Global Energy Industry Review

1  China Rationalizes Its Renewable Energy Policy
9  Chile Liquefied Natural Gas
11 Exploration and Production of Oil and Gas in Kurdistan
14 Leasing Redux? TerraGen’s Recent Announcement Causing Us to Consider Leasings in Wind Project Finance
About Our Practice

Mayer Brown’s Global Energy practice includes attorneys from the key disciplines of finance, corporate, securities, tax, environment, trade and energy regulation, and dispute resolution. We have advised oil, natural gas, pipeline, coal and electric power companies, power and LNG project developers, and alternative energy providers as they acquire, structure and finance the deals that fuel their growth. Our clients include companies representing the full spectrum of the energy industry, as well as those that finance or invest in them.

Our group is exceptionally situated to serve our global clients because of the breadth of jurisdictions we serve and the depth and quality of services and know how that we provide. Our clients can take advantage of all of the resources, services and industry-leading skills that we bring to every sector of the energy industry. We draw together talent from our offices around the world, including the principal energy and energy finance centers of London, New York, Brazil, Hong Kong and Houston. These market centers have a tradition of hosting, servicing or financing energy firms, and we have a substantial presence in each of them.
Editors’ Note

In the third edition of Mayer Brown’s *Global Energy Industry Review*, we review recent amendments to the Renewable Energy Law in China and its impact on thermal power generations. We also provide commentary on the changing demand for LNG in Chile, the rise of Kurdistan as an attractive region for foreign investment and the changing dynamic of leasing finance.

While this update is intended to look at trends in the energy industry, we regularly develop legal alerts on more timely issues. A few of our most recent alerts are listed below:

- *The United States Blocks on National Security Grounds a Chinese Investment in a US Telecommunications and Solar Technology Firm*

- *US Treasury Issues Additional Guidance on Beginning of Construction for Section 1603 Cash Grant Program*


- *US Federal Energy Regulatory Commission Proposes Rules to Enhance Transmission Planning and Cost Allocation*

To view these and other legal alerts, visit us online at http://www.mayerbrown.com/energy/index.asp and go to News & Publications.

If you have any questions or comments on any of the articles, please contact us. ♦
Introduction

China’s over reliance on thermal power generation, especially coal-fired power stations, is well-documented. While nuclear power continues as an option to coal, China’s strides in renewable energy are unprecedented. Recent amendments to the Renewable Energy Law, first promulgated in 2006, attempt to rationalize the regulatory regime governing wind, solar, hydro-power and biomass projects in China, currently fraught with inadequate interconnection and tariff shock issues.

Jack H. Su heads Mayer Brown JSM’s energy practice in Asia. Mayer Brown is a leading international law firm with 1,750 lawyers practicing in 22 offices worldwide. Resident in Asia since 1991, Jack has served in-house for two leading power and water developers based in Hong Kong and Singapore before returning to private practice in 2002.

Kevin H.Y. Tsen and Simone S. Hui are also members of Mayer Brown’s Global Energy Group.

The keen interest of the People’s Republic of China (the “PRC”) in developing a variety of renewable energy sources is largely driven by the country’s surging demand for energy to support its unprecedented economic growth. There is also a need to address the country’s energy security and environmental concerns. China imports more than 55 percent of its oil demand, despite being the world’s fifth largest oil producing country.¹

Development of renewable energy helps to internalize the source of energy production. Currently, more than 87 percent of the energy generated in the PRC is coal- and oil-fired;² and the annual per capita carbon dioxide emission by the PRC was at 4.3 tons in 2005, which was already approximately one-third of the level of high-income economies.³ Given the rising demand for energy, the PRC government has gradually developed a legal framework and various policies to encourage the development of renewable energy generation in the country to address these challenges, aiming to provide secure, affordable and environmentally sustainable energy.

Administrative Machinery

Prior to 2002, the former State Power Corporation monopolized the PRC power sector. In February 2002, the PRC government unveiled the Plan for the Reform of the Electric Power Industry (State Council [2002] No. 5), which marked the end of the monopoly by the former State Power Corporation. As part of the restructuring:

the transmission assets of the former State Power Corporation were transferred to two national grid companies, namely State Grid Corporation of China based in Beijing and China Southern Power Grid...
Company Limited based in Guangzhou; and the power generation assets of the former State Power Corporation were distributed to the Big 5 Chinese IPPs (as defined below), newly-established state-owned power generation companies, namely China Huaneng Group, China Huadian Corporation, China Guodian Corporation, China Power Investment Corporation and China Datang Corporation.

In the early 1990s, the China power sector greeted a number of foreign investors, including independent power producers (IPPs) from Europe and Stateside, as well as major utilities from Asia and the West. Several dozen power-related joint ventures and wholly foreign-owned enterprises were subsequently established. However, due to the restructuring of State-owned enterprises, which resulted in decreases in power usage nationwide, and the compounding effects of the Asian financial crisis in 1997, many foreign-invested power producers vacated the Chinese power sector as many long-term power purchase agreements faced potential renegotiation as the Chinese power sector transitioned into a pool market system.

Following the Plan for the Reform of the Electric Power Industry, the PRC government made concerted efforts to diversify its sources of energy, shifting from its traditional reliance on coal to cleaner energy sources. Such concerted efforts included the revamping of the energy management structure at the national level. The State Electricity Regulatory Commission (SERC), the independent power regulator, was established in March 2003 as part of the restructuring. The National Development and Reform Commission (NDRC) has been tasked as the national policy maker for the PRC energy sector.

