

Global Energy Summit London 2015: Key Themes

Inside

- Introduction
- Resetting the utility model: the new paradigm(s)
- Africa rising?
- Transatlantic perspectives on energy market reform: challenges and opportunities for investors
- Middle East energy – global risks and repercussions
- Risk Management for energy lawyers: key issues
- Global outlook for the oil and gas industry
- How should the energy industry respond to any climate deal emerging from UNFCCC COP 21 in Paris 2015?
- Global Energy Summit – Luncheon presentation
- Global Energy Summit - we do indeed live in interesting times

Introduction



On 21 and 22 April 2015 the London office of Dentons welcomed approximately 200 clients and contacts and more than 50 partners and associates from our offices around the world to our second annual London Global Energy Summit. The three plenary and four smaller sessions heard some exceptionally perceptive and well informed commentary on a range of subjects from 37 distinguished experts from across the international energy industry.

We heard about the challenges facing traditional utilities and those who regulate them. We discussed the different ways of designing capacity markets to try to ensure security of supply at affordable prices whilst still encouraging low carbon generation and demand-side response. There were rich discussions of the political and other factors affecting energy markets and the wider investment environment in Africa and the Middle East. For general counsel, we ran a session that explored key risks, including sanctions and cyber security, and risk mitigation strategies. We were given some fascinating insights into the future evolution of oil prices and how they and other factors will affect the oil and gas industry in the longer term. Finally we heard from some of those involved in preparing for the Paris 2015 UN climate change conference about how its goals can be realised.

Many of the presentations reflected the issues that we at Dentons have been helping our clients to address over the past year: how to make conventional thermal generating plant profitable in Europe and the US; how to develop grid-scale energy storage technologies that can make fossil fuel

plant more efficient and help wean renewable generators off subsidies; how to make the most of the M&A opportunities generated by lower oil prices; how to enable developing countries to make the most of natural gas resources that require huge investments in LNG infrastructure to bring to market; how to navigate sanctions regimes; how to use international law to protect investments in foreign countries; how to make projects that directly address climate change risks, such as forest conservation and carbon capture and storage, commercially viable.

Over the coming year, as new colleagues from the two latest firms to join Dentons, [McKenna Long & Aldridge](#) and [大成](#), become part of our Global Energy practice, we look forward to engaging further on these and other issues to help your business to meet the challenges and seize the opportunities of today's fast-changing global energy markets.

In this booklet we have gathered together the key messages that came out of each session at the Global Energy Summit. For more detail, you can also find the slides used by many of

the speakers on our [website](#). This is a summary of the business discussed at the Global Energy Summit and so of the views of the industry speakers who presented and the views of the delegates who engaged in the debate. It does not represent the views of Dentons.

We are already planning our next London Global Energy Summit, and we hope to see you there. Our next Washington Global Energy Summit is on 22 July 2015. In the meantime, look out for our [blog](#) on energy law and policy developments, which after a year of focusing just on the UK is being expanded to have a global reach.

Our next Washington
Global Energy Summit
is on 22 July 2015.

Resetting the utility model: the new paradigm(s)

Tuesday 21 April 2015



The Summit's opening plenary session was a discussion of how utilities should respond to the 21st century market conditions. Doyle N. Beneby, President and CEO, CPS Energy, the largest municipal gas and electricity utility in the US, gave the first presentation. Andrew Steel, Managing Director, Head of Asia Pacific Corporate Ratings Group, Fitch Ratings, spoke from both a global and a specifically Asian perspective. John Cunneen, for nine years Executive Director and Member of the Authority for Electricity Regulation, Oman, gave a regulator's view of the challenges ahead. Anne Houtman, Principal Adviser to the Director General of the European Commission's DG Energy, set out the new European Commission's priorities for the energy sector. Grzegorz Gorski, Executive Vice President, Innovation, Marketing & New Business, GDF Suez, outlined some of the opportunities open to the more enterprising

utilities. Christopher McGee-Osborne, Co-Chair of Dentons' Global Energy practice, introduced and chaired.

The problem

The traditional utility had a clear mission: to generate power - usually in large, centralised power stations, often burning fossil fuels - and/or to deliver that power to the meter. Beyond the meter lay customers, whose function was simply to pay their bills and increase the demand for power by making ever more use of energy-using products. But, if utilities appear to have lived a charmed existence for the last 50 years, their business model largely static (generate and sell more power, make more money) whilst so many other industries were forced to reinvent themselves, their lives are no longer so straightforward.

