaic capacity and 10 megawatts of wind capacity.

The project is the first phase of a Shagaya renewable energy master plan. The aim of the first phase is to enable Kuwait to assess the performance of different renewable technologies, including concentrated solar power, photovoltaic and wind, under the local climate conditions and to conduct technical and economic feasibility and cost benefit analyses for large-scale deployment of each technology in Kuwait.

The final target of the renewable energy capacity for the power park under the master plan is 2,000 megawatts to be implemented in two further phases.

The last two phases are expected to be executed under a form of public-private partnership that will be structured at a later stage through dedicated government bodies in Kuwait.

RETROACTIVE TAXES are rarely unconstitutional, according to a report by the Congressional Research Service in late October.

There is a risk, with corporate tax reform looming, that the US Congress will change tax rates and repeal deductions or credits and that it may do so retroactively.

Often, when Congress takes away tax benefits, it does so effective as of the first vote by one of the tax-writing committees in the House or Senate. Tax rate changes are more likely to apply from the start / continued page 13

Saudi Arabia: The Future Solar Leader

by Clint Steyn and Marc Norman, in Dubai

Saudi Arabia is poised to launch an ambitious renewable energy program that could see the procurement of 54,000 megawatts of renewable energy capacity over the next 20 years.

At a recent trade conference, the Saudi government revealed the first step in the procurement process by announcing plans to issue a draft request for proposals for an introductory procurement round of up to 600 megawatts of utility-scale solar projects in the second quarter of 2013.

This introductory round is expected to precede two full-scale rounds. These three procurement rounds are expected to lead to the procurement of approximately 5,000 megawatts of solar facilities. The capacity is expected to split equally between photovoltaic and solar thermal projects.

These first procurement rounds form part of a wider renewable energy program to be deployed by the Saudi government under the stewardship of the King Abdullah City for Atomic and Renewable Energy, or K.A.CARE. The main goal of the K.A.CARE renewables program is to limit domestic oil consumption in order to boost lucrative oil exports.

K.A.CARE's overall target is to generate a third of its electricity from renewable energy by 2030, which translates into approximately 54,000 megawatts of renewables facilities. Most of the target is expected to be reached through solar projects: 16,000 megawatts in photovoltaic projects and 25,000 megawatts in solar thermal projects.

The potential opportunities for solar power in Saudi Arabia

Saudi Arabia wants 54,000 megawatts of new solar and wind projects by 2032.

abound. The Kingdom could rapidly become one of the world's most significant solar power markets as well as a "game changer" for beleaguered solar equipment manufacturers.

Economic Pressures

Less than a year ago, Saudi Arabia had no target for renewable energy. According to British Petroleum, less than 1% of Saudi energy came from renewable sources in 2011.

A ministerial committee was established in October 2009 to assess the Kingdom's electricity and water needs. The ministerial committee made recommendations to the cabinet less than a month later, and the Minister of Petroleum and Mineral Resources observed,

The Kingdom is witnessing increasing growth with high rates of demand for electricity and desalinated water due to the growing population and the subsidized prices of water and electricity, and such increasing demand for electricity and water is coupled by an increasing demand for the non-renewable hydrocarbon resources to be used in generating power and desalinating water to which the need to provide will continue to increase; therefore, the use of alternative sustainable and reliable resources for generating power and producing desalinated water reduces dependency on hydrocarbon resources and thereby is considered an additional guarantee for producing water and generating power in the future and, at the same time, saves the hydrocarbon resources, which in turn extends the life of such resources and keeps them as a source of income for a longer period of time.

A Chatham House report in December 2011 echoes the Minister's observations in bolder terms: "In an economy dominated by fossil fuels and dependent on the export of oil, current patterns of energy demand are not only wasting valuable resources and causing excessive pollution, but also rendering the country vulnerable to economic and social crises. Saudi Arabia's place in the world oil market is threatened by unrestrained domestic fuel

consumption.” Were Saudi Arabia to continue on its trajectory, Chatham House simulations suggest “[its] domestic energy consumption could limit its exports of oil within a decade.” A widely circulated Citigroup report in September 2012 concluded that Saudi Arabia could cease to be an oil exporter by 2030. When considering that over 80% of Saudi Arabia’s government spending is dependent on oil, a shift in Saudi energy policy was inevitable.

K.A.CARE was established by royal decree in April 2010 and charged with setting and implementing the Saudi atomic and renewable energy policy. The renewables procurement program was launched a year later.

Program Details

K.A.CARE launched one of the most ambitious renewable energy programs in May 2012. It set a target for the Kingdom to generate 54,000 megawatts of renewable energy by 2032. In September 2012, K.A.CARE revised the target upwards by bringing the target year forward to 2030.

Although the development of multiple sources of renewable energy is envisaged, solar power generation is the priority. K.A.CARE targets the development of 41,000 megawatts of solar power projects by 2030 made up of 16,000 megawatts of photovoltaic projects and 25,000 megawatts of solar thermal projects.

K.A.CARE says it will look to solar thermal projects to assist in meeting the Kingdom’s base-load demand, while focusing on photovoltaic projects to reduce peak-load demand.

The solar program is expected to cost \$109 billion, almost as much as the \$136 billion invested worldwide in solar energy in 2011.

Solar developers (and other interested parties) may register on K.A.CARE’s registry program by sending an e-mail to developer-registry@energy.gov.sa, including the following information: company name, company representative’s name, technologies provided, address, phone, fax, website and e-mail.

No stakeholder engagement sessions have been held yet.

K.A.CARE said in September that a dedicated offtaker for the procurement of renewable energy projects would be established. It will be called the Sustainable Energy Procurement Company.

The dedicated offtaker is expected to serve as an internationally-recognized creditworthy counterparty for power purchase agreements and other related contracts. Although the Sustainable Energy Procurement

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of the year in which the change is enacted.

There are few examples of retroactive taxes being struck down by the US Supreme Court. The tax changes would have to cross a line in the fifth amendment to the US constitution, which guarantees Americans will not be “deprived of ... property ... without due process of the law.”

According to the Congressional Research Service, a retroactive tax is most likely to run afoul of this guarantee if the tax is applied many years in the past. The Supreme Court found fault with an estate tax change that caught transfers occurring up to 12 years in the past, but it has not had trouble with tax law changes that are applied retroactively to the start of the current year or even the year before.

When Congress takes away tax benefits, it usually provides transition relief to let anyone who signed a binding contract committing to an investment based on the benefits see the investment through. However, it is not required to do so. There are also questions this time whether to offer the standard binding contract relief. Some economists on the Joint Committee on Taxation staff question whether it makes sense to let companies keep tax incentives that are being repealed and also benefit from new lower tax rates.

According to the report, the Supreme Court has said the tax laws are “not a promise, and a taxpayer has no vested right” in the US tax code. Therefore, detrimental reliance by a taxpayer on existing law is not enough to protect him from a retroactive change. Lack of notice is also not a constitutional problem, although retroactive enactment of a gift tax in 1924 was struck down because it was a wholly new tax. Taxpayers who made gifts earlier in the year had no reason to suspect that the gifts might subject them to tax. “It does not appear the Court has found any other situations where lack of notice was an issue,” the Congressional Research Service said.

The report is called “Constitutionality of Retroactive Tax Legislation” and was released on October 25, 2012. / continued page 15

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Company is a Saudi government-backed entity, the plan is that it will operate as an independent entity.

There will not be any incentive scheme for renewables projects at the onset of the program. K.A.CARE plans to initiate the program via the deployment of a competitive procurement process.

There will be an “introductory” competitive procurement round, followed by the first two full-scale rounds.

The introductory round is expected to launch in early 2013, most likely in the second quarter. The launch of the first full-scale round is expected a year later. The introductory round and first full-scale round are expected to unfold under the timeline below.

There is currently no hard date indication of when the second full-scale round will be launched. The deployment of this round is dependent upon the execution of the introductory and first full-scale rounds.

K.A.CARE will decide whether to introduce a feed-in tariff upon completion of the second full-scale round.

Introductory Round

The introductory round is a means to increase comfort among key stakeholders, in particular the National Grid Company of Saudi Arabia.

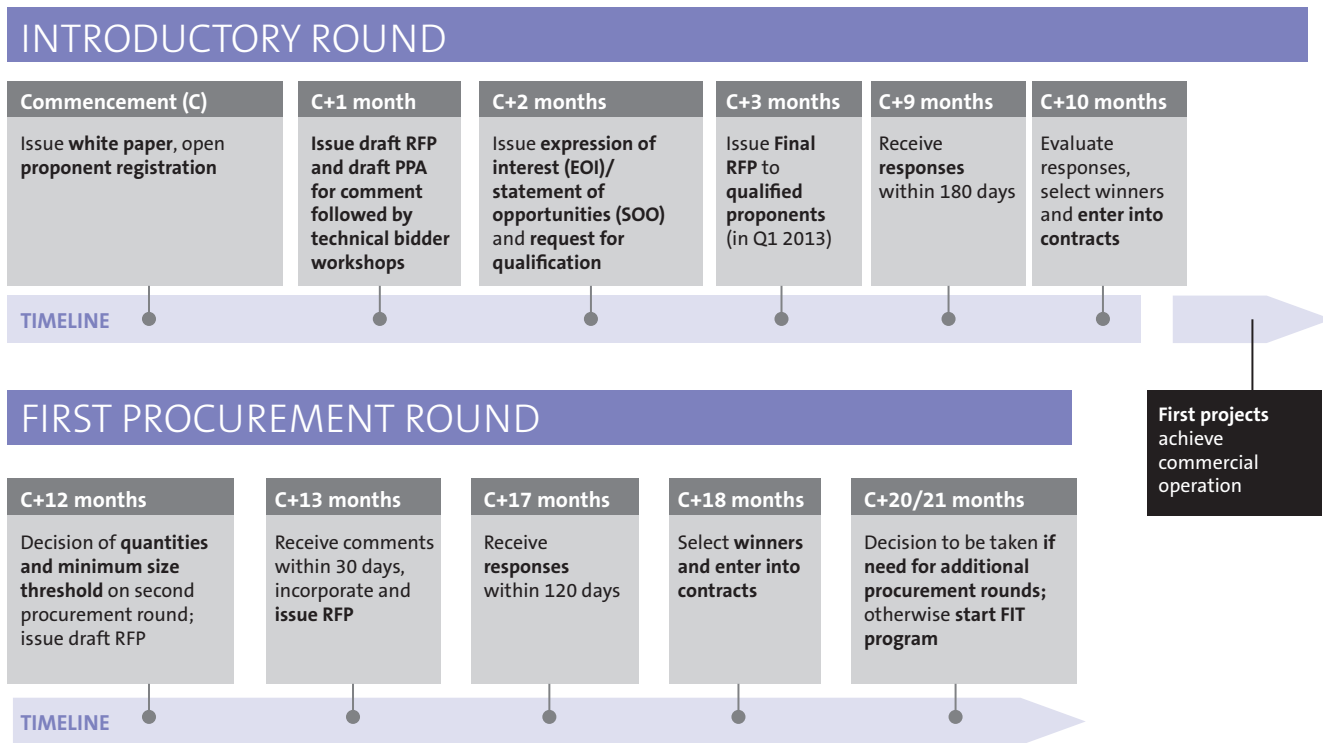
The introductory round is expected to be as large as 800 megawatts. It will comprise a minimum of seven pre-packaged sites that will be designated for particular technologies. There will be a separate process and internal engineering study for each site.

The procurement will be for the development of three photovoltaic projects and three solar thermal projects. Each of the six projects is therefore likely to have its own dedicated site. (The seventh site is likely to be dedicated to a 100 megawatt wind farm, which had not initially been envisaged for the purposes of the initial procurements.) The sites will be geographically diverse.

Resource quality monitoring is due to commence as soon as K.A.CARE takes control of the sites.

Site locations will be provided to transmission technical consultants for initial cost detailing using generic cost assumptions.

K.A.CARE will work with the responsible agencies to commence basic infrastructure for the site, including roads, water



CRS is the research arm of the Library of Congress. It writes reports on legal and policy issues at the request of members of Congress.

and telecommunications.

It will issue a white paper providing further details about the introductory round, presumably at the beginning of 2013. A simultaneous launch of a registration scheme is envisaged for developers to register preliminary interest (although it is not clear whether this differs from the generic developer registry program for the K.A.CARE program at large).

A month after the launch of the white paper, K.A.CARE plans to issue both a draft request for proposals and a draft power purchase agreement for developers to comment. Developer information sessions, or “technical bidder workshops,” will be held after release of these documents.

Two months after issuance of the draft request for proposals and draft power purchase agreement, K.A.CARE will issue an expression of interest, statement of opportunities together with a request for qualification to developers.

The introductory round will be officially launched upon the issuance of the final request for proposals, which is scheduled for the second quarter of 2013.

First Two Procurement Rounds

The first full-scale procurement round is expected to be launched in 2014, potentially in the first half of the year. The timing depends on execution of the introductory round.

The size of the first full-scale round is expected to be approximately 3,000 megawatts, including 2,000 megawatts of solar projects.

The round is expected to procure between 11 and 55 photovoltaic projects, with a total capacity of approximately 1,100 megawatts, and between five and 25 solar thermal projects with a total capacity of around 900 megawatts.

The second full-scale round, when it comes, will be for approximately 4,000 megawatts, including 2,500 megawatts of solar.

This round will procure between 15 and 65 photovoltaic projects with a total capacity of around 1,300 megawatts, and between seven and 30 solar thermal projects with a total capacity of 1,200 megawatts.

After the second full-scale round, K.A.CARE will decide whether to introduce a feed-in tariff. If it decides against a tariff, then further procurement rounds are expected.

Bid Evaluation

All projects bid into the procurement must have a minimum capacity of five megawatts. There is */ continued page 16*

ELECTRICITY is not “tangible personal property,” the Oregon Tax Court said in September.

Companies are taxed in Oregon only on income that is earned in Oregon. Revenue from sales of tangible personal property is treated as earned in the place of delivery. Thus, if the customer is in Oregon, the sales income is earned in Oregon. Other sales are sourced to where most of the income-producing activity occurs.

BC Hydro, through a trading subsidiary called Powerex, sells electricity generated in Canada to wholesale customers in the United States. Some of the electricity is delivered to a delivery point on the Oregon utility grid, but most of that electricity is then wheeled over the grid to customers outside Oregon.

“The trial in this matter was very interesting, primarily because of the testimony of two distinguished physicists regarding the nature of electricity,” the court said, before concluding that “more probably than not,” electricity is not tangible property. Oregon is a member of a multi-state tax compact and uses a uniform statute suggested by the tax compact for apportioning income. It said that only two other states had considered the treatment of electricity under the uniform statute and both — California and Massachusetts — had come to the same conclusion that electricity is not tangible.

Powerex also delivers natural gas to a hub in Oregon. The ultimate users of this gas are outside Oregon. The company conceded that gas is tangible personal property, but argued that the state should adopt an ultimate destination rule by treating the sale as occurring where the gas is ultimately used. The court agreed.

The case is Powerex Corp. v. Department of Revenue. The Oregon Tax Court released its decision on September 17.

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no upper limit on project size.

Winning bidders will be awarded a power purchase agreement with a term of 20 years.

K.A.CARE is considering adding a prequalification round, in line with Saudi precedent. Developer qualification may be limited based on criteria such as the developer's financial capability (based in riyals per megawatt), experience with relevant technology and development track record.

Bid evaluation is expected to be broken down into four phases.

Phase I is simply to check that all required forms and documents along with application fee and security have been submitted.

Phase II is the evaluation of mandatory criteria. This is basically a check that the bid complies with the request for proposals and all relevant laws, regulations and codes, the proposed project is technically viable, the developer has site control, resource assessments and interconnection requests have been initiated, environmental and local permit needs have been identified, the minimum financial capability requirements have been satisfied and, for the second full-scale round only, local-content requirements will be satisfied.

Phase III is the detailed evaluation and ranking on as many as four non-price factors. The four are financial capability, experience, development status and, for the second full-scale round only, local content.

Points will be assigned for each category and aggregated into an overall score. Each bidder must succeed in reaching a minimum score in phase III to remain eligible for the phase IV evaluation.

The local-content requirement is expected to apply only

under the second full-scale round, but the existence of local content in either of the introductory or first full-scale round will boost the project ranking.

