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REVIEW

* Article by Leonardo Costa of Tauil & Chequer Advogados, in association with Mayer Brown LLP.

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In this edition of Mayer Brown's *Global Energy Industry Review*, our associated firm in Brazil, Tauil & Chequer Advogados, sheds light on the intricacies of Brazil's oil and gas exploration and production (E&P) regimes, which were put in place to control petroleum E&P activities in the country's pre-salt coastal shelf. We then discuss how the European Commission hopes to increase accountability among EU governments for revenues generated through the exploitation of their countries' natural resources.

Additionally, we discuss the ongoing impact of hydraulic fracturing on the US regulatory landscape and provide recommendations to help companies mitigate fracturing liability risk.

Returning to the European continent, Greece may no longer be perceived only as a holiday getaway. We highlight how the country is focused on presenting its renewable energy investment potential to the rest of the world.

Finally, we close the spring issue of the Review by sharing significant Mayer Brown Global Energy News.

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Brazil's Oil and Gas Exploration and Production Regimes: An Overview*

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Introduction

Since 1997, the exploration and production (E&P) of oil and gas in Brazil has been driven by a federally regulated concession system. This highly successful program was bolstered in 2010, when the Brazilian Congress approved legislation that set forth general rules and principles for a production sharing contract regime intended to control petroleum exploration and production activities in the nation's pre-salt coastal shelf and other government-designated "strategic" areas.

The legal framework for Brazil's new production sharing contract regime is formed by three legislative articles:

- Law no. 12,351, which regulates the exploration and production of oil and gas in the pre-salt and strategic areas of Brazil;
- Law no. 12,304, which authorizes the creation of Pré-Sal Petróleo S.A. (PPSA), a national entity chartered to govern the Federal Union's production sharing agreements and to manage marketing contracts for state-owned petroleum products; and
- Law no. 12,276, which authorizes the "onerous assignment" of exploration rights from the Federal Union to Petrobras, for the purpose of capitalizing Petrobras.

Thus, exploration and production activities in Brazil are currently governed by two legal frameworks: the concession contract regime (concession regime) and the production sharing regime (PSA regime). The prevailing regime to be applied to an individual E&P project is determined by the relevant petroleum deposit's geographic location.

Some claim that a third framework—the onerous assignment regime—has been put in place exclusively for Petrobras, to allow for the recent capitalization of Petrobras. In the context of this exclusive framework, Petrobras signed a contract with the Federal Union to explore up to five billion BOE in designated pre-salt areas.

To varying degrees, both the concession regime and the PSA regime allow for the acquisition of exploration and production rights by any company that meets certain requirements as established by Brazil's National Agency of Petroleum, Natural Gas and Biofuels (ANP). Such acquisitions may be direct (through participation in the bidding rounds conducted by ANP) or indirect (through the acquisition of participating interests in blocks previously assigned to companies), subject to the approval of ANP.

Although properly approved by the Brazilian Congress, the PSA regime has not been tested,

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as there have not been open bidding rounds for the pre-salt and strategic areas thus far. The main problem delaying the start of the PSA regime open rounds is the debate among states of the Brazilian Federation regarding the sharing of petroleum revenues (mainly royalties). However, there is considerable political pressure to initiate the first pre-salt open round of bidding in 2012.

The Concession Regime

The concession regime has been in effect since 1997, pursuant to Law no. 9,478 (the Concession Law). The regime is based on the execution of concession contracts awarding oil and natural gas exploration and production rights and obligations in exploration blocks offered during the bidding rounds regularly conducted by ANP.

Access to the bidding rounds is open to any company or consortium that meets the legal, technical and financial requirements established by ANP. Operators have to qualify to operate onshore, in shallow or deep waters, depending on their prior operating experience. The criteria used by ANP to determine the winning bidders are based on a formula that considers the amount of signature bonus, the minimum exploratory program and the local content offered by each bidder. The criteria vary from one bidding round to another.

The concession contract is entered into by ANP and the oil companies (concessionaires). In addition to payment of a signature bonus offered during the bid round, the concession contract determines the payment of: (i) a retention fee that is proportional to the size of the concession area retained; (ii) royalties equal to 10 percent of the production of oil and natural gas; and (iii) special participation for blocks with high levels of production or profitability.

Under a concession contract executed with ANP, a company or consortium has the obligation to perform a minimum exploration program within the area of each block, at its own cost and risk, and owns the production in case of success. A concession contract provides for two distinct phases:

1. The exploration phase, which usually lasts no more than seven years and may be divided into two periods, the second of which is optional. During the exploration phase, the concessionaires are obliged to perform all activities contemplated by the minimum exploratory program, including conducting seismic works and possibly drilling at least one exploratory well. The exploration phase also includes the appraisal of a discovery, if any.
2. The production phase, which usually lasts up to 27 years and may start only after completion of all activities contemplated by the minimum exploratory program. The production phase must begin with a declaration of commerciality after completion of the appraisal of a discovery by the concessionaires. This phase of the concession contract also includes all development activities necessary prior to actually starting the production of oil or natural gas.