Utilities are having to adjust to change that already seems rapid, but which in fact may never again be as slow as it is today, as markets are reshaped by new and disruptive technologies, an increasing amount of distributed generation, and changing consumer attitudes. In the US and Europe, demand for power is no longer growing, and is starting to fall. Increasingly, households and businesses may be able to get all the power they need without a utility - from the "winning combination" of solar PV and storage. The prices of both of these have fallen, and will continue to fall dramatically, and they are also becoming more efficient all the time. It will soon be "so easy" to leave the grid as a customer, and become a "prosumer", with roof-mounted PV (and/or PV film coating most of the house), a "battery in your [electric] car and a spare in the cellar". [Post-Summit note: see the recent announcement by Tesla, which seems to be aiming to become the Apple of this sector.]

This ideal of domestic low-carbon "energy independence" appeals to both the right and the left in US politics and elsewhere. Driven by government policies, technological progress and commercial factors, deployment of renewables is growing - potentially by more than 40% by 2040 in the US. That suggests a lot of stranded utility assets.

"It will soon be 'so easy' to leave the grid as a customer, and become a 'prosumer'"

Winners and losers

Traditional utilities do not necessarily have any competitive advantage in the areas where there is growth and innovation that has the power to excite customers and get them interested in their energy spend, in many cases for the first time. If individual consumers' demand-side response (or batteries) can easily be aggregated to the scale of operation of a medium-sized power station, and neighbours may soon be trading power with each other over local microgrids, the utilities' traditional role of mediating between supply and demand could easily be eroded by technology companies such as Google.

There are likely to be major business opportunities for those who manage to commercialise "passive" technologies that will enable customers to get the benefits of a more "transactive" approach to their energy supply without having to think about it too much, or at all. Why shouldn't energy be bundled with other services? If utilities are to survive, they will need to move away from the traditional model and learn to provide a range of more sophisticated and customer-enabling services to a wider range of counterparties. Some have already written down the value of their traditional thermal generation plant.

Consumers don't like paying "too much" for their energy supplies, making volatile energy tariffs and the cost of

Resetting the utility model: the new paradigm(s)

Tuesday 21 April 2015

decarbonisation politically fraught. A challenge will be to see whether they are happy to pay for energy they don't use, if energy independence is coupled with (fees for) back-up from the traditional centralised energy systems.

Developing markets

That is the emerging picture from the most developed economies. But in Asia, which is expected to account for 49% of global generation by 2024, electricity demand and the amount of power generated continue to grow, and much of that growth is - and is likely to continue to be - anything but low carbon. In China at that date, although it is important not to underestimate the potential for the Chinese Government and people to take concerted action for the public good, it is likely that 69% of generation will be from coal.



“... the power sector in some ... countries may evolve without ever having traditional utilities ...”

In other developing markets, some utilities from the US or Europe are successfully tapping into the potential for growth in developing countries where the energy sector is more in “business as usual” mode. Then again, the power sector in some less developed countries may evolve without ever having traditional utilities, by going straight to decentralised generation supported by storage, just as much of Africa has moved to having a mobile phone without ever having had a land line.

But even in those countries where the focus is still on meeting, rather than managing, demand, utilities will need to control their costs; manage political uncertainties; find ways of making storage part of their business model; and, by embracing a service culture, learn to exceed customer expectations. For example, by promoting energy efficiency, utilities can reduce the risks to their own businesses as well as saving money for, and providing a valuable service to, their customers.

Regulating the utility of the future

There is a wide spectrum of potential alternative business models for the utility of the future. In some markets (but not, for example, Europe, where functional separation is mandatory) it could continue the traditional pattern of vertical integration, owning generation assets, operating the grid and offering a



wider range of services to customers and market participants. Or it could operate the grid and own no generation assets, functioning as a “smart integrator”. But, to achieve the best results for customers, smart regulation will also be needed. It will require regulatory interventions to ensure that the development of “disruptive technologies” does not disrupt security of supply, and to ensure that consumers get a fair share of the benefits of the technologies they will be required to fund.

“... to achieve the best results for customers, smart regulation will also be needed.”

Resetting the utility model: the new paradigm(s)

Tuesday 21 April 2015

To meet the challenge of new market conditions, regulators will need both to develop some of their traditional skills, such as cost allocation, and to find new ways of setting incentives to encourage utilities to do things other than simply reducing costs, such as incentivising innovation and energy efficiency, and encouraging investment in new infrastructure (like smart grids) from which the majority of the benefits will not accrue to the utility itself, but to consumers and society as a whole. The traditional model may reverse (generate and sell less to make more money).

In this context, customer behaviour matters enormously because it ultimately determines what the benefits are. Although consumers are a diverse body, and not all may be enthused by the potential to generate their own power or engage in demand-side response, utilities should not risk underestimating their customers. Regulators will need to defend the interests of those customers who, through choice, inertia or circumstances, are not “transactive” or “prosumers”; they will also have to think about how utilities should charge those who can source all their own power without buying from a utility, but who wish to remain connected to the grid “just in case”. Indeed, there are decisions to be made about whether mass disconnection creates its own risks, from which consumers may need to be protected.