The last phase is to compare the proposals based on price. Proposals are grouped by technology and selected starting from lowest to highest evaluated proposal price until the cumulative capacity in each technology category meets or exceeds the given target. To the extent the target capacity is not realized for an individual technology category, the project with the next lowest evaluated proposal price is selected from the remaining technology categories. K.A.CARE may prioritize resource diversity over the use of the next lowest price.

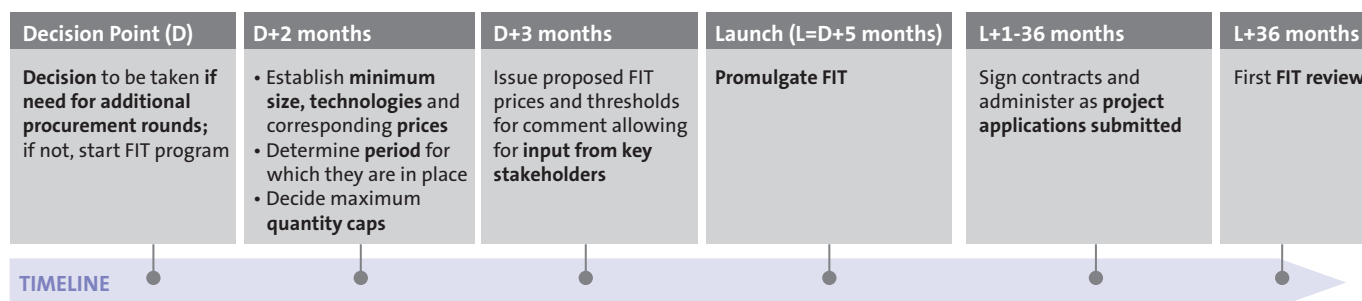
Local Content

There is no local-content requirement for the introductory or the first full-scale procurement round, although developers who use local content will score better. The number of extra points awarded will depend on how much the "allowable local expenses" represent as a percentage of the total project cost.

Upon the launch of the second full-scale procurement round, there will be a mandatory local-content requirement. In this round, the developer would have the option of either incurring "allowable local expenses" or devising an offset scheme.

Offset schemes are already in place, for instance, for procurements in the Saudi defense sector. Under these schemes, non-Saudi entities winning a defense contract must enter into an economic offset agreement whereby they commit to invest an amount equal to a defined portion of the contract value in "innovative industrial and service projects" in Saudi Arabia in collaboration with Saudi private sector companies.

The local-content requirement may not survive. A World Trade Organization panel appears poised to rule that the local-content requirements included in the feed-in tariff regime in Ontario, Canada violate international trade law.



According to the Geneva-based think tank that leaked an interim ruling, the WTO panel supports claims made by the European Union and Japan that the local-content requirement embedded in Ontario's feed-in tariff regime violates a non-discrimination principle enshrined in the General Agreement on Tariffs and Trade and the WTO Agreement on Trade-Related Investment Measures.

Although parties will have an opportunity to comment, it is rare that final rulings materially depart from the initial findings of a panel. A final ruling, which may be appealed, is expected in late November 2012.

If the WTO rules that Ontario's feed-in tariff regime violates international trade law, then K.A.CARE's local-content provisions, and in particular the mandatory requirement that is set to be implemented in the second full-scale procurement round, would come under scrutiny.

Feed-In Tariff

A decision will be made after the second full-scale procurement round whether to introduce a feed-in tariff. If such a tariff is adopted, then it would be implemented under the timeline on the previous page.

The launch of a feed-in tariff would not necessarily spell the end of the competitive procurement process. Even if such a tariff is adopted, it would probably be used initially only with smaller-scale projects involving proven technologies.

Market Insights

Market participants from all sides of the table view the Saudi emphasis on local content and technology transfer as a key challenge in the procurements. It also creates opportunities.

According to Browning Rockwell, founder of the Saudi Arabian Solar Industry Association, "The Saudi Arabian solar power market will develop around local companies, because the underlying rationale of the K.A.CARE program is to create local jobs and in turn develop local expertise, so the first priority for international developers should be to develop strong relationships with local partners."

Vahid Fotuhi, president of the Emirates Solar Industry Association and Middle East director for Alion, a solar engineering, procurement and construction company, agrees: "Strong partnerships with local companies will be the key to success."

Although it is widely acknowledged that participants who succeed in developing strong relationships with local companies are likely to be at an advantage, */ continued page 18*

THE COMPARABLE SALES METHOD is the best approach to valuing buildings, the US Tax Court said.

The court reconsidered the value of the facade on an historic building in New Orleans that houses the Ritz-Carlton hotel. A real estate partnership bought the building in 1995 and then bought the adjacent building two years later. It paid a total of \$11 million for both. In 1997, it donated the facade of the building housing the Ritz-Carlton to a local nonprofit group interested in preserving the appearance of buildings in the downtown historic district. The building was built between 1907 and 1909.

The partnership claimed the facade was worth \$7.445 million and claimed a charitable contribution deduction. The IRS cut the deduction to \$1.15 million on audit and assessed a 40% penalty for a "gross valuation misstatement."

The partnership basically lost in the US Tax Court in 2008 (the court set the value of the facade at \$1.8 million), but the partnership then persuaded a US appeals court to send the case back to the Tax Court with instructions to reconsider. Upon reconsideration, the Tax Court made a minor adjustment in the value but otherwise stuck to its original decision.

There are three methods to arrive at value: the reproduction cost method, where the question is how much the facade would cost to reproduce, the income method, which looks at the present value of what someone could earn over time from owning the property, and the comparable sales method, which looks at the prices at which similar assets have been sold.

The court said the reproduction cost approach makes no sense when valuing historic properties, unless someone can show that it would make business sense to replicate the original facade were the building to burn down, since the cost to reproduce an ancient structure using materials and workmanship that are no longer available bears little relation to the economic value today. It said */ continued page 19*

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such ties do not guarantee success. Neither will Saudi companies be given preferential treatment.

Soudki Atassi, manager of acquisitions and project finance at ACWA Power, a Saudi Arabian power developer that targets 3.8 gigawatts of renewable energy capacity by 2017, believes that cost, or rather the tendered tariff, will be the key determining factor: “If you look a recent Saudi precedent in the conventional independent power project sector, which the solar market will likely seek to replicate, it is clear that pricing is the

An introductory bid round is expected to be launched early next year.

ultimate consideration, above all else. Although, of course, it is clear that those who create jobs in Saudi are more likely to be successful.”

Browning Rockwell agrees that job creation will be a key differentiating factor: “Companies that are able to demonstrate that their offerings will contribute toward the fostering of a center of excellence for solar power in Saudi, which in turn will create local jobs, are likely to generate the most interest.” He does not believe that price considerations will necessarily be as decisive as in other, more established solar markets.

Rockwell, who acts as an agent for a number of solar power developers in the Middle East and beyond, posits that international solar developers will have to adapt their approaches, and arguably their business models, in order to be successful in the Saudi market: “The strength of certain developers in a number of mature markets has been to provide an effective turn-key solution backed by a competitive financing package. In Saudi, this kind of approach will not cut it. International developers

will have to work in Saudi — with Saudis — and demonstrate a long-term commitment toward the Kingdom. It is not just going to be about pricing.”

On the other hand, Amir Mokhtar, market development manager for solar power in the Middle East and North Africa at Hilti, a solar photovoltaic equipment supplier, doubts that Saudization, and the drive to tackle local unemployment, will be so fundamental. Mokhtar believes that the key considerations will be, in order of importance: financing, price, technology, warranties and operation and maintenance costs. “The whole package will be assessed. K.A.CARE will be sensitive about price, although it is fair to say that it may be a little less

sensitive than procuring agencies in other markets, given the wider, long-term policy objectives of the Kingdom. Saudi Arabia’s renewables strategy is driven by necessity, not a want of fame.”

Fotuhi believes that the weight of Saudization will evolve over time: “Initially, it will not be mandatory, as the approach will first be to tap into the abundance of international expertise available today to

reduce costs as much as possible. But down the line, it will become increasingly important.”

Market participants believe that use of local content will remain important even if the WTO rules against local-content requirements in Ontario: “It will play a key role,” says Atassi.

Mokhtar agrees, pointing out that “it will be a key differentiating factor.”

Cristiano Spillati, a former K.A.CARE consultant turned regional manager for the Middle East region at CSSkyPower, a joint venture between Canadian Solar and SkyPower Global, believes that the key challenge for developers will be managing system component costs and, in turn, attainment of a low levelized cost of electricity: “In the photovoltaic space, for instance, you have to consider that panels currently represent less than 50% of the system cost. So, the management of costs associated with other components will be crucial. Construction costs will also be an important factor in the mix. These are likely to arise as key differentiating factors.” Atassi agrees, noting that local content is likely to play a key role in the drive for competi-

tiveness: “Our experience at ACWA Power has shown that in order to be able to submit a competitive tariff, one has to try to supply as much as possible from local manufacturers. So, the use of local content can be viewed as an opportunity.”

There are a number of issues and peculiarities in Saudi Arabia that make certain market participants uneasy. The general lack of regulation and market standards is seen as issue that could initially cause uncertainty and, in turn, complications. Saudi Arabian Oil Company, or Saudi Aramco, a Saudi oil and gas company with interests in the solar power sector, is often cited as a model to follow in terms of market standards. “Saudi Aramco projects are very strict in terms of standards and specifications. Although this obviously has its challenges, it has the ultimate benefit of offering some form of security to investors,” says Mokhtar. The current lack of regulation and market standards is due to this being a nascent market. Spillati expects international market standards and specifications to be implemented over time.

Lack of skills on the ground is also viewed as a potential challenge. Although local job creation is likely to be of particular importance, the required skills and experience may not be readily available locally, at least not initially. As Fotuhi points out, “Investors will have to factor in both the cost of sourcing skills and ultimately, training.”

Another variable is the climate. Although Saudi Arabia has some of the highest irradiation levels in the world, the high temperatures during summer will cause solar facilities to degrade. As Atassi notes, “We don’t yet have a clear view of the impact of high temperature on productivity. There are a few sites in the region that could provide such an indication. So, when it comes to agreeing on the base case production level with lenders, there is not really an established standard to go by.” Then, there is also the dust factor, which cannot be overlooked in desert regions. “Removing the dust and cleaning relevant parts of facilities will increase productivity, but it will also have an impact on operation and maintenance costs,” Atassi warns. “A healthy balance between enhanced productivity and cost efficiency will have to be determined by project operators, and this will only become possible on the basis of applied experience.”

The capacity envisaged by Saudi Arabia is likely to change the nature of the global solar industry. As such, unique opportunities are likely to present themselves in Saudi Arabia, above all other markets. Rockwell, for instance, believes that the Saudi solar market will be a boon for

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the income approach is too prone to error and to wide swings in value given the large number of assumptions that must be made and, while it is not hostile to the income method, the method is “not favored” if comparable sales data is available.

Turning to the comparable sales method, the court said it would look only at local comparables, given how important location is to valuing particular buildings.

Properties are valued based on their highest and best use. A significant part of the opinion is a discussion about what that use is.

The case is Whitehouse Hotel Limited Partnership v. Commissioner. The court released its decision in late October.

A PROPERTY TAX BREAK for renewable energy producers in Tennessee is “of doubtful constitutionality,” the state attorney general said in a formal legal opinion in early November.

A state law requires that pollution control equipment be valued at no more than 0.5% of its original cost. In 2010, the state legislature extended the same policy to machinery and equipment used to generate electricity in certified green energy production facilities.

The attorney general said the state constitution requires all property in the state to be taxed in an equal and uniform manner.

The new law will remain on the books unless struck down by a court or changed by the legislature. The head of the state agency responsible for overseeing property tax assessments asked for the opinion. The attorney general said the same thing about the cap on property tax assessments for pollution control equipment 24 years ago.

The state legislature debated repealing the law earlier this year, but backed off after solar companies objected. Repeal may be considered again in 2013.

INTEREST DEDUCTIONS may be hard to carry back.

The US tax laws allow net operating losses to be carried back two / continued page 21

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innovative, technologically-advanced enterprises: “Saudi will be a good testing ground for new technologies. The government is keen to create a new generation of engineers and to counter any brain drain via the creation of a global center of excellence for solar power.”

A senior representative from a prominent solar developer, who shared insights on condition of anonymity, singled out the strong emphasis on concentrated solar power technology as a unique opportunity: “The concentrated solar power market has suffered in the past few years, in the face of plummeting photovoltaic panel prices. The K.A.CARE program, with its strong emphasis on concentrated solar power, is a game changer for the global concentrated solar power market. Saudi is likely to lead the way as far as the development of this particular sector is concerned, and so unique and potentially very interesting opportunities are likely to materialize in the Kingdom.”

The actual roll out of the K.A.CARE program depends on the financial empowerment of K.A.CARE. This, in turn, requires the approval of an implementing regulation by the Saudi Arabian Council of Ministers. The Council is likely to grant approval in approximately six months, although the process is subject to uncertainty.

The K.A.CARE program is still a work in progress. However, it appears unlikely that K.A.CARE will materially depart from the program it has unveiled to the market and subsequently fine-tuned over the course of the past year.

K.A.CARE plans to issue a white paper in December 2012. This paper will be the precursor to official launch of the much anticipated introductory round.

All eyes are on the future solar leader. ☺

Europe Moves Closer to Taxing Financial Transactions

by Paul White, in London

In a recent *Project Finance NewsWire*, we highlighted European Union proposals for the introduction of a financial transaction tax on a range of common financial trades and warned of the potential for US and other non-European financial institutions to be subject to the tax.

At that time the proposal warranted only a mention in the “In Other News” section because continued opposition from The Netherlands, the United Kingdom and Sweden made adoption of a financial transactions tax or FTT unlikely given that any dissenting member state might effectively veto the initiative.

While that remains true, a significant group of member states may move ahead with an FTT within its own borders.

Ten countries — Austria, Belgium, France, Germany, Greece, Italy, Portugal, Slovakia, Slovenia and Spain, all of which have adopted the euro as their single currency — have proposed that the FTT project be advanced by way of “enhanced cooperation.” This is a little-used EU legislative procedure that would effectively side step the veto roadblock and allow the 10, and any other member states that opt in, to adopt an FTT without binding the dissenting member states.

Last month the European Commission agreed to recommend “enhanced cooperation” to the EU Council and the European Parliament so the introduction of an FTT in 2014 is now significantly more likely to occur, at least within the eurozone.

In that event, other member states may reassess their opposition to the tax.

If the UK, for example, remains outside the FTT area, the City of London will still be affected by the charge at the non-UK end of EU cross-border transactions while the UK Exchequer would miss out on the revenue-raising benefits of the new tax. So if, as now seems inevitable, the UK is unable to block an FTT completely, pragmatism may dictate that it work within the EU to mitigate the potential effect of the tax on its financial sector, possibly even to the extent of opting in.

This article discusses the declared purposes of the FTT, the details of the FTT that have so far been published and explains why even financial businesses that are not active in Europe need to be aware of the potentially global reach of the proposals.

Why an FTT?

In order to appreciate the details of any tax, it is useful to have an understanding of the underlying policy, but the objectives of the FTT remain confused.

Direct taxes generally fall into one of three categories. Most are simple revenue-raising taxes by which governments finance their activities from a levy on the revenue, income, profit and gains of individuals and businesses who are resident in their jurisdictions or otherwise carry out taxable transactions. Such revenue taxes are behaviorally neutral for the majority of taxpayers who do not have the luxury of choosing their tax residences to minimize their tax bills. As such, they may be contrasted with what one might call “carrot and stick taxes.”

“Carrot taxes” are those tax rules that seek to encourage specific activity and, as such, they are particularly susceptible to changes in government or political priorities. Probably the clearest example of “carrot taxes” in recent years has been the fiscal treatment of renewable energy expenditure in many developed countries.

By contrast, “stick taxes” reflect a policy of discouraging the taxed behavior, punitive duties on tobacco products and alcohol being obvious examples.

Although these three groupings are generally mutually exclusive, the published policy objectives of the proposed FTT suggest that it somehow manages to straddle all three categories.

The September 2011 “Proposal for a Council Directive in Relation to FTT” says that “the present proposal is a first step... to avoid fragmentation in the internal market for financial services ... ensure that financial institutions make a fair contribution to covering the costs of the recent crisis ... [and] create appropriate disincentives for transactions that do not enhance the efficiency of financial markets thereby complementing regulatory measures aimed at avoiding future crises.”