According to Article 26 of the Concession Law, ownership of the oil and gas produced becomes the concessionaire's property once the hydrocarbons pass through the measurement point. Prior to passing the measurement point, the oil and gas reserves belong to the Federal Union (Article 3 of the Concession Law).

The assignment or transfer of the concession contract, fully or partially, is permitted under Article 29 of the Concession Law, provided that the assignee fulfills the technical, financial and legal requirements set forth by ANP in the concession contract and the bid tender rules. Thus, ANP's prior approval is required before the assignment can actually go into effect.

The assignment may materialize as an actual assignment of participating interest from one concessionaire to another or, indirectly, by means of a corporate transaction in the level of the concessionaire's interest. Thus, the sale of the control or merger, amalgamation or other corporate transaction may trigger a need for the concessionaire to request ANP's approval. Further, ANP may require a performance guarantee if it considers that the concessionaire does not have sufficient assets to guarantee its obligations under the concession contract.

To date, ANP has approved hundreds of requests for assignments of concession rights, both to

existing concessionaires and newcomers and also in connection with corporate transactions (i.e., indirect transfers). In fact, due to the lack of bidding rounds during the past several years, assignments of concession rights have increased substantially because farm-in deals have been the only way for companies to start or increase their portfolios in Brazil.

Unlike the pre-salt rounds, nothing should prevent the government from authorizing ANP to promote the next concession rounds. In fact, the E&P industry in Brazil is concerned with the lack of concession bidding opportunities over the last three to four years.

The PSA Regime

According to the PSA Law, the new regime will only apply to fields located within Brazil's pre-salt areas and such other areas as the federal government may eventually designate as "strategic." Essentially, the PSA regime provides that an oil company contractor will conduct exploration and production activities at its own risk and expense. In case of commercial discovery, the contractor will have the right to be reimbursed for properly incurred E&P costs (cost oil) and will receive a percentage of the profits generated by the project (profit oil). The contractor's share of project profits will be defined in the production sharing contract.

The cost oil is the share of production costs that the contractor is entitled to recover (in case of a commercial discovery) for costs it incurred and investments it made during exploration, appraisal, development, production and abandonment activities. The terms, conditions and limitations of the cost oil will be set forth in the production sharing contract.

The profit oil is the share of production profits to be divided between the Federal Union and the contractor, and it represents the difference between the total volume of production and the share of cost oil, royalties and special participation. The division of the profit oil, as well as other conditions related to it, will also be defined in the production sharing contract.

According to Article 4 of the PSA Law, Petrobras will be appointed as the sole operator responsible for the execution, directly or indirectly, of all project-related exploration, appraisal, development, production and abandonment activities. As the project's operator, Petrobras will hold a minimum participating interest of 30 percent in each new block within the pre-salt and strategic areas. The remaining 70 percent interest may be contracted with other companies under competitive bid rounds. As a consequence, these companies will have to form a consortium with Petrobras and PPSA, the non-operating entity created in 2010 by Law no. 12,304 to act as the federal government's representative in production sharing agreements. Petrobras may also compete, by itself or under a joint bidding arrangement, to increase its 30 percent participating interest by up to 100 percent.

The main roles of PPSA are to manage and supervise production sharing agreements and to represent the government in project operating committees. PPSA has the right to appoint half of an operating committee's members, including its chairman, who will have veto power.

Similar to the concession regime, exploration activities under the PSA regime will be developed at the sole cost and risk of Petrobras and its joint-venture partners.

In addition to royalty payments, the PSA regime also establishes the payment of a signature bonus. Unlike the concession regime, the value of signature bonuses under the PSA regime will be determined in advance by the relevant production sharing agreement. It will not, however, be among the criteria used to determine the winners of a bid round.

The criteria used by ANP to determine winning bidders during the PSA regime's bidding rounds will be based exclusively on the highest share of profit oil offered by the competing companies to the government.

The PSA Law also created a social fund to be maintained with the revenues of the pre-salt production. The purpose of this social fund is to ensure a permanent benefit to the country by means of investments in projects to reduce poverty and to promote development in key areas such as education, science and environmental sustainability, including mitigation of climate changes.

Although the general rules and principles of the PSA regime are set forth in the PSA Law, many controversial issues will have to be defined in the context of the production sharing contract. For instance, it is still unclear how much control Brazil's federal government, through PPSA, will have in the day-to-day management of E&P operations. Other key features of Brazil's PSA regime, such as sole operatorship by Petrobras, may not seem very reasonable to operators or investors.