In July 2008, the National Energy Administration (NEA) was established to replace the NDRC’s Energy Bureau. The NEA’s mandate includes the drafting of energy plans and policies, the management of PRC’s energy industries and the approval of foreign energy investments. With a view of strengthening the country’s energy sector management, the National Energy Commission (NEC) was also formed to coordinate energy development within the PRC and to discuss major energy security and development issues.

### Policy on Renewable Energy

The NDRC issued the first PRC policy statement on climate change in June 2007. This policy statement was made with reference to the United Nations Framework Convention on Climate Change, providing general guidelines and principles to tackle climate change in China. It first set a target of raising the proportion of renewable energy to 10 percent of the primary energy supply by 2010.

In another policy document titled *Medium and Long-Term Development Plan for Renewable Energy in China* released by the NDRC on Aug. 31, 2007 (NDRC Energy [2007] No. 2174), the NDRC reiterates the same target for 2010 and establishes a longer term goal—that 15 percent of China’s total energy generation is to be originated from renewable energy sources by 2020. The policy document also specifies targets for various renewable energy sources. These targets are based upon the installed generating capacity rather than the actual amount of electricity connected to the power grid. It should be noted that some wind farms, in particular, have suffered in respect of the inadequacy of the power grids reaching the isolated locations where many of these wind farms are located.

We have set out below the targets for various types of renewable energy to be achieved by 2010 and 2020, respectively:

<table>
<thead>
<tr>
<th>Source of Energy</th>
<th>2010 (GW)</th>
<th>2020 (GW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar</td>
<td>0.30</td>
<td>1.80</td>
</tr>
<tr>
<td>Wind</td>
<td>5.0</td>
<td>30</td>
</tr>
<tr>
<td>Hydro</td>
<td>190</td>
<td>300</td>
</tr>
<tr>
<td>Biomass</td>
<td>5.5</td>
<td>30</td>
</tr>
</tbody>
</table>

In January 2006, the Renewable Energy Law of the PRC (Renewable Energy Law) came into effect. The Renewable Energy Law serves as the legal framework for the development of renewable energy in China. Besides providing for the compulsory interconnection of renewable energy to the grid, the Renewable Energy Law also provides guidelines on the structuring of power tariffs and cost-sharing arrangements, as well as the establishment of a renewable energy development fund to further develop the renewable energy sector.
The Renewable Energy Law is an umbrella legislation in which the details on implementation are supported by various ministerial regulations and measures. The Regulation on Administration of Power Generation from Renewable Energy (NDRC Energy [2006] No. 13) and the Measures on Supervision and Administration of Grid Enterprises in the Purchase of Renewable Energy Power (SERC [2007] No. 25) obligate power grid companies to purchase the full amount of electricity generated from renewable energy projects that are within the geographical coverage areas of their grids.

To remove the cost barriers to the purchase of renewable power by grid companies and utilities, the Renewable Energy Law also provides for cost-sharing arrangements with the introduction of a feed-in tariff. The concept of a feed-in tariff was further elaborated in the Provisional Administrative Measures on Pricing and Cost Sharing for Renewable Energy Power Generation (NDRC Price [2006] No. 7). The measures essentially require the end users of electricity to pay a surcharge to cover the difference between the price of renewable energy power and the average price of conventional power.

Separately, the grid connection expenses incurred by power grid companies to purchase renewable power and other reasonable expenses may also be included in the power transmission cost. In relation to wind power, the NDRC issued the Circular on Refining the Policy for On-Grid Pricing of Wind Power (NDRC Price [2009] No. 1906) on July 20, 2009, which provides that feed-in tariffs for onshore wind power projects approved from Aug. 1, 2009 onwards are fixed using a centrally controlled price determination mechanism. Under the circular, China is divided into four different types of wind power resource areas, and different prices are set for each of these areas. For solar power, tidal power and geothermal power, the pricing department of the State Council will set an appropriate feed-in tariff based upon the principle of reasonable production cost plus reasonable profit.

**Tax Incentives & Financial Subsidies**

Besides the various measures to promote the development of renewable energy in the PRC, the Renewable Energy Law commits to offer financial incentives to stimulate renewable energy development. One of those incentives includes the Implementing Regulations for PRC Enterprise Income Tax Law promulgated on Jan. 1, 2008, which provides a tax concession consisting of a three-year exemption plus three years of taxation at 50 percent of the full tax rate for enterprises engaging in projects involving energy conservation and improvements to emissions reduction technology. Such tax incentives clearly demonstrate the commitment of the PRC government to promote the development of clean energy, and this should promote investments in the renewable energy sector.

In the solar sector, the Chinese government introduced various subsidies in March 2009 and July 2009 to bolster the development of the solar power sector. On Mar. 23, 2009, the Ministry of Finance (MOF) announced that the PRC government would provide subsidies of RMB20 per watt peak generated by qualifying solar power projects that have generating capacities of not less than 50 kW peak. In July 2009, the PRC government took a step further in the promotion of the development of the solar sector with the announcement of the implementation of the “Golden Sun” pilot project.

Under the “Golden Sun” pilot project, the PRC government will subsidize 50 percent of the total investment for photovoltaic projects and the associated transmission and distribution systems. Such subsidy will rise to 70 percent for independent photovoltaic power generating systems in remote regions with no power supply. However, the projects must meet certain criteria in order to qualify for such subsidies. Among others, each of the projects must have a generating capacity of not less than 300 kW peak, be completed within one year and be operative for at least 20 years. The PRC government has also limited the scale of such solar power projects to no more than 20 MW in total for each province to ensure even development across all provinces.