It is frequently said that an FTT is a “Tobin tax” and, if true, that would place it firmly in the “stick tax” category. When James Tobin, winner of the 1981 Nobel prize for economics, proposed a tax on currency exchange transactions, it was to discourage currency speculation after the Bretton Woods system of money management ended in 1971. He subsequently explained the theory as follows:

The idea is very simple: at each exchange of a currency into another, a small tax would be levied — let’s say, 0.5% of the volume of the transaction. This dissuades speculators as many investors invest their money in foreign exchange on a very short-term / *continued page 22*

years and forward for 20 years until they are used. A company carrying back losses can get a refund from the US Treasury.

Congress took steps in 1989 to prevent corporations from engaging in leveraged buyout transactions and then carrying back the interest deductions on debt borrowed to finance the buyouts. It did not want the Treasury helping to fund the buyouts. However, the restriction was drafted more broadly.

Twenty-three years later, the IRS issued proposed regulations in September to explain when interest deductions cannot be carried back.

The restriction is in section 172(b)(1) and (h) of the US tax code.

It will apply to any corporation that acquired at least 50% of another corporation during a year, had at least 50% of its shares acquired or made unusually large cash distributions to shareholders during the course of the year. Cash distributions are unusually large if they are at least 10% of the market value of the corporation’s stock at the start of the year or, if greater, 150% of the average annual cash distributions the corporation made to shareholders during the three prior tax years.

The IRS said it will not try to trace the debt used to fund the stock purchase or cash distributions, but rather will block any carryback of the extra interest expense the corporation is claiming above the average interest expense it claimed during the three prior years. The restriction also applies to the extra interest expense in each of the next two years after the stock purchase or cash distributions.

The new rules come with two acronyms. A “CERT” is a transaction that brings the rules into play. It stands for “corporate equity reduction transaction.” A “CERIL” is the interest deductions that cannot be carried back. It stands for “corporate equity reduction interest loss.”

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basis My tax would return some margin of maneuver to issuing banks in small countries and would be a measure of opposition to the dictates of the financial markets.

Commenting on the recent decision of 10 eurozone members to forge ahead with the FTT, the Paris-based news agency "France 24" referred to it as an agreement "to impose a tax on financial transactions in the hope of curbing risky, speculative trades."

Ten countries in Europe are moving to impose a financial transactions tax.

It is ironic that this justification for the introduction of an FTT fails to recognize that many of the derivatives to which it will apply are actually designed to hedge risks that would themselves be outside the FTT. So, if a hedging derivative becomes too expensive because of the FTT charge, the tax may actually increase the level of risk in global markets.

As explained below, the current FTT proposals have the general character of a Tobin tax, but with the key difference that they do not, in fact, target risky transactions but have a broad application to financial trades. Therefore, the FTT is similar to a transfer tax like the stamp duty on most share sales that applies in the UK. This makes it more like a simple revenue tax.

The perception of the FTT as a revenue tax is also supported by the second objective of levelling the playing field between financial institutions and other businesses. As the economic recovery drags on, there is continued widespread anger in Europe at the role of financial institutions in bringing about the crisis. It is arguable that one aim of the FTT is simple retribution, to make the banks pay more than their current share of tax as recompense for the costs incurred by governments in cleaning

up the mess perceived to have been caused by the banks.

Finally, some proponents of an FTT may even view it as a "carrot tax," although it is not immediately obvious how the imposition of an FTT might be a step to avoiding fragmentation of the financial services market. One person's "fragmentation" is another's "fair competition." The FTT proposals have been widely condemned in the UK as undermining the competitiveness of the European financial markets compared with New York and other non-EU financial centers. The UK government opposes the introduction of the tax because it fears that it will result in transactions being diverted from the City of London to non-EU financial markets. The stark reality is that, purely from a

self-interested perspective, member states that have strong financial sectors are likely to seek more fragmentation rather than less.

How It Would Work

Although the published proposals for an FTT are fairly detailed, a number of key aspects — for example in relation to collection — remain incomplete, and they may change significantly before

the tax is eventually introduced.

However, what is clear is that the FTT is intended to have a wide scope, focused on financial transactions carried out by financial institutions acting either for their own accounts or for, or in the name of, another party.

The "financial institutions" to which the tax will apply are defined to include investment firms, credit institutions, insurance and reinsurance undertakings, UCITS (undertakings for collective investments in transferable securities), certain special-purpose vehicles and, of course, banks.

"Financial transaction" is also broadly defined and includes the purchase and sale of a "financial instrument" before netting and settlement (including repos and securities lending and borrowing), the transfer of risk in "financial instruments" between group members and the conclusion or modification of derivative agreements.

Although the FTT was proposed as a disincentive to "transactions that do not enhance the efficiency of financial markets," this is not reflected in the definition of chargeable "financial transactions." If the FTT is to be a Tobin tax, it should apply only

to those transactions that are inherently risky or are otherwise to be discouraged perhaps, for example, certain unhedged derivatives and short sales. However, the proposals do not distinguish trades in these terms so the FTT will apply to vanilla transactions in bonds (excluding primary market issuance and bank loans) and shares as well as derivatives.

Rates will be set by member states, but it has been recommended that share and bond transactions should be taxed at 0.1% of the higher of consideration and market value and derivatives at 0.01% of the notional amount.

Who Will Have to Pay

When details of the proposed FTT were first published in September 2011, the identification of chargeable financial institutions relied exclusively on a residency or establishment principle. Financial institutions acting through offices in a member state charging FTT would, of course, have to pay the tax. But further extension was needed to prevent EU-based users of financial services avoiding the costs of the FTT simply by transferring their financial transaction business to non-European financial institutions, and this was proposed to be addressed by a mechanism for deeming a non-EU institution to be established in the charging state.

Under the extended establishment principle, in order for FTT to apply to a financial transaction, at least one party to the transaction must be a financial institution established, or deemed to be established, in the European Union. The concept of deemed EU establishment extends the charge to financial institutions that do not have EU branches in any cases where they enter into a financial transaction with an EU counterparty.

Where the establishment principle applies, at least one party will actually have to have an EU establishment for the FTT to be chargeable. If the financial institution does not have an EU establishment, both it and the non-financial institution EU counterparty are to be jointly and severally liable to pay the FTT. If the financial institution fails to pay, then the relevant member state would be able to collect from the counterparty in its jurisdiction. Of course, in practical terms the possibility that a non-financial business in the EU would be secondarily liable for tax unpaid by a non-EU bank on a simple on-marked trade raises a plethora of contractual, risk, liability and enforcement issues.

In April 2012, it was proposed to add a second test, an “issuance principle,” for identifying chargeable financial institutions in addition to the establishment principle.

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MINOR MEMOS. The federal Consumer Leasing Act has a lot to say about what can and cannot be in contracts with homeowners. A homeowner leasing a rooftop solar system can only be offered a fixed-price purchase option. An option at fair market value determined at time of purchase is not allowed until such time as there is the equivalent of the “blue book” for used cars for looking up used panel prices ... Efforts were made in 19 states in 2012 to roll back renewable portfolio standards that require utilities to deliver at least a minimum percentage of their electricity from renewable energy. Three states diluted their laws. None of the other efforts succeeded. Ohio allowed combined heat and power facilities to qualify as renewable energy. New Hampshire and Virginia allowed research and development to meet 20% of their targets. Efforts to allow hydro-electricity to count as renewable energy in various states failed. Voters in Michigan rejected a ballot initiative that would have written a *higher* target into the state constitution ... Bernstein Research estimates that the transition in the United States from incandescent to halogen, fluorescent and LED light bulbs that consume 25% to 75% less electricity will reduce US electricity demand by as much as 3.3%, wiping out three years of load growth. The US is moving to the other bulbs over the period 2012 through 2015 ... Fortune 500 companies reported \$187.5 billion in reserves on 2011 financial statements for uncertain tax positions that risk being reversed by the IRS, down from \$200 billion the year before. The top five tax reserves were reported by Pfizer (\$7.309 billion), J.P. Morgan (\$7.189 billion), Microsoft (\$6.935 billion), General Electric (\$6.384 billion) and AT&T (\$5.853 billion).

— contributed by Keith Martin and Samuel Kwon in Washington, and Clint Steyn in Dubai.

Financial Transactions Tax

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The “issuance principle” would expand the FTT charge to include transactions between entirely non-EU parties if the securities being traded are issued by a company in a member state that has opted for an FTT. Unfortunately, the information so far available about the extended ambit of the FTT does not explain how a member state would enforce the tax where neither party is established anywhere in the European Union. Apparently this proposed extension of the FTT takes its inspiration from the UK stamp duty and stamp duty reserve tax regimes, but the reason those charges work is because UK shares are registered instruments and a transfer cannot be registered unless duty has been paid.

The Future

It is likely that led by France and Germany a significant minority, and potentially a majority, of EU member states will introduce an FTT.

Under current proposals, FTT will be charged when at least one party to the financial transaction or the issuer of the traded assets is established in a charging member state.

Although considerably more work will be needed to finalize the FTT charging and collection regime by the proposed January 1, 2014 start date, the major eurozone states have demonstrated a commitment to forge ahead with the project and that may prove a game changer for states that, until now, have opposed the introduction of an FTT. ☺

Chile: Challenging Market

by Brian Greene and Guillermo Sandoval Coustasse, in Washington

Simply to keep the lights on, Chile needs to increase its electric generation by 6% a year, but developers have put the Chilean government in a difficult position by suspending several large-scale power projects and attributing the delay to government policies.

The reasons, according to developers, are environmental claims and uncertainty caused by conflicting views between the judicial and executive branches of the Chilean government.

The executive branch believes the courts are creating obstacles to construction of projects and, in turn, the judicial branch complains that the executive is not respecting judicial independence.

A central issue in the debate between the executive and the judicial branches in Chile has been the approval of transmission lines required to connect new projects to the electric grid. Under pressure, the government recently announced the introduction of a bill called the “Electric Highway Law” in an attempt to clarify the law governing the electricity grid.

An Energized Market

Chile has the highest electricity consumption per capita in Latin America, and the prices for electricity are the second highest in the region next to Uruguay.

The World Bank’s 2013 Doing Business study ranks the Chilean economy number 37 in the world and number one in Latin America (where the regional average ranking for 2012 is 103). The Chilean political system is stable, and the judicial system is reliable and sophisticated. Moreover, estimates indicate that for Chile to become a developed economy, it must double its current electric generating capacity by 2025.

These factors have turned Chile into an attractive place for energy investors and developers.

However, recent developments are causing investors to think twice about proceeding with Chilean projects. A growing number of civil society groups and organizations have emerged to oppose diesel- and coal-fired power plants, and sometimes even hydroelectric dams. These groups have succeeded not only in stopping projects through political pressure, but also in persuading Chilean courts to reassess the process for granting environmental approvals for energy projects of all types.

In 2010, Suez Energy obtained the environmental approvals to build the Barrancones power plant, a 180-megawatt coal-, gas- and diesel-fired facility. The Barrancones plant was to be built only a few kilometers away from the Humboldt penguins’ national reserve. Social uproar and street protests all over the country ensued. The pressure on the executive branch led the Chilean president to call Suez Energy to ask for the company to stop development until it could find a better location. While the project was in compliance with Chilean law, the president told Suez Energy the project was only approved so close to the national reserve due to some “loopholes” in the legislation. Suez Energy has not followed through with plans to relocate the Barrancones project.

In 2012, two major projects have been suspended. The first suspension happened in May when Cobún, the owner of 49% of the 2,750-megawatt HidroAysén project, announced that it would recommend suspending presentation of the environmental impact assessment study for HidroAysén's transmission line due to uncertainty surrounding environmental regulations. As the president of Cobún's board explained, "As long as a national [energy] policy is not in place and backed by a broad-consensus, we think that the conditions to develop a project of this level and complexity are not present."

Work on two prominent Chilean power projects has been suspended over environmental issues.

The second project was suspended in August when the Chilean Supreme Court revoked the environmental permits for the construction of Central Castilla, a 2,100-megawatt coal-fired power plant, which was the second biggest energy project under development in Chile and the largest proposed coal-fired power plant in South America. MPX Energia and E.ON, the project's developers, had proceeded with the project on the understanding that they would submit three different environmental impact studies (one for the port where coal was received, one for the transmission line, and one for the actual power plant). Before the case was brought to the Supreme Court's attention, it was unclear whether developers were allowed to present different environmental impact studies for different facilities or stages of a project. The Supreme Court declared that if any facility or part of a project is required for, and the viability of each part of the project is interdependent upon, any other facility or stage, then the developer must conduct an environmental impact assessment that covers all the facilities or stages of a project together. The Chilean president and the Environmental Ministry publicly criticized the Supreme Court for this decision on both political and factual grounds.

Promotion of Energy Development

At the same time as uncertainty has appeared over the environmental, regulatory and judicial processes surrounding energy projects, a political consensus has emerged in support of energy development and, in particular, renewable energy.

The proposed 2013 budget for the Energy Ministry includes a 78.6% increase over its 2012 budget. The focus is supporting the operations of the state-owned oil company, establishing an energy efficiency plan and fostering the development of non-conventional renewable energies (which in Chile means renewable energy other than large-scale hydroelectric projects). The proposed budget for the Energy Ministry for renewable energies shows an increase of 24.1% compared to the 2012 budget.

The minister of energy has declared that subsidies are planned for small generation plants, with a focus on biofuels, small solar PV plants, hot water solar collectors, biomass, small

hydroelectric plants and solar-powered irrigation pumps. Subsidies or incentives for larger solar or wind projects are currently being studied, but they are expected to be limited to start the development of those energies in Chile.

Recently, the Environmental Evaluation Service has approved several solar and wind projects in different parts of the country, ranging from 7.5 to 237.5 megawatts in size. Solar projects are being planned in the Atacama desert, the driest desert in the world and, reportedly, the location with the biggest solar potential in the world. Wind farms have been concentrated in the IV and VIII regions in the central part of Chile.

Electric Highway Law

Even if there were a clear set of rules for new transmission lines, transmission would be a major obstacle for project developers in Chile.

Many proposed projects (particularly hydro and wind farms) are far from the existing grid and require the construction of long and expensive transmission lines. However, when pure cost issues are combined with uncertainty over the environmental approval process, the results are crippling on project development. A new "Electric

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Chile

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Highway Law” is supposed to set a path through which the main transmission lines will be built and, as a result, both streamline the environmental process and facilitate construction of transmission lines to connect a number of different power projects to the grid and to allocate costs amongst project developers, offtakers and consumers.

Under the Electric Highway Law, the process for determining the path through which new transmission lines will be built begins with the initiation of a comprehensive study on which path the transmission line should take (Estudio de Franja Troncal). The study is to be carried out by a third-party consultant who will have up to two years to determine the proposed path, taking into account a wide range of factors including environmental and geological conditions and social and economic factors.

Chile needs to increase its electricity generation by 6% a year simply to keep the lights on.

The study must be approved by a technical inter-ministerial committee composed of representatives from the Energy Ministry, the National Energy Commission, the Superintendence of Electricity and Fuel and the Environmental Ministry. Once approved by the inter-ministerial committee, then the consultant must provide notice to landowners who would be affected by the proposed path of the transmission line, and these landowners will be given a time period to object.

Next, the Ministry of Energy must approve the study or request that the consultant make further modifications. The Ministry of Energy will then pass the study to the Council of Ministries for Sustainability (Consejo de Ministros para la Sustentabilidad), who will review whether the proposed path of the transmission line is consistent with Chile’s sustainability

goals. Finally, the Chilean president will execute a supreme decree (Decreto Supremo) granting the concession for the transmission line and any corresponding easements. After the president signs the supreme decree, then the Chilean government will conduct a tender and grant the winner of the tender the right to the transmission line concession.

If passed, the Electric Highway Law will change the relevant time period taken into account when determining the required transmission capacity. Currently, transmission capacity for new lines is calculated based on the expected demand 10 years in the future. Under the proposed law, this will change to the expected demand 20 years in the future. The intention is to build transmission lines with a significant capacity for new generators to connect to the grid. Transmission costs for actual capacity used are not changed under the Electric Highway Law (80% of the cost is assumed by generators and 20% by consumers). Payments for extra capacity installed but not used will be assumed by the demand.