Petrobras as Sole Operator

A big part of Petrobras's offshore E&P success over the past several years is explained by the fact that it has partnered and shared experience with other leading international oil companies. The legislators' selection of Petrobras as the sole operator for E&P projects in all pre-salt and strategic areas, however, raises many concerns and may not be good for the country, for the E&P industry or for Petrobras itself.

From a national perspective, for example, Petrobras may not have the ability to move all projects forward in a desirable time frame. As big as it has become, moreover, Petrobras may not have the financial and human resources necessary to handle all of its pre-salt projects at the same time. Given its size, too, Petrobras may be an unwilling or inefficient operator of some smaller pre-salt projects that may be better suited in scale to an independent oil company.

According to the PSA Law, Petrobras may not transfer operatorship to other oil companies, however well qualified to operate they might be. Likewise, removal of Petrobras as a project's operator will apparently not be possible under the PSA regime. And the strength and effectiveness of ANP's regulatory authority over Petrobras remains to be seen.

Moreover, Petrobras's appointment as sole operator without a public tender raises questions regarding the legality and constitutionality of such legal provision. Brazilian courts may be obliged to rule on this issue if the PSA Law is questioned.

Finally, Petrobras's minimum 30 percent participating interest in all pre-salt areas, although probably intended as a blessing by the legislators, may be a curse in some cases. This could be true, for instance, in situations in which a particular deposit promises a less-than-favorable return on investment and would not normally receive bid offers in a more competitive environment.

The geological potential of the pre-salt areas has been widely announced by the specialized media in Brazil and abroad. However, the fiscal and contractual terms to be published in the first pre-salt open bidding round and the production sharing contract model will be crucial factors in the oil industry's evaluation of Brazil's pre-salt frontier. ◆

European Union Country-by-Country Reporting Proposals: Promoting Accountability or Damaging Competitiveness?

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Background

On 25 October 2011, the European Commission (EC) announced a package of regulatory measures designed to support entrepreneurship and responsible business practice within the European Union (EU). In the context of encouraging responsible business, the proposed legislation included the introduction of country-by-country reporting (often referred to as CBCR) for payments made to governments by extractive industries, including mining and oil and gas companies, and loggers of primary forests.

At present, EU legislation does not require companies to provide financial information on a country-by-country basis. By increasing transparency relative to payments made to governments by extractors and forestry operators, the European Commission hopes governments—particularly those of countries rich in natural resources—will be held more accountable for revenues generated by allowing exploitation of their respective countries' natural resources.

Levelling the Playing Field

The EC's proposals have been made in response to various international developments. One of the key influences on the shaping of the proposals has been Section 1504 of the US Dodd-Frank Act. This provision, which has yet to be implemented, will require resource extraction companies subject to US Securities and Exchange Commission (SEC) reporting requirements to disclose, among other things, payments made to governments on a country-by-country basis and the projects to which the payments relate.

Separately, the proposals are intended to be expressions of support by the European Commission for the Extractive Industries Transparency Initiative (EITI). The EITI, announced in 2002, is a voluntary initiative with the objectives of improving transparency and accountability in countries rich in oil, gas and mineral resources and of providing "civil society with information to hold governments of resource rich countries to account for their receipts from the exploitation of natural resources." Once a host country endorses the initiative, the EITI process is mandatory for all extractive industry operators (including those that are state-owned) operating in that country. To date, 35 countries have implemented the EITI.

The EC's proposals also stem from a commitment made by the G8 governments in May 2011 to put in place transparency laws and regulations and to promote voluntary standards

that require or encourage oil, gas and mining companies to disclose the payments they make to governments. In September 2010, moreover, the European Parliament made its own request to the EC to take action in this area.

Affected Companies

If implemented as proposed, the country-by-country reporting requirements will apply to any company that is active in the extractive industry (i.e., with any activity involving the exploration, discovery, development and extraction of minerals) or that conducts logging of primary forests if that company is:

- listed on an EU-regulated market, even if it is incorporated in a third country; or
- a large EU company or public interest entity.

For these purposes, a large EU company is an entity incorporated in the EU that exceeds two of the following three criteria: (a) a balance sheet total of €20 million; (b) a net turnover of €40 million; and/or (c) an average of 250 employees during the financial year.

These criteria mean that, unlike the requirements set out in the US Dodd-Frank Act, the EU country-by-country reporting requirements will apply to the primary logging industry and to large unlisted companies, as well as to listed entities. The European Commission has stated that the application of the proposals to large unlisted companies will reflect the fact that these companies can potentially make significant payments to governments in the countries in which they operate. Consequently, targeting these rules at large non-listed companies, as well as at listed companies, will create a more level playing field within the EU.

