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The Search for Lowest Cost Capital

Rates in both the debt and tax equity markets appeared to touch bottom in late May or early June and then edge up slightly. The following is an edited transcript of a roundtable discussion that took place in mid-June about current rates, terms and liquidity for bank, insurance company and capital markets debt, DOE loan guarantees, tax equity and equity raised through initial public offerings of corporate stock. The discussion took place at the 21st annual global finance conference hosted by Chadbourne in San Diego.

The panelists were Steve Greenwald, managing director for global project finance with Credit Suisse, Jon Fouts, managing director for global capital markets with Morgan Stanley, John Eber, managing director and head of energy investments for JPMorgan Capital Corporation, Michael Canavan, senior vice president of RBS Global Banking & Markets, and John Tanyeri, director of power & energy strategic investments for MetLife. The moderator was Rohit Chaudhry with Chadbourne in Washington.

MR. CHAUDHRY: Jon Fouts, what sources of capital are available in the market today and how do you rank them in terms of liquidity?

MR. FOUTS: Let me start at the bottom of the capital stack. There are subtleties and nuances at each level. Starting with equity, investors remain interested in shares in US renewables companies, particularly Asian and European investors. Next up the stack, tax equity is available, but it remains in short supply. Our prediction is that the supply will continue to increase later this year and into next year as tax appetites / continued page 2

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CARRIED INTEREST legislation that the US Congress came close to enacting in June — and will probably enact eventually — could affect some transactions in the renewable energy sector.

The legislation is supposed to ensure that managers of hedge funds and private equity funds who receive part of their compensation in the form of "carried interests" in the funds are taxed on the value at ordinary income rates when they sell the interests. Many wait to pay taxes today at lower capital gains rates when the interests are sold.

The problem is the legislation is drafted to cover partnerships generally and not just hedge funds and private equity funds. / continued page 3

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come back. We are seeing tax equity yields in the single digit range, which is a nice change, but the market is not broad or deep. In terms of debt, we are seeing fairly robust bank and capital markets in terms of availability or liquidity. However, availability varies significantly with the quality of the project, the quality of the power contract, how the power contract is structured and so forth, but we are seeing tenors and maturities being pushed out to more than 10 years with fairly attractive rates.

Interest rates on bank debt are 225 to 300 basis points above LIBOR and about 50 basis points higher in the capital markets.

MR. CHAUDHRY: What about the term B market. Is that market available? Is it liquid?

MR. FOUTS: It is probably not open today. It probably was a month to two months ago. We have not seen it play an active role in the renewables sector; it is kind of an on-again-off-again market.

Debt

MR. CHAUDHRY: So the bank market is one of the most liquid markets. Mike Canavan, as a banker, what impact are the troubles in Europe having on the bank market for renewables projects in the United States?

MR. CANAVAN: Bank debt is available and is usually the most efficient source of capital for construction financing and working capital facilities. The tenors for term debt are being pushed out, even past 15 years. It is mainly the smaller European banks that are offering the longest tenors; not all institutions are prepared to go out that far. My sense is that tenors will shorten a bit due to liquidity concerns and that developers will look at hybrid structures where the banks provide construction debt and working capital facilities and the institutional or capital markets provide the term debt.

MR. CHAUDHRY: Steve Greenwald, you also told me the B loan market has been closed for the last month or two. What happened during that period to shut down the market? Is it the sovereign worries in Europe or something else?

MR. GREENWALD: It is just overall market conditions. The B loan market tends to run in sync with the high-yield market. We have done a few wind deals in the B loan market, but that market has never been a primary source of funds for wind and solar projects. The way I characterize the B loan market is that if you cannot borrow from a bank because the project credit is just a little too dicey for the bank market, you give it a go with the B loan market, but that market still requires a mid-to-low BB rating or BA rating from Moodys and getting that rating for some of these projects is tough.

MR. CHAUDHRY: There has been a sense this year that it has been easier for developers to borrow money, but then the acquisition debt for Calpine to acquire Conectiv assets flexed up two weeks ago by 200 basis points. What does that say about the market?

MR. GREENWALD: The deal got caught up in a storm over the last few weeks, but it got done. It was the same across all markets — debt, equity, high yield. You saw a flight to quality with yields falling on 10-year Treasuries as people rushed to safety.

Technology Risk

MR. CHAUDHRY: John Eber, are there certain types of projects or certain types of technologies that you think are more suited to certain sources of capital?

MR. EBER: If you are talking about the tax equity marketplace, it is focused really on proven technology. It has been hard for new technologies to get financed in either the tax equity or the debt market.

MR. CHAUDHRY: What about a solar thermal project, for example? What are the financing prospects for such projects in the bank or bond market?

MR. GREENWALD: I think really the issue is size. Solar thermal

is clearly a proven technology. I think you could raise $700 million to $1 billion in debt for a solar thermal project provided you get an investment-grade rating and provided the sponsor is one of the top three in the market and the debt can be raised without a DOE loan guarantee. You would have to use a combination of banks and institutional funds, whether it is through a private placement or a section 144A offering. The project will need an investment grade rating. DOE has a BB threshold for its guarantees. The project would certainly have to have at least a BBB rating.

MR. CHAUDHRY: Michael Caravan, is there an optimal size that the bank or bond markets will finance? Steve Greenwald just talked about a $1 billion deal possibly getting done. The Ruby gas pipeline deal that closed recently was $3+ billion project.

MR. GREENWALD: Ruby was looking for $1.5 billion of debt and we raised well over $2 billion for it, but it was about as plain vanilla as it gets. I don't think there is a financing being contemplated in this room that will fit the mold of a classic project financing and is down the middle of the fairway.

MR. CARAVAN: I think the optimal size is somewhere in the $300 million range. For pure bank debt, Steve is right. Once the project requires more than $500 to $750 million in debt, it will require an institutional debt tranche as well as bank debt.

We were in the market talking about a solar construction revolver recently, and everyone assumed unfortunately that it would work like the Calpine revolver, and that is not what we were trying to do. I was struck by how steep a learning curve there still is with a lot of the banks on solar.

I agree that solar thermal is a proven technology, but I don't think a lot of commercial banks would touch it right now.

Give me a $300 to $350 million utility-scale photovoltaic project with an investment-grade and a strong power purchase agreement, but if the debt required is in the $500 to $750 million range or higher, I think you will struggle to raise all that debt solely in the bank market.

MR. EBER: I agree with that. We did a $250 million solar thermal deal a couple of years ago. It is only one that has closed in the US since 1991 and it was very difficult to get it covered even at $250 million. We had about half of that in tax equity and the other half was in bank debt. It took a technology that had been around for 15 years as well as very strong support from the sponsor to make that happen.

Steve calls the solar thermal technologies proven, but there is more than one type of solar thermal */ continued page 4*

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More importantly, it would limit depreciation and other tax losses that certain partners in a partnership are allocated for use as shelter against income only from that partnership. If this principle were applied to wind, solar, geothermal and other renewable energy projects, it could reduce the value of tax subsidies on such projects.

Many renewable energy projects in the United States are owned by limited liability companies treated as partnerships. The bill does not create problems for any project that is owned by a single LLC or partnership. However, the depreciation limit could come into play if there are two or more tiers of LLCs treated as partnerships. An example is where a project is owned by an LLC partnership and one of the partners is itself an LLC partnership.

The change in tax character of the income and restrictions on use of depreciation apply to anyone holding an "investment services partnership interest."

That's a partnership interest where two things are true. One is that the partnership holds the types of assets that hedge funds or private equity funds hold typically — stock in corporations, interests in other partnerships, real estate held for rental or investment, commodities or options or derivative contracts. The other thing that must be true is that the partner must be engaged in managing, acquiring or disposing of assets belonging to the partnership that fall into those categories or arranging financing for them.

It is not uncommon in the renewable energy sector for a small developer to sell an interest in a project to a larger developer while the project is still under development. They form a partnership. Later, another investor is brought in to provide capital. The partnership of the small developer and larger developer becomes a partner in a new partnership with the investor and the project is contributed to the new partnership. The developer partnership keeps a substantial role in the ongo- */ continued page 5*

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technology and a couple years doesn't quite make it with an investment community that is looking for something that has been operating 10 or 15 years before it considers the technology proven. That's why everyone is focusing on PV. That is what is most manageable in the near term, because it is an accepted technology and you can break it down into smaller pieces for financing.

MR. CHAUDHRY: John Eber, staying with proven technologies, what about new entries to proven technologies? I am thinking here about Chinese turbine and Chinese solar panel manufacturers. Can such turbines or solar panels get financing in this market in the US?

MR. EBER: The ones that are not yet proven in the US market may have trouble in the near term. Most will probably be financed by the manufacturers themselves.

MR. CHAUDHRY: John Tanyeri, what is your view?

MR. TANYERI: I agree. I think it will be difficult to finance projects using such equipment.

Let me also add to something that John said earlier. Speaking as an institutional lender, one of the concerns that we do have when faced with a proven technology versus a revolutionary technology is it is possible to structure around some of the unknowns with proven technology. For example, no one knows what are the long-term operating costs of a solar plant — PV or solar thermal. It is an easier issue to structure around with a proven technology than it is for a revolutionary technology.

Looking Forward

MR. CHAUDHRY: I want to look forward and have each of you make a projection. Project over the next six to 12 months what are the most significant changes you expect to see in the way capital is raised? Steve Greenwald, let's start with you.

MR. GREENWALD: Within the next 12 months, we will actually see some DOE money come out the door, and that will be a big change because, so far, I don't think a dollar has come out the door. God bless those guys.

MR. CANAVAN: I think you will see tenors coming in a little bit on the bank side and more use of hybrid structures that combine bank debt with institutional or capital markets debt.

MR. FOUTS: I would say the tax equity market improves to a point where we see deals getting done that we have not been able to do recently, driven by the big financial institutions returning to having reasonable tax appetites.

MR. EBER: I think the tax equity market has already come back. Even though we have not seen a lot of closings this year, a number of deals are in the process of closing now. The market is much stronger today than it was a year ago. More than $2 billion in tax equity deals have already awarded this year. That is more than we did all of last year. We are on a pace to doing as much as we did in 2007, which was the high water mark in terms of tax equity deal volume in the renewables market. New players are coming into the market. This will take some of the pressure off if Congress fails to extend the cash grant program or fails to extend it in the form we want. A healthy tax equity market means the industry will at least have a means to finance itself.

MR. TANYERI: The sovereign debt crisis in Europe will start to affect us in the United States and be somewhat disinflationary for the US. There could be a substantial move in the yield curve, especially at the back end. That would allow institutional investors with long-term liability financing needs to match up perfectly against power purchase agreements that are also long term. I hope Mike Canavan is correct that the banks will retrench from their 15- to 17-year floating rate loans and we can pick up market share.

Current Terms

MR. CHAUDHRY: I want to do a series of rapid-fire questions to get a sense as to current market terms. What type of leverage is being offered in the bank market right now, Mike Canavan?

MR. CANAVAN: Banks wants a 1.4 coverage ratio. This assumes the project has a power purchase agreement with a creditworthy offtaker. Debt covers 50% to 60% of the project cost in a typical renewable energy project. It covers a larger percentage of cost for a thermal project.

MR. TANYERI: It is the same story on the institutional side. We are looking for an investment grade credit rating with a debt service coverage ratio of 1.4.

MR. CHAUDHRY: What about tenor?

MR. CANAVAN: We are seeing 15+ years in the bank market with a few deals between 10 and 15. Going forward, loans will probably still be in the 10- to 15-year range, with 15 being a little long.

MR. TANYERI: We have so many mini and maxi perm structures, but we are starting to move away from them. Sponsors are looking for longer deals, and the forecast of 10 to 15 years seems reasonable.

MR. CHAUDHRY: What type of pricing do you see in the debt market?

MR. Canavan: In 2009 and early, a 3% to 3.5%% spread above LIBOR was typical. As we get farther into 2010, for well-structured renewable energy projects, we have broken the 3% barrier and we are now down to 2.75. There is at least one deal in the market currently starting at 2.50. Clearly, spreads are compressing. On upfront fees, the same thing is happening. Such fees were typically 3% and above in 2009. We are now seeing deals with upfront fees of 2.5% and even 2.25%. The 3% floor for both rates and upfront fees has been broken coming into 2010.

MR. TANYERI: On the investment grade side, we are flirting with that Treasuries plus 3%.

MR. CHAUDHRY: Capital markets?

MR. FOUTS: It is probably 50 basis points wide of that. The European debt crisis probably has affected the capital markets a little more than the bank market. We have seen some of the outflows from mutual funds reverse in the past six months, but people are still tapping the brakes.

MR. GREENWALD: I have a question for the other panelists. I heard two of you say tenors are only 10 to 15 years in the capital markets. I would have said 20 to 30 years. At least we tell our clients that if you have a 25-year power purchase agreement, we will lend you 25-year money.

MR. TANYERI: We will, too. However, I have not seen it happen in practice. Bank financing is obviously the most liquid type of financing, and we have seen it move from the mini-perm firm structure out to the 15-year part of the curve. The 15-year part of the curve is pretty much a place that is being played mainly by some of European banks.

DOE Loan Guarantees

MR. CHAUDHRY: Let's move to DOE guarantee. Steve Greenwald, only one guarantee has been issued to date. To my knowledge, there are roughly another 10 commitments, all for new technologies, and there has been no commitment under the section 1705 program. [*Ed.* The first commitment for a guarantee under the section 1705 program was issued a week later.] My question to you is, is the DOE program for real or is it just a lottery?

MR. GREENWALD: I don't know. I hope it is for real, but as someone said, "Hope is not a strategy." I think they really want to get deals out and my perception about the section 1705 program is that the blame for the slowness of it does not necessarily all rest with the government. The */ continued page 6*

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ing development of the project.

It is unclear whether the developer partnership could be caught by the bill.

Some financing structures in use in the renewable energy sector where debt or tax equity is brought into an intermediate-tier entity that is a partnership or where "back-levered" or portfolio debt is borrowed at the sponsor level against the interest of the sponsor in a project owned by a partnership also have the potential to bring a partner under the bill.

Discussions are underway with the tax staffs in Congress about these issues.

The carried interest provision was attached to a "tax extenders" bill that fell victim to a Republican filibuster in the Senate in June. However, it is likely to be enacted sometime this year if Congress can manage to pass any new tax legislation. The reason is Congress has run out of ideas to increase revenue to offset any new tax benefits that it wants to create and new tax reductions must be balanced by tax increases elsewhere. Earlier opposition to the carried interest provision in the Senate has largely evaporated.

The proposal would apply to sales of covered partnership interests after 2010 and to losses allocated to partners holding covered partnership interests in tax years ending after 2010.

Congress has complained for years about how complicated the US tax code has become. Negotiations in the Senate, before the tax extenders bill failed, led to a compromise where only 50% of income from sale of a covered partnership interest would be taxed as ordinary income and the rest as capital gain, increasing to 65% in 2013. However, the share that would be taxed as ordinary income would be only 55% for interests held for at least seven years.

BUSINESS METHODS AND TAX STRATEGIES may be possible to patent after a US Supreme Court decision in late June, but which business methods are patentable re- */ continued page 7*

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section 1703 program is a different story. It has been nothing short of a travesty. But my observation about the section 1705 program is that the deals that have been handed to DOE have been mature enough, frankly, they were not the kind of deals that DOE hoped to see under section 1705, that is, deals that are really circled up, have gone through credit committee and are just waiting for the government to check the box and provide an 80% loan guarantee.

The tax equity market is on track to do the same number of deals as in 2007.

The deals they have been seeing are less mature than that and would not have been able to close even in the best of markets, say in 2007 before the economy collapsed. There may be problems with the power purchase agreement, maybe the final consents have not been received or there are still holes in the construction contracts.

MR. EBER: It is a Catch 22 program. Wind developers whose projects are properly buttoned up do not bother going to DOE. They need to close on financing. They go to the private market because they need to get it done.

MR. GREENWALD: All I am saying is the jury is still out on the section 1705 program. There are problems with the program, but it is too early to write it off altogether.

MR. CHAUDHRY: If a developer comes to you with a project that can be financed in the bank or bond market without a DOE guarantee, but there are potentially significant cost savings with a DOE guarantee, Jon Fouts, what do you advise a client?

MR. FOUTS: It depends on the project, but I can't think of a situation where we have advised a client to go through the DOE process on a wind deal because the process of developing and constructing a wind project is short enough that it is better get the project built rather than sit in limbo while waiting for DOE. Now on a gasification plant or other large project, we will talk about it. On a solar deal, if the project is all wrapped up and can get through the DOE, those are the projects you can finance without a federal loan guarantee. It is the stuff that is tougher to do for which you need the DOE loan guarantee and, in that case, you can't get it through DOE anyway. It is a very awkward situation.

MR. EBER: I have talked to numerous people working in the program, many of whom are private contractors who came out of banks and insurance companies. They are being asked to review applications as if they were still working in the private sector. They are getting deals that are difficult to finance in the private sector — which are precisely the sorts of deals the program was supposed to support — and turning them down on grounds that they cannot be financed in the private sector. They are trying their best to make the program work, but there is a fundamental conceptual issue.