Importantly, the Electric Highway Law also attempts to streamline the process to build a transmission line by declaring that the path of a proposed transmission line will not be part of any environmental site assessment and that only impacts derived from the actual construction of any buildings or other installations will be taken into account. Furthermore, the bill seeks to reduce the time

required for developers to obtain the permits required to build the transmission lines.

Outlook

If the Electric Highway Law is passed and works as the government intends, then it will spur development of energy projects by increasing transmission capacity, providing a mechanism to allocate costs among projects and establishing a clear set of rules for how transmission lines will be approved and constructed.

However, critics of the bill charge that instead of solving the current uncertainty, the Electric Highway Law will only make the situation worse. In particular, they point out that in attempting to streamline the process, the Electric Highway Law

violates certain protections for local communities and stakeholders. Critics also think that the proposed changes to the environmental assessment process are ambiguous and open to judicial dispute because it is not clear when an environmental impact would be due to the path or the construction of buildings or other installations, and because the factors taken into consideration to determine the path of the lines will probably not include factors relevant to affected stakeholders. Thus, the Electric Highway Law could result in more uncertainty, litigation and delays rather than less.

Some renewable energy executives see the Electric Highway Law as a way of promoting the growth of renewable energy projects in Chile. The fact that the charges for available extra capacity will be reduced as more generators connect to the grid is seen by some of these executives as a subsidy. The government has said that the Electric Highway Law should be an incentive for renewable energy because it will bring transmission lines to the places where wind and solar farms are projected, thus reducing an important cost of development. Furthermore, the government expects the Electric Highway Law to give certainty to investors as it will provide foreseeable transmission capacity to the places where the transmission lines are laid. Another relevant consideration for renewable energy generators is that the costs of transformers to connect to transmission lines will be included in every transmission project, and thus the costs will be shared by a larger group of system users.

From a practical perspective, the impact of the Electric Highway Law will depend upon the location and type of project involved. Projects that are located closer to the existing transmission lines will be affected less than wind and hydro projects (such as HydroAysén) that require construction of long transmission lines. Solar projects in the north that are near mines would not experience a significant impact (other than from price increases that could result from an energy shortage if the Electric Highway Law is not successful). Nevertheless, developers with an interest in Chile should keep a close eye on the progress of the Electric Highway Law and its implementation as they could determine the future of the Chilean market. ☺

Solyndra Pursues the Chinese

by David H. Evans and Samuel Zimmerman, in Washington

Solyndra, a now-defunct American manufacturer of photovoltaic solar panels, filed an antitrust suit against three Chinese companies — Suntech, Trina and Yingli — in October alleging the companies conspired to drive Solyndra, and about a dozen other solar panel manufacturers, out of business and thus monopolize the American market.

The case is an attempt to win private antitrust damages on the heels of the decision by the US government to impose import duties on Chinese solar cells.

Solyndra charges that the three Chinese companies sold solar panels in the United States for less than cost for a sufficient amount of time to drive the American manufacturer out of business, that they did so in concert through trade association meetings and other communications, and that they did so with extensive support of the Chinese government through its controlled banks.

It points to evidence that the parties priced in parallel and that they had the opportunity to conspire through their common membership in a trade association.

It says there were statements by the companies that they intended to price at “less than the cost of materials, assembly and shipping” for purposes of gaining market share.

And it alleges that Chinese banks extended below-cost loans to the companies — loans that were “frequently” rolled over with payment delayed indefinitely — that essentially financed the predatory scheme. Solyndra says the fact that the US International Trade Commission and US Department of Commerce found injury to US solar panel manufacturers and imposed stiff countervailing and anti-dumping duties lends support to its charges.

Predatory Pricing?

Predatory pricing can be illegal under US antitrust laws.

Generally, predatory pricing is “pricing below an appropriate measure of cost for the purpose of eliminating competition in the short run and reducing competition in the long run.”

Predatory pricing claims are hard to prove. The US Supreme Court has admonished that it is extremely important to

distinguish between precompetitive / continued page 28

Predatory Pricing

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price cutting — where consumers benefit from lower prices — and anticompetitive behavior where consumers later have to pay higher prices because weaker competitors have been vanquished. Not only must a plaintiff show that the defendant priced below cost, but he must also show that the defendant had a “dangerous probability” of recouping its investment in the predatory scheme by jacking up prices later. Unless he can show recoupment, the plaintiff cannot win the case. The Supreme Court observed that, absent recoupment, “predatory pricing produces lower aggregate prices in the market, and consumer welfare is enhanced.” Most economists also believe that predatory pricing more often benefits customers than harms them because recoupment is so difficult as to be unlikely.

The Supreme Court requires that lower courts use a “cost-based” analysis of price to determine whether there has been predatory pricing. However, how the lower courts apply that standard varies greatly.

The 9th circuit court of appeals, where the Solyndra case was filed, has said that it is potentially predatory pricing when the prices charged are above average variable cost but below average total cost. However, in such cases, the plaintiff bears the burden of showing the prices were predatory. If the plaintiff can show that the prices are below average variable cost, then the plaintiff has made its case. The burden shifts to the defendant to show that the prices were “justified without regard to

any anticipated destructive effect” they may have had. The 9th circuit court has also held that even prices above average total cost may be predatory if there is clear and convincing evidence of predatory intent.

There is also considerable judicial skepticism against “country-wide” predatory pricing conspiracies. In *Matsushita Electric Industrial Co. v. Zenith Radio Corp.*, Zenith and several other American manufacturers of television sets sued a group of Japanese television manufacturers alleging that they had illegally conspired to drive the Americans out of business by maintaining high prices in Japan and fixing and maintaining artificially low prices in the United States. The court held that the Americans failed to prove that the Japanese had entered into an illegal conspiracy to drive them out of business. In fact, the court concluded that “petitioners had no motive to enter into the alleged conspiracy. To the contrary, as presumably rational businesses, petitioners had every incentive not to engage in the conduct with which they are charged, for its likely effect would be to generate losses for petitioners with no corresponding gains.” It did not help that RCA and Zenith, two other American companies, continued to hold the largest share of the American retail market in color television sets. Finally, there was nothing to suggest that the Japanese companies profited from the alleged scheme. Most economists and legal scholars believe the court was wrong in its analysis and that the Japanese achieved in fact exactly what the Americans said they would do.

Case Against the Chinese

It is not enough to show that Chinese companies engaged in predatory pricing to build market share, Solyndra must also show that the Chinese companies will be able to recoup early losses while they were building market share by jacking up prices later after American manufacturers have been driven out of the market. Without this “recoupment,” American consumers are better off from the low prices.

The Chinese companies are

Solyndra has sued Chinese solar panel manufacturers in an attempt to win private antitrust damages.

almost certain to file a motion to dismiss the case. The motion can be expected to borrow heavily from the language of the Japanese television case finding such country-wide conspiracies implausible and draw on economic literature underscoring the hostility to predatory pricing claims. It can be expected also to challenge the notion that the banks somehow participated in the conspiracy absent specific claims about how the banks would recoup their losses from subsidizing the Chinese manufacturers. Solyndra's case is bolstered by the successful trade actions, comments the defendants have made in the press and judicial hostility toward the decision in Matsushita.

A far more important issue is the fact that all of these companies, even though acting in concert, may be characterized as organs of the Chinese government. If the alleged conspiracy were directed by the Chinese government, then it is conceivable that the activity, even if predatory, would be immune from challenge under the political question or act-of-state doctrines. Several antitrust challenges to the OPEC oil price fixing cartel were dismissed on this basis.

If the Chinese companies lose their motion to dismiss, then they will face significant discovery into all manner of their operations. While some of the evidence resides in China and is perhaps out of reach of American courts, the prospect of being hauled through the American judicial system should give the companies pause. At that point, they may be interested in settling the case. The downside of settling is that other manufacturers affected by the alleged conspiracy might then file their own suits against the companies. ©

Energy Storage: The Road Ahead

by Todd E. Alexander and Shellka Arora, in New York

A recent report predicts that the energy storage market, which currently attracts annual investment of about \$2.6 billion worldwide, is set to grow to \$25 billion by 2021.

Energy storage technologies have achieved various levels of technical and economic maturity in the marketplace and continue to evolve. From research and development activities in the United States to the world's largest battery storage station in China, policymakers have become increasingly interested, but technical and non-technical barriers remain.

Policy Landscape

One of the key drivers is the rapid growth of intermittent renewable energy and the need for storage to help smooth what could otherwise be a destabilizing source of electricity to the grid.

At least 118 countries now have targets for renewable energy. The Fukushima Daiichi nuclear disaster in 2011 has had impacts far beyond Japan and triggered the reorientation of energy policy in many countries. In Germany, for example, Fukushima has led to a commitment to exit rapidly from nuclear energy use by 2022, and an increase in its minimum renewable share requirements to 35% of electricity by 2020, 50% by 2030, 65% by 2040 and 80% by 2050.

The UN secretary general has set a goal of doubling the share of renewables in the energy mix by 2030. China has increased targets to be met by the end of 2015 for grid-connected wind from 90 gigawatts to 100 gigawatts (and to 200 gigawatts by 2020). Denmark aims to increase the share of wind in total generation to 50% by 2020. The US state of California has set new targets under its existing renewable portfolio standard (33% by 2020).

In island and remote communities, where grid extension is difficult and fuel transportation and logistics are challenging, renewable energy is emerging as the solution. From Bonaire in Venezuela to Apolima Island in Samoa and Metlakalta in Alaska, renewable resources coupled with energy storage systems are being deployed to address lack of 24-hour power and high emissions and noise of diesel generators.

Efficiency and renewables are beginning to emerge as the "twin pillars" of a sustainable energy future.

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Energy Storage

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The shift to renewable energy presents broader policy and technical challenges than just grid stability. Policymakers face the herculean task of tackling the variability of renewable sources of electricity generation to ensure continuous availability and efficient use of the energy generated, and addressing several operational impacts on the grid including the short-

Energy storage is expected to require \$25 billion in annual investment by 2021 driven in part by growth in intermittent renewable energy.

term variability in electric power frequency, increased cycling and associated maintenance of conventional generators, uncertainty in net load and, in some cases, new transmission to supply to the grid. These challenges arise at a time when there was already a need to optimize and extend the grid.

Competing Technologies

A wide range of energy storage technologies exists today. The technologies fall into four broad categories.

- Electrical: Capacitors, supercapacitors and superconducting magnetic energy storage systems.
- Electrochemical: Battery systems, flow batteries and hydrogen with fuel cells.
- Mechanical: Pumped hydroelectric storage, compressed air storage, flywheel energy storage and hydroelectric accumulators.
- Thermal: Ice storage, molten salt, solar pond and hot bricks.

Different energy storage technologies are at different levels of maturity and have different applications. No technology fits

all applications, and each has its own limitations.

The fundamental metrics that distinguish one technology from another include energy storage capacity, charge and discharge rates, economic useful life, roundtrip efficiency, initial capital costs and operating costs. For example, lead-acid batteries, which have been used for more than a century in grid applications due to their low cost and ability to serve as uninterruptable power supplies in substations, have relatively short lifetimes and low energy per unit mass, and not all lead-

acid batteries are appropriate for use in electricity supply systems. Similarly, compressed air storage, which is a fairly mature technology and can provide many services including operating reserves and load following, is limited by the perceived lack of suitable geology. Likewise, pumped storage, which is the only storage technology deployed on a gigawatt scale worldwide, has not seen any large-scale development in the United States due to a number

of factors including increasing regulatory, environmental and siting challenges.

The Journey So Far

The journey so far across the globe seems to be progressive, both on the industry side and the policy side. It is a story of successes and failures, with lessons learnt continuously feeding into the progression.

On the industry side, emerging technologies continue to evolve and efforts continue to enhance performance and application of commercially-proven technologies.

Illustratively, compressed air energy storage or CAES, which is a commercially-available, utility-scale, bulk electricity storage technology and is considered to have low capital cost, high efficiency, fast ramping capability, adaptability and low fuel consumption, has deployment challenges. The only deployment to date has been in salt domes. There have only been only two successful large-scale CAES projects (McIntosh, Alabama, USA in 1991 with a rating of 110 megawatts for 26 hours and Huntorf, Germany in 1998 with a rating of 290 megawatts for two hours), both with conventional diabatic CAES, meaning

that when the air is compressed, the heat generated is lost as waste heat. Research and development activities are underway to develop adiabatic CAES technologies that would capture waste heat to improve efficiency, and, in the United States, several demonstration projects supported by the American Recovery and Reinvestment Act are in various stages of development. Venture capitalists continue to fund research, and the recent investment of \$37.5 million in the thermodynamics technology of LightSail Energy Inc., a California based developer, for compressed air grid-scale storage is just one example. Using caves, aquifers, pore storage and mines is under discussion.

Lessons learnt from the Iowa Stored Energy Park project, a 270-megawatt, \$400 million CAES project in Iowa in the United States, which was terminated in July 2011 because of site geology limitations and after about \$8.6 million had been invested in the project, are being disseminated to assist other storage projects as most of these lessons are independent of geology and point to cost, economics, institutional, policy, legislative and other issues that traverse almost all energy storage technologies.

Demonstration projects are being initiated across the globe to test emerging technologies including shuttling empty trains between mountaintops, and shoveling gravel up and down a slope on ski lifts.

The lithium-ion battery, an emerging technology, has been deployed in various demonstration projects throughout the world, including the Johnson City project that employs a bank of 800,000 A123 lithium-ion batteries to perform frequency regulation for the New York ISO or grid operator, the Guodian Supply-Side Energy Storage project in Jinzhou, China comprising of 49.5-megawatt installed wind capacity and a 5-megawatt lithium-ion battery system to improve the quality of wind power electricity, reduce wind curtailment and allow the grid to accept a greater amount of wind power, and the Anagamos Project in Chile that uses 20 megawatts of A123 lithium-ion batteries that provide contingency services to maintain the stability of the electric grid in northern Chile, an important mining area.

Earlier this year, China launched its first commercial utility-scale storage station for renewable energies — the world's largest to date. The first phase of the project combines 100 megawatts of wind, 40 megawatts of solar, 14 megawatts of lithium-ion batteries and a vanadium redox low battery and a smart power transmission system. The project will eventually grow to 500 megawatts of wind capacity, 100 megawatts of

solar PV capacity and 110 megawatts of energy storage with an overall investment of 12 billion RMB (\$1.89 billion).

The most recent approaches include the use of smart grids and smart metering for domestic appliances.

For example, Australia has set up the Smart Grid Smart City Project to demonstrate the benefits and costs of different smart grid technologies. The project has been operating since early 2012 and comprises 40 energy storage systems with each containing a 5 kW/10 kWh zinc-bromide battery, resulting in a total of 200 kilowatts and 400 kWhs of storage. The project is testing smart grid technology in an urban setting, and at least 30,000 households will participate in the project over three years.

In the United States, the Department of Defense, which uses about 80% of the federal government's energy and is the single largest consumer of energy in the world, has initiated several projects, including a microgrid installation at the Joint Base Pearl Harbor Hickam US military base in Honolulu, Hawaii, which is a part of the first phase of a three-phase, \$30 million multi-government agency project known as Smart Power Infrastructure Demonstration for Energy Reliability and Security or SPIDERS among the Department of Energy, Department of Defense and Department of Homeland Security. The mission of SPIDERS is to reduce the risks associated with unreliable power.

Evolving Policies

On the policy side, the momentum is building and new policies are shaping the energy storage market, which is predicted to attract \$25 billion in annual investment by 2021 according to a report by Pike Research.

There have been several notable policy initiatives in the United States at both the federal and state levels.

Bills have been proposed in Congress to create tax incentives for energy storage investments. The bills include a 20% to 30% investment tax credit for new storage investments.

The Federal Energy Regulatory Commission issued several orders that are affecting the US market for energy storage.

FERC Order No. 755 requires independent system operators or ISOs and regional transmission organizations or RTOs to compensate frequency regulation resources, including energy storage, based on actual performance. The order directs the ISOs and RTOs to create market rules that would implement a "pay for performance" approach. Expectations are that this rule could have the effect of increasing the revenue that storage devices obtain for providing ancillary / continued page 32

Energy Storage

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services compared to the other conventional sources.