Data That Must Be Reported

Under the EC's proposals, companies will have to prepare annual reports on payments and payments in kind made to governments when those payments are material to a recipient government. Under the proposals, specifying and developing the concept of materiality of payments will be delegated to the European Commission.

The yearly report is to be broken down by country and, where payments have been attributed to specific projects, by project. The types of payment to be reported are:

- Production entitlements;
- Taxes on profits;
- Royalties;
- Dividends;
- Signature, discovery and production bonuses;
- Licence fees, rental fees, entry fees and other considerations for licences and/or concessions; and
- Other direct benefits to the government concerned, including payments in kind.

The report will not have to cover payments made to the government of a country in which the public disclosure of this type of payment is a criminal offence (for example, Qatar). In such cases, the company will have to state that it has not reported payments as it would otherwise be required to do and will have to disclose the name of the government concerned. This limited exemption has been included in response to concerns raised by some businesses that it is illegal to report details of royalties, bonuses, taxes and similar payments that may have been made to the governments of some countries in which they operate.

Responses to the Proposals

On 24 October 2011, Reuters reported that Anglo American, BHP Billiton, Rio Tinto, Xstrata, BG Group, BP, Repsol, Shell and Total each signed a letter addressed to Michel Barnier, European Commissioner for Internal Market and Services, criticising the proposals. The companies argued that the proposed disclosure requirements were commercially and politically sensitive, did not add transparency and failed to define what constituted a project.

The letter noted that where oil or gas fields cross national borders, governments are often careful to safeguard the confidentiality of terms they offer to investors and that, in such circumstances, the proposed disclosure requirements might damage the competitiveness of EU resource companies to which the proposals would apply. The additional

costs and administrative burden of project-level reporting were also criticised, according to the Reuters report. Many of the concerns reportedly expressed in the letter mirrored the criticisms levelled at the equivalent provisions in the US Dodd-Frank Act by resource companies and other industry stakeholders.

On 19 February 2011, the *Financial Times* reported that Shell had written to the United Kingdom's government stating that although it supports the introduction of the proposals, it wants reported payments broken down by national, regional and local levels of government. In addition, Shell argued that the EU should define "a single, absolute disclosure threshold" that should be set at a level "to reflect the fact that in Shell's case we paid more than $20bn in direct taxes to governments in 2011, and collected close to $100bn in duties and VAT on behalf of governments."

Other companies have taken a similar line. BHP Billiton reportedly said it was "concerned that project-by-project reporting is unlikely to increase transparency or help combat corruption."

The European Commission has stated that as some companies have already voluntarily decided to disclose some payments to governments, it considers that the effect on the competitiveness of the affected extractive companies would be limited. However, the EC has confirmed that the system will be reviewed and modified, as appropriate, within five years of implementation. This review will take into account, among other things, international developments and the competitiveness of EU industry.

Implementation and Next Steps

The country-by-country reporting requirements have been put forward in the context of a package of proposals that are to be implemented by amendments to the EU Transparency Directive (in relation to companies listed on an EU regulated market, irrespective of country of incorporation) and the EU Accounting Directives (in relation to large EU companies and public interest entities).

These proposals were published on 25 October 2011. The Council of Ministers commenced its discussion of the proposals on 20 February 2012. Once the proposals are approved and published by the Council of Ministers, they will be passed to the European Parliament, which must approve the final text before the proposals can become effective.

The proposal to amend the EU Accounting Directives gives 1 July 2014 as the deadline for implementation into national law. Although the proposal to amend the EU Transparency Directive does not currently specify a deadline for passage into national law, it is currently expected that this implementation, too, will be required during 2014. ◆

Hydraulic Fracturing's Changing Regulatory Landscape

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Opponents of hydrocarbon development have been doing a good job of linking hydraulic fracturing to every alleged environmental problem in oil and gas production and questioning the extent of shale reserves. With this notoriety, government responses to fracturing in the United States are rapidly evolving at the federal, state, and local levels. In addition to participating in these legislative processes, in-house counsel should review the developing regulations to evaluate whether their companies have sufficient policies and procedures in place to make sure facts are gathered up-front to defend production operations from environmental enforcement actions and tort claims. What follows are a few tips for going about that task.

There is plenty of raw material for deciding how to minimize liabilities. While various federal agencies are actively evaluating national fracturing rules, the states have been far more active in actually promulgating requirements. Arkansas, Colorado, Michigan, Ohio, Oklahoma, Pennsylvania, Texas, West Virginia, and Wyoming all recently have adopted disclosure or operational requirements for fracturing. Local governments in Texas, New York, and Pennsylvania also have taken aggressive action ranging from restrictions on fracturing to outright bans.