Through a statement issued by the Ministry of Finance dated July 21, 2009, the PRC government announced plans to install more than 500 MW of solar power pilot projects in two to three years. Such ambitious plans, together with the subsidies mentioned above, clearly demonstrate China’s commitment to promote power generation from renewable energy sources. Recent developments
clearly illustrate China’s commitment—construction has begun on Asia’s first solar thermal power plant in Dahan, a suburb of Beijing not far from the Great Wall. The Dahan solar project will feature:

- A 1.5 MW power plant (designed by the Chinese Academy of Sciences). The output from the Dahan plant is expected to be increased to 5–10 MW by 2015.
- A total investment of 100 million yuan (US$14.7 million).
- Offtake will provide power to 30,000 households by 2010
- The plant will cover an area the size of 10 football pitches or 0.13 square km.
- Unlike photovoltaic solar panels, which produce electricity directly from sunlight, solar–thermal power is based on an array of mirrors that focus the sun’s rays onto a receiver.

Since the promulgation of the Renewable Energy Law and various policies, there has been a surge in renewable energy technology investment, production and installation in China. For example, China ranked second for the absolute US dollar amount invested in renewable energy in 2007 and is only slightly behind Germany as a percentage of GDP. As of the end of last year, China has doubled its wind power generation capacity for the fourth running year, with 25,104 MW wind power capacity installed, third only to the USA and Germany. It is expected that, if China’s wind power installation continues to develop at this breathtaking rate, it will overtake Germany to take second place this year. China also became the world’s largest producer and consumer of solar water heaters, accounting for half of the world’s total production and 65 percent of all installations. Furthermore, China supplies 30 percent of the world’s demand of solar photovoltaic cells. Although predictions have shown that China might surpass some of its renewable energy targets, the country is faced with a transmission bottleneck between renewable energy production and connection to the nation’s power grid, as the country’s power grid facilities and planning fails to keep up with the rapid increase in the generation capacity of renewable energy sources.

Amendments to the Renewable Energy Law

The existing Renewable Energy Law provides for:

- National renewable energy targets in both medium and long term
- Compulsory connection of renewable energy to power grids
- The structuring of power pricing arrangements
- The provision of subsidies and tax incentives to encourage renewable energy projects
- The establishment of a renewable energy development fund to support research and development of renewable energy technology.

Since the implementation of the Renewable Energy Law, there have been significant developments in the renewable energy sector, particularly with respect to wind and solar power. Yet, the rapid expansion of renewable energy capacity could not be adequately supported by the existing power grid facilities and planning. The amendments to the Renewable Energy Law (the “Renewable Energy Law Amendments”) appear to be mainly driven by a stark realization by PRC authorities that the legislative framework did not match the unprecedented progress of the renewable energy sector, specifically the wind power sector. It has been widely reported that, despite the tremendous growth of the wind power sector, the power grids servicing wind power generators have not been able to dispatch all of the potential energy generated.

Since 2008, there have been various proposals from the National People’s Congress (NPC) to amend the Renewable Energy Law. A draft amendment to the Renewable Energy Law was submitted for first reading to the Standing Committee of the NPC in August 2009. Following that, the draft amendment was opened for public comment, and the public comment period ended on Sept. 30, 2009. The NPC Standing Committee adopted the Renewable Energy Law Amendments on Dec. 26, 2009, which will become effective on April 1, 2010.

The Renewable Energy Law was amended to address the following systemic problems:

- Inadequate coordination between national energy strategy and renewable energy development
• Lagging development of power grids in support of newly constructed renewable energy sites and
• Lack of assured interconnection of renewable energy projects to the grid.¹³

COORDINATION OF NATIONAL ENERGY DEVELOPMENT STRATEGY

During the consultation period, concerns were raised with regard to the lack of coordination between the development of renewable energy and the country’s overall energy development strategy. In devising national plans for the development of renewable energy, there seemed to be a lack of consideration given to resource evaluation, technical limitations and local conditions. For example, most of the regions with wind power potential are concentrated in remote areas of northern China and the southeastern coastal areas, such as Inner Mongolia, Gansu and Xinjiang. These wind power-rich regions are at the edges of the existing national power grids, and thus the interconnection from these regions to the power grids is problematic.

More than 20 percent of China’s wind power facilities did not generate electricity as these facilities were not connected to the national grid.¹³ The lack of supporting infrastructure creates a major obstacle for China to reach its renewable energy targets. The construction of a supporting power grid is explicitly stated in the Renewable Energy Law Amendments as one of the steps to be taken by the relevant energy administration departments in renewable energy planning. The Renewable Energy Law Amendments provide that such planning must take into account local conditions before implementation in an orderly fashion. Although it did not specifically stipulate how renewable energy planning should be organized, this broad brush approach, common in PRC framework legislation, might serve to discourage over-expansion of renewable energy facilities.

The Renewable Energy Law Amendments emphasized the participation and coordination of relevant government departments, both at the State Council (the PRC’s supreme legislative body) and local levels. The relevant government departments responsible for energy management are required to take into account the technological development of renewable energy generation in structuring the national renewable energy development strategy. Local governments responsible for energy administration are then explicitly required to devise local renewable energy development plans based upon the national renewable energy development strategy. These local government departments are also specifically required to notify the NEA and the SERC of their renewable energy plans after obtaining approval from their local government.

GUARANTEED GRID CONNECTION

The Renewable Energy Law, together with the relevant rules, the Regulation on the Administration of Power Generation from Renewable Energy (NDRC Energy [2006] No. 13) and the Measures on Supervision and Administration of Grid Enterprises in the Purchase of Renewable Energy power (SERC [2007] No. 25), obligate power grid companies to purchase and dispatch the entire amount of electricity generated from the renewable energy project when entering into interconnection agreements with these renewable energy projects. The power grid companies are also required to provide grid connection services and related technical support.