FERC Order No. 719 amends FERC regulations under the Federal Power Act to improve the operation of organized wholesale electric markets, including demand response and market pricing during periods of operating reserve shortage.

FERC Order No. 890 requires that non-generation resources

At least 118 countries now have targets for renewable energy.

— like storage — be evaluated on a comparable basis to services provided by generation resources in meeting mandatory reliability standards, providing ancillary services and planning the expansion of the transmission grid. Since issuance of the order, the ISOs and RTOs increased market access, and currently the ancillary services market in the PJM Interconnection, New York ISO, ISO-New England, Midwest ISO and CAISO is accessible to energy storage. ERCOT is also considering opening the ancillary services market to energy storage.

A California law (AB 2514) requires the California Public Utilities Commission to set separate targets for utilities to procure energy storage systems by December 31, 2016 and December 31, 2021. The CPUC was supposed to have set the targets by March 2012, but is behind schedule. The statute has already prompted the Pacific Gas & Electric Company to issue a request for information seeking knowledge about various energy storage technologies so as to ensure compliance with procurement deadlines in case the CPUC sets energy storage targets.

A bill in the last session of the California state assembly would have extended the funding from the CPUC's self-generation incentive program by three years (through December 2014) at \$83 million per year, and specifically provides that energy storage is eligible in this program.

Outside the United States, the story is similar. The Treaty of Lisbon, which entered into force on December 1, 2009, gives energy policy a new legal basis. The European Commission recently agreed to provide a seven-party consortium with €13.8 million (\$16.7 million) in funding for a €23.9 million (\$29.0 million) research and development demonstration project in Italy that will ultimately lead to deployment of a 39-mWh grid-connected energy storage facility in Puglia, a region in southern Italy.

Germany views energy storage as integral to its national plan for deployment of intelligent smart grids and demand-side load management. The short-term focus is on maximizing domestically available and cost-effective pumped storage capacity and, in the long term, Germany will focus on expanding to use foreign pumped storage plants and capitalize on investments in research and

development of advanced CAES, hydrogen, and battery storage. Germany has committed to a target of 80% of its electricity to come from renewable energy by 2050, and effective, high-capacity energy storage will be critical in achieving this target. The German federal Ministries of Economics and Technology, of the Environment, Nature Conservation and Nuclear Safety, and of Education and Research recently launched 60 innovative research projects in energy storage. The government is also mobilizing the state-owned bank, KfW Group, to provide low-interest loans to storage projects.

In China, multiple municipalities have implemented policies to encourage local development of storage technologies, and the national government has allocated resources to numerous demonstration projects as part of its plan for strong smart grid development in 2011 to 2015.

Barriers Remain

Despite huge efforts by various stakeholders, significant technical and non-technical barriers to energy storage deployment remain.

Technical barriers emanate from technical complexity, efficiency and lifecycle concerns that render many energy storage technologies commercially unviable for large-scale production and grid-scale integration.

For example, the pumped hydro storage technology, which accounts for more than 99% of bulk storage capacity worldwide, has limited capacity for expansion because the kind of sites needed for such systems are few and far between. Another example is the recent fire and meltdown of a large battery at the Kahuku wind farm that seems to indicate that lead acid batteries, which have been around for more than a century, require further research and development efforts before they can be successfully deployed to provide grid integration services.

Non-technical barriers cut across various energy storage technologies.

Wholesale energy markets do not provide a framework to evaluate costs and benefits of energy storage. The markets are increasingly recognizing the value of these benefits, but valuation mechanisms are almost non-existent, and a critical challenge is how to allocate the costs and benefits of storage across the range of services that are affected, including generation, transmission, distribution and regulation.

Utilities and financiers, both of whom are risk averse, rely on mature generation technologies. Market uncertainty and lack of incentives for risk taking discourage the deployment of technologies that are new or have long lead times. Long development times are a particular challenge to the two leading options for bulk storage: compressed air and pumped hydro. On the regulatory side, despite numerous proposals, the future of subsidies that may be necessary to encourage deployment of energy storage facilities remains uncertain.

There are not enough incentives for storage to be put at customer sites. Customer-sited storage can provide reduced distribution losses and increased grid capacity, but as with deployment by utilities, customer-sited storage faces challenges of valuing ancillary services and capturing that value.

Cost is a high barrier to scale. The costs of emerging energy storage technologies remain high in relation to the additional capacity they provide.

There are competing policy priorities. The drive to implement energy storage technologies may detract from or directly interfere with other competing policy priorities, such as flexible demand and demand response and low electricity prices for ratepayers. Most of these concerns center on energy storage technology's cost, specifically whether an energy storage procurement mandate would force adoption of more expensive technologies over other technologies or grid solutions that would cost ratepayers less. As an example, GE announced in

May 2011 the commercial availability of a 510-megawatt, combined-cycle, gas turbine with base-load efficiency of 61% to ramp up and down at a rate of 51 megawatts per minute to adjust to wind and solar resources. Although the load balancing is done with a fossil fuel, this innovation is significant in terms of capabilities of modulating large solar and wind ramp rates. GE is introducing its first units in Europe, China, India and Brazil while the company waits to see what US policy will be on renewables and climate change.

The level of deployment of energy storage technologies is to a large extent dependent upon level of penetration of renewable energy resources. Most grids can withstand intermittent renewable energy penetration above 20% if it is well managed. At 30% penetration, intermittent renewable energy penetration can pose significant reliability risks to the grid and may require curtailment to avoid outages if no storage is deployed. However, determining who bears the responsibility of dealing with the variability of intermittent resources will become an important policy decision in the coming decades.

Storage projects are hard to finance. The current energy storage market has gained momentum because of government funding. The market is replete with subsidized projects but will ultimately require projects to take hold that are profitable on their own and can attract private investment. Lack of turnkey construction solutions with fixed price and performance and schedule guarantees coupled with un-monetized value streams hinders sustainable financing.

The Road Ahead

The road ahead will be shaped by three intertwined factors: policies, comparative costs and technical advancement. Convergence of these factors would lead to successful business models. The recent bankruptcy of battery maker A123 is a pointer that success boils down to the basic principle of demand and supply. Grid storage is competing for market share against a power sector with over a century of proven track record. The US natural gas price has widened the gap between competitors. While some market forces may be beyond the reach of energy storage supporters, policies and incentives will go a long way to pave the road. ☺

Project Bonds and Mini-Perms: A New Era in the Middle East

by Richard Keenan, in Dubai

Two developments in Abu Dhabi may together prove to be a watershed in the Middle East project finance market.

The Abu Dhabi Water and Electricity Authority last month released a request for proposals in connection with the Mirfa independent water and power project that allows bidders to propose a mini-perm funding structure.

Separately, the sponsors of the Shuweihat 2 independent power and water project are in the process of refinancing the project through a project bond.

Earliest Uses

Projects have been financed before with mini-perm structures and project bonds, but use of these structures is recent and still uncommon.

The Al Dur independent power and water project in Bahrain that achieved financial close in 2009 used a mini perm. The project finance market in the Middle East in 2009 was still reeling from the effects of the global financial crisis, and the Al Dur IWPP may not have been financed had it not been for use of a mini-perm structure not previously adopted in the Middle East.

The \$2.3 billion project bond offering by Ras Laffan Liquefied Natural Gas Company in 2006, followed by the \$1.25 billion project bond offering by Dolphin Energy in 2009, were the first two projects to tap into the project bond market in the Middle East. However, a power and water project has not been financed or refinanced yet in the Middle East through a project bond. Shuweihat 2 will be the first.

The release of the Mirfa RFP allowing for the implementation of a mini-perm structure and the refinancing of Shuweihat 2 through a project bond are indicative of two things: recognition of the ongoing capacity constraints affecting the commercial bank market and a growing consensus that the power and water sector in the Middle East is now mature enough to look to the project bond market as an alternative and viable source of liquidity.

The closing on the financing for the Al Dur project in July 2009 was followed by a recovery in the long-term debt project

finance market in the Middle East. Power and water projects such as Shuweihat 2 and Shuweihat 3 in Abu Dhabi, the Barka 3 and Sohar 2 IPPs in Oman and the PP 11 and Qurayyah IPPs in Saudi Arabia were all financed with long-term tenors of 15 years or more.

Weak Bank Market

However, three years after the closing on Al Dur, the commercial bank market in the Middle East is still recovering from the global financial crisis. The political unrest caused by the Arab Spring, the implementation of Basel III and the eurozone banking crisis have prolonged the recovery.

The appetite within the commercial bank market for long-term tenors of 15 years or more remains subdued. The number of international commercial banks in the market for long-term debt, particularly the European banks, has steadily shrunk over the last four years. Saudi and other regional banks have stepped in to provide liquidity, but this has not been enough to fill the gap left by reduced international bank participation.

Commercial banks remain concerned about liquidity or their ability to access the inter-bank market at rates that match their costs of funding.

With fewer banks in the market to provide long-term commitments, margins for tenors beyond eight to 10 years have remained elevated compared to pre-financial crisis pricing.

The shrinking pool of banks has made it difficult for some bidders to secure the required funding to support bids on power and water projects. The response by a number of procuring authorities in the region has been to relax tender requirements in terms of the amount of committed finance bidders are required to secure. While this approach may allow more developers to bid for projects, they are still left with the problem of inadequate resources in the bank long-term debt market.

The permission to use mini-perm financings to support bids is the first real step to address this problem.

A mini-perm structure is basically shorter-term borrowing from a bank. Mini-perm financings typically involve a tenor of eight to 10 years covering both the construction phase of a project and a four- or five-year period post completion. From a bank standpoint, such a structure allows for an early exit and avoids the banks having to commit to a long-term tenor without at least having the benefit of a significant improvement in the financing terms.

Hard Versus Soft

There are two types of mini-perm structures: a soft mini-perm and a hard mini-perm structure.

Hard mini-perm structures typically require the sponsors to refinance the loan prior to maturity. Failure to refinance is an event of default. Hard mini perms have been less popular because of the tendency for sponsors and lenders to try to push the refinancing risk on to the procuring authorities. Lenders typically insist that a failure by the borrower to refinance should lead to a default under the concession agreement and payment of termination compensation by the authority to cover the outstanding debt. In Australia, for example, where mini-perm structures have been widely used, the procuring government authority in many cases assumes the refinancing risk. This obviously leaves the government with significant exposure.

The Middle East is starting to allow mini-perm debt after a shrinking bank pool made it difficult for developers to show funding for bids.

The Al Dur IWPP in Bahrain was financed in 2009 using an 8-year hard mini-perm structure. This was first time this structure had been used in the power and water sector in the Middle East and was chosen in response to the very challenging market conditions at the time. The sponsors and lenders took the refinancing risk. According to *Project Finance* magazine (*Al Dur: Enter the mini-perm*), the sponsors in Al Dur have to refinance by year 5 or the sponsors will be liable for a margin increase of 50 basis points and a 100% cash sweep for the remaining term. Before application of the cash sweep, the deal amortizes in line with a 20-year amortizing loan. Under the base case model, an 80% balloon payment is left for repayment at the end of the 8-year term. Of the remaining 20% of the loan, 10% is repaid in accordance with the repayment schedule and the other 10% is repaid by base case cash sweeps. There is an automatic event of

default if the project is not refinanced before the end of the 8-year term.

The financing of the Al Dur IWPP was the first use of a mini-perm structure in the Middle East project finance market. However, it is fairly aggressive from the standpoint of the sponsors and lenders and has probably been viewed by the market as a deal structured to accommodate exceptional circumstances rather than a precedent to be followed.

A soft mini-perm structure typically involves a long tenor (say 21 years for a 25-year concession). However the sponsors have an incentive to refinance the loan by an earlier date. Unlike under a hard mini-perm structure where refinancing the loan is compulsory, under a soft mini-perm structure, a failure by the sponsors to refinance is not an event of default. If the loan is not refinanced, then the margins increase, making the cost of borrowing more expensive, and the lenders are entitled to a

cash sweep under which most, if not all, of the project's available cash flow must be applied to repay the loans, thereby eliminating the prospect of any dividend payments to the sponsors.

Sponsors using soft mini perms benefit from a long tail: the concession period will have 10 or 15 years left to run beyond the term of the debt. Accordingly, if the refinancing does not take place before the

soft mini-perm debt reaches maturity, then the lenders are more or less in the same position they would be under a long-term loan facility.

However, the sponsors take the refinancing risk and use of a soft mini-perm structure will always come down to whether the sponsors think the gamble is worthwhile. The potential gain from a refinancing on better terms is the key driver from a sponsor standpoint. There is recent precedent in the Middle East for incorporation of a mechanism allowing procuring authorities to share any financial upside that may result from refinancing the project. The financing of the Barka 3 and Sohar 2 IPPs in Oman in 2010 is a recent example.

If the procuring authorities in the Middle East want to encourage wider adoption of soft mini-perm structures in order to create more liquidity in the local project / *continued page 36*

Project Bonds

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finance market, then they should consider whether it is reasonable to expect project sponsors to share the refinancing gains while keeping all the downside risk.

The mini-perm structure contemplated by the Abu Dhabi Water and Electricity Authority in connection with the Mirfa IWPP is expected to be a soft mini-perm. ADWEA will look to the sponsors to assume refinancing risk associated with any mini-perm structure a bidder may propose.

There are a number of drivers behind the choice of a mini-perm structure. Sponsors may choose such a structure in the belief that finance terms will improve and a refinancing of the project will enable both the sponsors and the procuring authority to benefit from an expected improvement in the debt markets. This was the case with respect to the Al Dur IWPP in 2009. Some mini-perm financing structures incorporate back-ended repayments or require a sizable balloon payment at maturity.

Shortening tenors in the bank market are generating interest in project bonds.

These structures allow sponsors to bid lower tariffs and, for this reason, may be allowed by procuring authorities.

ADWEA's rationale for allowing bidders to propose a mini-perm structure in connection with the Mirfa IWPP is probably twofold. It opens up liquidity for bidders and makes the bidding process more competitive by allowing more developers to bid on the project. It appears ADWEA also wants to encourage bidders to consider refinancing the project after construction in the project bond market.

Project Bonds

Each year the many project finance conferences that take place

throughout the region include on their agendas a panel discussion about why so few projects in the Middle East are financed in the bond market. The two projects widely regarded as pioneering the use of project bonds in the Middle East are the \$2.3 billion project bond offering by Ras Laffan Liquefied Natural Gas Company in 2006 and the \$1.25 billion project bond offering by Dolphin Energy in 2009 as part of a \$4.2 billion refinancing of the Dolphin energy project that supplies Qatari natural gas to the United Arab Emirates and Oman.

The project bond market in the Middle East has been slow to develop. Abundant cheap long-term bank debt, previously available in the Middle East, stifled its growth. The commercial banks used aggressive pricing before the global financial crisis in 2008 to hold market share. The project bond market initially offered sponsors longer-term financing than banks could offer, but by the late 1990s and for much of the last decade, banks were able to compete with bond investors and commit to tenors of 20 years or more.

Bank loans were also easier to close compared to project bonds. It is time consuming and expensive to issue project bonds. Project bonds are securities, and there are various securities laws and exchange listing rules and regulations to navigate. The documentation required to issue project bonds varies depending on governing law and market practice. Project bonds issued to US investors under Rule 144A require underwriters to obtain 10b-5 disclosure opinions. Both sponsors'

and underwriters' counsel have to carry out extensive due diligence in relation to the project. The sponsors and their advisors have to prepare an offering memorandum or circular. The offering circular has to describe the project in considerable detail, including each of the project and finance documents, risks associated with the project together with a summary of the bond terms, a description of project modeling, information about the sponsors and various other disclosures.

With the exception of private placements involving a limited number of investors, the issuer of a project bond must also have the bonds rated. The typical rating process involves a number of steps. The sponsors are usually required to prepare a

written presentation to the rating agency in advance of a management presentation. The ratings process also often requires a site visit by the rating agency.

The rating agency usually issues a pre-rating after the meetings with the sponsors and extensive due diligence on the project, and a final rating is issued upon financial close. The process of obtaining a pre-rating can only commence once the project structure is known, and a final rating cannot be issued until the project documentation is close to final form. It is possible for project sponsors to obtain a pre-rating from only one rating agency. However, the sponsors will need ratings from two rating agencies before a project can receive a final rating.