MR. CHAUDHRY: And just to put on the table what the allure of the DOE is, Steve Greenwald, what is the difference in pricing between a DOE deal and a deal without a DOE guarantee?

MR. GREENWALD: If you are talking about projects with commercially-proven technologies, it is probably close to 150 basis points, so it is not chicken feed.

MR. TANYERI: Some of the sponsors are being advised that maybe the 150 basis points isn't worth it and it is time to get the shovels in the ground. We are typical project finance lenders. We understand the risk. We are willing to be paid to take that risk. Having a DOE loan guarantee is not going to change our credit underwriting principles in terms of whether or not we are willing to lend. We are not going to put more risk on the books because the repayment of the loan is guaranteed in part by the government.

MR. CHAUDHRY: Mike Canavan, the lender is the applicant as opposed to the developer under the section 1705 program. How are banks reacting to that? Is it a quirky process? Are you comfortable doing that?

MR. CANAVAN: We don't mind. I have to agree with the others. When we talk to our clients and they ask whether they should try for a DOE loan guarantee, there is a measure of time when the due diligence overlaps for both markets so you can say, "Sure, throw in a first-phase application and see how it goes." The application process is somewhat of a free option, right? You get the application in and then you just assess your timeline and it depends on how important the guarantee is to the project economics whether you continue once the private financing is ready to roll.

I'm less optimistic than the others that the program will bear any fruit. Even if the project makes it far along in the DOE process, there is always the risk of the government raising a big issue at the 11th hour and then it taking another year to work through the process anew.

There is also the problem that banks do not want to hold the paper for the full term of the DOE guarantee.

MR. CHAUDHRY: Steve Greenwald, is that what DOE is requiring?

MR. GREENWALD: There is no way we are holding paper for 25 years. I am lucky if I can get us to hold paper for five years sometimes. I think the route we plan to go is to bring in another bank to be the administrative agent and trustee for the full term of the paper. One transaction on which we are working currently will involve a couple banks, ourselves and another bank, holding paper for a relatively short period of time, and then we hope to structure a special purpose vehicle that strips out the bulk of the debt into triple A and triple B pieces and the trustee for those bondholders will also be the administrative agent for the banks and do all the work with the DOE. This has not been fully tested. We don't know yet how the government will react.

MR. CHAUDHRY: Last question on the DOE program before we move on. There was also a lot of talk about intercreditor issues. Have those been sorted out or do they remain murky?

MR. CANAVAN: They have been sorted out from a term sheet prospective, but more work remains to be done on them before any deals close.

Treasury Cash Grants

MR. CHAUDHRY: Let's move on to cash grant tax equity as the next source of capital. The Treasury cash grant program is set to expire at the end of the year except for projects that commence construction by December. Is the program likely to be extended? John Eber, what are you hearing?

MR. EBER: The only thing that has been */ continued page 8*

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mains unclear.

Bernard Bilski applied to the US Patent Office to patent a strategy for hedging risk when buying energy commodities. Both the Patent Office and, later, a federal appeals court rejected the application on grounds that the proposed invention was purely a mental process of doing mathematical calculations to determine how best to hedge a particular risk and then identifying and executing a transaction that the calculations suggested would be a good hedge. Both suggested that the idea was unpatentable unless Bilski could show a connection to a mechanical device or a transformation of an article into a different state or thing.

A unanimous Supreme Court agreed in late June that the idea was unpatentable, calling it too abstract, but it rejected the notion that only inventions involving machinery or physical transformations are eligible for patents.

The justices could not agree beyond that where to draw lines. Five of the nine justices signed a majority opinion that suggested that only a narrow range of business methods are likely to qualify for patents. The other four justices joined in three concurring opinions concluding basically that business methods are not patentable.

Many tax lawyers are concerned that allowing patents on tax strategies would let someone essentially charge rent for use of the US tax code and turn transactions into potential minefields because royalties could have to be paid, retroactively to the date of the patent application, to any patent holder who manages to patent a strategy involved in the transaction. The Patent Office had granted 65 patents on tax strategies through April 2008. Most applicants claim a computer is needed to implement their ideas. One application by a law firm for a patent on the "prepaid service contract" structure used to finance at least three wind farms was rejected by the Patent Office and was withdrawn.

The Internal Revenue Service has proposed adding transactions that */ continued page 9*

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officially proposed as far as I know is the refundable tax credit bill that has support in the House. [*Ed:* Senator Maria Cantwell (D.-Washington) attempted unsuccessfully later in June to amend a "tax extenders" bill in the Senate to extend the program. See the next article entitled "Cash Grant Update."] That seems to have the best chance right now. The industry would prefer a simple extension of the current program, but the House tax committee staff does not view that as a realistic option. The House proposal is revolutionary and has the potential to change the tax credit industry permanently going forward if it becomes law. The primary difference between it and what we have now is timing on when the cash is received. It could be as long as a year and half after a project is completed under the House proposal, compared to what is supposed to be 60 days under the current program, but recently has worksed out to as long as 120 days in fact.

MR. CHAUDHRY: If Congress ends up passing the House proposal, do you think projects can still get financed? Will banks still provide bridge loans against the future cash grant?

MR. EBER: It is the same benefit as before. It just comes later in time. If the proposal is structured properly by Congress, equity bridge loans should still work.

MR. CHAUDHRY: Mike Canavan, are banks fully financing cash grant bridge loans in the current market?

MR. CANAVAN: Yes. They have gotten comfortable with the existing cash grant program and the risks involved in lending against a future grant.

MR. EBER: The bridge often comes from the tax equity investor rather than a bank. All the tax equity deals being done are essentially financing in part for the grants. Whether the tax equity is financing the grant for 120 days or a year and a half, it is the same risk.

MR. CHAUDHRY: I take it an equity bridge loan is not an interesting product for an institutional investor like you, John Tanyeri.

MR. TANYERI: We provide some tax equity as well. I agree with John. Whether we are exposed for 60 days, 120 days or a year and a half, it is the same risk.

MR. CHAUDHRY: Jon Fouts, are lenders comfortable with recapture risk with respect to these cash grants where certain things happen after the cash grant comes in and the Treasury wants the cash back?

MR. FOUTS: As long as you have a perfected lien on the assets, yes.

MR. CHAUDHRY: Wouldn't a lender also look for sponsor recourse on the recapture liability?

MR. FOUTS: Generally not.

MR. CHAUDHRY: After the cash grant is received, do lenders allow the project company to distribute any part of it to the sponsor, assuming the cash grant bridge loan has been repaid? Would you allow some to go the sponsors to reduce the leverage?

MR. FOUTS: In terms of sponsors taking money off the table at that point, generally not. We like to keep the money in the deal.

MR. CHAUDHRY: In light of these cash grants that are available, John Eber, why would a developer still look for tax equity?

MR. EBER: Part of the tax subsidy on these projects is in the form of depreciation. Sponsors appear to be foregoing tax equity on about half the deals in the current market, keeping the grant and relying solely on debt.

MR. CHAUDHRY: How is the uncertainty about extension of the cash grant program affecting your deal pipeline?

MR. EBER: It is not affecting the pipeline of what we are working on today, but it is accelerating projects because of the rush to get construction underway by year end to qualify for a grant. Regardless of what happens with the cash grant program, there will be a substantial number of cash grant deals in the market at least through mid-year next year.

MR. CHAUDHRY: How many deals were done in the tax equity market in 2009?

MR. EBER: We track the wind market a lot more closely than we do the other markets because it is an easier market in which to collect data. We saw 16 tax equity deals close in the wind market in 2009 funded with about $1.8 billion in tax equity. We have already seen the same deal volume in terms of awards in the first five months of 2010. That's why I am expecting a strong year in the tax equity market.

MR. CHAUDHRY: What are you projecting for 2010 in terms of the number of deals?

MR. EBER: I don't make projections. Let's just say we already have 11 deals awarded for $2 billion worth of tax equity, an that is just in wind alone. Only a few solar deals have been in the market so far this year. There are a lot of solar deals that are likely hit the market in the second half of the year, as well as additional wind projects. I think it will be a strong year.

M&A Market

MR. CHAUDHRY: Moving to our last topic, Jon Fouts, how much M&A activity did you see last year and what change do you see this year?

MR. FOUTS: We are running at $2 billion so far this year in private equity or alternative investment into the renewable energy sector. The volume is up about 25% to 30% from last year. I expect to see pretty strong activity going forward for this year.

The drivers have changed. Smaller developers are thinking this is a good time to sell given the need to get projects under construction by year end. The tax equity market is rebounding. Power purchase agreements are still very difficult to get utilities to sign. The renewed interest of Asian and European investors in the US market is helping. Then some of the big corporates that have renewable portfolios also are looking for other sources of capital to help fund growth.

MR. CHAUDHRY: How aggressively do you see lenders backing bidders on M&A transactions?

MR. FOUTS: A well structured transaction with a good PPA and proven technology will get backing.

MR. CANAVAN: You can get the debt. I don't think that is the gating issue with deal volume in the M&A market. There were a couple large wind portfolios on the market recently. I will run the debt at x debt service coverage ratio. I will lever it up to the next percentage, depending on the strength of the power contracts and so on. Then is becomes a question of equity. Some portfolios have bee pulled from the market. The sellers are wondering whether the bidders will come in with the right returns to allow them to reach the minimum prices the sellers need to sell.

MR. TANYERI: There is no question that acquisition debt is available to buy project pipelines. We saw a nice lift in terms of how people were valuing pipelines in the first quarter of this year. If only the market felt better, given what is happening in Europe. We have seen equity returns go back up significantly lately for pipelines, meaning valuations have come down.

Cash Grant Update

by Keith Martin and John Marciano, in Washington

The US Treasury Department posted a series of questions and answers to its website in late June to help project developers understand what they must do by year end to be considered to have started construction of wind, solar and */ continued page 10*

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use patented tax strategies to a list of transactions that must be reported to the agency as potential tax shelters.

The Supreme Court case is Bilski v. Kappos. *The decision is expected to lead to more litigation.*

A CARBON TAX imposed by a US county is headed to court.

Montgomery County, Maryland imposed a tax of $5 a ton on carbon emissions from stationary sources — for example, from power plants as opposed to cars. The tax only applies to entities owning sources that emit more than 1 million tons of carbon a year.

Mirant, a large US independent power company, filed suit in federal district court in June charging that the tax only applies to it and, as such, violates three provisions of the US constitution. The company owns the only power plant in the county, the 835-megawatt Dickerson power plant that has three coal-fired units and two units that run on natural gas and oil. The company said the tax is an unconstitutional "bill of attainder," or seizing of property by legislative act aimed at a single person, and that it also violates a guarantee in the 14th amendment to the US constitution to equal protection under the laws and in the 8th amendment against "excessive fines."

The county estimates the tax will raise $11.1 million a year. The first payment is due on July 30.

TAX INDEMNITY CLAIMS were upheld against a lessee.

The case holds lessons for lenders.

Most US airlines have used lease financing when buying new aircraft. They cannot use the depreciation deductions on the aircraft or interest deductions on borrowed money to buy them. Therefore, a tax equity investor buys the aircraft, paying around 20% of the purchase price out of its pocket and borrowing the rest from a bank. It claims the depreciation and */ continued page 11*

Treasury Cash Grant

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other renewable energy projects.

Projects must be under construction by December to qualify for cash grants from the US Treasury for 30% of the project cost. The grants are part of an economic stimulus program that the Obama administration put through Congress in February 2009. The grants only apply to projects that are completed in 2009 or 2010 or that start construction in 2009 or 2010.

There are two ways to prove a project is under construction.

Many developers had been focusing on showing they started "physical work of a significant nature" during 2010.

However, the latest guidance may shift attention back to trying to prove that the developer incurred more than 5% of the project cost by year end, the other way of proving that construction started this year.

Continuous Construction

The reason is the Treasury said that construction must be continuous once a developer claims he started construction by commencing physical work. There is no requirement for continuous construction under the 5% test.

Before the latest guidance, many developers had soured on the 5% test after a disappointing meeting between wind turbine manufacturers and the Treasury on April 6 that suggested the 5% test would be tough to meet.

The Treasury said:

> [it] will closely scrutinize construction activity that does not involve a continuous program of construction or a contractual obligation to undertake and complete within a reasonable time, a continuous program of construction. Disruptions in the work schedule that are beyond the applicant's control (for example, unusual weather or a site at which work can only be performed during certain seasons) will be taken into account in determining whether or not an applicant has undertaken a continuous program of construction.

Lenders who have been making equity bridge loans against future Treasury cash grants will have to evaluate the additional risk that a grant will not be paid on grounds that construction was not continuous. A senior Treasury source said the intention was not to audit construction progress, but avoid criticism from Congress that a developer "could put down a slab" and then do nothing for another year.

Chadbourne had expressed the view to Treasury that it is important for a developer to be able to meet any such requirement for continuous construction based on its reasonable expectation in 2010. The Treasury addressed this by suggesting it will look for "a continuous program of construction or a contractual obligation to undertake and complete within a reasonable time" (emphasis added). Ellen Neubauer, the cash grant program manager, confirmed that was the intention. If physical work begins under a contract, she said, it will meet the continuous construction requirement if the contract requires that the work be completed within a reasonable time and any disruptions or delays are beyond the control of the developer.

Other Developments

In other developments, the Treasury released a checklist in mid-June for developers to use when applying for cash grants. The Treasury is required by statute to pay grants within 60 days of receiving an application. It had been paying grants in as little as two to three weeks early in the year. However, by spring, grants were taking longer than 60 days. The checklist is supposed to help applicants avoid followup questions that delay payment.

The National Renewable Energy Laboratory (NREL), which reviews the grant applications for the Treasury, has been asking more questions recently about the tax bases claimed by grant applicants. The grants are 30% of the "tax basis" that the owner has in the equipment at a project.

NREL is not simply accepting the tax bases claimed and has been asking questions in at least two situations.

One is where owners of solar photovoltaic equipment claim a higher cost or value for solar panels than the panels can be purchased from competitors. The other is where the amounts claimed as basis in any renewable energy project seem high in relation to the bases being claimed by other grant applicants. In the latter situation, NREL has probed to see whether the reason for the higher basis is impermissible mark ups on intercompany payments. For example, US tax regulations bar mark ups on equipment or services supplied by one corporation to another corporation in the same consolidated tax group.

At least one solar company filed suit against the government in federal court charging that the Treasury refused illegally to pay it $2.33 million in cash grants after the company applied for the grants in August 2009. The company, Pure Power Development, mounts solar panels on flat-bed trucks. Neither the complaint by the company nor the government's response

filed in late May sheds light on why the company ran into problems.

An effort to extend the cash grant program by giving developers until 2012 to start construction came up short in the US Senate in June after a bill extending unemployment benefits to the long-term unemployed and a variety of expired tax benefits fell victim to a Republican filibuster.

Senator Maria Cantwell (D.-Washington) had planned to try to amend the bill during Senate debate. The renewable energy trade associations are eyeing an energy bill that the Senate may take up as early as July as another possible vehicle for an extension.

Most lobbyists give an extension a little better than a 50-50 chance. The tax-writing committee in the House favors an extension, but would convert the program into a tax refund program in order to avoid having to ask the spending committees for more money. The government would pretend that developers overpaid their taxes by 30% of the project cost. Developers could then apply for the money back. This would work like the current cash grant program, except that the tax refunds would not be paid until the year after a project is completed.

The outlook in the Senate is less clear. The Cantwell amendment would have left the existing program intact by merely changing dates. Some members of Congress like the stimulative effect of having a year-end deadline, even if the program is extended later.

None of the extension proposals would extend the existing deadlines to complete projects — only to start construction. The current deadlines to complete are 2012 for wind farms, 2013 for geothermal, biomass, landfill gas, incremental hydroelectric and ocean energy projects, and 2016 for solar and fuel cell projects.

One of several possible complications for the extension effort is the staff of the Joint Committee on Taxation is reassessing what the program costs the government. It estimated in 2009 when the original program was enacted that the grants would cost the government only $5 million, on the theory that they merely substitute for tax credits that would have been claimed otherwise. The committee staff is debating whether the program has caused more construction of renewable energy projects in the United States than would have occurred without the program.

Proof of Construction

Developers planning to claim grants on / continued page 12

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interest deductions and leases the aircraft to the airline for a reduced rent that reflects a sharing of the tax benefits.

Delta Air Lines defaulted on three such aircraft leases with Northwestern Mutual Life, AT&T Credit and the DFO Partnership when the airline went bankrupt in 2005.

The lenders in the transactions foreclosed on the aircraft, the leases were set aside in bankruptcy and the aircraft were sold with approval of the bankruptcy court. The new owners entered into new leases with Delta. The bankruptcy trustee approved a formula for compensating the tax equity investors in the old leases.

Delta had promised the tax equity investors in separate tax indemnity agreements signed in connection with the original leases that it would compensate them for any recapture of depreciation deductions on the aircraft in the event of a foreclosure and sale. It also promised in the leases themselves to pay an amount called the "stipulated loss value" of the aircraft in the event the leases terminated early. The stipulated loss value was supposed to repay the remaining debt outstanding at termination and enable the tax equity investors to reach their expected returns.