Besides working on new regulations, both federal and state agencies are bringing enforcement actions when contamination is found near fracturing operations. Those claims are often based on circumstantial evidence. Today's operators may be targeting deep geologic formations, but hydrocarbon constituents can be expected to be present in the shallow zone as well. Although extracting those hydrocarbons currently may be uneconomical, they still may end up in people's homes and drinking water.

Recent research shows the extent of this issue. The Center for Rural Pennsylvania compared water quality before and after drilling in 233 groundwater wells within 5,000 feet of the Marcellus Shale well pads. No major influences of gas drilling on water quality were detected. There was no increase in dissolved methane levels near hydraulically fractured sites and no correlation between dissolved methane and distance to the nearest Marcellus well. Nevertheless, it bears emphasizing that approximately 24 percent of the groundwater wells did contain detectable dissolved methane *before* any nearby drilling, and approximately 40 percent had at least one preexisting water problem, such as an exceedance of drinking water quality standards.

Significant effort and investigation may be needed to defend against

allegations that fracturing caused environmental impacts separate from such preexisting conditions. Consequently, companies should consider whether their existing procedures will allow them to demonstrate up-front—instead of in the midst of a public relations disaster or lawsuit—that their activities cannot have been responsible for any conditions first noticed after the start of drilling. That may require detailed reviews of local conditions and operational practices.

One option for minimizing and more easily defending claims is to adopt internal procedures that adapt useful safeguards from industry standards and regulations in other jurisdictions. The first step is to perform a baseline environmental survey. As discussed earlier, many substances in a drinking water well may originate from natural sources. Homeowners, nonetheless, are likely to blame hydrocarbon well drilling, fracturing, or other recent hydrocarbon production for those preexisting conditions. Before drilling, a carefully managed survey that incorporates sampling as well as an assessment of likely migration pathways, such as previously abandoned boreholes, can help insulate an operator from unfounded claims and forestall allegations that the investigation was designed, after the fact, merely to limit liability.

Typically, environmental assessments contain geology sections. While those frequently receive short shrift, the issue deserves extra attention in fracturing assessments. Northeastern Pennsylvania, for example, commonly contains gas-bearing and potable water-bearing formations above the depth of the targeted Marcellus Shale. Various fractures and joints provide pathways for the migration and buildup of methane. Forewarning of such conditions may help prevent gas migration incidents.

Anecdotal evidence suggests that improperly sealed wells may be a more likely contributor than fracturing to cases of water contamination and hydrocarbon migration. Liability risk mitigation measures, therefore, might include procedures to optimize cement placement, to confirm with testing that the well is sealed, and, just as importantly, to document those steps are taken.

Another way to mitigate fracturing liability risk is through the choice of materials. The process for selecting fracturing fluids should include an evaluation of associated potential liability and whether more environmentally friendly formulations are available. Regardless of what chemicals are selected, they will be managed at the ground surface where they will have a much easier path to drinking water than when they are injected into deep geologic formations. All the effort of designing and implementing a safe fracturing job potentially will be wasted if the fracturing chemicals are spilled into the ground. That means having documented operating procedures and ensuring that they are followed. Even the best-laid plans, however, do go awry. A fast, effective response in those cases is likely to limit the extent of the damage. That puts a premium on having practical and robust emergency plans customized to local conditions, backed by specific training, with clear lines of communication.

For companies subject to SEC reporting, in-house counsel should monitor developing regulations and ongoing fracturing controversies to evaluate whether all associated risks, trends, demands, and uncertainties are appropriately disclosed. Given the imprecise nature of shale play reserve estimation, this should include consideration of whether reported estimates of proven, probable, or possible recoveries are sufficiently conservative to avoid overstatement allegations.

No matter how a well owner/operator chooses to manage environmental liabilities from nonconventional oil and gas production, the stakes involved are sufficiently high to warrant advance consideration of these issues, rather than following the "usual procedures" and dealing with problems as they arise. Development of shale oil and gas has relied upon evolving technology; liability management techniques should be equally forward thinking. ◆

Could Solar Energy Help Avert Greek Tragedy?

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Thinking about Greece used to evoke images of summer holidays spent on sunny beaches or sailing the steady winds of the Meltemi in the Cyclades. But today, with the country intent on becoming the energy hub of south-eastern Europe, investors may be looking at Greece in a whole new way.

With excellent resources of sun and wind, a desperate need for economic stability and growth, and recent changes in national investment and energy policies, Greece could be worth a closer look when it comes to renewable energy investment potential. Indeed, Greece has been courting representatives of the German solar industry in a concerted effort to persuade companies that the Greek market is ripe for investment—and spark an employment revival in the process.

Although Greece's well-publicized financial troubles seem to make such efforts a hard sell, legislative changes could make investment in the Greek solar energy market more attractive.