The lack of clarity in the requirement leads to enforcement difficulties. The complete purchase of renewable energy is currently solely based upon the private, negotiated agreements between the grid companies and renewable energy projects. As mentioned previously, many of the renewable energy project sites were built in remote regions without a developed power grid. As a result, far from encouraging the interconnection of existing grids to newly constructed renewable energy sources, grid companies have been reluctant to provide such interconnections.

The Renewable Energy Law Amendments strengthen the obligation for the complete purchase of electricity generated from renewable energy sources by implementing a minimum acquisition quota system. In line with the NDRC’s national policy for medium- and long-term development of renewable energy, the NEA, SERC and MoF shall determine periodically the proportion of power to be generated by renewable energy sources in relation to the total electricity generation under the Renewable Energy Law Amendments. Power grid companies are required to abide by these periodic targets and to enter into
agreements to purchase the entire amount of electricity generated by renewable energy sources within the geographic coverage areas of their power grids.

To facilitate the development of supporting infrastructure and to further enhance power grid operations, the Renewable Energy Law Amendments also require power grid enterprises to improve power transmission technologies and grid capacity to dispatch more power produced by renewable energy generators. Power grid companies are encouraged to adopt advanced technologies, such as smart grids and grid energy storage, to enhance power grid operation and management, which will, in turn, improve their capacity to absorb the power generated by renewable energy sources.

As electricity generated from renewable energy sources is generally less stable than the energy generated from conventional sources, electricity generating enterprises are required, under the Renewable Energy Law Amendments, to ensure that the renewable energy produced meets the technical standards for electricity dispatch and to cooperate with power grid companies to maintain power grid safety and efficiencies.

**RENEWABLE ENERGY DEVELOPMENT FUND**

Another deterring factor for interconnection is that the cost of connecting to renewable energy sources is still inevitably higher than connection to conventional energy sources. Under the Renewable Energy Law, a development fund had been established. The source of funds for the current development fund is not specified. It is used to provide grants for renewable energy project development. The Renewable Energy Development Fund (Renewable Energy Fund), established under the Renewable Energy Law Amendments, will be administered by the MoF. The Renewable Energy Fund will source funding via surcharges on electricity generated from renewable sources and specific funds provided under the annual national fiscal budget.

Under the Renewable Energy Law, the difference between the costs incurred in interconnecting electricity generated from renewable sources to the grid and the costs normally incurred in interconnecting electricity generated from conventional sources is levied on the ultimate end user. The subsidies provided to the grid companies may be delayed, and this created financial pressure on these companies. In comparison, the Renewable Energy Law Amendments provide subsidies from the Renewable Energy Fund to cover such shortfalls.

To the extent that the sale of electricity is not sufficient to cover the interconnection fees and other relevant expenses, power grid companies may also apply for subsidies under the Renewable Energy Fund. In the process of reviewing the Renewable Energy Law, the NPC acknowledged that the solution for the determination of the tariff of renewable energy lies in the proper implementation of the relevant legislation, not in the amendments to the relevant provisions of the legislation.14

To further encourage the consumption of renewable energy in China, the Renewable Energy Fund will be used to support other projects that further renewable energy development as stated under the Renewable Energy Law, such as scientific research, rural clean energy projects and independent power systems construction in remote areas and outlying islands. According to the NPC, a new set of administrative rules regulating the Renewable Energy Fund is currently being drafted jointly by the MoF, the NEA and the Department of Pricing of NDRC and is expected to be issued soon.15

**Recent Developments**

Recent policies for individual renewable energy sectors are also likely to attract further development in the PRC’s renewable energy sector. For example, in the wind power sector, the NDRC published the *Circular Regarding Requirements of the Administration of Wind Power Construction (NDRC Energy [2005] No. 1204)* in 2005, stipulating that at least 70 percent of the wind turbine equipment needs to be produced in China in order for the project be approved. In a major turnaround, the requirement was removed pursuant to the *Circular Abolishing the Requirement on the Rate of Localization of Equipment Procurement on Wind Power Projects (NDRC Energy [2009] No. 2991)* issued by the NDRC on Nov. 25, 2009.

In order to improve the management of the development of offshore wind power, the PRC government issued the *Provisional Measures for the Administration...*
of Offshore Wind Power Development (NEA [2010] No. 29). Offshore wind power is still relatively undeveloped compared to onshore wind power in the PRC. It is envisaged that the promulgation of the new measures will mark a new dawn in the development of offshore wind power in China. However, the guideline requires offshore wind farm projects to be tendered by Chinese companies and Sino-foreign joint ventures with Chinese majority control (i.e., the Chinese party holding more than 50 percent of equity interest in the joint venture). Such restriction may dampen the interests of some international offshore wind power developers. Circumstances may change over time, leading to such restriction being relaxed or abolished altogether. Until then, foreign participation in the Chinese offshore wind power sector will be restricted to holding minority interest in a Sino-foreign joint venture.

Draft Energy Law

Notwithstanding the ambitious approach that the PRC government undertook to facilitate renewable energy development, China has yet to implement a consolidated legislative framework for the energy sector. The drafting of the Energy Law commenced in 2006, and the first draft was published for public consultation on Dec. 4, 2007. The draft Energy Law maps out, among other things, the overarching principles on the integrated administration of the energy sector, the strategic planning and development of the energy sector, the production of energy, the transport and supply of energy and the conservation of energy. The draft Energy Law encourages the development of renewable energy in China and would provide further guidance on the country’s energy development in conjunction with the Renewable Energy Law Amendments. The draft Energy Law was still under consultation with both Chinese and overseas experts at the end of last year, and there is no concrete timetable as to when the draft Energy Law will be implemented.