The tax indemnity agreements were written so that Delta would not have to pay both a tax indemnity and stipulated loss value. Each of them had slightly different wording. For example, one said that Delta did not have to pay a tax indemnity after any event that "required" it to pay stipulated loss value. Another said Delta did not have to pay a tax indemnity where it pays stipulated loss value "or an amount determined by reference thereto."

The bankruptcy relieved Delta from having to pay stipulated loss value, but not from the tax indemnity obligations.

Nevertheless, Delta persuaded the bankruptcy court that the way the tax indemnity agreements were worded meant its obligation to indemnify the tax equity investors for loss of depreciation was never triggered. It said the event was one for which the / continued page 13

Treasury Cash Grant

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projects that were merely under construction by year end will have to submit proof. The Treasury said in late June that it will want statements from contractors and independent engineers "under penalties of perjury" to confirm that construction started.

Developers should be sure to write into contracts with vendors that they will require such statements.

The Treasury said any developer relying on the physical work test for a project that will receive a cash grant of at least $300,000 must submit a report from "an independent engineer, signed under penalties of perjury, describing the project's eligibility; including a detailed construction schedule; estimated budget for the project and a description of the work that has commenced including any invoices for the work performed."

The US Treasury explained what must happen for a project to be considered under construction by year end

If the physical work is done by a contractor — for example, a wind turbine or solar module supplier — the grant application must also include a copy of the contract and a "statement from the contractor, signed under penalties of perjury, describing the work that has commenced and certifying that the work commenced pursuant to the binding written contract."

A developer relying on the 5% test for a project that will receive a grant of at least $300,000 must submit a statement from an independent accountant confirming the method of accounting used (*e.g.*, accrual) and stating "the amount that has been incurred before the end of 2010; a detailed description of the costs incurred; and an estimate of" expected eligible tax basis. The statement must also attach invoices or other financial records to prove the dollar amounts claimed.

In addition, if some of the spending was by a contractor, the grant application must include a statement from the contractor, signed under penalties of perjury, attesting to the costs incurred on the project in 2010.

Physical Work

The Treasury said it is enough to start work in 2010 on even one wind turbine for a project as long as the turbine was ordered under a binding contract and the continuous construction requirement is met.

Work on roads on the site counts as the start of physical work. However, the roads must be roads used to move fuel — for example, at a biomass project — or spare parts needed during the operating phase. Roads do not count if they merely provide access during construction or will be used solely by employees to get to and from work.

Dismantling an existing facility to start work on a new one does not count.

Putting up a tortoise fence at a solar project does not count.

A developer can count the start of physical assembly of turbines or solar modules at a factory even though the project site has not been identified yet. The site does not have to be identified even by October 1, 2011, which is the deadline for all remaining grant applications to be submitted for projects that are still under construction. The site, once designated, can change without losing the right to a grant.

5% Test

The Treasury confirmed that costs do not count as "incurred" in 2010 until there is delivery of equipment or services or at least passage of title from the contractor to the developer. It is generally not enough merely to have paid for equipment.

The Treasury said equipment — for example, a wind turbine — may be considered to have been delivered even though it remains in storage at the manufacturer's factory. One of the answers posted to the Treasury website in June said, "Property is provided to the applicant either when title to the property passes to the applicant or when it is delivered to or accepted by the applicant, depending on the applicant's method of account-

ing." A senior Treasury source said the phrase "depending on the applicant's method of accounting" means the developer must be consistent. If it has been treating costs as incurred for tax purposes on its past tax returns when title passes, then it must look to title. If it has focused in the past on delivery, then it must continue to do so. The source said a developer cannot choose passage of title or delivery, whichever occurs first.

The Treasury confirmed that it is applying a 3 1/2 month rule. Costs are not incurred until title passage or delivery, with one exception. They are incurred when payment is made if delivery or title passage is expected within 3 1/2 months of payment. Some wind companies had asked that the 3 1/2 months be measured from December 31, 2010, so that payments any time during 2010 would count if delivery occurs by April 15, 2011. The Treasury said no.

A turbine vendor or other equipment supplier cannot count the cost of components that it pulls out of inventory. The grant is supposed to stimulate new manufacturing.

The developer can rely on a statement by the equipment supplier about the costs it incurred. The supplier must sign the statement under penalties of perjury.

Other Issues Addressed

Large wind companies sign frame agreements under which they order turbines for multiple projects. Later, when turbines are designated for use in a particular project, a "daughter" contract is signed between the turbine supplier and the project company basically copying out terms from the frame agreement.

The Treasury said that any grandfather rights established in a project under the frame agreement will carry over to the project company.

A developer can apply for a grant after the developer believes it started construction without waiting for the project to be placed in service. The Treasury said it will respond whether it agrees that construction started, although the assurance may not stand up if new facts come to light that were not disclosed by the developer.

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documents "required" it to pay stipulated loss value (even though it may not have done so in fact). It had paid an amount that was "determined by reference to" stipulated loss value.

The tax equity investors won on appeal. A federal appeals court in New York said the contracts should be read to give effect to what the parties intended. They clearly intended that a tax indemnity would be paid unless the investors were compensated for the same loss through stipulated loss value.

The case is *Northwestern Mutual Life Insurance Co. v. Delta Air Lines*. The 2d circuit court of appeals released the decision on June 22.

> *Lenders have not traditionally paid attention to what the tax indemnity agreement says as it has been viewed as a document solely between the lessee and the tax equity investor. Lenders may want to make sure in the future that tax indemnity claims cannot be asserted after a lessee bankruptcy unless the lenders have received full repayment of the debt.*

THE HAWAII LEGISLATURE voted to suspend tax credits for high-technology investments and infrastructure repairs to close a budget shortfall.

Some wind and solar companies had factored the tax credit for high-technology investments into their calculations for projects already built in Hawaii. The credits are taken over five years. Last year, lawmakers scaled back the amount of the credit and restricted investors without Hawaii tax liability from transferring their credits to Hawaii-based investors, typically in exchange for an equity investment in the project.

In late April this year, the Hawaii legislature voted to suspend credits that taxpayers had planned to claim in 2010, 2011 and 2012 on investments that have already been made. The changes are projected to raise $93 million a year in each of the three years. Affected companies have threatened suit, charging that the suspension violates their rights to / *continued page 15*

Wind and Solar Valuations: Too Low, Too High or Just Right?

M&A deal volume was down about 60% in the US power sector in 2009, but it is expected to be more brisk this year driven partly by a year-end deadline to start construction of renewable energy projects to qualify for Treasury cash grants under the US economic stimulus program. Developers with too little capital to start construction of projects may be some of the prime sellers. A number of wind and solar companies with both operating assets and pipelines of projects under development are also either currently for sale or are expected to be put up for sale. At least one wind company, First Wind, tested the public equity market with an initial public offering of shares, but pulled back the offering due to poor market conditions.

Four experts from consultancies that have been advising buyers and sellers of wind and solar projects participated in an Infocast webinar in late April about whether buyers are overpaying or underpaying for such projects. The following is an edited transcript. The panelists are Ted Brandt, chief executive officer of Marathon Capital, which has run several prominent recent auctions of wind and solar portfolios, Prescott Hartshorne, vice president of Concentric Energy Advisors, Ben Jacoby, managing director of CP Energy Group, and Mike King, senior vice president of NERA Economic Consulting. The moderator is Keith Martin with Chadbourne in Washington.

MR. MARTIN: Mike King, you argue that wind and solar assets are overvalued. Why?

MR. KING: Public policy has been instrumental in making these projects profitable, but they are only profitable when one considers either the subsidies or the mandates that are placed upon utilities to buy the output from them. Few of these projects would be economic if those subsidies and mandates were to fall away. Power from them costs more than from conventional sources. If the public policy supports were to be withdrawn, the values would collapse. To the extent the prices in long-term power contracts are above market, one would expect utilities to chafe at paying such prices over time and try to find a way out of paying such prices.

MR. MARTIN: We have seen some evidence of your last point with Southern California Edison taking the position that it does not have to buy electricity under existing contracts whose price is above current market, although I think Edison has told the industry that renewable generators misunderstand its position.

MR. KING: The Los Angeles Department of Water and Power, a municipally-owned utility, is perhaps a better example where the rate path has become very significant and the utility is looking for an energy cost adjustment clause. The politics of rate increases have become so significant that the city council refused the utility any ability to raise its rates. The utility responded by refusing to pay its franchise fee to the city. This is an example of ratepayer or political backlash driving utilities to look for ways to avoid buying renewable energy at high prices.

MR. MARTIN: So what if electricity from renewables costs more today than electricity generated from fossil fuels. Do you think that is a permanent condition or do you buy the industry's view that over time it will reach grid parity?

MR. KING: There is the larger market in which the industry competes, and there are also issues with the projects themselves. Starting with the market, new drilling techniques have dramatically increased the supply of natural gas and there is little reason to believe that gas prices will return to levels above $10 an mcf. Another market factor is electricity demand has fallen significantly but partly to a weak economy, but also to a major push by the government to promote energy efficiency. There is little reason to build new generation other than to meet the mandates of renewables themselves.

That brings us to the projects themselves. The margins in most of these projects are very thin, at least for the ones that I have evaluated and I have looked at quite a number of them. There is also a lot of technology risk. For example, many solar thermal projects are close to first-of-a-kind technology. Projected improvements in PV technology are such that if you buy today, you may regret later. There are also issues associated with resource risk. What has been observed in wind is that when wind patterns come together, they are not independent. Wind forecasts have been too optimistic. Project developers and lenders have underestimated the risk of the project themselves.

All of these factors combined can lead one to a view that some of these projects may be overvalued.

MR. MARTIN: It is very hard to predict where prices will be 10 or 20 years from now. Fuel prices go up and down. Do you buy the portfolio theory view that the greater volatility in fossil fuel prices means that utilities are better off having a mix that includes renewables? They end up paying less for electricity in the long run.

MR. KING: I agree that utilities are wise to have a mix that

includes some renewables in their portfolios. It is an appropriate risk insurance. However, I also believe that these projects and these technologies will become cheaper over time as they are more are deployed. Investing today in renewables is important to drive the learning curve effect that brings down the cost of these technologies over time. That does not mean that projects being built today will see as robust economics as some people may hope for.

PPA Drives Value

MR. MARTIN: Ted Brandt, you have several large portfolios of projects in the market for sale and you are trying to get the highest price for them. How do you respond to Mike King's critique?

MR. BRANDT: What is really driving values in the wind and solar markets are the power purchase agreements. There is very little appetite in the market for merchant projects, even though there is no variable cost in a wind or solar project. Most of the value being assigned to these projects is in the PPA.

It is not as easy as before for a developer to get a PPA for his project. A number of utilities are "full up on wind." Others that are very much nearing capacity and cannot deal with the demand for a lot more contracts.

It is good news that the costs of wind and solar electricity are falling. There are a lot of hungry construction and balance-of-plant contractors that are bidding more and more aggressively. Current solar panel prices and turbine prices do not leave much margin for the manufacturers. These are all positive things on the cost side but, at the end of the day, the value in most of these companies is really around the power contract. Very, very late stage projects are the most likely to land contracts.

MR. MARTIN: Ben Jacoby, Mike King said that people may be overvaluing wind and solar projects because they are not taking into account the risks that public policy supports might disappear and technology might change. Ted Brandt said the value is driven by the power contracts on these projects. Where do you come out in this debate?

MR. JACOBY: I think it is important to distinguish operating projects from development-stage projects. You come to very different points on valuation and very different metrics. With operating projects, you can come to a precise value based on an after-tax weighed average cost of capital and the projected revenue stream. From my perspective, if we are talking about operating projects at a particular point in time, I do not really think of them as over valued or under / *continued page 16*

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"due process" under the US constitution. The state attorney general suggested in an opinion that that the action is constitutional; the tax credits are merely deferred rather than taken away.

The legislature also voted to deny the tax credits on any new investments after April this year, seven months earlier than they were already scheduled to expire. The governor is expected to sign both bills, but had not done so before the *NewsWire* went to press.

The case shows the risk that developers run with multi-year benefits as an incentive to invest in a projects when states become desperate for revenue.

ARIZONA enacted two measures in May to encourage use of renewable energy in the state.

One extends an existing investment tax credit for 10% of the cost of solar energy devices installed in commercial and industrial settings for another six years through 2018. The credit is limited to $25,000 per building and $50,000 per taxpayer per year.

Another allows production tax credits 1¢ a kilowatt hour to be claimed on electricity generated from wind and biomass projects and 4¢ a kilowatt hour to be claimed on solar electricity, with the solar amount decreasing to 1¢ over the period the credits are claimed. The credits run for 10 years after equipment is put into service. They apply to equipment installed after this year. Taxpayers must apply to the state for an allocation. There are only $20 million in total credits available to allocate per year. No more than $2 million in credits may be claimed per project. The project must be at least five megawatts in size. Although a company must apply for credits each year, once it is put on the list, it will receive credits for the full 10 years.

The measures are HB 2700 and SB 1254. The governor signed both in early May.

TAX CREDITS that reward companies for producing landfill gas, refined / *continued page 17*

Valuations

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valued. I think of them as valued based on current market yields.

MR. MARTIN: Prescott Hartshorne, your view?

MR. HARTSHORNE: I agree with Ben about operating projects. As for development-stage projects, there is continued demand for electricity from such projects driven by state renewable portfolio standards. Utilities are still putting out periodic solicitations for electricity from such projects, with the pricing driven to an extent by the level of alternative compliance payment that must be paid for falling short on renewables targets.

That said, there is not much value to assign to a project before it has a PPA. There is still a lot of risk that a project will not be built before it has a PPA and an interconnection agreement to allow it to connect to the grid. There is not much firmness in development pipelines.

MR. JACOBY: If the Treasury cash grant program falls away and we are back to an investment tax credit for solar or an investment credit or production tax credits for wind, there will be a significant upward adjustment in the rates of return that tax equity investors, who supply a significant of capital to this market, will require to invest. There will be a larger supply and demand imbalance than there is today. Tax equity is in short supply.

MR. MARTIN: And as a consequence, people would pay less for projects?

MR. JACOBY: Yes.

MR. MARTIN: Ted Brandt, what effect do you see falling natural gas prices having on valuations in the auctions that have you have been running?

MR. BRANDT: A significant effect, particularly if the project expects to have a significant merchant tail after the power contract ends. Most bidders appear to be assuming gas prices of $3.50 an mcf for as far as we can see. Wind has always competed with gas, but the argument the last number of years has been high volatility and high prices made wind look good. We now have wind competing with wind and now the whole class competing with gas around the presumption that we will have an unlimited supply of $3.50 gas and there id no question it will put huge pressure not only on electricity price forecasts but also on what utilities are prepared to pay for contracted power.

MR. MARTIN: Are people dropping out of auctions because of this or are they simply bidding lower numbers?

MR. BRANDT: They are bidding lower numbers. We are seeing more utilities that want to fulfill their obligations to supply a certain percentage of their electricity from renewables by owning the projects themselves. This is making the IPP model that we have had in this country since the late 1970's more challenging.

Bidders are assigning little value to development projects until the projects have power contracts.

MR. KING: Utilities look at these PPAs as liabilities on their balance sheets. This is another source of pressure for them to own projects directly rather than sign long-term PPAs to buy the electricity.

Price Ranges

MR. MARTIN: Let me get to the bottom line. Is there a way to say what is the price today for a contracted project? Let's say it has just been built and has just commenced commercial operation. How much are people willing to pay for that project per megawatt of installed capacity? Can anyone give a range?

MR. JACOBY: I think you can give a range in terms of weighted cost of capital.

For wind, what we see typically in this market is around 8.5% after tax through year 20. Look at your contracted revenue, which might include a forward sales contact for renewable energy credits, but would not include any revenue that is not contacted, put in your tax assumptions, and discount back the contracted revenue stream at an 8.5% rate.

MR. MARTIN: What do you do about the residual?

MR. JACOBY: In our experience, most bidders assume a zero residual.

MR. MARTIN: Does it matter whether it is already operating or just about to start construction?

MR. JACOBY: No, but if it is already operating, that means that it has already been financed, and that allows for greater precision in terms of cost of capital in the calculation.

MR. MARTIN: Where is that leading today in terms of price per megawatt of installed capacity for a typical project?

MR. JACOBY: From what we see, wind is in the low $2 million range per megawatt, but the price varies by region. The value is the spread of the after-tax cash flow over the bare cost to construct cost.

MR. MARTIN: Any other thoughts on what values buyers are placing on these projects in the current market?

MR. BRANDT: Our experience may be a little different. We always try to tell buyers that the cost of capital is 8.5%, but most buyers have been pushing back and have been thinking that the cost of capital, particularly when you throw in efficient tax equity, has been a bit higher than that. That said, costs have been coming down. They are probably down 10% in terms of the actual cost to construct a project. All of that does not translate into the bottom line given the way the investment credit or Treasury cash grant and depreciation work, but it is still a help.

