

## US renewables

# Stimulating US renewables

**T**he stimulus bill has a number of important provisions relating to renewable energy and should lead to significant growth of the industry. The American renewable energy market has been growing at an unprecedented pace in recent years. Last year, the US wind market alone, in terms of the total amount of electricity generated by wind, overtook Germany, for many years the unreachable champion of wind power, adding an expected 8,358MW. And it was thought that the US market would increase its lead by adding about the same volume every year, and adding as much as 16,000MW annually after 2018. The growth in other technologies, notably solar and photo-voltaic (PV) has been less dramatic but still very impressive, and is expected to grow in accordance with its potential in the years to come.

The motivation, on the political side in the US, depends on where in the political spectrum the supporters stand: some argue for the need for "energy independence" or "energy security", pointing out that renewable energy is generated without the need to import fuels from outside the US; others argue environmental aspects and that renewable energy reduces greenhouse gases and global warming. It is also believed that renewable energy could create a great number of new, high quality jobs, as happened in Germany, Denmark and Spain, from where most wind turbines currently installed in the US come.

Because wind and solar historically have not been economically viable, governments in the US – state and Federal – have put in place a number of measures to support renewable energy, some of them not too dissimilar to the ones used in Europe and based on the same principles. One of the most important drivers behind the

After lengthy discussion the US Congress finally agreed on a US\$787bn stimulus package that was signed by president Obama on February 17 - the American Recovery and Reinvestment Act of 2009 (Recovery Act). By **Greg Lawrence, Stefan Schmitz and Phil Tingle, McDermott Will & Emery.**

success of the US market was not on a Federal level: the state renewable portfolio system (RPS), currently in place in about half the states of the US, requires that utilities and retail marketers in that state to have a certain share of their electricity come from renewable energy sources. The RPS model therefore parallels the green certificate system in the EU, notably the UK ROC system.

The Federal government has incentivised renewable energy through a number of tax benefits: Production tax credits (PTCs – earned as the energy is generated), investment tax credits (ITCs – earned on the facility's place in service date) and MACRS depreciation (earned over a five-year period). PTCs are available for wind projects and ITCs for solar. Both wind and solar projects are eligible for five-year accelerated depreciation.

A PTC is a credit provided under Section 45 of the US Internal Revenue Code of 1986, as amended (the Code) for each kilowatt of electricity generated from a wind facility as defined pursuant to Code Section 45. Currently, the PTC pursuant to Code Section 45 is equal to 2.1 cents per kilowatt hour of electricity generated from a wind facility, beginning on the date the facility is placed in service and extending for a 10-year period.

An ITC is a credit based upon the total investment in the solar facility. The ITC associated with solar energy under Code Section 48 is a 30% credit, based upon the amount of total investment as of the date the solar facility is placed in service. The difference between these two is significant in that the ITC for solar is recognised by the recipient on the date the facility is placed in service, and for wind, the PTC is recognised over a 10-year period.

In the late 1990s and early 2000s, industry players typically invested in renewable energy projects as "tax equity" investors. That is, industry related companies would

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invest in qualified alternative energy projects in return for the tax attributes – tax credits and depreciation.

In the early 2000s, the tax equity market was predominately occupied by investment banks and commercial banks. With the economic downturn last year and certainly into 2009, most of these banks as a result of the credit crisis have incurred substantial tax losses and no longer have the tax appetite to absorb the significant tax attributes that are allocated or distributed from a wind or solar facility. As a result, the US renewable energy market suffered from an acute shortage of tax equity investors, which led to many projects not being able to be financed – a situation that the stimulus package was designed to remedy.

The new Obama administration has acknowledged this peril and has made remedying it one of the cornerstones of the stimulus package – the Recovery Act – signed into law on February 17, which includes a number of tax and other incentives intended to promote wind and solar development.

## Tax provisions in the stimulus package

With recent developments in mind, US Congress has tried to overcome a feared slump in the renewable energy market. The first notable provision is that under Code Section 48, a wind facility placed in service in 2009 through to 2012 may elect to convert the PTC to an ITC. As a result, any such facilities placed in service within the specified time frame would be entitled to a 30% ITC on the date such facility was placed in service.

The benefit of such an ITC is that a wind facility would be entitled to the tax credit immediately, instead of having to account for it over the 10-year production period that would typically be permitted under Code Section 45. While this conversion feature accelerates the ability of the wind project to capture the tax incentive, the credit must still be allocated or otherwise used by a taxpayer with the requisite tax attributes who is willing to pay for such credit.

That is, a tax equity investor must be able to use the tax credit to offset its US tax liability before such investor is willing to pay for such a credit. As mentioned above, the credit crisis eliminated a significant portion of these tax equity investors since they have been generating tax losses and do not have a current US tax liability. As a result, the conversion feature itself provides a limited benefit without further legislative direction.