It is also more difficult to amend project bond documents or obtain waivers from project bond investors compared to banks.

However, if the appetite of banks for long-term debt remains subdued and the pricing of bank debt remains elevated, then more attention will shift to the project bond market. Banks and their credit committees are scrutinizing project structures and credit risk far more than they did before the financial crisis. The days of named lending by the banks are long gone.

Large project financings in the Middle East can only be financed with support from export credit and multilateral lending agencies in the form of direct loans and guarantees. The lending requirements and credit approval conditions of these institutions are onerous and can lead to delays in the execution of transactions. Many project financings are taking longer to execute than they did before the financial crisis.

Accordingly, any competitive edge that banks enjoyed over project bond investors because of their ability to execute rapidly has dissipated. A project bond will still take longer to close than a straightforward bank loan even if the bank loan involves a club of banks. However, it would be interesting to compare some recent project financings involving multiple banks with export credit or multilateral lending agency backing with the delivery of project bonds in terms of time to execution.

Further development of the project bond market in the Middle East power and water sector will require educating credit rating agencies and institutional investors.

Projects in the Middle East are procured on the back of strong sovereign balance sheets, and risk allocation embodied in Middle Eastern projects, particularly in the power and water sector, compares favorably to other regions. The power purchase agreements are essentially energy conversion or tolling agreements, and the project company does not assume any fuel supply or quality risk. If completion or operation of plants is affected by political force majeure or breach by the procuring

authority, then the sponsors and project financiers are kept whole. Most importantly, defaults by project sponsors in the region are rare.

Convincing rating agencies, underwriters and project bond investors that power and water projects in the Middle East are sound investments should not be difficult. The greater challenge is aligning the expectations of bond investors with the terms and conditions that have been accepted by the banking sector and have become market practice in the Middle East.

The Middle East project market over the last 10 or 15 years has been a sponsor-driven market. Leading developers in the region have forged finance templates that have become well entrenched as market practice. Significantly, since the financial crisis, there has been only limited enhancement of bank covenants; finance templates developed prior to the financial crisis have not changed significantly.

If project bond investors are going to compete with the banks, they must be willing to accept the standard list of covenants and other terms with which the banks have been comfortable. However, it will be up to sponsors to educate them.

Consider, for example, the debt service coverage ratios that are typically applied in bank loan agreements in the local power and water project finance market. It is market practice for the conditions precedent to the initial draw down on a bank loan to include a condition that the financial model and base case show a minimum or average projected debt service coverage ratio of at least 1.20:1 and for the conditions a borrower must satisfy before making distributions to equity investors to include maintaining a debt service coverage ratio of between 1.10:1 and 1.20:1. For project bond investors familiar with project models and financings in other regions, use of these ratios as a test of the base case and as a distribution test may initially seem favorable to the sponsors. However, due diligence on the project risk allocation and the credit quality of the government counterparty should demonstrate to bond investors that use of such low ratios for these purposes is justified.

Industry leaders and commentators are bullish on the potential for growth in the project bond market in the Middle East. The project that will hopefully be a catalyst for this growth is the refinancing of the Shuweihat 2 independent power and water project in Abu Dhabi. The project reached financial close in October 2009 with \$2.2 billion committed in the form of long-term bank debt, and the plant commenced commercial operations in 2011. The project sponsors are in the process of refinancing the project partly through a project bond offering of about \$800 million. ☺

Feed-In Tariff Insurance

by Kenneth Hansen, in Washington

The Overseas Private Investment Corporation is offering to insure projects against loss of income as a result of a government reducing or abrogating a feed-in tariff.

OPIC is a US government agency that provides financing and political risk insurance to promote US investment in emerging markets.

Many governments encourage construction of wind, solar, geothermal and other renewable energy projects by paying more for electricity from renewables than from other sources. These higher payments are called feed-in tariffs.

The new insurance coverage will not be available to support investments in countries like Spain, where the government's unwinding of its feed-in tariff program has triggered headlines and investor lawsuits. Notwithstanding current European economic woes, Spain, Portugal and Greece are all too wealthy for OPIC's programs, which focus on encouraging investments in low- and middle-income countries. However, the new OPIC product could prove useful to investors in the dozens of emerging markets that have enacted feed-in tariff programs to encourage the development of renewable energy projects.

OPIC has circulated for comment a preliminary draft form of insurance policy. That form embeds the new coverage in an enhanced version of its traditional expropriation coverage, but expands the traditional scope in ways renewable energy project developers are likely to find useful.

It provides five distinct bases for a claim.

A claim may be made on the policy for the business income lost as a result of a feed-in tariff being reduced.

A claim may be made for a complete loss of the project as a result of a reduction or termination of a feed-in tariff.

The tariff reduction may be in substance a creeping expropriation of the project, which could be a separate basis for a claim.

Many power contracts require that disputes go to arbitration. A claim may be made if the project wins an arbitration award, but the government fails to pay.

Finally, a claim may be made if the government refuses to go to arbitration or otherwise frustrates the arbitration process.

The first two bases for claims are new and focused on projects supported by a feed-in tariff. The last three are conventional political risk insurance coverages.

Lost FIT Income

Coverage for lost business income provides that, if a government reduces a feed-in tariff from the level promised in a power purchase agreement without "prompt, adequate and effective compensation," and if those circumstances remain unremedied for at least six months, then OPIC will compensate the project for most of the lost revenue.

Specifically, OPIC will pay the investor's share (*i.e.*, the insured investor's percentage ownership interest in the project company) of the shortfall in revenue attributable to the reduced feed-in tariff, up to the lesser of two amounts. One is the aggregate shortfall over an agreed period (suggested to be 12 to 24 months). Another is 90% of the investor's share of the book value of the project company. Payments under the policy are also subject to an overall cap.

For this purpose, the "government" includes any of its legislative, executive or judicial branches, a regulatory authority charged with setting the feed-in tariff or a government-owned utility that is purchasing the electricity.

Confiscatory FIT Reduction

OPIC offers a distinct element of its coverage where the reduction of the feed-in tariff causes losses so severe that the insured investor writes off its investment in the project company.

In that case, OPIC would pay up to 90% of the investor's share of the project company's book value. This is the same measure of compensation that would apply if the project company were expropriated by the government.

This coverage excludes claims arising from disputes under project agreements, which are relegated to the arbitration coverages (discussed below). The straightforward case for a confiscatory feed-in tariff reduction claim would arise where a government-owned utility that is buying the electricity fails to pay the feed-in tariff rate that it clearly owes under the power purchase agreement.

To be sure, a government may not freely admit that its actions breached, or caused a breach of, a power purchase agreement. More likely is that the government would at least assert some basis for a dispute. If, for instance, suspension of the feed-in tariff is implemented by a change in law, the situation could be interpreted as a dispute over proper interpretation of the power purchase agreement, which is likely to contain a provision requiring the agreement to be performed in compliance with applicable law. The investor, on the other hand, is likely to feel, and to assert, that the contract is clear and

OPIC is offering insurance to protect against cuts in feed-in tariffs in emerging markets.

that the government is simply in breach, whether or not a change in law caused that breach.

In such circumstances, OPIC might accept a claim for confiscatory feed-in tariff reduction or, instead, it might find grounds in the insurance contract to require the investor first to pursue arbitration against the utility. To accept a confiscatory feed-in tariff reduction claim, OPIC will need to conclude that the government's claim of a legitimate dispute is without merit.

The draft insurance policy complements the lost feed-in tariff income and confiscatory feed-in tariff reduction coverages with OPIC's traditional coverage for total expropriation of the project as well as somewhat less traditional, but nonetheless well-established, coverages for the government's failure to pay an arbitral award and for its frustration of the arbitration process.

General Expropriation

The feed-in tariff coverage package will include at no extra charge OPIC's traditional coverage against loss from expropriation of the project.

An expropriation claim will not require a breach of the power purchase agreement but rather one of two things.

Expropriation can be established by showing there was "an outright taking of the insured investment" or that government acts have the effect of taking the project. An effective taking means acts that "deprive the Investor of its fundamental rights or prevent, unreasonably interfere with, or unduly delay effective enjoyment of the Investor's fundamental rights in the Insured Investment." Rights are "fundamental" if, without them, "the Investor is substantially deprived of the benefits of the Insured Investment."

Under the general expropriation coverage, an insured loss must be total. Nothing in the description of the scope of the general expropriation coverage says so, but that nonetheless is OPIC's clear intent.

First, the general expropriation coverage is provided under the heading of "total expropriation." More substantively, in order to receive a claim payment, the investor is required to "transfer to OPIC all interests attributable to the Insured

Investment, including without limitation, shares in the Foreign Enterprise." Doing that only makes sense if the value of the investment has been totally, or nearly totally, lost. Finally, the basis of compensation for a claim is the investor's share of the total book value of the insured investment. In contrast to the confiscatory FIT reduction, the general expropriation terms do not require the investor to have written off its investment. However, a claim under the general expropriation coverage does require that the government's acts have had the effect of "taking" the insured investment, in which case applicable accounting standards will likely have required that write-off.

Arguably, the protection afforded by the confiscatory feed-in tariff reduction coverage is already substantially available under the general expropriation coverage (as well as under OPIC's conventional expropriation coverage). If the requirements for a confiscatory feed-in tariff reduction claim (indirect taking that breaches the power purchase agreement plus a failure to pay prompt adequate and effective compensation) are met, then the requirements for a general expropriation (non-compensation and an effective taking without any requirement for a related power purchase agreement breach) will necessarily have been met. A claim under either coverage triggers identical compensation. The assignment obligations to OPIC are also identical.

However, there is a clear advantage in claiming a confiscatory feed-in tariff reduction — rather than general expropriation — when it comes to the process for proving the validity of a claim.

For an expropriation claim, OPIC traditionally required proof of, among other things, government

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acts that violated international law. For years clients complained that they were unclear as to exactly what sort of government behavior might be required. For its part, OPIC was concerned that non-expropriatory violations of international law that cause economic harm — for example, war crimes that did not specifically target the investor’s facility — might inadvertently satisfy the designated requirements for a claim. OPIC revised its policy language to replace the international law violation requirement with distinct conditions that, if satisfied, were sufficient to assure the existence of such a violation — one tied more directly with expropriatory behavior by a government. Those conditions, which the draft insurance policy provides as requirements for a general expropriation claim,

A claim could be made under the policy for any one of five events.

include a direct or indirect taking of the insured investment and the absence of prompt adequate effective compensation. Those elements together suffice to establish that the taking is illegal under customary international law.

The presence or absence of compensation will typically be clear. Whether a taking has occurred can be less so.

Creeping expropriation (*i.e.*, an indirect taking through the effects of assorted government actions) may be difficult to prove. The difference between a malicious, discriminatory taking and the imposition of an innovative regulatory regime can be in the eye of the beholder. Indeed, it was the challenge of proving that a government’s actions went beyond what international law permitted that made some OPIC clients nervous

under the traditional policy language requiring an international law violation. That challenge remains under the new policy. The new language just focuses the challenge on proving a taking by the government.

The language for confiscatory feed-in tariff reduction coverage provides the aggrieved investor a helping hand. In addition to requiring a taking, it also specifies what is necessary to prove that a taking has occurred. It requires government acts (“through generally applicable official legislative or administrative action or other regulatory decree”) that have “the effect of taking the Insured Investment in that the resulting business income loss to the Foreign Enterprise is so material that it adversely affects the commercial viability of the Project and causes a write-off of the Investment on the Investor’s financial statements.” For a compensable claim, these circumstances must also be without prompt, adequate and effective compensation and constitute a breach under the power purchase agreement, though it is difficult to imagine how such a taking of the project could fail to breach the PPA.

By specifying these necessary conditions, the confiscatory feed-in tariff reduction coverage provides a clear standard for proving such an indirect taking. If a government reduces its feed-in tariff, and that action both breaches the power purchase agreement and undermines the commercial viability

of the project, then the key requirements for a claim will have been satisfied without having to argue that the government’s actions were not reasonable regulatory measures. This could provide a shorter, clearer route to a successful claim than under the general expropriation coverage.

Nonpayment of Arbitral Award

If a feed-in tariff were reduced and, as a result, the project company were to bring, and win, an arbitration against a government utility or a government guarantor for breach of a project agreement, and if the award were not paid, then OPIC would pay the award. The project company would have to assign its claim against the government to OPIC. OPIC then would seek

enforcement of that award against the governmental party responsible to pay it.

This coverage can stand behind arbitration of disputes under any project agreement, including the power purchase agreement, and provides that OPIC will pay “the Investor’s Share of the Award” if the government fails to do so after a waiting period. As drafted, the policy suggests that the coverage is intended only for disputes over government behavior that has destroyed the full value of the insured investment. However, OPIC has indicated that the current plan is for the arbitration coverage to be effective against unpaid arbitral awards of any size.

While compensation for an unpaid arbitral award is capped at the book value of the insured investment, it is not subject to the 12-to-24 month limit that applies to the lost feed-in tariff income coverage. This coverage could, in principle, cover the full value of the lost income for the full term of the power purchase agreement, subject to the compensation not exceeding the investor’s share of the book value of the project company or the overall contractual cap.

Denial of Justice

OPIC will also cover arbitration-related losses where a government successfully frustrates attempts to arbitrate a dispute. More specifically, OPIC will pay compensation if, for any six continuous months during an 18-month period during which the project company (referred to in the policy as the “Foreign Enterprise”) is attempting to avail itself of the agreed dispute resolution mechanism, the government

either (1) frustrates, obstructs, thwarts, or denies the Foreign Enterprise’s reasonable efforts to bring the Dispute Resolution Procedure to a [final award] (other than by means of defending against the Foreign Enterprise’s claims in accordance with the rules governing the Dispute Resolution Procedure), or (2) renders such reasonable efforts impossible or exceptionally hazardous to the physical safety of representatives of the Investor, the Subsidiaries, or the Foreign Enterprise.

The policy provides that the compensation will be the investor’s share of the book value of the project company, so that this coverage would only be relevant where the relevant dispute has led to “termination of the Project.” The investor would have to assign OPIC its rights against the government under the relevant project agreement. Then OPIC, or the investor on

OPIC’s behalf, could continue the arbitration process or settle the dispute. Although the drafted coverage focuses on disputes that have led to termination of the project and compensation equal to the investor’s share of the project company’s book value, OPIC is open to also covering less-than-complete disaster scenarios. Such claims would be paid in exchange for an assignment to OPIC of the arbitration award.

Exclusions and Limitations

OPIC is excused from paying under each of these coverages if

[t]he preponderant cause of the [loss] is (i) actions related to the Project, other than actions taken in the ordinary course of business, attributable to the Investor or the [project company], or the controlling equity holder of the [project company], or (ii) violations of Corrupt Practices Laws by the Investor or the [project company], or the controlling equity holder of the [project company].

OPIC is also excused from paying if the government’s actions are taken

pursuant to its lawful authority under licenses, permits, or concessions between [it] and the Investor or the [project company] in connection with the Project.

That is, if the government has the right to do what it did under project-specific contracts or other arrangements such as permits, then OPIC will not compensate the investor for the consequences of the government doing what it had every right to do.

Observations

The new feed-in tariff insurance policy expands OPIC’s traditional expropriation coverages in several ways that should be attractive to investors in renewable energy projects in emerging markets.

First, the lost feed-in tariff income coverage, which is in effect a partial expropriation coverage, is completely new and could provide projects a lifeline for survival while feed-in tariff programmatic issues are being worked out or reconsidered by the government.

Second, if the issues lead to a total meltdown of the feed-in tariff program, then investors have an assurance through multiple routes (confiscatory feed-in tariff reduction, general expropriation coverage, arbitral award default or / continued page 42

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denial of justice) that they will recover the value of their equity investments.

Third, while the draft policy does not yet include coverage for unpaid arbitral awards for less than a full taking of the project, or for frustration of the process that could lead to such awards, such expanded scope should be available to investors who seek it. Therefore, investors should be able to take comfort that, in less-than-total-disaster scenarios, they will be able to collect damages due pursuant to agreed dispute resolution mechanisms.

Finally, the fact of OPIC took the initiative to create this new coverage program suggests that prospective investors in renewable energy projects in emerging markets will find an enthusiastic partner in the US government. ☺

Tapping Into Capacity on Merchant Transmission Lines and Interties

by Robert Shapiro, in Washington

Decisions are expected soon from the Federal Energy Regulatory Commission on access and pricing for capacity on merchant transmission lines and on excess capacity on dedicated gen-tie lines that connect independent power plants to the grid. The commission is sifting through reams of comments.