Our experience has been most projects are bid around 9.5% to 10% unleveraged after-tax rates of return, and the difference between cost of capital of 8.5% to 9% tends to be between $75,000 and $200,000 per megawatt, exclusive of what it actually costs to build the project. That value tends to be available to developers reasonably efficiently in the market from a number of pretty hungry buyers that either are long turbines or short projects.

There has been clearly been a big preference in the market for projects that qualify for Treasury cash grants.

The payments tend to come partly at closing — reimbursement of costs and some of the developer fee at closing — with the balance being paid at the end of construction.

Solar is different because there has been so much movement on both power prices and panel prices. Our view there is that the range is as low as $75,000 a megawatt and as high as $300,000, depending on the profitability of the deal.

MR. JACOBY: Which in part has something to do with the quality of the resource.

MR. BRANDT: The quality of the resource, / *continued page 18*

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coal or electricity from renewable energy sources risk being denied unless the gas, coal or electricity is put to a beneficial use, an internal IRS memo suggests.

The memo addressed a landfill gas project. The US government used to allow owners of gas collection equipment at landfills to claim tax credits of more than $1 an mmBtu for collecting methane gas from the decomposing rubbish, provided the gas was "sold" to an unrelated party.

In the case addressed in the memo, company X, which owned the gas collection equipment, agreed to convey all the gas it collected to company Y, the holder of the rights to remove gas from the landfill, in exchange for temporary use of the gas rights. Company Y simply flared the gas.

The IRS said no credits were allowed. The particular tax credits were enacted after the Arab oil embargo in the 1970's with the aim of inducing US companies to look in unconventional places for fuel in the hope that this would help reduce US demand for Middle Eastern oil. The gas in this case was not of sufficient purity to be burned to generate electricity or heat or to put into a natural gas pipeline, the IRS said. Therefore, no unconventional "fuel" was produced as required by the statute.

The tax credits could only be claimed if the fuel was "sold" to an unrelated party. Congress wanted a paper trail where a third party vouches for the quantity of fuel on which a taxpayer claims tax credits. In this case, the fuel was exchanged for gas rights with the result that nothing was paid for it in cash. The IRS said that was fine: "any transfer to an unrelated person . . . qualifies as a sale."

The memo is Chief Counsel Advice 201017043. The IRS released a redacted version under a standing Freedom of Information Act order in May.

AN INCOME DEFERRAL STRATEGY was rejected in a road project.

Koch Industries signed a / *continued page 19*

Valuations

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the power price, the scale of the deal, the types of panels.

MR. MARTIN: These are prices for contracted assets?

MR. BRANDT: Correct. I would not say that there is zero value for merchant assets, particularly in constrained areas where somebody has a wide-open transmission line or there are very strong solar or a wind resources. There is still a significant amount of value that the market will assign, albeit back-loaded. However, generally speaking, the market today turns on contracted assets.

Development Pipelines

MR. MARTIN: Is any value being assigned to projects that are under development but are not expected to be completed until after 2011?

MR. BRANDT: There is some value, but it tends to be contingent, back-ended and significantly less than where we were in 2006 and 2007 when there was an expectation that we were going to be the next Germany or Spain.

MR. MARTIN: So if pipeline assets — projects that are merely under development — get sold, it will be for some form of earn out as opposed to an up-front agreement on the value of such assets?

MR. BRANDT: That's right. The general way that these deals are getting done today is reimbursement of hard expenses, some premium largely justified by the contracted assets where there is a clear path to construction or the projects have already been constructed, and that tends to be on a hard number calculating by discounting contracted revenue, and then there is some additional value, both upfront and generally contingent, that gets paid to shareholders and management teams based upon what actually gets done over the next three, four or five years.

MR. MARTIN: Prescott Hartshorne, Senators Kerry and Lieberman are angling to have a carbon control bill taken up by the Senate this summer. What effect do you see enactment of carbon controls or a national energy standard having on valuations or has the market already taken the possibility of such measures into account?

MR. HARTSHORNE: I don't foresee an RES having a large incremental value over the existing renewable portfolio standards at the state level. The primary reason for that is the states most affected by a national standard are those in the southeast. The remaining states would still be governed by RPS programs at the state level. Those programs have some headroom remaining, but it has already been factored into pricing.

MR. MARTIN: What happens if goes Congress moves forward on carbon, about which I think a lot of people are skeptical at the moment. If it does, do you see a big boost to valuations?

MR. HARTSHORNE: Not a large boost to valuation. I think if it happened this year, it would be a big surprise, but one leading to just a small uptick.

MR. KING: Our modeling suggests that a US carbon regime would not cause an increase in the amount of renewable energy overall beyond the bit you see from the current renewable portfolio programs at the state level. Absent significantly more stringent carbon regulation that we have seen in the versions of bills that have been proposed to date, we do not see much upside from passing carbon other than to cause natural gas prices and the costs of electricity from gas-fired power plants to rise somewhat modestly.

MR. MARTIN: Ted Brandt, suppose you are looking at investing equity in a wind developer with just a pipeline of projects. You said people are not ascribing much value to pipelines, certainly not for projects that will not be completed by the end next year. How do you decide how much of a company you should receive in exchange for agreeing to put in capital in the future to build such projects?

MR. BRANDT: It depends on who is making the valuation. A European developer with a successful portfolio of assets in Europe who is seeking an American partner may have a less predatory view than a financial player. A financial player would focus on how much money has been spent and how much value created. I would never say there is no value in development rights where someone has measured the wind, controlled the land and has begun transmission studies. Generally, the market will reimburse some measure of cost plus a premium on top of that, but a strategic investor would tend to assign a greater value to the development work. A pre-construction value would be established, a new money commitment would be given and the math would lead to x percentage of the company for the investor.

The dilution a lot of times will occur at the project level as opposed to the holdco level.

Interest in Solar

MR. MARTIN: Moving to solar, most activity in the solar

market lately has been rooftop solar PV installations. There has been some utility-scale PV. There are some huge solar thermal projects that will come to market later. Have you seen much consolidation of solar companies or sales of projects? Ted Brandt, I think you said you have two portfolios in the market.

MR. BRANDT: It is interesting to contrast solar to wind where there has been consolidation. The solar business has resisted consolidation. There are still lots of new startups appearing in the market. They struggle to find scale. There are a number of well-funded IPPs and utilities who are trawling the market looking for solar companies to consolidate and bring into some kind of scale. By and large, the solar developers have not been interested in being acquired. Meanwhile, the financial players have not been particularly interested in the sector and those that were interested seem to be exiting.

MR. JACOBY: Wind and solar are different products. Solar is distributed generation. The regulated utilities already have access to the customers. For example, Southern California Edison is looking at very large programs to deploy solar to those customers. The problem for financial investors is when you are talking about distributed generation, the bite-size is often too small. You typically need to have the financing commitment in place before the orders can be secured, and there is a whole credit analysis and administration of the credits that is much more cumbersome than for utility-scale projects.

MR. KING: Rooftop PV is much more expensive than utility-scale PV. That has to do with the economies of scale, the issues associated with putting solar panels on rooftops even if the roofs are over large warehouses. There are also issues about ownership of the PV systems, the attachment to property that someone else owns. It is a lot more difficult to do distributed-type PV projects as opposed to large-scale utility PV projects.

MR. BRANDT: We have seen some pretty nice margins in the distributed generation market. You are dealing with a small scale, but the electricity is sold into the retail market at a substantially higher price than the wholesale prices charged in a utility-scale project. This can make a huge difference in value.

MR. MARTIN: So that margin is also a developer's profit. What would you say is a profit in this market?

MR. JACOBY: The point is distributed generation, particularly at the residential level, is complex. It is costly to deploy, but the residential market is a very large market. It is much, much larger than the utility-scale market will ever be for solar when taken in the aggregate. The issue is how do you best attack that, and it seems that in the long-run, the best parties */ continued page 20*

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contract with New Mexico to expand State Highway 44 using a new polymer-modified asphalt that was supposed to last much longer than normal asphalt and to save the state money in the long run on road maintenance even though the state had to spend more at the start of construction. Koch offered customers a 15-year warranty on the product in order to help with sales.

The State Highway 44 project was divided into two phases. Phase one was the initial construction work that Koch did on expanding the road. Phase two was a rehabilitation phase that required Koch to maintain the road for 21.5 years under a contract called a "Pavement Warranty" and to maintain bridges, drainage ditches and other structures for 11.5 years under another contract called a "Structure Warranty." Both contracts had baselines against which normal deterioration was measured. Although some work was virtually certain to have to be done during the rehabilitation phase, it was only required once the condition of the pavement or structures fell below the performance baselines.

Koch received $62 million in advance for its work under the two contracts. It took the position that it could spread the taxable income over the contract terms under a special rule for long-term contracts for the "manufacture, building, installation, or construction of property" that allows payments received under such contracts to be reported as income over time based on the percentage of the job that is completed each year during the contract term.

A federal appeals court said in late April that the full $62 million in income had to be reported upon receipt.

The court said the "manufacture, building, installation, or construction of property" had to be "necessary for the taxpayer's contractual obligations to be fulfilled" to qualify for long-term contract accounting. That was not true in this case because neither contract required Koch to do anything unless the pavement and structures failed to meet performance standards. In other words, they were warranties */ continued page 21*

Valuations

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to tackle that market are the regulated utilities that already have homeowner credit risk. In a place like California where the top-tier retail electricity rate is $470 a megawatt hour, deploying rooftop solar clearly makes sense.

MR. MARTIN: What's different about valuing a wind farm or wind company versus a solar project or solar company?

MR. HARTSHORNE: Start with the primary technical differences. Wind and solar are very obviously different technologies, and you need to understand the operating and technology risks. Moving to the company level, distributed solar requires a good sales force and good contracting capabilities because you are doing the same small deal over and over again.

Bids placed on contracted projects assume a cost of capital of between 8.5% and 10%.

MR. BRANDT: A wind farm has an exponentially larger number of moving parts compared to a solar PV project. There is a general belief that what is in the *pro forma* for a solar project is more defensible than what has been in *pro formas* for wind projects, given recent operating history with wind farms and the gap between forecasted output and what has actually been produced. The wind forecasts have been too optimistic.

Solar thermal has its own challenges. You are talking about scaling something up to levels at which it has not been scaled previously.

MR. JACOBY: One of the challenges with solar thermal is you need a much longer forward commitment from the investors than you do for solar PV because you are talking about specialized equipment, a longer development cycle and a longer construction cycle.

Returning to solar PV and differences in valuations, if you look at the financing available for solar PV, it is cheaper than for wind in part due to less variability in the resource and in part due to the fact that total operating expenses are much, much less as a percentage of gross revenue for a solar PV project than for a wind project, and that means you have much less variability in cash flow.

Recent Movement in Prices

MR. MARTIN: Ted Brandt, what direction have prices been moving in auctions of wind farms over the past year?

MR. BRANDT: Slightly up, but still down substantially from where they were before the financial meltdown. We are now starting to see buyers assign some value to early- and mid-stage assets as opposed to zero. There is still a reasonable bid-and-ask spread between what buyers are saying they are prepared to pay and what sellers think their projects are worth, but the spread is narrowing and is much tighter than it was six months ago.

MR. MARTIN: When you say significantly down, are prices down 30%, 40% from before the Lehman collapse?

MR. BRANDT: You are talking to a guy that made his living on selling distressed assets last year, so I don't think it was quite 30%. If we could sell a wind project that everybody would agree could be defensibly sold on a P50 pro forma and that was selling at an 8.5% to 9% after-tax unleveraged yield before Lehman collapsed, I would say last year we were seeing more like 11%, particularly production tax credit deals because there was such a limited audience. Yields for Treasury cash grant deals clearly have come back down, but I think I think such projects are still trading at higher than 8.5%.

MR. MARTIN: What about solar — same trend?

MR. BRANDT: Solar has really interesting dynamics in that the cost of delivering solar electricity is hitting new lows all the time. I am not sure whether it is achievable, but people are talking about installed costs of $3.50 on a fully delivered per watt basis. You can make a power purchase agreement at $140 or $150 a megawatt hour work in California at that price. There has been a move toward volume ground-mounted systems. They are more interesting to large investors than rooftop.

MR. JACOBY: We see about a 50 basis point reduction in the

cost of capital for utility-scale PV compared to wind.

MR. MARTIN: So people are assuming a lower cost of capital for utility-scale PV?

MR. BRANDT: Certainly lenders are.

MR. JACOBY: You can get longer lender debt. You can get a lower coverage ratio because, on a comparative basis, the lack of variability in revenue as compared to wind and the tax equity would slightly be cheaper.

MR. KING: I wonder how much this is just an issue of lender experience and that as these projects get a few years of operating history, and the lenders will start to see what the real issues are then they may reassess risk.

MR. MARTIN: You have been the bear in this discussion. Reassess the risk — move it upward or downward?

MR. KING: Upward.

MR. JACOBY: The variability in the solar resource has been less than for wind. If you talk about the desert southwest, moving from a P50 to P90 case is a 5% swing in output. Moving from a P50 to P90 for a wind farm is more like a 25% to 30% swing.

MR. KING: That's true but, just as in wind we had an issue where people thought that the draws from the wind distribution were independent and they are not, we know that there are cycles in weather and cloud cover that so while solar output may be less variable, whatever variability there is may come as a downside at once and affect the project pretty negatively. The other issue is water. You have to have a substantial amount of water to clean the solar panels and the scarcity of water, the price of water and the availability of water may significantly affect these projects going forward. There are risks tied to the immaturity of the projects. As we get more experience, people will reassess risk.

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rather than construction contracts.

The case is *Koch Industries v. United States.*

GREEN MANUFACTURERS may get additional tax credits from Congress, but a key US Senator is concerned that the existing tax credits confer an advantage on US manufacturers who import components from overseas.

Congress authorized $2.3 billion in tax credits as part of an economic stimulus bill in 2009 to encourage construction of new factories in the United States for manufacturing wind turbines, solar panels and other products for the green economy. The credits are 30% of the cost of new equipment installed in such factories. They are in section 48C of the US tax code.

Companies had to apply to the IRS and the US Department of Energy for an allocation. The government awarded all the credits in January this year. There is a good chance that any energy bill Congress passes this year will authorize additional tax credits.

The existing statute directs the government to give a preference to factories whose products are expected to have the lowest levelized cost of generated or stored energy "based on the costs of the full supply chain" when evaluating applications. Senator Jeff Bingaman (D.-New Mexico), chairman of the Senate Energy Committee, expressed concern at a hearing in May that the stipulation creates a bias in favor of manufacturers who import low-cost components to assemble into finished products in the United States.

Even if Congress fails this year to provide more credits, there is a good chance that the IRS will have more to allocate anyway as a number of companies look likely to turn back credits they were unable to use.

The IRS has told companies that were awarded tax credits that they risk losing them if they delay construction of factories, move the locations or alter other material facts that led to selection of their proposals.

The companies who re- */ continued page 23*

Revamped Solar Initiative in New Jersey

by Todd Alexander and Chadron Edwards, in New York

New Jersey has been a good market for solar developers, but recent legislative changes have created more opportunities, especially for developers of utility-scale projects.

New Jersey is the fifth smallest US state by area, but it has more solar installations than any other state except for California. The primary reason is a solar renewable portfolio standard that the state has had in place since 2004. It requires electric utilities in New Jersey to turn in renewable energy credits each year for generating electricity from solar facilities the utilities own, or by purchasing such credits from independent solar generators, representing 306 gigawatt hours of power production between June 2010 and May 2011. This amount is scheduled to increase to 5,316 gigawatt hours by 2026. The program has created a solar-only renewable energy credit market.

Table 1 shows the amount of solar RECs — called SRECs — that New Jersey utilities are required to have each year over time. The credits are measured in megawatt hours. Any utility that fails to turn in the required number of credits must make solar alternative compliance payments — called SACPs — to the state in the amount of that year's predetermined SACP price (currently at $675) per megawatt hour of shortfall. This places a cap on how much a utility will be willing to pay for credits in the open market.

Recent legislative changes have increased predictability of pricing and reduced the regulatory risk for new entrants into the market.

SREC Program

The New Jersey renewable portfolio standard, or RPS, promotes a wide variety of alternative energy technologies, including wind, biomass, landfill gas and hydroelectric generation. These sources are split into class I and class II, with the more technologically-advanced generation methods in class I. Since 2004, solar has been separated from both classes and given its own mandated level of use within the overall New Jersey RPS. The financial effect of this approach becomes clear when observing the price of credits. From June 2008 to September 2009, class I credits sold at an estimated average of $12 per megawatt hour and class II credits sold at an estimated average of $1 per megawatt hour. During the same period, SRECs sold at a weighted-average price of $544.85 per megawatt hour.