The PRC government has clearly demonstrated its commitment to promote renewable energy generation to the global community. The Renewable Energy Law Amendments, together with currently existing rules and regulations and prospective legislation to be promulgated, will provide a clearer legal framework and a more favorable environment for the actively expanding renewable energy sector in the PRC. It is hoped that with the promising policies issued by the PRC government and increased market competition, the Chinese renewable energy industry will continue to develop and prosper.

To date, foreign participation in the wind power sector has been mixed, as the Big 5 Chinese IPPs tend to dominate the wind power sector, propelled by their larger balance sheets and the national directive to exploit wind power resources. Though not the subject of this article, wind and solar power manufacturers—both domestic and foreign-invested enterprises—face potential consolidation as a result of lower prices for wind turbines and photovoltaic cells. Interestingly, although several of the world’s leading wind and solar power developers have embarked upon initiatives to enter the China market, their track records have, on balance, lacked that of the Chinese players. China’s effort to rationalize its renewable energy legal regime may mark the first step to making the Chinese renewable energy market more attractive to foreign investors.◆

Endnotes:


2 China Statistical Yearbook 2008, Id.


The Climate Group, China’s Clean Revolution II: Opportunities for a Low Carbon Future (Aug. 2009), at 5.

The Climate Group, China’s Clean Revolution II: Opportunities for a Low Carbon Future (Aug. 2009), Id. at 25.


Chile has two Liquefied Natural Gas (LNG) regasification terminals. One has been operating since September 2009. It is located in Quintero Bay, close to the capital city of Santiago. The $1.1 billion project is designed to satisfy all the gas demand for residential, commercial, industrial and electric generation purposes in the central part of Chile. This amounts to about 40 percent of the nation’s demand. The owners and primary gas off-takers are ENAP, Metrogas, BG Group and Endesa Chile.

The second terminal was inaugurated in July 2010. It is located in Mejillones Bay in northern Chile. This project is designed to provide natural gas for electric generation, primarily in support of the massive mining industry in that part of the nation. The owners are GDF Suez and Codelco.

Chile was not supposed to need these LNG projects.

Back in 1995, Chile was facing major economic and environmental challenges in determining how to meet rapidly increasing energy needs at a time when it lacked domestic and competitive energy sources. Energy consumption was growing at high annual rates, and new energy needs were being met primarily by importing more oil and coal. Simultaneously, Chile faced increasing economic and environmental constraints in expanding its hydroelectric capacity.

To solve its energy needs, Chile turned to its neighbor, Argentina, which at the time was benefiting from new government energy policies begun in 1989. These policies broke up and privatized state-owned monopolist enterprises, deregulated wholesale prices, brought market-based regulation to retail prices and encouraged investment in the exploration and production of hydrocarbons. Based on the success of its reforms, Argentina was turning itself into an exporter of oil, gas and electricity.

Between 1996 and 2000, five natural gas pipelines were constructed to transport Argentine gas into Chile. One was built to supply the Magallanes region in the far south; another (Gasoducto del Pacífico) was built to supply the industrial region of Concepción; and a third (GasAndes) was built to deliver Argentine gas to the Santiago metropolitan area. Two more pipelines (Gas Atacama and Nor Andino) were built in the north of the country for residential purposes and to support the mining industry. Overall investment in international pipeline projects between Argentina and Chile in the 1996-2000 period was more than $1.5 billion. Together with the gas pipeline from Bolivia to Brazil that was built around the same time, these were the largest energy integration projects in Latin America.
Chile was able to add natural gas to its fuel mix and mitigate economic costs and adverse environmental impact. Billions of dollars were also invested in domestic gas transportation and distribution networks and gas-fueled power plants.

Unfortunately for Chile, Argentina did not live up to the bargain for too long. As a result of serious macroeconomic and monetary dislocations, Argentina began experiencing an economic crisis in 1998 that reached its boiling point in early 2002.

In response to its economic crisis, the Argentine government stopped supporting its currency, which devalued from a fixed one-to-one exchange with the US dollar to almost four-to-one. The government then decreed that gas tariffs for end users would remain denominated in the local currency at nominal value, without adjustment on account of the devaluation. The same was done with electricity rates. Producers and suppliers were also hit by the fact that they remained obligated to service foreign debt denominated in US dollars.

Regulators in Argentina froze the tariffs, and, by and large, they still remain at those levels. Gas producers and electric generators in Argentina were not compensated for the reduction in their real revenue. The effects of these policies started showing in 2004. Due to low prices and a lack of conservation measures, gas demand in Argentina shot up. Argentine gas producers with export contracts with Chilean buyers were ordered to curtail export sales in order to satisfy all domestic demand. With gas net-back prices at the wellhead among the lowest in the world, oil and gas companies had no economic incentive to risk new capital in exploration. Between 2004 and 2009, Argentine gas exports declined consistently to a small fraction of the originally contracted volumes. Argentina is now estimated to have gas reserves for less than 10 years.

Argentina ceased to be a reliable supplier, and Chile’s continued long-term economic growth could not wait for Argentina to get its affairs back in order. Argentina’s policies in response to the economic crisis forced Chile to develop its LNG terminals. Chile reacted quickly to Argentina’s supply reductions after being forced to import diesel to run power plants to mitigate the cuts in Argentine gas exports. The problems clearly were not going to be fixed in short order. Argentina and Chile are interconnected with gas transportation infrastructure, but there is no longer any energy integration between them. And because integration is based on trust and requires policy coordination and political commitment to maintain agreed-upon rules, Chile had to turn elsewhere to obtain a secure supply.