The legislative solution is contained in Section 1603 of the Recovery Act, which supplements the election to convert the PTC into an ITC with a refundability provision. This provision would permit any wind or solar facility that is placed in service in the 2009 and 2010 tax years (or any facility as long as construction on the facility begins in 2009 or 2010 and is completed prior to 2013 (in the case of wind facility property), 2014 (in the case of other

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renewable power facility property eligible for the PTC) or 2017 (in the case of any specified energy property described in Section 48) to apply directly to the Secretary of Treasury for a cash grant equal to the applicable ITC, that is, with respect to wind and solar, a grant equal to 30% of the total cost of such facility.

The provision further provides that the Secretary of Treasury shall make a payment of the grant within a 60-day period of the application for such grant, or the date that the property is placed in service, whichever is later. As a result of the refundability provision, the necessity for tax equity, at least related to the PTC or the ITC, will have been in large part eliminated for facilities placed in service in 2009 and 2010. Moreover, the grant will act much like the ITC. It will not be taxable upon receipt and will reduce the tax basis of the facility by 50% of such grant for depreciation purposes.

Unfortunately, the refundability provision and the conversion provision do not address the ability to capture the benefit of the five years' accelerated depreciation. In fact, another provision that was included in the Recovery Act was the extension of the "bonus depreciation" for wind and solar for projects placed in service in 2009 (or 2010 for certain longer-lived and transportation property). The bonus depreciation permits a taxpayer to deduct, on the date the facility is placed in service, 50% of the cost of such facility in addition to the regular tax depreciation.

From a practical prospective, this permits the taxpayer to write-off up to 60% of the cost of the facility on the date it is placed into service. This can be a significant tax benefit to taxpayers to the extent that they can use that depreciation. For example, a US taxpayer with a combined federal and state tax rate of 40% would be eager to capture the depreciation benefit. The Recovery Act does not attempt to fix this important component of the wind and solar incentives by allowing a taxpayer to seek a refund or otherwise permit individuals or others to use such tax incentives. As a general rule, only corporate taxpayers may use the PTC, ITC and depreciation benefits.

Importantly, renewable project developers now have three important, but mutually exclusive, options: developers can (1) use the production tax credit for 10 years from the in-service date; (2) convert the PTC to an ITC; or (3) apply to the Secretary of Treasury for a grant for 30% of the capital cost of the project and forgo the PTC and the ITC (the property tax basis is reduced by 50% of the grant amount and the grant will not be included in the taxable income of the taxpayer recipient).

The Recovery Act also extends the PTC credit by three years. As a result, any wind facility placed in service prior to January 1, 2012 will be eligible for the PTC. The Recovery Act also repeals the limitation associated with subsidised energy financing. This provision would permit solar projects to be financed by subsidised energy financing and to also be entitled to the full 30% investment tax

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credit. Under Code Section 48, subsidised energy financing is defined as loans provided by a government authority for purposes of development of solar projects.

The Energy Tax Act increases the national new Clean Renewable Energy Bond (CREB) limitation by an additional US\$1.6bn. CREBs can be used to finance facilities that generate electricity from the following resources: wind, closed-loop biomass, open-loop biomass, geothermal, small irrigation, hydropower, landfill gas, marine renewables and trash combustion facilities. The Energy Tax Act also increases the issuance of qualified energy conservation bonds by US\$2.4bn under Section 54D. These bonds are used to finance state, municipal and tribal government programmes to reduce greenhouse gas emissions.

## Other provisions in the stimulus package

The Recovery Act sets out renewable energy loan guarantees. Specifically, the Act establishes a temporary Department of Energy (DOE) loan guarantee programme for "commercial" renewable energy projects, renewable energy manufacturing facilities and electric power transmission projects (as well as biofuels, albeit at a more limited level). The DOE's authority to allocate this money ends on September 30, 2011. In essence, the Recovery Act appropriates US\$6bn to pay the credit risk premium or subsidy costs, which is expected to support approximately US\$60bn of loan guarantees (this figure is not our calculation). DOE should start allocating very soon, possibly before the summer, but some level of process must be established before funds can be allocated. Note that this new DOE loan guaranty programme is on top of an existing US\$10bn–\$35bn loan guaranty for "Innovative Technologies" set out in the 2005 Energy Policy Act.

The Recovery Act also establishes a tax credit for investment in advanced energy. Specifically, the Act provides up to US\$2.3bn to fund a new 30% ITC for investment in advanced energy facilities, such as facilities that manufacture components for the production of renewable energy, advanced battery technology and other green technologies. The credit also would be applied to re-equip and expand existing and new manufacturing capability. Qualifying facilities must be certified by the Treasury Department, in consultation with the DOE.