Table 1: SREC Requirements and SACP Price by Energy Year

Energy Year	SREC Requirement (gWh)	% Increase in SREC Requirement	SACP Price
2009	130*	–	$711
2010	180**	38%**	$693
2011	306	70%	$675
2012	442	44%	$658
2013	596	34%	$641
2014	772	29%	$625
2015	965	25%	$609
2016	1,150	19%	$594
2017	1,357	18%	†
2018	1,591	17%	†
2019	1,858	17%	†
2020	2,164	16%	†
2021	2,518	16%	†
2022	2,928	16%	†
2023	3,433	17%	†
2024	3,989	16%	†
2025	4,610	15%	†
2026	5,316	15%	†

* Actual result reported by the New Jersey Office of Clean Energy.
** Estimate provided by the New Jersey Office of Clean Energy based on energy year 2009 consumption; actual amount will be 0.2210% of electricity sales.
† SACP prices for energy years 2017–2026 not yet published.

From 2004 to 2010, the solar set aside in the state RPS was expressed as a percentage of the overall RPS. However, the state converted the solar goal from a percentage of the RPS to an absolute megawatt hour target in January 2010. At the end of each energy year, June 1 to May 31, utilities are required to hold solar renewable energy credits based on their pro rata shares of all electricity supplied at retail in the state.

Prices for SACPs for utilities that fall short of their SREC holdings requirements are higher than for shortfalls in other RECs for which alternate compliance payments are made at a rate of $50 per credit. The market price for these alternate compliance payments is well above the current market price for credits at $12 and $1 for class I and class II RECs, respectively. The low prices for normal RECs is due to the ability to buy credits

from generators in neighboring states and the wider variety of technologies available for generating these types of credits.

Solar projects earn one SREC for each megawatt hour produced. SRECs are tracked on an electronic platform allowing real-time monitoring as well as trading of SRECs. SRECs are labeled with the vintage of the year in which they are produced, and may be sold in the current or next two energy years.

Projects generate SRECs for 15 years, after which point the projects produce less valuable class I credits.

Recent Legal and Regulatory Changes

New Jersey has made other recent changes to its program besides setting a fixed target for solar output in megawatt hours.

The solar output targets start at 306 gigawatt hours in 2011 and increase to 5,316 gigawatt hours in 2026.

The Public Utilities Commission has been directed to set solar alternative compliance payments for 15 years into the future rather than the current eight. Because SACPs must be purchased in the event of a shortage of SRECs, these projections of SACP prices provide support to future SREC prices. Table 1 shows the current SACP prices.

The state moved recently to allow SRECs to be traded for up to three years. Giving each credit a longer life makes it more likely that an independent generator will be able to get value for them. Buyers are more likely to commit to purchase them.

Historically, New Jersey delegated great power to regulators, who could change previously published SACP prices. This caused price uncertainty that impaired the financeability of solar projects.

The state now prohibits the Board of Public Utilities from reducing previously published SACP prices. Therefore, the price ceiling will not drop unexpectedly. Once published, project developers and their financing counterparties can only expect these amounts to change as a result of action by the New Jersey legislature — still a risk, but a diminished one.

The Board of Public Utilities is also barred legally from modifying certain solar-project related contracts entered into by electric utilities after the contracts have been approved. SREC purchase contracts with terms of 10 to 15 years have been successfully financed. However, current regulations cap project output levels at 500 kilowatts — well below the output of utility-scale projects.

The net metering cap of two megawatts has been eliminated, allowing projects of all sizes to benefit from net metering.

To avoid a long-term oversupply situation, */ continued page 24*

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ceived awards in January promised to build 183 new factories.

RUSSIA said that it will stop taxing capital gains on long-term foreign direct investments in the country after this year. Corporations pay tax at a 20% rate on capital gains when selling investments in Russia. Russian President Dmitry Medvedev made the announcement on June 8.

BRAZIL completed approval in May of a decree that limits the ability of Brazilian companies to transfer profits abroad to shareholders in tax havens as interest payments on inter-company loans.

The strategy is called "earnings stripping." Many companies use the strategy when setting up subsidiaries in other countries. Instead of capitalizing a subsidiary entirely with equity, the parent company puts part of the capital into the subsidiary in the form of a loan. This allows it to pull out profits as interest payments on the loan. Interest is deductible and reduces the tax base in the country where the subsidiary is located.

Brazil restricts the amount of interest that can be deducted to two times the net equity of the subsidiary. However, it reduced the limit last December in Decree No. 472 to 30% of the net equity in the case of inter-company loans paid to shareholders in tax havens.

The decree would have expired unless ratified by Congress. The Brazilian Senate completed Congressional approval on May 4.

NATURAL GAS purchased in Indiana by independent power companies for use in generating electricity is exempted from state gross receipts taxes, the Indiana tax court held in June.

Gross receipts taxes are equivalent to sales taxes. The taxes are collected only on retail sales as opposed to wholesale sales.

Mirant, a large US independent power company, argued that it should not have to pay gross receipts taxes on natural */ continued page 25*

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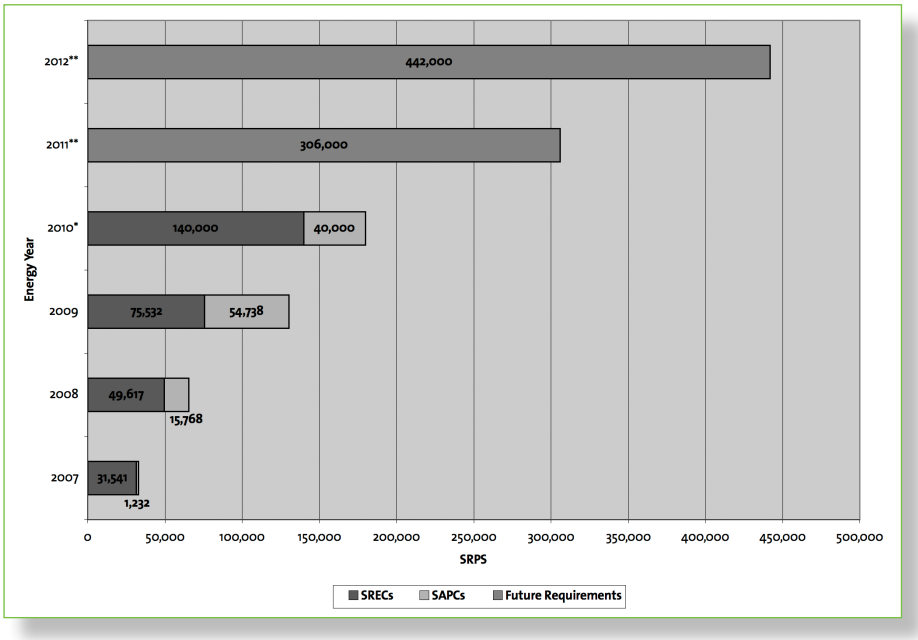
Table 2: 2007 to 2012 New Jersey Solar RPS Requirements



* Estimate provided by the New Jersey Office of Clean Energy.
** Solar RPS requirements for energy years 2011 and 2012 will be met by a combination of SACPs and SRECs based on future solar installations.

there will be an automatic 20% increase in the solar RPS target if the number of SRECs generated meets or exceeds the requirement for three consecutive reporting years starting with energy year 2013 and the average SREC price for all SRECs purchased by utilities decreases in the same three consecutive reporting years.

Monetizating SRECs

While the supply of SRECs in New Jersey is increasing due to continuing investment in solar projects, the solar RPS requirement continues to outpace production and is expected to do so for the foreseeable future. In energy year 2009, the solar RPS required 130,267 SRECs, but the market supplied only 75,532. According to the New Jersey Office of Clean Energy, based on energy year 2009 consumption levels, the 2010 solar RPS will require approximately 180,000 SRECs to be purchased while solar installations are expected to produce approximately 140,000 SRECs. The shortfall of 40,000 SRECs will be covered by SACPs at the 2010 rate of $693 per megawatt hour — totaling $27,272,000 in payments.

While additional projects will continue to come on line, the 2011 SRPS will require utilities to turn in 306,000 SRECs, representing an increase of approximately 70% from energy year 2010 projections. The SACP price in 2011 will be $675. This trend of rapid solar RPS requirement growth — over 20% per year — continues through energy year 2015, as shown in Table 1.

Table 2 shows the growth in the solar RPS standard from energy year 2007 to energy year 2012, as well as the mix of SRECs and SACPs used to meet these requirements.

New Jersey, like most states, is facing budget deficits. There has been no indication that the SREC program is in any danger since it is a source of funding for the state — not spending. However, the state has cut funding for a rebate program for small solar installations of up to 50 kilowatts.

Maximizing Value of SREC

There are several ways for developers, especially those seeking to develop utility-scale projects, to maximize the value of their SRECs, including demonstrating an ability to bring production on line in 2010 and 2011, addressing utility concerns that sellers will fail to deliver contracted SRECs, and adopting a strategy to match risk tolerance appropriately with the forward pricing curve.

Given the current shortage of SRECs, it is critical to show speed to market. Utilities are expected to be forced to pay the SACP during the near term to satisfy a portion of their requirements. Because most would prefer to be able to enter into negotiated agreements to lessen this cost and lend support to the solar industry, the shortage presents an immediate opportunity for developers with new SRECs.

However, the shortage of SRECs is not likely to last into the medium term in light of the increasing number of solar installations coming on line. The New Jersey Office of Clean Energy estimates that 69 megawatts of solar capacity will be installed in energy year 2010. SRECs produced in each succeeding energy year will not be as valuable because SACP prices decline over time.

Another means of maximizing the value of SRECs is to lessen purchaser risk of non-delivery. Utility experience to date is that many SREC contracts have been negotiated for projects that failed to deliver SRECs on time or at all. As result, the market is generally skeptical of new entrants. To date, companies have addressed this skepticism through a combination of demonstrating their experience in successful solar projects, presenting a record of on-time construction performance in other power projects, and, often times reluctantly, through the use of performance security in the form of letters of credit or guaranties.

The market for long-term SREC sales has not been very liquid. As a result, utility-scale projects will probably require strategies to use both bundled and unbundled sales to best match the forward price curve with the requirements of their equity investors and lenders. For instance, although lenders may express a strong preference for a single purchaser of all of a project's SRECs, this is currently difficult to achieve for larger projects because utilities are reluctant to become overly reliant on one supplier. This reluctance to enter into larger contracts may dissipate with time as the number of SRECs each utility must have continues to increase.

Unbundled sales are currently the most common approach to maximizing value. In this arrangement, the power generated from a project is sold separately from the SRECs.

SREC purchase agreements in the current market generally run three years, with five-year contracts less common but possible, and seven-year contracts rare and deeply discounted. In three-year contracts with creditworthy counterparties, reported SREC pricing has been in the $575 to $600 range. (The three-year average SACP price for 2011-2013 is $658.) In five-year contracts, reported SREC pricing for the fourth and fifth years has dropped to the $400 to $450 range. (The three-year average SACP price for 2014-2015 is $617.) Very few contracts over five years have been reported, making generalizations difficult, but the information available indicates a drop in SREC pricing in sixth and seventh years to between $200 and $300. (The 2016 SACP is $594; the 2017 SACP has not yet been published.)

Given the disparity between the long-term offers and SACP prices, it may be better not to contract for sales of SRECs longer than two to three years unless a long-term contract is needed to obtain financing.

In bundled sales, projects sell both electricity and SRECs to the same purchaser. A potential benefit to this approach is the certainty of revenue that it provides to financing parties and the possibility to avoid the steep discount in / *continued page 26*

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gas purchased from an out-of-state supplier to run its Sugar Creek power plant in Terre Haute, Indiana. The state argued the tax applied because Mirant was the end user of the gas. A "retail" sale — as distinguished from a wholesale sale — occurs when the product is not resold. The state argued that Mirant converted the gas into something else.

The state tax court agreed with Mirant. It said the tax is on "utility services." Mirant bought a utility service — gas — and then resold one — electricity.

The case is Mirant Sugar Creek, LLC v. Indiana Department of State Revenue. *The court rendered a decision in the case on June 16.*

MINOR MEMOS. The US effective tax rate on corporations, at 35%, is 6.2% higher than the average among G-7 countries and 15.5% higher than the average among the 30 OECD countries, according to a research paper released in May by the right-leaning Cato Institute in Washington. The paper said the United States relies on a high effective tax rate and narrow tax base that is whittled away by targeted tax incentives, in contrast to the approach in other countries of a broader tax base and lower rate. However, interestingly, the paper said that if a "depreciation bonus" that expired at the end of 2009 is taken in account, then the US effective rate drops to 27%. The US Senate was considering extending the bonus through 2010 as part of a "small business" tax bill that Senate leaders were trying to push past a Republican filibuster as the *NewsWire* went to press .... Many US companies are failing to withhold US taxes on payments of interest, royalties, fees for services and rents to foreign vendors, two senior IRS officials warned at a conference in New York on June 17. They said this is one of several areas where the IRS is getting tougher on enforcement.

— contributed by Keith Martin in Washington

Solar

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SREC pricing that we have witnessed in the unbundled market in contracts greater than three years.

Although this approach would be the easiest to finance, it has not been widely adopted because, as in unbundled sales, terms of greater than three years are rare given the regulatory uncertainty with longer contracts. There are indications that bundled contracts may be considered by utilities for utility-scale projects in limited circumstances.

Even in situations where a bundled or unbundled approach is taken, projects typically do not contract to sell the full amount of expected power and SRECs to minimize underproduction risk.

When less than all of the SRECs are sold in a contract, the remainder may be sold in the spot market. Numerous brokers and aggregators handle Dutch-auction or electronic market sales which, in energy year 2010, have led to sales of SRECs at or above 95% of the SACP price of $693.

The New UK Coalition Government's Green Agenda

by Paul White, in London

An innovative range of environmental policy initiatives has been announced by the new coalition government in Britain that builds on the promises made by the two coalition members in their recent general election manifestos.

During the election campaign, the Liberal Democrats in particular emphasised their green credentials claiming to be "the only party in British politics that can and will put the environment at the heart of government."

Although not all their policies are supported by the new government, David Cameron, the new prime minister, has appointed a Liberal Democrat, Christopher Huhne, to steer the government's green policies. The choice of a Liberal Democrat spokesman on environmental issues suggests that, besides an environmental agenda at home, the coalition can be expected to take a proactive role in the development of green policies both in the European Union and on the world stage.

For the most part, the pre-election promises of the three main parties on environmental issues were broadly similar, although the Liberal democrats provided more detail in terms of policies and financial commitments. In theory then, the promotion of green policies should be straightforward, but two factors may slow the process.

First, the UK is faced with a huge national deficit and the Treasury has embarked on the extensive program of cost savings that is unlikely to leave the green agenda unscathed. The first stage of cuts announced on May 24 has already seen a 5.3% reduction in the budget of the government department charged with overseeing the environment and rural affairs.

Second, and perhaps more surprisingly, there are indications that the British public's enthusiasm for green issues may have peaked. True, the Green Party won its first ever parliamentary seat in the general election, but the overall number of votes cast for the Green Party nationwide was negligible when compared to the votes for the three main parties. The general public's awareness of "green issues" has undoubtedly increased since the last general election. Nevertheless, the environment did not feature significantly as a party political issue during this election campaign. *The Guardian* newspaper's website reported the findings of a recent opinion poll in late May as showing that "popular concern about climate change has declined significantly, following this year's harsh winter and rows over statistics on global warming." At the same time, resistance to building new nuclear power stations appears to be slackening. The results of the "YouGov" poll, based on a sample of 4,300 adults questioned during the week after the general election, showed 62% interested in climate change down from 71% last year and 80% in 2006.

Thus, just as the coalition has announced its belief that climate change is one of the gravest threats we face with urgent action needed both at home and abroad and has promised a full program of measures to fulfil the ambitions of both parties for a low carbon and eco-friendly economy, two factors threaten to derail the initiative.

First, the parlous state of the nation's economy means that the pre-election promises of the Liberal Democrats that their government would fund green projects have now been quietly forgotten as the coalition looks predominantly to private sector funding. Second, we are unlikely to see any form of public backlash if environmental promises are weakened because, put simply, the UK public appears, for the present at least, to have other priorities.

Specifics

Within just a few days of forming the new coalition government, the Conservatives and Liberal Democrats published the terms of their coalition negotiations agreement setting out their joint policies on 11 specific areas including the "Environment." A few days later, they published "The Coalition: our programme for government" which builds on the initial paper and includes specific policy initiatives on "Energy and Climate Change" and "Environment, Food and Rural Affairs" together with green fiscal initiatives in the "Taxes" section.

The environmental policies appear to have been broadly welcomed by commentators and *The Financial Times* reported that analysts believe that a turnaround in renewable energy shares is likely to be triggered by the government's decision to keep green technology "on the agenda" and, in particular, its pledge to build on the previous government's commitment to create a green investment bank "to promote the green industries." Among other things, the green bank will provide financial products designed to enable individuals to invest in the infrastructure needed to support the new green economy. Also in the financial sector, the UK Trade and Investment and Export Credits Guarantee Department will be used to champion British companies that develop and export innovative green technologies around the world, instead of supporting investment in fossil-fuel energy production.