FERC issued a proposed policy statement in late July suggesting a new way to evaluate proposals for the construction and operation of transmission facilities of new, independent transmission companies. FERC proposes to allow transmission developers to negotiate privately to allocate capacity in new transmission facilities if the process is transparent and nondiscriminatory.

In addition, earlier in the year, FERC issued a notice of inquiry concerning the use of excess capacity on a generator interconnection line constructed for an affiliated power plant whose owner “overbuilds” its interconnection capacity beyond what

the project needs to leave room for additional projects to be constructed later by the same developer. FERC’s current policy has allowed independent generators to get priority use of this excess capacity under certain conditions.

Comments on both FERC initiatives have been filed by interested parties, and both are awaiting FERC action. The decisions are likely to affect the way that new, non-traditional utility transmission and interconnection investment is structured and developed.

Merchant Transmission

Trying to build high voltage transmission almost anywhere in the country is difficult, even for franchised utilities with the power of eminent domain. Independent transmission companies have an even more difficult road. FERC is seeking ways to encourage transmission line development for developers that do not have an existing obligation to build anything under any tariff or law. This encouragement is consistent with FERC’s recently issued Order No. 1000, which, among other things, does away with the existing preference that traditional transmission utilities had been given to build transmission through a right of first refusal as part of regional transmission planning. It should be noted that Order No. 1000 is subject to multiple challenges in the court of appeals, including this issue of incumbent preference.

The greatest opportunities for independent development are in the area of high voltage DC lines between high cost and lower cost regions. These lines provide for discrete, one way, point-to-point service, and lend themselves to separate, participant funding by specific users of the line. Over the last several years, FERC has attempted to give greater encouragement for developers to construct independent transmission by permitting such developers to use negotiated rates with customers instead of traditional cost-based rates and by permitting less oversight and fewer fixed standards at the planning stages. This has created a natural tension with FERC’s responsibilities under the Federal Power Act to assure that the rates and services for transmission service are just, reasonable and not unduly discriminatory or preferential. In particular, FERC’s efforts to encourage new transmission have caused it to reevaluate its policies about providing “open access” to transmission systems.

Since the Federal Power Act was passed in 1935, the Federal Power Commission (and now the Federal Energy Regulatory Commission) was given only limited authority over construc-

tion of transmission capacity. Although amendments to the Federal Power Act have gradually increased FERC's authority in the area of transmission, FERC has never been given siting or certificate authority over transmission facilities, which remains a state-by-state enterprise. Nonetheless, for the last 25 years, FERC has been issuing orders, regulations and policy statements in an effort to encourage the utility industry both to grant greater access to existing transmission facilities and to increase transmission capacity.

Given the historic vertical integration of the utility industry, utilities were both reluctant to grant access to existing transmission facilities or to construct transmission facilities on behalf of independent generators who were a major competitive threat in the wholesale power business,

Order Nos. 888 and 889, issued in the 1990s, were a giant leap forward toward open access to existing transmission systems of the vertically-integrated utilities. While there are still

FERC is expected to adopt rules soon on access and pricing for capacity on merchant transmission lines.

periodic problems of discrimination and preference in service, the general access rules and terms of use for existing transmission capacity are much more transparent and standardized. Interconnection service terms have become more standardized as well. Interconnection rules for access in regions with significant transmission constraints are still evolving, however, and the major impediment to moving energy within and through a region of the country remains the lack of available transmission capacity.

Independent transmission development has come slowly. The first "independents" were companies that acquired the existing transmission facilities of existing utilities during the wave of deregulation in the 1990s. Since then, there has been

construction of a few, niche independent transmission projects that have been designed primarily to facilitate the transfer of lower cost energy from one market to a higher cost market in the neighboring or nearby region.

The proposed transmission policy statement deals with independent companies seeking to become a new "merchant" transmission service provider, that is, a service provider with authority to charge negotiated rates for a discrete transmission line, as well as new transmission service providers proposing to charge cost-of-service rates for a discrete transmission line. FERC has referred to these latter, cost-based transmission projects as "new non-incumbent, cost-based, participant-funded transmission projects." By using this new, tortured phrase, FERC is attempting to distinguish an independent cost-based transmission project from an "incumbent" cost-based project, that is, new transmission from either existing transmission service providers that can assign costs to captive customers and that

have on file at FERC existing open access transmission tariffs or "OATT" on file at FERC or from providers that are part of a regional transmission organizations or independent system operators like PJM, MISO or CAISO. The proposed policy statement does not apply to these existing transmission providers, or "incumbents." And it does not apply to independent developers that plan to build generator interconnection facilities from their power plants to

the network grid that may have capacity in excess of the capacity needed for the associated generation. The issue of "gen-tie" use is the subject of a separate FERC notice of inquiry.

Current Policy

FERC in recent years has established multi-factor tests for determining whether to authorize a new independent transmission company to charge negotiated (as opposed to cost-of-service) rates for their new facilities. (FERC did not in the past impose a multi-factor test for independent transmission companies proposing to use cost-of-service rates, although they did authorize certain incentive price adders depending on the individual facts of those companies.) Initially creating a / continued page 44

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10-factor test for determining whether to authorize negotiated rates for merchant transmission service, the commission reduced its criteria from 10 to a four-factor test in the 2009 in a decision called *Chinook Power Transmission*. In reality, the four-factor test announced in *Chinook* was not substantially different from the 10. FERC undertakes an assessment of 1) the justness and reasonableness of the rates, 2) the potential for undue discrimination, 3) the potential for undue preference and 4) regional reliability and operational efficiency requirements.

By far the most important aspect of this four-part test is FERC's reliance on the so-called "open season" process. The transmission developer is required to offer the transmission capacity to the world for a limited period and then post the results of the open season process and file the results at FERC. FERC would then have to confirm that the process was fair and transparent in order to authorize the developer's right to rely on the negotiated rates and terms that resulted from the open season.

In addition, in *Chinook*, FERC also modified its policy of requiring that all of the capacity be subject to an open season by authorizing the developer to allocate up to 50% of the available capacity to so-called "anchor tenants," with the remaining portion to be made available through an open season. The rationale behind the approval of an anchor tenant was FERC's recognition that it needs to encourage the construction of more transmission capacity, that merchant developers are under no legal obligation to construct those facilities, and that it may be necessary for a developer to get advance commitments from financeable transmission customers at the outset in order to make a merchant transmission facility financially viable. At the same time, the modified policy still offered a substantial amount of available capacity to others in an open season, and the developer's OATT, which it would have to file prior to operation of the new line, would include an obligation to expand its capacity for others upon a valid request for transmission service. Since *Chinook* was issued, FERC has permitted independent transmission developers to increase the percentage utilization by one or more anchor customers to 75% of the total planned capacity of the transmission line.

In the last year, FERC held a series of technical conferences on the capacity allocation policy for merchant transmission project and "non-incumbent" cost-of-service projects. This policy pro-

posal is an outgrowth of the evolving decision precedents and the comments from those conferences.

Proposed New Policy

FERC's new proposal does away with the four-factor test. Instead, it relies mostly on after-the-fact reporting obligations to demonstrate that the rates are just and reasonable and that the access to transmission capacity was not unduly discriminatory or preferential. In addition, for the first time, FERC proposes to permit the merchant transmission provider to allocate up to 100% of the available capacity through private, bilateral negotiations with an open solicitation but without an open season, and to permit transmission capacity to be allocated to a merchant company's affiliates.

FERC is proposing that a company seeking negotiated rate authorization should issue a general notice in trade publications with sufficient technical specifications about the project, general contract requirements and mechanics for handling possible oversubscription of capacity and priority items like a candidate's credit support and "first mover" status (for example, customers willing to commit early and take on greater project risk). A merchant transmission developer could then negotiate individually with identified candidates and come up with different terms and conditions as long as the distinctions between customer agreements are not unduly discriminatory or preferential. The commission proposes to allow a single customer to be allocated up to 100% of the capacity. In addition, one or more affiliates of the merchant transmission developer can be allocated this capacity. To ensure that the negotiations were fair, FERC proposes to have more extensive reporting requirements about the transaction process, including specific criteria used in the selection process and relevant terms and conditions, and showing how distinguishing among customers is justified on the facts.

Although FERC has consistently declined to apply its merchant transmission rate policy to independent developers proposing cost-of-service rates instead of negotiated rates, for the first time, FERC has proposed to apply the merchant rate policy to the so-called "non-incumbent, participant-funded transmission" developers. These have in the past been companies that made private deals with entities that have committed to use and fund a transmission expansion. If such a transmission developer proposes using an anchor tenant model, then it would have to follow the same process as described above for merchant developers. In addition, the transmission developer

would have to satisfy FERC precedent and Federal Power Act requirements for cost-based transmission service.

FERC did not propose a change in policy for existing transmission providers that may want to use cost-based participant funding for new transmission projects, explaining that existing OATT requirements would apply for new capacity built by an existing transmission provider and that an existing transmission owner is free to apply to FERC on a case-by-case basis to waive such requirements if the alternative was shown to be fair.

Lots of Comments

The comments submitted by interested parties in late September fell into three predictable camps.

Companies or associations that develop either independent transmission or independent generating facilities or their trade association are strongly in support of the proposed policy statement and, in some cases want FERC to scale back its oversight of independent transmission even more.

On the other hand, municipal and cooperative utilities and their trade associations, already wary of the current FERC policy

significant comment or approve but want less restrictive requirements than those proposed by FERC to assure no undue discrimination or undue preference is present. For example, several independents asked FERC not to expand the after-the-fact reporting requirements beyond those already required for the open season under the current policy, and to permit either omission of commercially-sensitive information or the filing of such information on a confidential basis. While a few of the independents want FERC to be more specific about open solicitation or reporting details, others want FERC to keep things flexible and view the overall selection process in its totality. In addition, several of the independents want FERC to state expressly that it will not question the report on the open solicitation results absent a filing of a specific protest, and others want the scope of FERC's review limited only to claims of undue discrimination and preference.

The three main trade groups or associations that were critical of the new policy statement were the American Public Power Association, which represents municipal utilities, mostly distribution utilities, the National Association of Rural Electric Cooperative Association, and a group that calls itself the trans-

mission dependent utilities. This group sees little to gain from independent transmission.

The group has criticized and continues to criticize FERC for its failure in Order No. 1000 to require independent developers to submit their plans to regional transmission organizations, like PJM or MISO. It sees the new policy proposal as exacerbating the risk that independents will abuse a scarce resource — transmission — without giving

Merchant transmission companies would allocate all their capacity through open solicitations and private negotiations.

on independent transmission, generally oppose what they perceive as a further loosening of requirements that are embedded in the Federal Power Act.

The third group, investor-owned utilities and Edison Electric Institute, their trade association, generally support the proposed policy, but EEI suggested making clear that this policy only applies to proposals where the costs of the project will not be recovered from captive customers.

So-called “independents” who want to promote merchant transmission either approve of the policy statement without

entities that may be harmed by the actions of an independent transmission company a realistic chance to challenge its actions, which may be discriminatory or preferential. In particular, the so-called “dependent utility” trade associations argue that simply allowing a rejected would-be customer to file a section 206 complaint under the Federal Power Act if it is denied an allocation would not assure that the independent developer is not behaving in a discriminatory fashion.

The dependent utility trade associations also complained that a merchant has no incentive to “right / continued page 46

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size” the transmission facilities, in particular, that the facilities could be deliberately designed to be too small to accommodate competitors. One of the trade associations asked FERC to increase the burden on the transmission developer to justify that its plan is reasonable if certain “red flags” appeared.

Accordingly, the dependent utility trade associations have asked FERC to retain the open season requirement, to limit the anchor customer percentage to no more than 75% and allow the additional customers to get the same terms and conditions of the anchor clients. To the extent that FERC adopts its proposed policy, the group wants more extensive and more specific reporting requirements than FERC has detailed thus far,

They would have to publish notices about their plans and get negotiated rate authorizations from FERC.

and wants to extract a commitment from FERC not to back-track over time on its reporting requirements, or to permit information to be filed confidentially which will prevent the public from evaluating the actual details of the transmission developers’ actions.

There is no time limit on FERC’s response to these comments, nor is FERC required to issue a formal policy statement. However, given its consistent efforts to provide incentives for construction of new transmission lines to facilitate competitive transfers of electric generation, FERC can be expected to move reasonably quickly to address issues that it feels may be an impediment to future development.

Gen-Tie Lines

In addition, on a completely separate track, FERC has been applying, on a case-by-case basis, a policy of dealing with new

interconnection lines associated with new independent power plants. Every independent generator needs to interconnect with the integrated transmission network, and frequently undertakes to construct and own the interconnection line between its power plant and the network. Like merchant transmission lines, gen-ties are developed by an entity that is not an “incumbent” transmission provider and has no obligation to file an OATT. But because the gen-tie is inextricably linked with a generating plant, without which it would not be constructed, FERC has viewed the issue of gen-tie access differently.

Particularly in the western United States, project developers that have intended to build renewable generating capacity that are located considerable distances from major network interconnection points and load centers have constructed or have planned to construct interconnection lines from their planned

power plants to the interconnection points with transfer capacity greatly in excess of the maximum capacity of their planned generating units.

FERC has authority under the Federal Power Act to direct a transmission line (which includes an interconnection line) owner to offer excess capacity to third parties that request it, provided certain conditions are met. It also has authority to order the owner of

a transmission line to expand its capacity. However, FERC has consistently held that a developer that owns a generation facility with a gen-tie can establish firm transmission priority for itself or an affiliate over unused capacity on the gen-tie if the developer demonstrates that it has specific pre-existing plans with milestones for phased development of the generation projects that would require use of the excess gen-tie capacity, and makes initial and consistent material progress toward meeting those initial plans and milestones.

Further, FERC thus far has identified no minimum voltage, distance or other technical threshold beyond which the developer would or would not be at risk for third party use of excess gen-tie capacity. In addition, FERC has in the past refused to consider a “safe harbor” period during which the generation developer can rely on exclusive use of the excess gen-tie capacity while it tries to develop additional generation projects. FERC

has on two occasions directed gen-tie owners to provide service for an unaffiliated third party. FERC has also typically granted to the gen-tie owner a waiver of the requirement to file an OATT unless and until it receives a bona fide request for transmission service on the gen-tie line.

In issuing a notice of inquiry, which builds on a FERC technical conference on the gen-tie issue conducted a year earlier, FERC asked interested parties whether its current, case-by-case policy relating to priority of use of excess gen-tie capacity should be modified or left alone. FERC gave a long list of questions that it is interested in having answered.

Industry Jostling

There were a greater variety of power sector stakeholders responding to the notice of inquiry than the merchant transmission policy statement. Although it is safe to say that the overwhelming number of comments argued for a change in FERC policy on access to unused gen-tie capacity, the suggested modifications varied widely. Only a few comments offered more extreme positions — on the one hand, that gen-tie owners should simply provide open access without any priority or, on the other hand, that gen-tie owners should have unfettered discretion to use gen-tie lines as they see fit because they are radial lines unsuited to transmission service.

Most of the comments suggest that FERC take one of four actions: 1) clarify and refine its current policy granting priority use of gen-tie by its owners and affiliates, 2) tailor the pro forma OATT to recognize the much more limited services that a gen-tie owner can realistically perform, 3) modify the pro forma large generator interconnection agreement — specifically section 9.9.2 of the LGIA, dealing with transmission capacity allocation — entered into between the transmission provider (and possibly the independent system operator, like CAISO or PJM) and the gen-tie owner to cover use of interconnection facilities of the gen-tie owner as well or 4) some combination of the above.

Almost without exception, commenters that represent gen-tie developers support a “safe harbor” period during which the gen-tie owner could use the excess capacity for the development of additional affiliated generation projects in the same region without the need to demonstrate specific, pre-existing development plans or milestones. The commenters suggest between five and 10 years from initial energization of the line. Following the safe harbor period, these commenters also suggest that FERC permit priority use of the line for the gen-tie

developer if it can show specific, pre-existing development plans and milestones in a manner similar to FERC’s existing policy. Short of implementing a safe harbor period, several commenters asked FERC to make more transparent what specific showings need to be made by the gen-tie owners in order to establish priority of use of the unused gen-tie capacity.