Greek licensing procedures for projects using renewable energy sources (RES) have been simplified, and a broad variety of incentives and compensation schemes have been introduced. Indeed, Law No.3894/2010 was passed by the Greek legislature specifically to remove roadblocks in the permitting procedure and to fast-track large-scale strategic investments, including investments in renewables.

The public agency "Invest in Greece" now operates as a one-stop shop for investment planning procedures and oversees and coordinates all the necessary legal authorizations for project development. Under the system in place, project developers grant the agency the irrevocable authority to take all necessary steps in licensing procedure and to apply and collect the necessary permits and licenses for projects.

Greece's new fast-track procedure ensures that all relevant permits and licenses for the investment are issued within two months after submitting an application to the appropriate agency. An application must include a business plan, an investment impact assessment study and the payment of submission fees. The agency will determine whether or not the proposed investment is considered strategic and will therefore be eligible for the fast-track procedure. This process can be completed prior to a developer making a formal application. To date, several applications for the development of photovoltaic energy (PV) schemes have been submitted to the fast-track procedure.

Tax Breaks

Greece's Investment Incentive Law No. 3908/2011 has introduced a range of tax benefits, capital grants and leasing subsidies that will help some projects, although PV parks are not eligible. These investment supports may be granted on a singular basis or as a combination.

Tax benefits are granted as tax reliefs on the profits generated by an investment. Capital grants are nonrefundable payments by the State of Greece for part of the subsidized expenditure as laid out in the investment plan. The leasing subsidies cover part of the leasing rates for the acquisition of equipment for up to seven years.

The percentage of aid for each investment, varying from 15 to 50 percent of the subsidized expenditures, depends on the size of the investor and the region (prefecture) in which the investment is made. Higher subsidies are granted, for example, for investments in eastern Macedonia, Thrace, Epirus and western Greece.

Greece sees itself as the emerging energy hub of southeastern Europe. Priority has been given to the promotion of energy generation from renewable sources (RES) in order to reduce emissions and help achieve the national target that calls for 29 percent of all energy to come from RES sources by 2020. This is up from just 10 percent in 2010.

RES Law No. 3851/2010 promotes the development and implementation of RES projects and simplifies the existing administrative framework. The new legislation not only contains feed-in tariff (FiT) schedules for all types of RES projects, but it also accelerates the licensing procedure.

Permitting Procedure

The first necessary permit is the Electricity Generation License. The Greek Regulatory Authority for Energy (RAE) grants the Electricity Generation License after an evaluation process that assesses the investor's technical and financial capability and the project's viability. A project must also comply with certain planning provisions. For example, the generation plant may not be installed within restricted zones and may not exceed official limitations for installed capacity.

In addition, the Environmental Terms Approval (ETA) needs to be obtained. Granting of the ETA depends on the level of the project's environmental impact. The process of scrutiny is carried out either by local or central government authorities. Consequently, the ETA may be granted by the Department of Environment and Physical Planning for the local region or by the Special Unit for Environmental Licensing of Greece's Ministry of the Environment, Energy and Climate Change (MEECC). Consent by other bodies, including local authorities, is also necessary.

Once the ETA is obtained, an Installation License is required. This is issued either by the General Secretary of the region or by the MEECC, depending on the type of project.

The project's operator and the Greek Public Power Corporation S.A. (PPC) must agree on the terms and conditions for access to the grid and must enter into a connection agreement. If the project will benefit from guaranteed feed-in tariffs (see below), the operator will have to enter into a Power Purchase Agreement with the Hellenic Transmission System Operator S.A. (HTSO), the grid operator of the Greek mainland's interconnected grid. If the plant is erected on one of Greece's numerous islands and is not connected to the mainland's grid (the so-called "non-interconnected islands"), then both a Connection Agreement and a Power Purchase Agreement must be concluded with PPC as well.

Once project construction is complete and the plant has undergone commissioning tests, an Operation License is granted by the organization that issued the Installation License.

In the past, the full authorization procedure has taken more than three and a half years on average even for small solar power plants and wind farms. It has reached seven years for larger projects. With the new streamlined approval process, however, the MEECC coordinates all activities among the different administrative bodies.

Moreover, the RES Law No. 3851/2010 has set mandatory deadlines, establishing a firm time frame within which authorization should be completed. The whole licensing procedure must not exceed much more than one year. Whether this accelerated processing will be achieved is yet to be seen; however, as noted earlier, large-scale RES projects may be considered strategic investments and, thus, may be eligible for the two-month fast-track procedure.