In order to encourage more environmentally-friendly means of transport and to "support sustainable travel initiatives," the coalition has promised to reform the way decisions are made on which transport projects to prioritize, so that the benefits of low-carbon proposals (including light railway schemes) are fully recognised. In an acknowledgment of the environmental impact of air travel as well as a means to increase tax revenues without directly affecting individuals, the government is to replace the UK's current system of a per person charge on passenger air transport by a per flight duty that will extend the charge to freight carriers. Controversial plans for a third runway at Heathrow, London's main airport, have been scrapped and no further runways will be permitted at two other airports serving London and the southeast of England at Gatwick and Stansted. The UK remains committed to the establishment of a high-speed rail network but the government acknowledges that financial constraints will require that this be achieved in phases. Finally on transport, the government has promised to mandate a national recharging network for electric and plug-in hybrid vehicles.

In the field of energy production and use, the government will increase the target for energy from renewable sources, subject to the advice of the Climate Change Committee, introduce measures to promote "a huge increase" in energy from waste through anaerobic digestion, encourage home energy efficiency improvements paid for by the savings from lower energy bills through the "Green Deal" initiative, take measures to improve energy efficiency in business and public sector buildings, reducing central government carbon emissions by 10% within 12 months, establish a smart grid and roll-out of smart meters, establish a full system of feed-in tariffs in electricity as well as the maintenance of banded renewable obligation certificates, introduce a floor price for carbon, and make efforts to persuade the EU to move towards full auctioning of Emissions Trading Scheme permits.

Nuclear

When the possibility of a coalition between the Conservative and Liberal Democratic Parties was first muted, the government's future policy on nuclear power had the potential to be an area of considerable friction between the two coalition members. Nuclear power was one of the few policy areas where the Conservatives and Liberal Democrats appeared to hold diametrically opposed positions. The Liberal Democrats have a long-standing opposition to nuclear power and their manifesto included an unequivocal promise that no new nuclear power stations would be built in the UK. By contrast, the Conservative party's position was actively to support the building of new nuclear power stations provided they could be funded entirely from the private sector without governement subsidies.

In practice the two parties' negotiating teams appear to have come to a compromise that broadly satisfies most party members despite the compromise position effectively being to adopt the Conservative Party's policy.

The agreed position is that the coalition government will complete, and promote before Parliament, a national planning statement that will allow existing nuclear power stations to be replaced by new nuclear power stations. This new build project will be conditional on the new power stations being entirely funded by the private sector.

In recognition of the fact that for many Liberal Democratic voters the party's stance in the nuclear debate was a defining aspect of the party — perhaps even, for some, the reason why they voted for the party — a Liberal Democrat spokesperson will be permitted to speak against the planning statement in the parliamentary debates on the new power */ continued page 28*

UK Agenda

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stations. However, in the final parliamentary vote the Liberal Democrat MPs will not be permitted to vote against the coalition's nuclear policy. Liberal Democrat MPs will be permitted to abstain in the vote, but as the Labour party supports the building of a new generation of nuclear power stations, the outcome of the vote is unlikely to be in doubt.

The French-owned company EDF Energy, which owns British Energy and already runs eight nuclear power stations in the UK, has repeated its belief that "nuclear power is the lowest cost low-carbon solution and can be built in the UK without subsidy." The company commissioned a poll to gauge the public's attitude to nuclear energy. Vincent de Rivaz, the chief executive of EDF Energy, says the results of the poll show "strong public support across voters from all three major political parties in favor of new nuclear build" and that opposition to new nuclear build has continued to fall. Even among Liberal Democrats, the poll apparently shows as many as 58% of supporters believe "nuclear energy has disadvantages, but the country needs it to be part of the energy balance," while slightly fewer, 47%, are in favor of the construction of new nuclear power stations and only 32% are opposed.

Other Initiatives

In relation to non-nuclear power stations, the government has promised an emissions performance standard that will prevent coal-fired power stations being built unless they are equipped with sufficient carbon capture and storage facilities to meet the new standard. Generally, public sector investment in carbon capture and storage technology will be continued for four coal-fired power stations.

At sea, the government will introduce measures to encourage marine energy and will deliver an offshore electricity grid in order to support the development of a new generation of offshore wind power. The Liberal Democrats' eye-catching manifesto promise to invest up to £400 million in the manufacture of offshore wind turbines and other marine renewable energy equipment in refurbished shipyards in the north of the UK has not found its way into the coalition's policy objectives.

The government has announced its belief that the environment needs to be protected for future generations and our economy needs to be made environmentally sustainable including working towards a zero waste economy, measures to make the import or possession of illegal timber a criminal offence, and measures to promote green spaces and wildlife corridors in order to halt the loss of habitats and restore bio-diversity.

The coalition's policy agreement has now been considered and approved by the Liberal Democrat party and the formal approval noted that the coalition's policies implemented key manifesto commitments including "a fair future, creating jobs by making Britain greener, [including] the creation of a green investment bank and measures to promote renewable energy and energy efficiency."

Perhaps as significant as the list of policies is the fact that the person appointed to be Energy and Climate Change Secretary in the new government is the Liberal Democrat's former spokesman on the environment and shadow Home Secretary, Mr. Chris Huhne. Mr Huhne was the runner up in the campaign to become leader of the Liberal Democrats in 2006, and his campaign highlighted the need for energy conservation, the reduction of carbon emissions and the importance of environmentally-friendly "eco-taxes" to combat global warming and climate change. He was an early UK advocate of the importance of tackling climate change — "first and foremost among the environmental threats" as long ago as 1990 in his book *Real World Economics*.

With exception of the nuclear power station question, there are few areas of significant polemical difference between the Conservative and Liberal Democrat parties on green issues. The main differences are of form rather than substance. The Liberal Democrats' pre-election environmental promises were more far reaching and detailed and, unlike the Conservatives, the Liberal Democrats actively promoted the UK as having a global role in the green debate. There would seem to be few policy reasons why the Conservatives in the coalition would oppose the Liberal Democrats in pushing forward their green agenda. That being the case, Mr. Huhne may have an unprecedented opportunity to make this coalition government the greenest UK government.

UK Enacts Sweeping Foreign Bribery Legislation

by Melanie Willems, in London, and Oliver Armas and J. Carson Pulley, in New York

A new Bribery Act that took effect in the United Kingdom in April will subject all companies incorporated or doing business

in the United Kingdom to criminal penalties if they pay bribes to win business in other countries.

The new law is broader in scope than the Foreign Corrupt Practices Act — commonly called the FCPA — in the United States.

It replaces old laws, found in the Prevention of Corruption Acts dating to around 1900, that had been criticized as insufficient to address bribery of foreign public officials effectively, in particular as regards establishing corporate liability.

The new English statute applies to bribes given to obtain business advantages in the private sector and not just the public sector. In other words, unlike under the FCPA, a bribe of a non-government official is prohibited under the new statute.

All companies incorporated in the UK, and all foreign companies that do business in the UK (wherever they are incorporated), should be aware of the new statute because the provisions requiring them to prevent bribery through "adequate measures" apply to all such companies. In addition, foreign companies not incorporated, but doing business in the UK can incur vicarious liability if they fail to take sufficient measures to prevent bribery by "associated persons" — which can relate to acts committed anywhere in the world.

Six Potential Offenses

The Bribery Act introduces more than six criminal offenses that cover bribing, being bribed and corporate responsibility for bribery in the course of business.

The new Act creates two general offences concerned with offering, promising or giving of an advantage, and requesting, agreeing to receive or accepting of an advantage (this is the primary, private sector offence). It introduces a separate specific offense of bribery of a foreign public official. It also creates a new corporate offense where a commercial organization fails to prevent a bribe made on its behalf, though it will be a defense if adequate procedures to prevent this had been put in place.

The provisions of the Bribery Act that introduce these new offenses use broad language and give the prosecuting authorities considerable discretion.

In addition to the wider scope and applicability of the Bribery Act, another notable difference between the Bribery Act and the FCPA is that the Bribery Act has no exemption for "facilitation payments" for "routine governmental action." This means that while so-called grease payments may be permitted under the FCPA, such payments may violate the Bribery Act. This gives companies that have grown accustomed to making facilitation payments further reason to take immediate note of this new legislation.

The penalties to be imposed under the Bribery Act are significant. The offenses of bribing another person, being bribed and bribing a foreign public official are punishable either by an unlimited fine, imprisonment of up to 10 years, or both. The new corporate offense of failure to prevent bribery is punishable by an unlimited fine.

Companies should acknowledge the broad scope of this new law, and ensure that they have in place "adequate measures designed to prevent bribery" that are tailored to this legislation. At a minimum, companies should evaluate their internal anti-bribery and corruption policies and determine whether adjustments should be made. Expect to see a significant increase in UK anti-corruption enforcement under the new Bribery Act in the immediate future.

Stepped Up Enforcement

Meanwhile, the United Kingdom is stepping up its efforts to curb corrupt business practices.

In February 2010, the UK fined BAE Systems, a maker of military planes and jets among other things, in connection with improper payments made to an official in Tanzania. Specifically, BAE had failed properly to record commissions paid to a marketing consultant involved in its sale of a radar system to Tanzania in 1999. The UK's Serious Fraud Office imposed approximately $50 million in fines and forced a charitable payment to Tanzania.

Notably, BAE also settled with U.S. Department of Justice for $400 million in relation to charges of conspiring to make false statements. The US charge related to a portion of the billions of dollars in payments that BAE is thought to have made to Saudi Arabian officials over a 20-year period, and to more than $200 million of business that the company won in arms deals involving the Czech Republic, Hungary and other countries.

In other FCPA-related activity, a UK court recently approved the extradition of UK nationals Wojciech Chodan and Jeffrey Tesler, a former Kellogg, Brown & Root LLC sales manager and a KBR agent, respectively, for prosecution in the United States for their alleged FCPA violations. The US Department of Justice unsealed the indictment Mr. Tesler and Mr. Chodan in March 2009 for their roles in a Halliburton and KBR bribery scheme, and charged Tesler and Chodan each with one count of conspiracy to violate the FCPA and 10 counts of violating the FCPA. The indictment charges that Tesler was an agent since 1995 for a four-company joint venture that was */ continued page 30*

Bribery

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awarded certain Nigerian liquefied natural gas plant construction contracts, and that Chodan and other co-conspirators used Tesler to bribe top-level Nigerian executive branch officials to be awarded the construction contracts.

The case highlights how US authorities, in conjunction with foreign governments, are now aggressively pursuing foreign citizens involved in FCPA violations. The US government is seeking forfeiture of more than $130 million, and the defendants face maximum prisons sentences of 55 years. The defendants are appealing the UK court's grant of extradition.

Use of Finance Subsidiaries in Malta And Belgium

by Klaus Sieker and Pia Dorfmueller, with Flick Gocke Schaumburg in Frankfurt

From a financing perspective, German and US multinational companies are facing similar challenges.

First, both countries are so-called high-tax jurisdictions — Germany with an effective tax burden of 30% and the US with a corporate tax rate of 35% — and multinational companies in both countries with investments abroad want to defer domestic taxation of foreign earnings until repatriation in the form of dividends, interest, royalties or other payments. Hence, many multinational companies hold their foreign assets though offshore holding companies in countries with lower tax rates in order to minimize the global effective tax rate.

Second, both countries have "controlled foreign corporation," or "CFC," statutes that prevent domestic corporations from delaying taxes on foreign earnings. Both countries look through offshore holding companies and tax any "passive" income received by the offshore holding companies without waiting for the earnings to be repatriated.

One significant difference between Germany and the United States is the membership of Germany in the European Union, which provides German companies with access to a common market without any tax obstacles.

Reducing the Costs of Financing

In Germany, companies are permitted under tax law to structure their investments in ways that minimize their tax liabilities, provided that they do not violate the letter or the intent of law. To minimize current tax liabilities, taxpayers often attempt to defer the recognition of taxable income.

If a direct or indirect subsidiary of a German company requires funds, a straight-forward, plain-vanilla loan from the German parent company to the foreign subsidiary would give rise to interest income in Germany. Such interest income would be subject to German taxation at approximately a 30% rate. Given the high tax rate in Germany, German companies usually prefer equity contributions to their foreign affiliates, assuming the effective tax rate abroad is lower than 30%, as dividends coming back to the German parent on the equity investment would generally be 95% exempt from German taxation. Thus, such dividends are taxed at a 1.5% rate (5% of 30%)). Hence, taxation of interest income would be avoided in Germany and the foreign source income could be deferred from German taxation in the case of a foreign subsidiary.

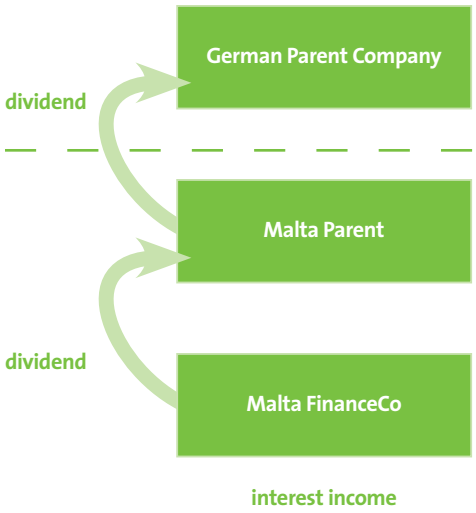
If significant financing is needed abroad and also if the German company is sitting on lots of cash, the German company will consider establishing a foreign finance subsidiary in order to reduce its global effective tax rate further. German companies frequently use Maltese and Belgian finance structures for this purpose.

Financing Through Malta

Malta is an archipelago situated centrally in the Mediterranean Sea. Malta covers just over 115 square miles in land area, making it one of Europe's smallest and most densely-populated countries. Its *de facto* capital is Valletta. Malta has been a member of the EU since May 2004, and it adopted the Euro in January 2008.

Many German companies use Maltese "international trading companies" as financial subsidiaries. Maltese ITCs are normal onshore companies that are established by non-residents and that deal only with non-residents. While the Maltese ITC pays the normal company flat rate tax of 35% on its profits, the non-resident shareholders' ultimate tax liability is 4.17% through a system of tax refunds. In practice, a double Malta structure is generally used, which is illustrated below.

The Maltese finance company — referred to as "Malta FinanceCo" in the diagram — earns interest income of, say, €1,000 that is subject to tax at 35% (€350) and distributes the



net interest income as a dividend (€650) to its Maltese parent company ("Malta Parent" in the diagram). The Malta Parent receives a credit for the tax paid by Malta FinanceCo (€350) and is subject to tax at 27.5% (€275). However, a tax refund of two thirds of the tax paid by the Malta FinanceCo (2/3 of €350 = €233.33) is provided to the shareholder. Thus, the ultimate tax liability is 4.17% ((350 -350 + 275 — 233.33) divided by 1,000). Thus, Malta Parent can distribute a dividend of €958.33 to the German parent company and it ends up paying a tax in Malta on €1,000 in income received from an offshore affiliate in the form of interest of only €41.67.

As of today, the Maltese financing structure should not be caught by the German CFC statute, as the Malta FinanceCo earning the passive income (interest income) is not subject to low taxation, meaning an effective tax rate — computed according to German tax principles — of less than 25%, and while the Malta Parent is subject to a low tax rate (27.5% tax minus the credit for 35% plus a 2/3rds tax refund), it does not earn any passive income, as dividend income is deemed to be active income under the German CFC statute.

The German tax authorities are aware of the double Maltese structure and focus in audits on whether they have grounds to ignore the Maltese companies for lack of substance or to treat the Maltese companies as subject to direct taxation in Germany because they have their places of management in Germany.

The German government proposed in March as part of the 2010 annual tax bill (*Jahressteuergesetz* 2010) to amend the rules for determining the foreign effective tax burden under the CFC statute. Based on the latest draft of May 28, 2010, any refunds of taxes paid by Malta FinanceCo that are granted to the Malta Parent (a foreign corporation) would be considered when computing the effective tax burden of the Malta FinanceCo. It will not be clear whether the structure remains viable until the draft bill is finalized. More analysis will be required at that time.

Even if the structure would be caught by the new rule, meaning the three conditions for the CFC statute — German control, passive income and low taxation — would then be fulfilled, the present tax benefits will remain available if the seat or the place of management of the controlled foreign corporation is located in the EU or the European Economic Area and it can be proven that the controlled foreign corporation carries on genuine economic activities there (a so-called motive test). This exception has been a feature of German tax law since 2008 following the European Court of Justice judgment in the *Cadbury Schweppes* case (C-196/04) on November 18, 2006.

Financing Through Belgium

Belgium is a country in northwestern Europe, and is a founding member of the EU. Belgium covers an area of 11,787 square miles, and it has a population of about 10.7 million people.

Belgian tax law has provided since January 2007 for a deduction from the Belgian tax base in the amount of fictitious interest calculated on shareholder equity (net assets) (a so-called "notional interest deduction"). The deduction is available to Belgian companies, Belgian branches of foreign corporations, non-profit organizations and foundations subject to Belgian corporate tax and foreign companies that own real estate located in Belgium or hold property rights in such real estate.

The notional interest rate for the tax year 2010 (meaning the accounting year ending on December 31, 2009 or later) is 4.473%.

It is 4.973% for small and medium-sized enterprises, referred to as "SMEs."

For 2011 and 2012, the rate will be 3.8% (4.3% for an SME).