A second group of commenters wants to reform the OATT requirement. Commenters in this group asserted that FERC’s current policy of requiring a gen-tie owner to file a pro forma OATT within 60 days after a third party requests interconnection service from the gen-tie owner is a bad idea. They pointed out that, unlike a true transmission provider, a gen-tie owner cannot provide ancillary services and that imposing system impact studies on a gen-tie owner is outside of its business and would be unduly burdensome. In addition, they argued that it is wrong to include in the OATT an obligation of the gen-tie owner to expand its gen-tie line to accommodate a third party request, pointing out the gen-tie owner never wanted to be in the transmission business in the first place. Further, several commenters argued that no OATT should have to be filed until the third party generator really commits financially to follow through on the request and that it be required to show specific plans and milestones. Otherwise, they claim, the filing of an OATT would be time consuming and may ultimately be pointless. Most indicated that if an OATT were still required, it must be a “tailored” OATT, and that the third party generator requesting service must also obtain an agreement with the transmission provider and transmission operator under a separate OATT.

A group of commenters wants FERC to forget the OATT and modify the LGIA instead. A good number of commenters in this group supported the idea that many of the problems with FERC’s current gen-tie policy could be overcome with a relatively simple fix — modify section 9.9.2 of the LGIA between the transmission provider (and independent system operator) and the gen-tie owner to incorporate analysis and allocation of capacity use and charges related to the gen-tie as well. They pointed out that transmission providers, unlike gen-tie owners, are in the business of doing transmission studies. Besides, they pointed out, even if the third party generator sought and obtained access on the gen-tie from the gen-tie owner, the third party generator would still need to apply for and reach agreement with the transmission provider in order to get access that the transmission grid attached to the gen-tie line. Modifying section 9.9.2 in this way, they asserted, / continued page 48

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would simply amount to one-stop shopping.

However, several commenters pointed out obvious challenges with this approach. First there would be no contractual link between the third party generator and the gen-tie owner and thus no mechanism to enforce the LGIA with the third party generator. One option to fill this contractual gap would be to require either a separate, four-party agreement among the transmission provider, independent system operator (like CAISO or PJM), gen-tie owner and third party generator, which may be difficult to accomplish and be more trouble than it is worth. Moreover, since the transmission provider does not own or operate the gen-tie line, this will raise issues of rights and liabilities of the gen-tie owner on the line versus rights and liabilities of the transmission provider, including, among other things, who bears the costs, how would costs be recovered from other parties, including ratepayers, and cost allocation.

Some of the commenters that suggested that, in lieu of promoting a second, four-party agreement, a better solution would be to give the gen-tie owner the right to negotiate a bilateral agreement with the third party generator, in concert with the modification to the LGIA with the transmission provider and the gen-tie owner, and eliminate the requirement of the gen-tie owner to file an OATT. This would require good faith negotiations between the gen-tie owner and the third party generator, and a remedy if the negotiations failed. Three alternative solutions were offered. First, since the transmission

provider has the obligation to interconnect and to expand its system anyway, the third party generator can go forward with interconnection with the transmission provider regardless of the absence of an agreement with the gen-tie owner. Second, the third party generator can force the gen-tie owner to file an unexecuted interconnection service agreement at FERC if bilateral negotiations fail, allowing FERC to resolve any open issues. Alternatively, third, if there is no bilateral agreement reached within a reasonable period, the third party generator could force the gen-tie owner to file an OATT with FERC.

There can be no assurance that FERC will make changes to its current policy on a case-by-case basis or undertake a proposed rulemaking to consider changes to this policy, and the comments received by FERC in the aggregate demonstrate that there are no easy solutions.

But there appears to be sufficient support for moving either to a “tailored” OATT or a modification to the pro forma LGIA in order for FERC to proceed in one of these directions. In the interim, FERC may be willing to clarify its current gen-tie priority policy in the context of a specific developer’s filing for a declaratory order requesting priority on the use of some or all of the excess capacity on its gen-tie line.

Same Policy on Both?

Should the policy on merchant transmission and gen-tie capacity be the same? Gen-tie owners have argued that FERC policy should be different for them than for owners of merchant transmission capacity in large part because gen-tie owners never intended to become transmission providers whereas

merchant transmission owners always intended to provide that service. But should original intent really matter?

Certainly finding “intent” is relevant in criminal law, where establishing intent is critical to establishing guilt or distinguishing between categories of crimes. But FERC’s obligation to serve the public interest includes the obligation to ensure that the jurisdictional services and facilities are not subject to undue discrimination or preference, where the intent

FERC is also weighing when developers with extra capacity on dedicated interties for projects must allow other projects to use it.

of a provider's action may be less important than its effects.

Most of the merchant transmission to date has involved one-way, DC transmission for point-to-point service. This type of service would not be materially distinguishable from a gen-tie owner's point-to-point delivery of generation from its generating unit to the network grid. The size, voltage and delivery capacity of the gen-tie line can be, and often has been, as large or larger than the size of merchant transmission lines. With FERC's "anchor tenant" policy for merchant transmission (and non-incumbent cost-based transmission), the merchant transmission provider will be allowed to lock up as much as 100% of the transmission capacity, even with affiliate generation. Gen-tie owners are also seeking ways that they can lock up unused gen-tie capacity for themselves and their affiliates for a safe harbor period or with a demonstration of plans for future use of the line.

Neither merchant transmission developers nor gen-tie developers have a legal obligation to construct transmission in the first instance. In both cases, the additional transmission capacity will bring needed generation to a networked system that values that generation. In each case there will be or can be a preference for the use of that capacity for one or more generation companies and its affiliates against unaffiliated potential competitors. FERC has to decide where to draw the line and how many lines it needs to draw. ☺

Latin America: Natural Resources Deal Flow Picks Up

by J. Allen Miller and Raquel Bierzwinsky, in New York

Over the last 12 to 18 months, the market has seen a flurry of investments in the natural resources sector in Latin America and an increased interest among North American, European and Chinese investors.

For Mexico and Brazil, the region's largest economies, while investment in the last 12 months does not match the numbers of the past few years, it continues to be very solid. Both countries continue to have a tremendous need for infrastructure to tap into and develop their vast natural resources. The massive pre-salt offshore fields in Brazil (Tupi) and the most recent

onshore findings in Mexico (Chicontepec) call for billions of dollars in investments and, while the oil sector is controlled in both countries by state-owned agencies — Petroleos Brasileiros (Petrobras) and Petroleos Mexicanos (Pemex) — respectively, the supply of technology, equipment and services to develop such resources requires significant participation by private entities.

Brazil, Colombia, Chile, Mexico and Peru are attracting much needed investment in the development, construction and operation of energy facilities to supply their growing economies, either through independent power producer schemes, through the sale to large industrials or sales on the spot market where permitted. Large hydroelectric projects have been announced in each of these countries. Examples include Ituango in Colombia, HidroAysén in Chile and Cerro del Águila in Peru.

In the particular case of Colombia, foreign direct investment has been surging for the past several years as a direct result of the commodities boom that emerged following the stabilization of the security environment. In the last few years, many local and regional players have focused on investing in natural resources, principally in the oil, gas and hydro sectors.

Best Opportunities

The renewable energy sector and the oil and gas sectors are going through a period of resurgence in Latin America.

Countries like Mexico, Brazil, Peru and Chile are seeing significant interest and investment in wind, solar and hydro projects. The reasons include the fact that certain regions in these countries enjoy some of the best resources in the world for these types of projects, as well as the fact that investment in renewable energy projects in Europe and the United States is drying up due to the economic constraints and the phasing out of governmental incentives.

For example, the state of Oaxaca in Mexico has an estimated wind potential of over 10,000 megawatts. The Istmo de Tehuantepec region in that state offers some particularly advantageous conditions for wind power projects, as the average wind speed in Oaxaca has been recorded above 9 m/s and the measured load factor is above 50%. These conditions compensate for insufficient government incentives for investors.

In Peru, the government has taken an active role in attracting investment in renewable energy projects. The renewable energy law enacted in May 2008 provides a framework for investment in and development of projects. The Ministry of Energy and Mines has been

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conducting international tenders for solar, wind and hydro projects. Renewable energy generating facilities, if connected to the national grid, are granted priority in the dispatch of electricity and they are offered fixed-rate, 20-year power supply agreements, for a specific output (with built-in annual tariff adjustment mechanisms). The development of large-scale hydro plants in Peru has also been a priority for the government. The Cerro del Águila 500-megawatt run-of-the-river hydroelectric

Slowdowns in the US and Europe are diverting capital to renewable energy and oil and gas development in Latin America.

plant in central Peru, is one of the recent examples of projects under development.

Chile has also seen the development of several wind farms and, most recently, solar projects in the Atacama desert. The huge demand for electricity consumption by mining companies has allowed renewable energy developers to enter into long-term power purchase agreements. Hydro plants are also a significant element of Chile's national energy plan. AES Gener, ENDESA and Hydro Quebec, among others, have been active in the development of these types of facilities.

The gas sector is also enjoying a growth spurt in the region. With low gas prices in the United States, new oil and gas reserves in Mexico, a tremendous demand for fuel for power projects and a clogged national gas pipeline system, Mexico is expanding its gas pipeline system. Both Pemex Gas and Petroquímica Básica and the Comisión Federal de Electricidad (CFE) have been conducting international bidding processes to award contracts for the development, construction and opera-

tion of large gas pipeline projects in northern and southeastern Mexico. Some examples include the Gasoducto Chihuahua, Los Ramones, Mayakán and Topolobampo, to name a few.

For its part, Peru has been very active in the development of its gas resources and the expansion of its pipeline system to deliver the fuel source to its main cities and industrial regions. Peru has plans to build the Gasoducto Andino del Sur, which will connect the Camisea field to Cusco, Puno, Arequipa and Moquegua, as well as the expansion of other Camisea-related pipeline systems to supply the rest of the country.

Chile, which suffers from lack of domestic gas resources to feed its industry, is looking at the development by private entities of LNG terminals.

Colombia has seen renewed interest in investment in hydro facilities and in the oil and gas sector. In the hydro sector, while delayed by environmental constraints, EPM Ituango is in the process of developing the HidroItuango hydro project, while Empresas Públicas de Medellín is constructing the Porce IV hydro project, and Emgesa is constructing the Huila hydro plant.

Colombia's oil and gas sector has seen a resurgence of private investment due to more stable investment conditions and the government's efforts to spur investment in the country's infrastructure. In the gas sector, Pacific Rubiales and Exmar are planning an LNG export terminal in northern Colombia. Oil companies have commenced exploration and production. Investment in the industry is increasing, not only by the government-controlled oil company Ecopetrol, but also by foreign energy and resource companies. Chevron has invested considerable funds in developing natural gas production, including commencing a multi-wall offshore drilling program due to the extension of a natural gas export agreement with Venezuela. The country is also seeing extensive investment in the energy industry from small- to medium-cap companies such as Pacific Rubiales, Gran Terra Energy and Petrominerales.

Finally, investment in natural resources projects has also increased in Central America, particularly in hydro and other smaller-sized renewable energy projects. Guatemala, Honduras

and Nicaragua have also attracted developers of wind and geothermal projects. And in the southern cone, Uruguay is in the process of implementing a government initiative to develop several wind projects that will sell power to the national grid under an independent power producer scheme.

Limited Government Incentives

Economic growth and stability in Brazil, Colombia, Chile, Mexico and Peru have led the governments in those countries to seek foreign direct investment in the natural resources and infrastructure sectors.

In the energy sector, Mexico has for several years opened energy generation to private investment through CFE's independent power producer projects, in both conventional and renewable energy. With the enactment in November 2008 of the "Law for the Use of Renewable Energies and Financing of Energy Transition," the Mexican government took the first steps to promote diversification of sources of energy through the use of renewables developed and operated by private entities. However, independent power producers using renewable energy are not subject to the new law, but rather continue to be subject to the "Electric Energy Public Service Law" that governs generation from conventional power sources.

While the new renewable energy law has provided some incentives for developing renewable energy projects, it does not provide for a significant overhaul of the electricity sector. However, the Mexican government has adopted certain schemes to encourage privately-owned renewable projects, including 100% depreciation in the first year for all renewable energy capital investments and the abatement of annual government fees. Most renewable energy projects in Mexico, particularly wind, are being developed as "inside-the-fence" projects under the "self-supply" (autoabastecimiento) scheme.

While most activities in the oil sector remain closed to private investment, the Mexican government allows participation in construction and sale of platforms and rigs for Pemex.

Since the 1990s, Brazil has promoted private investment in the energy sector, particularly in hydro and biofuels. However, recent changes to electricity tariffs, which came as a surprise to many in the market, have dampened investor confidence in the sector. In the oil and gas sector, the new offshore "pre-salt" oil discoveries require massive capital investments and are attracting international oil services providers and investors from around the world who are bringing much needed technical expertise and financial resources.

In Peru, the government, through its investment agency — ProInversión — continues its long-standing policy of attracting private investment in energy broadly, including oil and gas. As previously mentioned, a new renewable energy law in Peru has opened up the development of renewables projects. A first wave of solar projects is under development and construction, with projects such as T-Solar's Majes and Repartición commencing commercial operations and Solarpack's and Gestamp's Tacna and Panamerica projects to follow soon thereafter. The government has now also awarded contracts for wind projects that are now under development.

M&A Current Trends

M&A activity in the renewables sector often involves acquisition by deep-pocketed energy or infrastructure companies of early-stage development companies. The acquisition is then followed by project financing or other funding and a subsequent sell-down of equity for substantial returns after the risk profile of the project has been reduced.

Given the nature of the sector and the heavy investment requirements, it is not uncommon to see transactions between competitors. In these, increased attention is being paid to anti-monopoly issues in jurisdictions such as Brazil that have moved to a pre-clearance regulatory scheme.

Other transactions have involved consolidation or reorganization of Latin America investments held by international investors. In these, increased attention is being paid to corporate governance and minority protection issues by Latin American regulators, creating additional deal hurdles as valuation and deal structures receive enhanced scrutiny. Fairness opinions, independent valuations, independent committee approval and similar concepts are increasingly becoming part of the transactional environment in Latin American M&A transactions.

What the Future Holds

All signs in the most developed countries in the region point to an increase in deal flow, particularly given the difficulties facing the US and European economies. European, North American and Asian investors are more knowledgeable of and comfortable with the investment regimes in the region and are putting substantial resources into the region. The newest potential entrants may be investors from the Middle East, in particular from Qatar and the United Arab Emirates, in the oil and gas sector.

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Notwithstanding the increased interest, investors should be mindful of existing challenges that may affect investment in the region.

The first is environmental permitting. Countries are becoming stricter in their assessment and granting of environmental impact authorizations. Several important projects, including, most prominently, HidroAysén in Chile, have faced roadblocks that have put into question the viability of the projects. This has also been a particular issue in Brazil where projects across a range of sectors have been delayed by permitting issues. Developers are placing significant resources into environmental studies and compliance assessments in the face of stricter regulatory standards, social pressure and requirements from their sources of funding to comply with Equator principles and World Bank standards.

More attention is being paid to local community issues and sensitivities. Sustainability of local communities is of increasing concern in projects involving natural resources. Not only are local governments demanding socially-responsible investments, but private equity funds, commercial banks and multilateral financial institutions and agencies have folded social policies into their investment and lending requirements.

Change in law risk and changing government policies are always a concern, just as they are in other countries. Argentina, Bolivia, Ecuador and Venezuela have nationalized or expropriated enterprises with investments in natural resources. The circumstances surrounding these nationalizations or expropriations vary, with some governments implementing measures to obtain control of natural resource companies as part of a broader government initiative to move away from private enterprise, while other governments, such as Argentina in the case of YPF, expropriated share interests of the controlling stockholder to reverse a declining trend of exploration and production. In the case of YPF, for example, the initial expropriation measures were followed less than six months later by public announcements of proposed joint ventures with major oil companies involving billions of dollars of investment to develop YPF's shale gas reserves.

Finally, international investors entering Latin America for the first time often underestimate the impact of contingencies, such as tax and labor claims, on valuation. They also are often insufficiently mindful of local law veil-piercing concepts in structuring their preliminary deal terms, especially in deals involving significant equity purchases. ☺

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