Also, smaller-scale projects (e.g., PV power stations with capacities up to 1MWp, wind farms up to 100kW, geothermal plants up to 500kW, or biogas, biomass or biofuel plants of no more than 1MW) are exempt from the above licensing procedure to a certain extent. Applicants must have approval for the environmental impact assessment and must enter into grid connection and power purchase agreements as appropriate. PV power stations with capacities of 500kW to 2MW are, by ministerial decree, characterized as "zero impact" installations. For solar power stations with capacities less than 500kW and rooftop PV installations with maximum capacities of 10kW, no approval in relation to their environmental impact is required.

Tariffs

Feed-in tariffs are in place for several forms of RES generation, but the most obvious field for energy investments in Greece is the solar market. Even if no special investment incentives were granted for PV power plants, Greece's geographic position justifies considering the development of such plants. Greece also has an excellent solar incidence, with a high number of sun radiation hours.

Indeed, it is estimated that about one-third of Greece's energy demand could be met with solar power and, therefore, it is expected that the market will grow aggressively. The Greek solar PV FiT, as in many other European countries, varies depending on the size of the project and the technology used for generating electricity (see table). The date for the applicable feed-in scheme for large PV plants is the date the Power Purchase Agreement begins. Furthermore, the tariff structure encourages the production of energy on non-interconnected islands. In each case, the FiTs are guaranteed for a period of 20 years.

Meanwhile, with its mountainous regions and nearly 14,000 kilometers of coastline, Greece has optimal wind resources that are among the most

PRODUCTION OF ELECTRICAL ENERGY FROM:	PRICE OF ENERGY (EUR/MWh)		
	INTERCONNECTED SYSTEM		NON-INTERCONNECTED ISLANDS
Solar (photovoltaic) stations	> 100 kW	ffi 100 kW	
2011 August	351.01	394.89	394.89
2012 February	333.81	375.54	375.54
2012 August	314.27	353.55	353.55
2013 February	298.87	336.23	336.23
2013 August	281.38	316.55	316.55
2014 February	268.94	302.56	302.56
2014 August	260.97	293.59	293.59
Solar (photovoltaic) equipment of up to 10 kWp in the domestic and small business sectors	550		
Solar energy exploited by solarthermal power stations	264.85		
Solar energy exploited by solarthermal power stations with systems of storage that secure at least two hours of operation at nominal loads	284.85		

Source: Law No. 3851/2010

attractive in Europe. To date, total installed wind capacity is about 1.3GW. By 2020, this capacity is forecast to rise to 7.5GW.

Investment activity in the sector currently focuses almost exclusively on onshore wind projects. But by 2020, about 300MW of wind farm capacity is expected to be installed offshore. FiTs for wind-generated electricity vary, again depending on whether the wind farm is on an interconnected or non-interconnected island. Tariffs are granted based on a 20-year guaranteed Power Purchase Agreement. Wind power investments may also be eligible for additional subsidies under the Investment Incentive Law mentioned above.

Greece's geographic position is also favorable to geothermal resources, both high and low temperature. High-temperature resources most suitable for power generation are found at depths of 1,000 to 3,000 meters. They can be discovered in some of the Aegean islands and in the basins of central eastern Macedonia and Thrace. The generation of electricity by exploiting geothermal resources is also rewarded with a FiT scheme. Again, compensation is based on a Power Purchase Agreement. In this case, however, payments do not distinguish between interconnected and non-interconnected islands.

Biomass also provides substantial investment opportunities, with high potential for growth. Greece's agricultural sector might supply sufficient sources of biomass for power generation plants. Regarding biomass to energy, a FiT scheme applies and payment is granted based on the size of the generation plant. Energy generated from the use of biogas (from biomass), as well as gases from rubbish burial dumps and from sewage treatment plants, is also subject to an attractive FiT compensation scheme.

PRODUCTION OF ELECTRICAL ENERGY FROM:	PRICE OF ENERGY (EUR/MWh)
Biomass exploited by stations with installed capacity ≤ 1 MW (excluding the biodisposal part of municipal wastes)	200
Biomass exploited by stations with installed capacity > 1 MW and ≤ 5 MW (excluding the biodisposal part of municipal wastes)	175
Biomass exploited by stations with installed capacity > 5 MW (excluding the biodisposal part of municipal wastes)	150

Source: Law No. 3851/2010

Despite current economic turmoil in Greece, the country's climate and natural resources make it optimal for generating energy from renewable sources. In addition, the nation's revised legal framework, combined with attractive feed-in tariffs, make Greece worth considering as an attractive target for future foreign energy investments. ◆

Mayer Brown Global Energy News

Litigation Department of the Year Finalist

Mayer Brown has been named one of the top six litigation departments among the 200 largest US law firms by *The American Lawyer* magazine, which chose the firm as a finalist for its prestigious "Litigation Department of the Year" report for 2012.