In an interesting twist, it is not inconceivable that the pipeline flow may be reversed with Chile exporting gas to Argentina in the future. ✦
Iraq is estimated to have one of the largest oil and gas potentials in the world. The country already has proven reserves of 115 billion barrels of crude oil and 112 trillion cubic feet of natural gas. The vast majority of Iraq’s oil and gas fields, however, remain undeveloped, undercapitalized and underexplored, mainly due to the country’s historical political structure and regional conflicts. Iraq has discovered 73 oil fields, including 6-9 “super-giant” fields (producing more than 5 billion barrels each) and 22-23 “giant” fields (producing more than 1 billion barrels per field). Only 15 to 20 of these fields are currently in production.

The Kurdistan Region of Iraq is located in northern Iraq, bordering Syria, Turkey and Iran. Like Iraq, Kurdistan’s economy is highly dependent on the production and sale of oil. It is estimated by the US Geological Survey that there are approximately 40 billion barrels of oil and 60 trillion cubic feet of gas in Kurdistan, giving the region the potential to be a significant new global energy player. Although autonomous since 1991, it was not until 2004 that Kurdistan’s status was officially recognized by the Transitional Administrative Law and reaffirmed by Article 117 of the Constitution of Iraq (the “Constitution”), approved by the Iraqi people in a referendum on 15 October 2005.

In addition to recognising Kurdistan, the Constitution also recognises decisions and contracts issued or entered into by the Kurdistan Regional Government (KRG) since 1992. The grandfathering provision in Article 141 of the Constitution states that: “Legislation enacted in the region of Kurdistan since 1992 shall remain in force, and decisions issued by the government of the region of Kurdistan, including court decisions and contracts shall be considered valid unless they are amended or annulled pursuant to the laws of the region of Kurdistan by the competent entity in the region, provided that they do not contradict the Constitution.”

Since 2007, the KRG has been using a model production sharing contract (PSC) for all participants in Kurdistan, based on a model considered reasonable and in line with international practice. Under the PSC, the contracting company has to comply with an initial three-year exploration sub-phase (seismic plus 1-3 well commitment), following which a second exploration sub-phase of two years can be commenced, with a possible extension granted for further evaluation. Upon discovery, the contractor can apply to enter the development phase, which lasts 25 years (with potential extensions). The contractor has the typical rights and obligations, including (i) recovery of costs; (ii) payment of royalties to the KRG; (iii) sharing of “profit oil”; (iv) bonus payments and (v) taxes, which are paid from the KRG’s share of profit oil.
In light of its high oil and gas potential, its recognition under the Constitution, its attractive model PSC and the fact that it has proven to be relatively stable and secure compared to the remainder of Iraq, Kurdistan has emerged as an attractive region for foreign investment. In 2006, the first new oil well since the invasion of Iraq was drilled in Kurdistan by DNO, and approximately 38 international companies have now been awarded PSCs in Kurdistan. These include Heritage Oil plc, Gulf Keystone Petroleum Ltd., Talisman Energy Inc., Sterling Energy plc, Korean National Oil Corporation, the OMV Group, Sinopec International Petroleum Exploration and Production Corp. and Reliance Industries Limited. However, the lack of a federal oil and gas law has prevented the establishment of a payment mechanism for oil exports from Kurdistan, leaving two major fields (Tawke and Taq Taq) limited to only domestic sales and placing added uncertainty around needed development of key export infrastructure, which has been problematic for investors.

In addition to the difficulty in exporting production, and notwithstanding the constitutional footing enjoyed by Kurdistan within the federal system of Iraq, the international companies active in the Kurdistan oil sector are subjected to ongoing uncertainty with respect to the validity of the PSCs entered into between them and the KRG. The KRG enacted its own oil and gas law in August 2007 that established the directives by which the region would administer oil and gas operations, consistent with the provisions of the Constitution. The model PSC follows these directives. However the Iraq Ministry of Oil has publicly stated on several occasions that the oil agreements entered into with the KRG after the Kurdistan Region oil and gas law came into force are “illegal and illegitimate.”

Does the Iraqi federal government have justification for calling into question the validity of Kurdistan’s PSCs? Article 112 of the Constitution provides that oil exploration and production is not within the exclusive powers of the federal government, but the federal government of Iraq has a right to “undertake the management of oil and gas extracted from present fields.” Thus, the KRG is not allowed to unilaterally take over management of present fields, even though the federal government may work with the regional governments with respect to these present fields, provided that such arrangements are compliant with the Constitution.

In addition, the Constitution establishes that the federal government must distribute the revenues generated by the extraction of oil and gas from present fields in a fair manner in proportion to the population distribution in all parts of the country. Again, this requirement limits the powers of the federal government to present fields.

These references to “present fields” and to “extracted” oil and gas have led most commentators to conclude that the federal government has no express right under the Constitution to manage non-producing or future fields, including exploratory fields. The Constitution states, however, that the regional governments must always respect the Constitution and any “strategic policies” to be formulated by the federal government together with the regions. Since there are no strategic policy agreements between the KRG and the Iraqi federal government, the regulation of matters relating to future and non-producing oil and gas fields in Kurdistan is directly attributed to the KRG. In addition, the Constitution states that, in the case of a conflict between the federal and regional laws, regional law will prevail in the region, provided that it is not contrary to the Constitution. Significantly, there were no producing fields in Kurdistan at the time when the Constitution was approved and came into force (2005), ensuring that all current and future fields are outside the scope of Article 112.