The notional interest rate is not allowed to deviate more than 1% from the rate in the previous tax year and must not exceed 6.5%. The deduction is allowed to the Belgian company and is the rate times the qualifying equity, which is the equity capital according to Belgian accounting principles but after subtracting three items: the net value of financial fixed assets qualifying as "participations and other shares" (non-portfolio participations), the net equity assigned to foreign permanent establishments or real estate property or rights (only if situated in a country with which Belgium has concluded a double tax treaty) and the net value of own shares held on the balance sheet.

For example, the balance sheet of a Belgian subsidiary of a German parent company might show that the share capital of €10,000 has been fully used for group

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Finance Subsidiaries

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financing. Applying an intra-group interest rate of 5% *per annum*, the profit before taxes amounts to €500. Before the introduction of the notional interest deduction, the Belgian corporate tax would have been €169.95 (33.99%). Considering the notional interest deduction, the Belgian entity could deduct €447.30 (€10,000 x 4.473%) from its tax base resulting in taxable income of just €52.70 (€500 – €447.30) and a tax liability of only €17.91 (33.99% on €52.70). Thus, the tax on income passing through Belgium is only 3.58% (17.91 divided by 500).

Although the Belgian entity in the example earns low-taxed passive income, the income should escape German CFC taxation provided that the Belgian entity complies with the motive test, meaning that it carries on legitimate business activities in Belgium.

The European Commission sent a letter to the Belgian government in February 2009 as a preliminary step toward an investigation into the compatibility of the notional interest deduction with the European Union treaty and the European Economic Area agreement. The Belgian Finance Ministry responded in April 2009. It is unclear whether the European Commission accepted Belgium's arguments or whether infringement proceedings will be continued.

Mock Tax Equity Negotiation

The US government pays at least 56% of the capital cost of a typical wind farm in the United States in the form of tax subsidies. Few US developers can use the subsidies. Many barter them to banks, insurance companies and investment banks that can use them in "tax equity transactions" in exchange for capital to build their projects.

Such transactions can take three forms, but the most common is a partnership flip where the wind developer finds a tax equity investor to own the project with him as a partner. The partnership allocates as much as 99% of the economic benefits from the project, except possibly cash, to the tax equity investor until the investor reaches a target return, after which the interest of the investor in the project drops to 5%. The developer has an option to repurchase the remaining 5% interest of the investor after the flip. Cash might be distributed 100% to the developer until the developer gets back its equity investment in the project, after which cash follows other partnership items.

The following is an edited transcript of a mock negotiation between two tax equity investors and two wind developers that took place at a wind finance forum sponsored by the American Wind Energy Association in New York in April.

The tax equity investors are Martin Torres, vice president of Morgan Stanley, and Jerry Smith, managing director of Credit Suisse Securities. The developers are Raimund Grube, president and chief operating officer of Element Power, and Ciaran O'Brien, chief financial officer of Wind Capital Group. The moderator is Ed Zaelke with Chadbourne in Los Angeles.

MR. ZAELKE: Let's start with the first issue in tax equity. How will you size the commitment? Let's start with Martin Torres.

MR. TORRES: We will run a downside scenario and look at the P75 and P99 output projections to make sure that, even in the most stressed scenarios, we still expect to hit our target yield. We ideally will size in a production tax credit-driven deal to a 10-year flip based on the P50 output numbers, but depending on where the P99 flip would occur, we may reduce the amount we will commit to fund.

Forward Commitment

MR. ZAELKE: Raimund Grube, is your ability to get a commitment from the tax equity investor at the start of construction to fund at the end of construction purely a matter of numbers or are other factors at work?

MR. GRUBE: The quality of the developer and its ability to get the project into construction and built is important.

MR. ZAELKE: The initial sizing becomes the basis for paying off your construction debt and setting up the whole project. Ciaran O'Brien, it is now eight months after the initial commitment and your project is nearly complete. Do you expect a resizing of the tax equity commitment? If so, what does your lender think about that?

MR. O'BRIEN: There should be no resizing, because you are looking for a firm commitment from your tax equity investor to be there upon commercial operation. The work to size the tax equity is done. The only thing that might be changed would be a small tweak in capital cost and maybe the wind numbers. I don't know how many deals have done it, but I have never resized a tax equity commitment more than a couple million dollars. It is tweaking rather than resizing. You might have added more turbines to the project.

MR. ZAELKE: Martin Torres, what does Morgan Stanley think about that? Let's say you have made a commitment to fund $50 million for which you need to write a check eight months later. Things are different. What is fair game?

MR. TORRES: We have to look at what factors might change during construction. We don't typically reopen the size of the commitment for changes in the wind study. We do our work up front and agree on what the wind is supposed to be. I agree with Ciaran. I don't think that we have had a substantial resizing in any transaction from commitment to funding that we have closed. One area that was always a concern, until the stimulus bill passed and extended the deadline to place projects in service to qualify for tax credits, is whether the project would make it in service in time to qualify for tax credits.

MR. ZAELKE: Does the deal get resized after a change in law? Let's say a domestic content requirement is imposed on the cash grant. Would that be a typical kind of "out"?

MR. TORRES: There is a small list of factors that, if changed, would lead to a resizing. Legislation in Washington may or may not be one of them. There are solutions to a number of these problems. For examples, changes in the Treasury cash grant program might be addressed by moving to production tax credits or investment tax credits.

MR. ZAELKE: Jerry Smith, what about a material adverse change in the developer or the developer's parent or the project? The construction lenders will oppose anything that might let you out of your commitment to fund.

MR. SMITH: I think what you're highlighting is really who is taking construction risk. The commercial operation date is generally the time when the money comes in from our perspective. The lenders take the risk that the plant never makes it into commercial operation. It is perfectly fair for that type of "out" to exist in a "firm" commitment.

MR. O'BRIEN: It is not that big of a deal because the construction window on these projects is very short and they are not that complicated to build. What tends to happen is that if the tax equity investor does its diligence and the project looks wobbly to start, it won't proceed. In these times, you are not doing anything that is wobbly to start, so the likelihood of material adverse changes occurring has gotten very, very slim.

MR. ZAELKE: Suppose you have your construction lender on one side and the tax equity investor on the other side and neither of them wants to take this construction risk. Who do you get to take it? Is it the old money? The construction lender eats it because its money is already on the table.

MR. O'BRIEN: When these deals get going and $200 million is being spent, you will be amazed how much incentive everyone has to settle these issues. People work it out. However, in the end, the lenders and the tax equity look to make sure the sponsor has the financial means to be able to resolve issues that arise during construction.

MR. ZAELKE: Martin Torres, let's stay with what Ciaran was saying. We expect to start construction this year and complete in February 2011. February comes along and, just before commercial operation, some rare, endangered chipmunk appears on the scene and construction stops for a while. How long do you hold the agreed internal rate of return for the deal? Do you renegotiate if the target completion date is missed?

MR. TORRES: I think it goes back to what the expectations were at the time of commitment. If we are providing a forward commitment, then we have not typically thought about the specific contingencies that might arise, but have considered categories of issues that might come up to prevent us from reaching completion as expected. We usually write an outside date into the document after which our commitment ends. We will have already agreed that the yield is good for three to six months, depending on how far forward we have provided that commitment.

Start of Construction

MR. ZAELKE: Let's switch to some other deal terms. Ciaran O'Brien, Jerry and Martin want a representation from you that you commenced construction before December 31, 2010 in order to qualify for a Treasury cash grant. Can you give that representation?

MR. O'BRIEN: I think this becomes a non-issue this year. There has been a lot of talk as to what starting construction means, how the 5% test works and how you deal with frame contracts for turbines. My sense of it is that if you have a good site, you start your civil work. You are more likely to be considered to have started construction with people employed on the site digging dirt.

MR. ZAELKE: Raimund Grube, are you willing to give a representation that construction has commenced? As a developer, do you have to do that in today's market?

MR. GRUBE: I think I would be counseled strongly not to make such a representation by whoever was representing me in the negotiation, but I share the view that Ciaran expressed. I think meeting the standards that you have */ continued page 34*

Tax Equity

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to meet to qualify by the end of the year is probably something you could do. It's probably not that significant a risk to give the representation.

MR. ZAELKE: Jerry Smith, from the tax equity perspective, you will be asked to write a $50 million check at the end of construction and you find out 60 days later when it comes time for the Treasury to pay a cash grant whether or not construction did in fact commence before December 31, 2010. Are you going to make that commitment to Ciaran or Raimund without their 100% ironclad representation that they in fact commenced construction?

MR. SMITH: I think it's a multi-tier answer. I would not put all that much reliance in a guarantee from the sponsor on that particular point. We would put our heads together and collectively determine what we think the rule is or is likely to be. The way I would address it is to have certain factual conditions precedent to closing that we collectively agree occur. This puts us in a pretty good place and then I would look for a top-up representation that says that if, for some reason those conditions precedent prove false and we don't qualify, there is an obligation on the developer.

MR. ZAELKE: Martin, will you be equally reasonable at Morgan Stanley?

MR. TORRES: Sure. These issues can be dealt with contractually in advance. I'm not sure how many developers and how many tax equity investors will be in this situation. We will see what happens at the end of the year.

Sponsor Guarantees

MR. ZAELKE: How about other remedies? What happens if you get this representation and it proves false? Do you look at a parent guarantee as support. Is it even reasonable in today's market to ask for such a guarantee?

MR. SMITH: Yes. We usually want a parent guarantee to support risks that the developer has agreed to take. I come back to a point made earlier that if it is possible for no grant to be paid, the smartest approach is to work out in advance what will happen in such a situation.

MR. O'BRIEN: I would be reluctant to give a parent guarantee for something that the tax equity investor should be able to confirm by diligence.

MR. ZAELKE: Raimund Grube, how would Element handle this?

MR. GRUBE: We would be careful to try to meet the start-of construction threshold by a wide margin. We would not want to provide a parent guarantee. As Ciaran said, it is something that the tax equity investor should be able to confirm on its own as a condition to closing. It is black and white in our opinion, and we would invest to make it a black-and-white determination.

MR. ZAELKE: Jerry Smith, as Martin suggested, do we need a fallback to production tax credits should you advance funds and the cash grant not come through, especially if the construction debt is not going to be guaranteed by the parent? Is that something you will be able to take to your credit committee?

MR. SMITH: Your assumption is that we have not demanded a parent guarantee. I think the loss of cash grant on grounds that construction failed to start on time is a relatively low-risk problem. The developer has more insight than we do into the facts and whether it met the test to be considered to have started construction in 2010. It is not much to ask it to have its parent company stand behind its representation to us that construction started on time. That said, as an investor, I do not rely entirely on representations. We do diligence. We also try to build fallback plans into the documents to address contingencies.

Intercreditor Issues

MR. ZAELKE: Let's change topics: leverage. Ciaran O'Brien, how involved is the tax equity investor in your decisions about your debt documents?

MR. O'BRIEN: I would try to limit the number of people involved in the sausage making as much as possible. We usually negotiate the debt in the first instance and the tax equity later. If you get everybody involved at the same time, it can be difficult and the entire financing will take longer to conclude. Some of the deals that we have done were nearly scuttled because they became such complicated ordeals between the tax equity investor and the lender.

MR. ZAELKE: Let's move to other issues with the cash grant. What if the project is transferred during the first five years — for example, the lenders foreclose during that period on the project. Is the cash grant recaptured?

MR. SMITH: Recapture only occurs if the project is transferred to a disqualified investor. The bank is not a disqualified investor. But there is a larger issue. Any lender at the project level would have to agree to forebear from foreclosing on the project for a period of time to allow the tax equity investor to reach its target yield. The lender could foreclose in the

meantime on the sponsor interest and, in that manner, take over day-to-day control of the project.

MR. ZAELKE: Martin Torres, what happens if the project runs into operating difficulties — say the wind doesn't blow or a turbine breaks and, as a consequence, the project defaults on the debt? Can you sit down with the lender when the deal is first being negotiated and say, should this happen, we want you to give us X period of time to work out these sorts of issues before foreclosing on the project?

MR. TORRES: Yes, you can certainly have that conversation. The reality of the situation is the parties will confer at the time and try to work something out. There will be a requirement in the documents for the lender to give the tax equity investor notice and an opportunity to cure before declaring the project in default and moving to foreclose. Whether the period from notice to exercise of remedies is three months, six months or 12 months, that's negotiable.

MR. SMITH: Another point to keep in mind is that everything doesn't usually fail in one go at a wind farm. The project consists of multiple turbines. Each operates separately. Okay, so it may taken a bit longer than expected to work out operating kinks, blades have fallen off, blades have cracked, the gear boxes have problems, but all of these things get repaired gradually without total failure at the site.

Spotlight On Turkey

by Zeynep Sener, in London

Turkey is hoping that the prospect of 5% annual growth and ratings upgrades in Turkish sovereign debt will attract foreign investment.

The country suffered its own version of the recent global financial crisis in 2001. This forced it to reduce government debt and reform the banking sector in the early part of the decade, and spared it from as severe a downturn as other countries when the worldwide recession hit in 2008. Turkey has been making a steady recovery.

The Organization for Economic Co-operation and Development, or OECD, said in a report in late May that the Turkish economy "rebounded sharply since the second quarter of 2009 thanks to good export performance and GDP [is] projected to expand by 6.8% in 2010 and 4.5% in 2011."

In line with the confident outlook, rating agencies have upgraded their ratings of Turkish sovereign debt over the last six months. The debt is currently rated BB by Standard & Poor's with a positive outlook. Some commentators expect Turkish debt to be rated investment grade by 2011.

Turkish GDP more than tripled between 2002 and 2008, from US$231 billion (2002) to US$742 billion (2008). Turkey was the 15th largest economy in the world in 2008 and the sixth largest economy in the 27-country European Union.

Unemployment remains a persistent problem, but no worse than in some of the larger European economies. It is 17% currently in urban areas and 27% for young urban workers.

High direct foreign direct investment is a key element in the strong GDP numbers being reported. By the end of 2009, the Turkish Treasury listed more than 23,000 companies with foreign capital in Turkey. The most visible growth in foreign investment has been in the electricity, gas and water supply sector, according to the latest monthly foreign investment bulletin by the Turkish Treasury, as shown in table 1.

Companies in Holland, the United States, Germany, Britain and the Arab countries have been the major investors. Inbound investment slowed noticeably in 2008 and 2009, in keeping with the slowdown in the global economy, and had yet to record in the first three months of 2010. US inbound */ continued page 36*

Table 1: International Direct Investment Inflow by Sector

(Million $)

Sectors	2005	2006	2007	2008	2009	January-March	
						2009	2010
Agriculture, hunting and forestry	5	5	6	23	41	18	7
Fishing	2	1	3	18	1	1	0
Mining and quarrying	40	122	337	152	193	22	59
Manufacturing	785	1.866	4.211	3.931	1.637	266	266
Manufacture of food products and beverages	68	608	766	1.252	210	55	7
Manufacture of textiles	180	26	232	189	76	25	9
Manufacture of chemicals and chemical products	174	601	1.109	200	306	20	25
Manufacture of machinery and equipment n.e.c.	13	54	48	226	221	29	5
Office machinery and computers	13	53	117	236	58	26	4
Manufacture of motor vehicles, trailers and semi-trailers	106	63	70	77	212	28	7
Other Manufacturing	231	461	1.869	1.751	554	83	209
Electricity, gas and water supply	4	112	568	1.068	1.646	1.047	53
Construction	80	222	285	331	378	34	169
Wholesale and retail trade	68	1.166	165	2.084	367	155	69
Hotels and restaurants	42	23	33	24	37	0	0
Transport, storage and communications	3.285	6.696	1.117	170	350	56	59
Financial intermediation	4.018	6.957	11.662	6.069	433	155	99
Real estate, renting and business activities	29	99	560	656	509	188	45
Health and social work	74	265	177	149	101	4	1
Other community, social and personal service activities	103	105	13	58	47	19	28
Total	8.535	17.639	19.137	14.733	5.740	1.965	855

Source: Central Bank of the Republic of Turkey

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investment increased six fold from 2006 to 2007 before the recession hit in 2008 as shown in table 2 on this page.

Legal Framework

Turkey has a civil law system following the continental European tradition rather than a common law system like the legal regimes in place in Britain and the United States. There are no general restrictions on foreign investment, though there are a few provisions of local legislation of which foreign investors should be aware.

Foreign investors are free to make any "direct foreign investments" in Turkey, defined as establishing a company in Turkey, acquiring shares of an unlisted or private Turkish company, and acquiring 10% or more of the shares of a listed or public company.

The Turkish Treasury advertises on its website that since the introduction of the direct foreign investment legislation, there is "freedom to invest" and all former screening, approval, share transfer and minimum share capital requirements have been dropped. The country makes "guarantees to foreign investors of their rights in one transparent stable document." There is no discrimination between Turkish and foreign investors in Turkish companies. According to the Treasury website:

The new law guarantees national treatment and comprehensive investor rights. All companies established with a foreign capital contribution and under the rules of the Turkish Commercial Code (existing and newly established foreign companies) are regarded as a Turkish company. Therefore equal treatment both in rights and responsibilities as stated in the Constitution and other laws is applicable to all such companies (including national treatment, a guarantee against expropriation without compensation, transfer of proceeds, access to expatriate personnel, and international arbitration or any other means of dispute settlement).