"Mayer Brown impressed us with its range of far-reaching victories," The American Lawyer wrote, offering particular praise for the firm's Supreme Court win in *AT&T Mobility v. Concepcion*. "We've seen some sweeping pro-business US Supreme Court rulings of late, but there's a good argument that no decision will have more impact on the business community," the publication said of the case, which was characterized by *The Wall Street Journal* as "a body blow to consumer class actions."

The American Lawyer's Mayer Brown profile highlighted additional successes that demonstrate the breadth of the firm's litigation capabilities, including:

- A win for Google and YouTube in a critical Internet copyright case;
- A crucial preemption appellate ruling for Medtronic, Inc.;
- A win for Quicken Loans in the largest Fair Labor Standards Act case ever tried to verdict;
- The largest NAFTA award ever, for Cargill Inc.; and
- The defeat of challenges to Rahm Emanuel's candidacy for mayor of Chicago.

New Energy Financing Partner

Perry Hicks
Charlotte
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Perry Hicks has joined Mayer Brown as a partner in the Charlotte office's Banking & Finance practice. Mr. Hicks is highly regarded for his knowledge of and extensive experience in secured financing transactions, particularly in the energy industry, and his outstanding finance credentials further strengthen our ability to serve client needs in Charlotte and throughout our global network.

Mayer Brown's global platform, its reputation as a banking and finance powerhouse and its strong energy capabilities were key factors in Mr. Hicks's decision to join the firm. Mr. Hicks earned a JD from the University of Virginia School of Law and received a BA from American University.

Hydraulic Fracturing Teleconference Series

Shale Gas Issues: Squeezed Between Necessity and Reality

Recent technological developments that combine hydraulic fracturing with horizontal drilling to produce large quantities of natural gas and liquids from shale formations have significantly impacted US energy production. These advances have influenced not only the price of hydrocarbons, but also the economics of alternative energy development. Additionally, the prospect of conducting drilling activities—particularly in densely populated areas where residents are unfamiliar with oil and gas operations—has focused attention on potential environmental and other risks associated with these processes. Mayer Brown recently hosted a three-part teleconference series highlighting the controversies and uncertainties surrounding one of the most dramatic developments in energy in recent decades.

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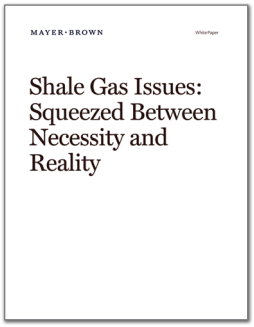

The teleconference series was generated by the release of our white paper, "Shale Gas Issues: Squeezed Between Necessity and Reality." Audio files of each teleconference are available. These files include:

- Hydraulic Fracturing—Drainage and Contamination from the Rule of Capture: An Old Tool Applied to a New Problem
- A Potential Unforeseen Consequence of Hydraulic Fracturing: Security Regulation Concerns
- Environmental Concerns and the Rise of Regulation in Hydraulic Fracturing

Mayer Brown's 7th Annual Global Energy Conference

Global Energy: The New Frontier

Wednesday, May 23, 2012

8:00 a.m. – 1:30 p.m.

Featuring Keynote Luncheon Speaker Amy Myers Jaffe, Director of the Energy Forum at the Baker Institute, Rice University, and Associate Director of the Rice Energy Program

Hilton Post Oak
2001 Post Oak Boulevard
Houston, TX 77056

The demand for global energy continues to increase, and that demand is opening new energy frontiers. Increased supply and production of natural gas in the United States is proving to be a potential game-changer for the US energy scene. Abundant gas supplies have altered the US gas landscape, allowing companies to pursue more LNG (liquefied natural gas) export opportunities, a development that was completely unforeseen just a few years ago. Coal and gas development in Africa—particularly in Angola and Mozambique—continues to grow at a rapid pace, with predictions that gas and coal projects will bring in $80 billion over the next several years in Mozambique alone. Hydraulic fracturing and issues surrounding hydrocarbon development continue to be concerns, and the mitigation of fracturing liability risk at the front end of E&P projects is imperative for participating companies. Please join us as our panelists provide in-depth discussions on these topics and give insight into the new frontiers of the energy industry.

Topics will include:

- LNG from the View of the US Exporter
- The Increasing Energy Activity in Africa
- Shale Gas Issues and Mitigating Risk

About Mayer Brown

Mayer Brown is a global legal services organization advising clients 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 proportion of the Fortune 100, FTSE 100, DAX and Hang Seng Index companies and more than half of the world's largest banks. We provide legal services in areas such as banking and finance; corporate and securities; litigation and dispute resolution; antitrust and competition; US Supreme Court and appellate matters; employment and benefits; environmental; financial services regulatory & enforcement; government and global trade; intellectual property; real estate; tax; restructuring, bankruptcy and insolvency; and wealth management.

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