In January 2008, the KRG obtained a legal opinion from Professor James Crawford, Whewell Professor of International Law, Cambridge University. The legal opinion concluded that, on the basis of the considerations referred to above:

- The KRG is a recognised regional government under the Constitution.
- The Iraqi federal government does not have exclusive authority over oil and gas.
- Under the grandfathering provision in the Constitution, all acts, decisions and contracts issued or entered into by the KRG since 1992 shall be considered valid and enforceable, provided they do not contradict the Constitution.
• The KRG has powers to manage the oil and gas fields not producing, developed or discovered before the date of the Constitution.

• Pending agreement with the federal authorities on strategic policies, the authority of the KRG to approve the conclusion and implementation of oil and gas development contracts is unqualified.

Despite this opinion, commercial reality demands that the Iraqi federal government observe and recognise the validity of Kurdistan’s PSCs, since federal cooperation and assistance is required to ensure the proper exportation, marketing and other downstream activities with respect to production from Kurdistan. Since 2007, the KRG and the federal government have been discussing the enactment of a federal oil and gas law to set out, among other things, the framework for payment of crude oil export revenues to the KRG and for marketing of crude oil. It will also reaffirm the legitimacy of oil and gas contracts signed.

This law will be vital to oil companies seeking to invest in Kurdistan, because it will remove a number of the current concerns. But it may also represent a limitation to the KRG’s management over the fields, since any new federal-approved law is likely to impose a number of revisions to the model currently in force in Kurdistan, including changes to the regime for royalties and corporate income tax. Until this new law is enacted, however, and despite the legal arguments in favour of the validity of the PSCs, the uncertainty regarding the exploitation of the region’s oil and gas reserves looks set to continue. ♦
Leasing Redux? TerraGen’s Recent Announcement Causing Us to Consider Leasings in Wind Project Finance

Paul Astolfi

We start with a statement of the obvious: leasing as a method of big-ticket finance is not as popular as it once was. The decline in the popularity of leasing is due in part to coincidental industry distress (e.g., airline bankruptcies) that disrupted great numbers of lease transactions, in part to successful IRS challenges to the treatment of certain leasing structures (e.g., SILO/LILO) and the enactment of rules that in certain cases eliminated the ability to offset leasing losses against other taxable income (IRC Section 470), and in part to other financing vehicles that accomplished similar goals. We suspect these days more than one veteran leasing expert has found himself thankful for the work required by the approaching termination date of a 20-year lease.

That said, those of us engaged in the renewable energy sector have heard and had much discussion of late concerning the possibility of financing renewable energy projects using lease structures. Solar energy projects have commonly been financed using a lease structure. The economics of a solar project and the relevant provisions of the federal tax code providing investment tax credits (“ITC”) to solar energy investors have combined to support this vehicle. Wind energy projects have, until recently, not been amenable to lease financing for a variety of reasons, though thought most obviously because the production tax credit (“PTC”) rules available to wind projects precluded it.¹

The 2009 American Recovery and Reinvestment Act (the “Recovery Act”) opened up the discussion by extending the ITC (and its ability to be monetized through a lease finance) to wind projects. This change allows for the possibility that one entity (a tax equity investor) may own a wind project and claim the ITC while another entity (the operator) may be the lessee of the project and operate it. (Solar energy projects remain amenable to leasing structures.) The relevant rules are, in fact, flexible enough to allow either the lessor or the lessee to claim the ITC based on agreement and subject to certain limited conditions.

The Recovery Act also created a 30 percent cash grant (“Cash Grant”) equivalent of the ITC, to be paid out within 60 days of a project’s commercial operation rather than realized in connection with an applicant’s tax return.² Each of these three options (PTC, ITC or Cash Grant) is mutually exclusive. Each project may take advantage of only one of these benefits.

Congress staggered the sunset date of the Cash Grant depending on technology and project completion date (with exceptions for certain projects that begin construction by the end of 2010). For purposes of this article, it is enough to say a project must commence construction by the end of 2010 in order to claim the Cash Grant. If that condition is satisfied (not a simple
question to answer), a wind project has until the end of 2012 to reach commercial operation and claim the Cash Grant, and a solar project has until the end of 2016.

Given the preceding changes instituted by the Recovery Act and the rules that were left unchanged, the state of affairs that results is: (1) federal tax benefits for solar projects could previously and still may be financed using a lease structure; (2) federal tax benefits for wind projects may now be financed using a lease structure; and (3) though we do not have numbers to prove up this point and notwithstanding points (1) and (2), it seems most financings in 2010 have taken advantage of the Cash Grant to the developer utilizing straight debt or on-balance sheet financing. This is likely caused by the notion of “a bird in the hand...” and the still somewhat sticky tax equity and bank debt finance market.

Yet it is still possible to claim the Cash Grant and finance a project with a lease structure. A lease structure in the energy space most commonly involves a project owner (the lessor) and an operator of the project (the lessee). Typically, the lessor is a financier with an appetite for the tax attributes associated with ownership of the project. The lessee is most often the developer of the project, who, for various reasons, does not share that tax appetite. At financial close, the developer (and lessee-to-be) sells the project to the financier and immediately leases the project back from the financier (now a lessor). If the financier-lessee borrows money to fund some or all of the purchase price of the project, the structure becomes a leveraged lease.