The policy dimension: more change to come?

The potential downside the traditional utilities face has been seen in Europe in an acute form - for example in E.ON's problems as a result of the German Energiewende and the arrival of “socket parity” for solar PV. GDF Suez has been praised for writing off €15 billion of European thermal generating assets. Although the “EU project” began some 60

years ago with energy at its heart (in the form of the European Coal and Steel Community), energy was, at least until the middle of the last decade, not a major EU priority. Since then, the European Commission has promoted the idea of a single market for gas and electricity and set out its 2020 goals of reducing greenhouse gas emissions and energy consumption by 20%, and producing 20% of energy consumed from renewable sources. Truly vertically integrated utilities are now virtually extinct in the EU as a result of the policies of unbundling and liberalisation, but some of the EU's largest companies are utilities and the EU's politicians know that they must do something to help them, even if it is not clear that utilities or their customers, faced with rising prices that they associate with EU-driven renewables subsidies, see EU policy as part of the solution rather than part of the problem.

“... utilities should not risk underestimating their customers”

In 2014 the EU moved up a gear on energy policy. There was a new Commission and a new Parliament. An unprecedented four EU Council meetings on energy considered the impact of reduced investment by utilities, rising prices (particularly for industrial customers when compared to much cheaper power in the US), shale (the source of the US's current competitive



advantage in energy costs), security of supply concerns prompted by the crisis in Ukraine, the need to reduce the costs of renewables subsidies using the state aid rules, and the continuing impact of Fukushima.

Taking all this into account, the Commission has launched “Energy Union” as a Commission Priority. In one sense this is a purely political project designed to give fresh impetus to existing initiatives like the single market, but it could lead to significant regulatory changes. The Commission will begin to show its hand in more detail with a consultation on “market design” over the summer 2015: watch this space.

Africa rising?

Tuesday 21 April 2015

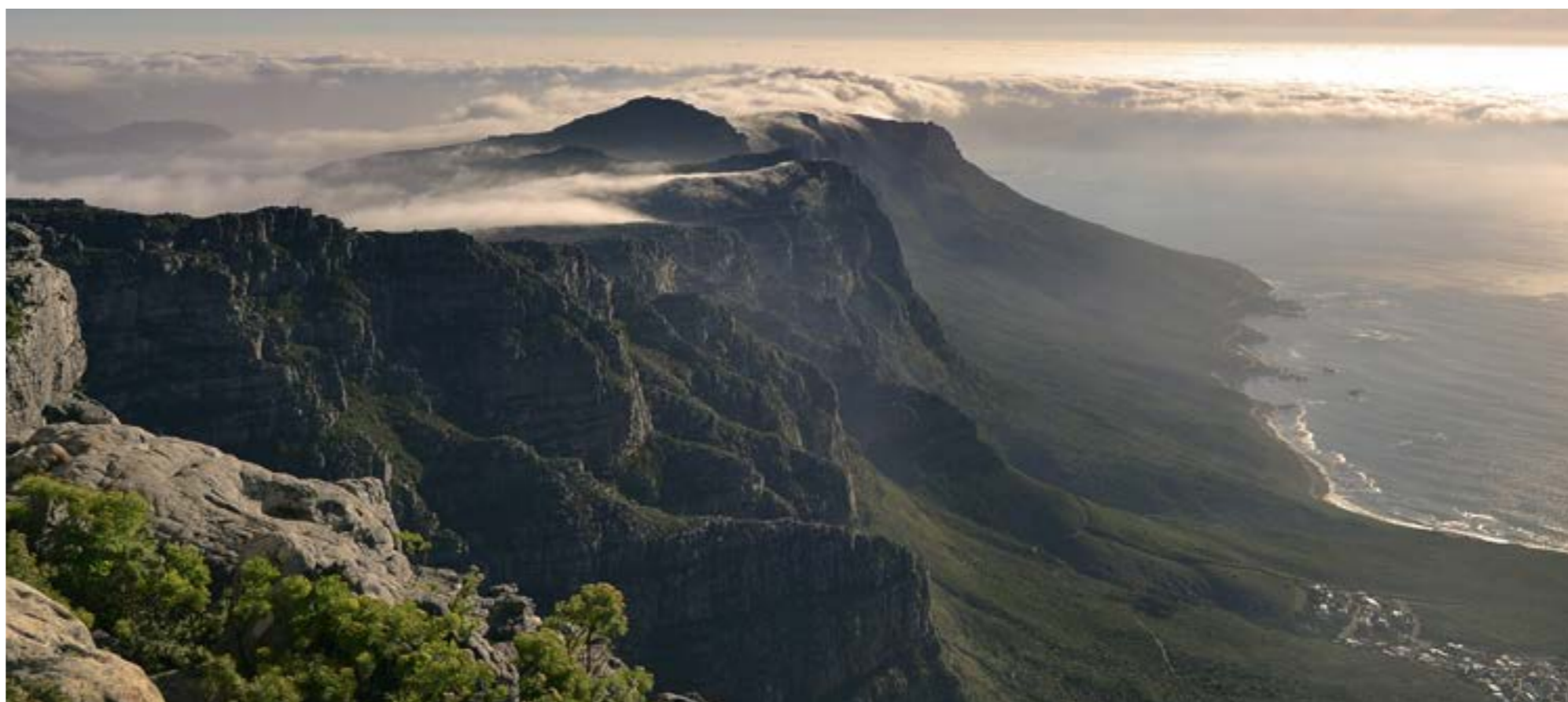
This session took as its starting point a provocative [TED Talk](#) by Ali A Mufuruki, Board Member of the Tanzanian Central Bank, entitled "Is Africa Rising?". Providing their own answers to this question from their different perspectives were: Kola Karim, CEO, Shoreline Natural Resources; David McNair, Director, Transparency and Accountability, ONE; Yvonne Ike, Managing Director, Sub-Saharan Africa, Bank of America Merrill Lynch; Steve Mandel, Vice President, Power, Denham Capital; and Ibukun Adebayo, Head of Business Development Middle East and Africa, London Stock Exchange. Raj Kulasingam, Senior Counsel in Dentons' London office, introduced and chaired.