There are other items of interest. The Recovery Act repeals the state and local funding penalty for subsidised renewable energy financing, allowing businesses and individuals to qualify for the full ITC amount, regardless of whether the project receives state or local energy financing. The legislation also provides US\$11bn in funding for modernising the power grid and developing so-called "smart grid" technologies, and provides tax credits of up to US\$7,500 for plug-in hybrid electric vehicles. A significant uptick in plug-in vehicles will require new base load generation to meet new demand curves and a reworking of the transmission and distribution system. The

Recovery Act also allows the Western Area Power Administration and the Bonneville Power Administration to borrow funds (up to US\$3.25bn each) to construct or finance new transmission lines. Transmission upgrades can be used to support additional renewable generation capacity.

## Next steps

The stimulus package is not the final step for the administration to take. It is now time to marry the stimulus package's tax incentives, grants and guarantees with movement on the demand-side (incentives for retail rate decoupling, smart-grid investments, dynamic retail pricing) and, importantly, expansion of mandatory RPS requirements and the streamlining of transmission siting and interconnection to allow new renewable capacity to get to market.

It is very likely that a Federal, mandatory renewable portfolio standard (RPS), including Renewable Energy Certificate (REC) trading for compliance purposes, will become law in 2009, with legislation possibly by this summer. Hearings have begun and legislation has been and is being drafted. On the campaign trail, President Obama had promised to support a national 10% RPS requirement by 2012, and a 25% requirement by 2025. As mentioned before, many states in the US currently have mandatory RPS standards and most of those have REC tracking through the grid system operators, which help facilitate REC trading and bilateral contracting for compliance purposes.

We do not expect that a Federal RPS programme will "trump" state efforts in this area – too many contracts and commitments have been made under the current regimes.

The Federal RPS, however, would be likely to supplement existing programmes and, in turn, create requirements in those states where none exist now. A federal programme is also likely to have a reduced requirement in early years and then a fairly steep renewable percentage increase per year, to reach 25% by 2025 and hefty alternative compliance payments, for example 3–5 cents/kWh in 2009, adjusted annually thereafter. Many existing state programmes might only need slight adjustments to catch up in the early years, which may ease the way for adoption into law.

The various draft bills require the DOE to co-ordinate to the maximum extent possible between federal and state programmes. Energy efficiency may also be added as a compliance alternative, especially in the Southeast, which is perceived as having difficulty complying with a federal RPS standard without such considerations. This federal requirement can only help create a regulatory demand for renewable programmes of various classes and sizes so that traditional utilities and retail sellers of power can comply with the requirements. Indeed, the stimulus package and expected additional energy legis-

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lation and actions at the US Federal Energy Regulatory Commission also will try to streamline the siting and inter-connection process for renewable power, which is necessary to interconnect many new intermittent capacity projects at some distance from the current transmission infrastructure.

The Federal RPS is likely to come first and could be a standalone bill. However, new energy legislation could include greenhouse gas (GHG) cap and trade requirements, or this proposal may come later in 2009 or 2010. Such a programme would probably pre-empt existing US regional efforts at mandatory cap-and-trade programmes, such as that currently operational in the Northeast region, the Regional Greenhouse Gas Initiative or RGGI.

In a word, recent studies by PJM Interconnection (PJM) and other organisations indicate that a fairly conservative estimate of US\$ per ton of CO<sub>2</sub> under various already proposed Federal GHG cap-and-trade regimes significantly increases the MWh cost of wholesale electricity production and market prices. For example, US\$25 and US\$40 per short ton could raise power prices 39% and 61%, respectively, when analysing already proposed federal GHG regimes in the last Congressional session. This may slow the adoption of GHG federal cap and trade regulation as a "tax" or "drag" on power prices at a bad time for consumers. Renewables, however, will become more

competitive with fossil fuel generation. Moreover, similar studies also claim that thousands of MWs of new renewable capacity on this system will significantly mitigate the cost to consumers, by diversify the generation portfolio away from fossil fuels.

## Conclusion

The future continues to be bright for renewable energy in the US. The adopted measures, such as tax credits, cash up front, grants and loan guarantees, will significantly boost the renewable energy finance and project market in the US – but there is a lot more to come. First of all there will be in all likelihood further regulatory-sponsored demand for renewable energy of all types throughout the country by the combination of expanded state RPS and a likely Federal RPS in 2009, maybe by the summer.

Towards the end of 2009, additional macro economic drivers can be expected to be adopted by the Federal government, notably mandatory GHG cap-and-trade regulation, which will add to the cost of fossil generation and thus make renewable generated electricity competitive and further incentivise renewable project development. Finally, it appears that the Federal government and the US Federal Energy Regulatory Commission and other regulatory bodies will focus on easing the requirements, if not the timing, of transmission siting and interconnection.