Selection of the Cash Grant leaves a project with 85 percent of its qualified costs to depreciate on an accelerated basis. And the check from the US Treasury for 30 percent of the qualified costs can be directed to the lessor, as can the ITC. There is a difference of timing and some time value of that amount, but the overall effect on project economics is usually slight. So, after taking advantage of either the Cash Grant or the ITC, a lessor would have the tax benefit of accelerated depreciation of 85 percent of the project’s qualified costs.

With all that flexibility, why have leases in the wind space been so rare? We think there are three main reasons. First, the established pattern for wind project finance involves an equity investment colloquially known as a “partnership flip,” a structure for which the IRS has provided “safe harbor” status. The tax equity investor puts its capital directly in the entity owning the project as a co-investment with the existing sponsor’s equity. The tax equity investor receives the lion’s share (nearly all) of the federal tax benefits until those benefits have been exhausted. During this first phase, most of the cash income from the project is allocated to the sponsor. After the tax benefits have largely run out, the allocation flips, and the tax equity investor receives cash until it realizes its desired return through the combination of prior tax benefits and cash.

Owing to the widespread acceptance of the partnership flip structure in the wind industry, it likely seems more efficient to many participants simply to continue with the tried and true method. Lawyer and consultant costs are minimized, and the parties have a high degree of confidence that the structure will function properly and without being challenged by the IRS.

Second, we believe market participants recognize a potential disparity in the short-term volatility of wind resources compared to solar resources. The greater short-term volatility of wind resources may cause many participants to view the lease structure, with its required payments of rent each quarter, as incompatible with such volatility. On the one hand, investors want stability and, therefore, require reserves or indemnification where stability lacks. On the other hand, sponsors do not wish to see their returns diminished by having to establish reserves to deal with resource volatility.

Finally, we believe the purchase option and other legal requirements that attend lease finance make such a structure in the wind space less likely to be chosen. With lease financing, the sponsor, if it wishes to reassert control over the project, needs to repurchase the project from the lessor at fair market value, such value determined without any reduction of the lessor’s interest to 5 percent (as will be the case in a partnership flip). With a partnership flip structure, the sponsor typically can buy out the tax equity’s interest after it has flipped down to only 5 percent and the agreed-upon return has been realized.
In addition, there are often times greater reserve and/or rent prepayment requirements in a lease structure (these in addition to what was discussed above in connection with resource volatility). There are also complicated valuation requirements in connection with a lease driven by IRS “true lease” guidelines and case law that require that the leased property be expected to have a meaningful residual value and remaining useful life at lease end. The lease guidelines set forth a “20/20” residual requirement, meaning that at lease inception the facility is expected to be worth, at lease termination, at least 20 percent (plus inflation since lease inception) of the facility’s initial inception cost to the lessor and have a remaining useful life, at lease termination, of at least 20 percent of its appraised estimated useful life at lease inception. In short, under the flip structure, the sponsor’s purchase option can be as low as 5 percent of expected fair market value perhaps 10 years out while its purchase option under lease can never be less than 20 percent plus inflation (likely to approach 30 percent after 20 years).

Because the wind industry has an acceptable IRS-sanctioned alternative that can accommodate the changes in the Recovery Act and provide a lower buyout price, it is understandable that such an alternative would remain the primary vehicle for tax benefit monetization.

We do note that the lease structure is not without significant advantages. Lease financing provides a developer with a day-one, full takeout of the developer’s costs in the form of 100 percent financing. Lease financing may also provide a lessor with preferred accounting results if the lease qualifies for leveraged lease accounting under FAS 13, permitting the lessor to report most of its financial profit in the very early years of the lease.

Endnotes:
1 For 2010, the PTC is worth 2.2 cents per kilowatt hour.
2 Being lawyers, we must add for completeness that the Recovery Act affected all manner of renewable energy projects and products, in addition to much else. We have assumed the audience for this piece has some familiarity with the Recovery Act as it affects renewable energy generally. With that audience in mind, we address here only large-scale wind and solar projects and then only certain aspects of the Recovery Act applicable to those technologies. We believe those projects comprise the lion’s share of deal activity and focus amongst the large financial institutions, developers, and their consultants and lawyers.
3 Technically this is a sale-leaseback, although it is so common in the energy sector that most references are simply to “leases,” the understanding being it is necessarily a sale-leaseback.
4 Special rules reduce the depreciable tax basis by only 15 percent of the qualified costs of the project rather than the 30 percent represented by the Cash Grant.
About Mayer Brown

Mayer Brown is a leading global law firm with offices in major cities across the Americas, Asia and Europe. Our presence in the world’s leading markets enables us to offer clients access to local market knowledge combined with global reach.

We are noted for our commitment to client service and our ability to assist clients with their most complex and demanding legal and business challenges worldwide. We serve many of the world’s largest companies, including a significant portion of the Fortune 100, FTSE 100, DAX and Hang Seng Index companies and more than half of the world’s largest investment banks. We provide legal services in areas such as Supreme Court and appellate; litigation; corporate and securities; finance; real estate; tax; intellectual property; government and global trade; restructuring, bankruptcy and insolvency; and environmental.

OFFICE LOCATIONS

AMERICAS
• Charlotte
• Chicago
• Houston
• Los Angeles
• New York
• Palo Alto
• São Paulo
• Washington

ASIA
• Bangkok
• Beijing
• Guangzhou
• Hanoi
• Ho Chi Minh City
• Hong Kong
• Shanghai

EUROPE
• Berlin
• Brussels
• Cologne
• Frankfurt
• London
• Paris

ALLIANCE LAW FIRMS
• Spain, Ramón & Cajal
• Italy and Eastern Europe, Tonucci & Partners

Please visit www.mayerbrown.com for comprehensive contact information for all Mayer Brown offices.