What are the remaining restrictions?

Some restrictions remain, even after the foreign direct investment law. The most visible restrictions are in the area of ownership of real property in Turkey. Foreign persons can only acquire up to 10% of designated zoning areas in each district. Companies incorporated in Turkey by foreign investors (or companies with foreign shareholders) can only acquire and use real property in order to conduct the activities listed in their articles of association. Foreign companies (not incorporated in Turkey) can only acquire real property in limited circumstances, in accordance with certain laws governing particular economic sectors. These sector promotion laws will need to be reviewed in light of the particular circumstances of each potential acquisition.

Foreign investors are freely allowed to repatriate earnings to their home countries, but the dividends, capital gains from sales of assets, interest, rents, royalties and other proceeds or payments must pass through Turkish banks.

There is no currency control, but certain currency transactions require notice to the government.

Most foreign investors set up local corporations. The two most common forms of corporations are the joint stock company, called a JSC, and a limited liability company or LLC.

A JSC requires at least five shareholders, whereas an LLC needs at least two. The minimum share capital of an LLC is TL 5,000, while it is TL 50,000 for a JSC. (Turkey still uses the lira rather than the Euro.) There are no restrictions on foreign shareholders.

Table 2: International Direct Investment Inflow by Country

(Million $)

Countries	2005	2006	2007	2008	2009	January-March	
						2009	2010
European Union (27)	**5.006**	**14.489**	**12.601**	**11.051**	**4.560**	**1.705**	**686**
Germany	391	357	954	1.211	387	101	37
France	2.107	439	367	679	593	485	203
Netherlands	383	5.069	5.442	1.343	845	74	104
United Kingdom	166	628	703	1.336	333	61	124
Italy	692	189	74	249	282	28	7
Other European Countries	1.267	7.807	5.061	6.233	2.120	956	211
Other European Countries (Excluding EU)	**1.646**	**85**	**373**	**291**	**296**	**40**	**22**
Africa	**3**	**21**	**5**	**82**	**0**	**0**	**0**
U.S.A.	**88**	**848**	**4.212**	**863**	**236**	**74**	**20**
Canada	**26**	**121**	**11**	**23**	**52**	**0**	**54**
Central-South America And Caribbean	**8**	**33**	**494**	**60**	**16**	**3**	**0**
Asian	**1.756**	**1.927**	**1.405**	**2.361**	**568**	**131**	**73**
Near And Middle Eastern Countries	1.678	1.910	608	2.199	270	37	64
Gulf Arabian Countries	1.675	1.783	311	1.978	146	22	51
Other Near And Middle Eastern Countries	2	3	196	96	72	1	7
Other Asian Countries	78	17	797	162	298	94	9
Other Countries	**2**	**115**	**36**	**2**	**12**	**12**	**0**
Total	**8.535**	**17.639**	**19.137**	**14.733**	**5.740**	**1.965**	**855**

Source: Central Bank of the Republic of Turkey

Foreign investors and corporations they own are subject to the general reporting requirements under Turkish law — for instance, certain corporate documents, such as the articles of association and any amendments to them, must be filed with the Trade Registry (much like Companies House in the United Kingdom). In addition, foreign companies must provide certain additional information to the Foreign Investment General Directorate.

Any companies incorporated in Turkey (including foreign-owned) as well as the Turkish branch offices of foreign parent companies are subject to corporate income taxes in Turkey at a 20% rate. Dividends are generally subject to withholding tax at the border at a 22% rate. The withholding tax on interest is 13.2%, but it is 0% on some foreign loans. Turkey has a range of tax treaties with other countries that reduce the withholding rates to as low as 10%.

Legal Protections

The latest annual "Doing Business" report from the World Bank that compares business climates in 180 countries ranks Turkey 73rd. (For comparison, Singapore is first and Russia ranks 120th.) The biggest problems in Turkey, according to the World Bank, are labor issues and obtaining construction permits. Turkey does relatively well on the legal protections it provides to enforce contract rights in the local courts, ranking 27th in this category. According to the World Bank, a legal judgment can usually be obtained within 420 days at a cost in legal fees of just under 19% of the amount claimed.

Many businesses prefer to submit their disputes to private arbitration. Turkey introduced a new international arbitration law in 2001. One of the main goals was to make arbitration more effective. The law is based mainly on the UNCITRAL model law, with additional inspiration taken from Swiss arbitration procedures. It applies to all disputes with a foreign element where the place of arbitration is in Turkey, and it can also be chosen by the parties.

Recent decisions of the Turkish courts have, on the whole, been favorable to arbitration. The Turkish judiciary is becoming more familiar with arbitration, particularly as regards the enforcement of awards, and is reaching more and more decisions that reflect the international pro-arbitration consensus.

The Turkish court of appeals has held that the question of jurisdiction — whether arbitrators (or the courts) can hear a claim — is to be determined by the arbitrators themselves in the first instance. When arbitration proceedings are commenced, the arbitrators will decide whether they have jurisdiction without interference from the national courts at this stage. However, lack of jurisdiction may be invoked as a ground later for resisting enforcement of an arbitral award.

The Turkish courts have also considered the scope and effectiveness of arbitration clauses. For example, in one decision the court of appeals found that a defective arbitration clause that provided that disputes would go to arbitration but would 'finally' be submitted to the courts was not effective. The court said the intention of the parties to choose arbitration instead of litigation before the courts had to be clear.

As part of Turkey's efforts to establish itself as a more investment-friendly jurisdiction, Turkey has agreed to international obligations that support both international arbitration and foreign investment. In 1992, it acceded to the New York Convention 1958, a multilateral treaty that provides an international framework for the reciprocal enforcement of arbitral awards handed down in any signatory states.

Today, most foreign arbitral awards are enforced in Turkey under the New York convention. Turkey does have a domestic statute that applies technically to the enforcement of foreign arbitral awards. However, Turkish law also says that international conventions to which Turkey is a party have priority (including the New York convention). The national law in question has also been amended to bring it more in line with the New York Convention. Decisions of the Turkish court of appeals since 2000 show that the principles in the New York convention are applied more and more consistently.

Turkey made a reservation from its accession to the New York convention, the so-called "commercial reservation." The Turkish Courts will only apply the New York convention to awards made in disputes the subject matter of which is considered "commercial" under Turkish law. Turkish law also provides for mandatory jurisdiction of the state courts over certain matters, such as real property rights, public law matters, criminal offences and matters relating to tax collection.

Turkey also ratified a separate treaty called the ICSID convention in 1989 (to give it its full name, the Convention on the Settlement of Investment Disputes between States and Nationals of Other Member States, Washington, 1965). The ICSID convention, another multilateral treaty, was originally formulated under the stewardship of the World Bank. There are currently more than 150 signatories. */ continued page 38*

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ICSID's link with the World Bank, though not based on any formal treaty provision, has given rise to a perception by states that ICSID awards should be paid (to avoid repercussions on credit ratings). The ICSID Convention provides for a regime of automatic enforcement of awards by signatory states. The circumstances in which an ICSID award can be set aside (annulled) are very limited (for example, lack of jurisdiction). These awards are not subject to any kind of detailed review by national courts during enforcement proceedings.

Foreign investors have so far brought seven arbitration cases before ICSID against Turkey. These cases arose either out of the energy sector — particularly as regards electricity concession agreements — or the licensing arrangements for mobile telecommunications.

One of the energy cases involved US power company PSEG. PSEG was awarded a concession contract by the government in 1989 to build a lignite-fired thermal power plant in Turkey. It charged that the government effectively terminated the concession agreement during the development phase of the project after protracted negotiations and post-contractual amendments. The ICSID tribunal agreed with PSEG that Turkey had acted in breach of international law. However, the tribunal did not award PSEG the US$500 million PSEG wanted for loss of potential profits and was awarded only US$6 million to cover out-of-pocket costs.

Environmental Update

The US government announced thresholds in mid-May for when greenhouse gas emissions, like carbon dioxide or CO_2, at power plants and factories will trigger review under a US program called the "prevention of significant deterioration" or PSD program and require permits to operate under title V of the Clean Air Act.

Environmental lawyers call the thresholds the "tailoring rule."

The PSD program requires anyone planning to build a new power plant or factory that is a "major source" of air pollution or to make a "major modification" to an existing major source to have a permit before work can start. "Major sources" are 28 types of facilities that emit at least 100 tons a year of a regulated air pollutant. Facilities not on the list of 28 are also covered if they have the potential to emit at least 250 tons a year of a regulated pollutant. Best available control technology to control emissions of these pollutants must also be installed as a condition to receive a permit.

The tailoring rule would be phased in during 2011.

PSD review will not be triggered for new facilities that will be a major source of greenhouse gas emissions during the first six months of 2011. However, PSD review will be triggered for existing facilities that would be subject to the PSD program anyway and that increase their greenhouse gas emissions by more than 75,000 tons of CO_2 equivalent per year.

During the last six months of 2011, the PSD program will be triggered for new sources emitting more than 100,000 tons of CO_2 equivalent per year or modified major sources emitting more than 75,000 tons of CO_2 equivalent per year, regardless of if these sources trigger the PSD program for other regulated pollutants

Challenges to this rule have already been filed and more are expected before the deadline of August 2, 2010. As a practical matter, the US Environmental Protection Agency does not have the ability to handle the vast number of permits that would be required under the current PSD and title V program regulations. EPA estimates that companies would need to apply for only about 1,600 additional permits a year under the PSD program after the tailoring rule takes effect fully, compared to about 82,000 permits under current rules.

Carbon Controls

A carbon cap-and-trade bill that Senators John Kerry (D.-Massachusetts) and Joe Lieberman (I.-Connecticut) unveiled in mid-May would require a reduction in US greenhouse gas emissions of 4.75% below 2005 levels by 2013 increasing to 83% by 2050.

The House passed carbon legislation as part of a larger energy bill in June 2009. The emissions caps in its bill are fairly close to the caps in the bill that Kerry and Lieberman are angling to have considered in the Senate. The House reductions are 3% in 2012, 17% in 2020, 42% in 2030 and 83% in 2050.

Many lobbyists doubt that Kerry and Leiberman have enough votes to put their proposal through the Senate this year.

As the *NewsWire* went the press, there was speculation that Senator Harry Reid (D.-Nevada), the Senate majority leader, will abandon plans to bring an energy bill, possibly with a carbon title, up for debate in July and, instead, put off consideration of energy and carbon until a "lame duck" session of Congress in late November and December after elections in early November that are expected to give Republicans control of one and possibly both houses of Congress.

Senators Maria Cantwell (D.-Washington) and Susan Collins (R.-Maine) have a competing carbon bill that they are eager to have the Senate take up in place of the Kerry-Lieberman proposal. Their bill would limit carbon emissions, but not allow trading in carbon allowances, and return a large share of the revenue the government collects from the sale of carbon allowances to the public. The bill has been called a "cap-and-dividend" bill as opposed to the cap-and-trade plans that passed the House and that Kerry and Lieberman are proposing. Cantwell and Collins tout the fact that their bill is only 39 pages compared to more than 1,000 pages for the cap-and-trade proposals.

Under the Kerry-Lieberman bill, allowances — each a right to emit one ton of a greenhouse gas — would be given away by the government to current owners of covered power plants and other facilities during the early years of the program with increasing percentages of allowances auctioned over time.

The anticipated costs of allowances differ slightly between the House bill and the Kerry-Lieberman proposal. The House bill sets a minimum reserve auction price of $10 per ton of CO_2 for auctions in 2012, and the price would increase by 5% over the annual rate of inflation. The Kerry-Lieberman bill contemplates a price floor of $12 in 2013, which would then increase each year by 3% over the rate of inflation.

The House bill sets a price *ceiling* of $28 in 2012 that would be increased by 60% of a rolling three-year average of the market price starting in 2014. Under the Kerry-Lieberman bill, the price ceiling would be set at $25 in 2013 and would increase by 5% over the rate of inflation each year thereafter. The ceilings in both bills will apply only to allowances sold in federal auctions. The prices at which allowances trade in the private market could be substantially higher.

Coal Ash

The Environmental Protection Agency is asking for comments on two proposals to address the structural integrity of coal ash impoundments and landfills and health concerns associated with certain pollutants found in coal ash, like mercury and arsenic.

Comments are due by September 20, 2010.

The proposals respond to a 2008 spill of approximately 5.4 million cubic yards of wet coal ash from a Tennessee Valley Authority impoundment in Tennessee.

EPA proposes to either continue regulating coal ash as a non-hazardous waste under subtitle D of the Resource Conservation and Recovery Act or designate it as a "special waste" under the same statute. Classification as a "special waste" tightens regulation, but allows some ash to be used for beneficial purposes without the stigma that attaches to substances designated as "hazardous wastes."

The proposal to continue regulating coal ash as a non-hazardous waste contemplates performance standards for disposal facilities. The use of coal ash impoundments could continue, but liners would have to be installed, which many believe will effectively phase out use of coal ash impoundments.

The proposal to regulate coal ash as a "special waste" contemplates federally-enforceable requirements for the storage, transport and disposal of coal ash. There would also be mechanisms for corrective action and financial responsibility. The use of wet ash handling and surface impoundments would be phased out during the first five years of the program.

Although the proposals contemplate the beneficial reuse of coal ash, EPA has asked for / *continued page 40*

Environmental Update

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comments on the potential impact on the environment and acknowledged that some reuses of coal ash could be associated with health risks. It said the following in a paper it issued in support of its proposals:

> One health risk issue is currently gaining attention in the use of fly ash in high-heat applications such as cement manufacture. When exposed to elevated temperatures (approximately 2,750 degrees Fahrenheit) in a cement kiln, laboratory experiments have found that mercury is readily released from fly ash [citation omitted]. At this time, the level of mercury in fly ash has not been considered significant enough to create a health risk. However, as coal utilities increasingly employ mercury capture technologies, some facilities may implement technologies that result in fly ask with much higher mercury content that is not suitable for use in cement manufacture.

Developers, operators and financiers of facilities producing or using coal ash should monitor where EPA ends up on these rules, as they could lead to more costly disposal.

Sulfur Dioxide

EPA announced a new one-hour "national ambient air quality standard" for sulfur dioxide or SO2 of 75 parts per billion in mid-June. Until now, the government has had a 24-hour standard and a separate annual standard. One-hour standards are considered tougher to meet. EPA is revoking the existing 24-hour standard for SO2 of 140 parts per billion and the existing annual standard of 30 parts per billion.

The US government has nationwide standards for eight air pollutants, including SO2. Under the Clean Air Act, each state must designate so-called non-attainment areas where pollution from these substances is worse than the national standard and adopt a state implementation plan with measures to reduce pollution. States use the standards as a foundation from which to set specific emissions rates for individual power plants, factories and other "major sources" of these pollutants within the non-attainment areas.

Although it will take several years before the new one-hour SO2 standard gets translated into specific emissions limits in individual permits, owners of major sources of SO2 should calculate how much they may have to spend on additional pollution control equipment and start planning when to install such equipment and how to finance it.

— contributed by Andy Giaccia and Sue Cowell, in Washington

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Chadbourne & Parke LLP
30 Rockefeller Plaza
New York, NY 10112
+1 (212) 408-5100

1200 New Hampshire Ave., NW
Washington, DC 20036
+1 (202) 974-5600

350 South Grand Ave.
32nd Floor
Los Angeles, CA 90071
+1 (213) 892-1000

Chadbourne & Parke SC
Paseo de Tamarindos, No. 400-B Piso 22
Col. Bosques de las Lomas
05120 México, D.F., México
+ 52 (55) 3000-0600

Rua Joaquim Floriano, 466 – Cj. 2416
São Paulo, SP – 05434-002, Brazil
Telephone +55 (11) 3078-7588

Beijing Representative Office
Room 902, Tower A, Beijing Fortune Centre
7 Dongsanhuan Zhonglu, Chaoyang District
Beijing 100020, China
+86 (10) 6530-8846

Dostyk Business Center
43 Dostyk Avenue, 4th floor
Almaty 050010, Republic of Kazakhstan
+7 (327) 258-5088

Riverside Towers
52/5 Kosmodamianskaya Nab.
Moscow 115054 Russian Federation
+7 (495) 974-2424
Direct line from outside C.I.S.:
+1 (212) 408-1190

Stroganovskiy Business Centre
19A Nevskiy Prospect
St. Petersburg 191186 Russian Federation
+7 (812) 332-9300

25B Sahaydachnoho Street
Kyiv 04070, Ukraine
+380 (44) 461-75-75

Chadbourne & Parke
Radzikowski, Szubielska and Partners LLP
ul. Emilii Plater 53
00-113 Warsaw, Poland
+48 (22) 520-5000

Chadbourne & Parke LLC
City Tower I, Sheikh Zayed Road
P.O. Box 23927, Dubai, United Arab Emirates
+971 (4) 331-6123

Chadbourne & Parke (London) LLP
Regis House
45 King William Street
London EC4R 9AN, UK
+44 (0)20 7337-8000