A flattering narrative?

It is common to see the growth of African economies portrayed as if it were in some way spectacular. But is a growth rate of 5-6% really that impressive when you consider from what a low base many of those economies are starting and compare it with the kind of growth exhibited by China at its peak of rapid industrialisation (18%)? Africa's growth arguably only looks rapid by comparison with the even lower - or negative - growth rates of developed economies. And compared with economies such as Malaysia, which went from being recipients of aid to giving aid within a few decades, it is notable that many African economies continue to rely heavily on foreign aid 60 years after first receiving it.

It is important to be wary of generalising about, or belittling the economic potential of, a continent which contains 54 very diverse countries, 70% of whose population are aged 25 or younger, and 65% of whom have access to mobile phones - even if 80% of them have no access to a bank.

Of course, there is significant economic progress, at least in some parts of Africa, but are those who tell the story of "Africa rising" in danger of mistaking potential for achievement? From one perspective, what makes African growth impressive - even



at its current levels - is that it has been achieved in the face of significant and continuing structural obstacles. For example, the growth of many African economies, including some of the largest, like Nigeria's, has to be set in the context of their major deficiencies in terms of infrastructure, such as grid-connected power and transport links. It is 30 times more expensive to transport goods within Africa than it is to ship goods to Africa, and wholesale power prices are about seven times higher in Africa than they are in Europe. At the same time, it is precisely the prospect of being able to help African countries plug their infrastructure gaps that makes them potentially attractive to developers, utilities and financiers from the rest of the world. What, then, are the barriers to realising that potential?

"Africa's growth arguably only looks rapid by comparison with the even lower - or negative - growth rates of developed economies"

Africa rising?

Tuesday 21 April 2015

The root causes

Governance is the key. In the words of the recently elected President Buhari: "If Nigeria does not kill corruption, corruption will kill Nigeria". As a rough estimate, for every US\$100 invested in Nigeria, about US\$25 is simply wasted and US\$35 is lost to corruption - leaving only US\$40 to be put to productive use. A recent [report](#) produced by ONE highlights how hundreds of billions of dollars each year are siphoned out of economies in sub-Saharan Africa by corrupt activity. As well as estimating that millions of lives could be saved if African governments did not lose so much money in this way because of the additional resources that would be available for healthcare, the report points out cases where clear improvements in governance have benefited countries' credit ratings and enabled them to attract substantially greater amounts of foreign investment.

"... are those who tell the story of "Africa rising" in danger of mistaking potential for achievement?"

One of the reasons that corruption flourishes is the lack of transparency. Citizens in African countries should be able to track money from "resources to results", but at present this is very far from being the case. Only two sub-Saharan Africa governments publish enough budget information to allow their spending to be effectively monitored. Only 11 countries worldwide have what ONE considers to be satisfactory



"The availability of capital for operating power assets is not the same as that for building them."

transparency standards in oil, gas and mining, and none of these is in Africa. It is estimated that sub-Saharan African countries lost US\$52 billion in illicit financial flows in 2011. Admittedly, some aspects of the infrastructure of corruption, such as money laundering in tax havens, do not lie within the control of Africa governments, but the first links in every chain of corrupt transactions will often lie within their own jurisdictions, and their own efforts could bring them to light.

Solutions?

In the meantime, the question is how to attract capital to finance the many energy and other infrastructure projects for which there is an undoubted demand in Africa. It is not clear how far the capital markets are likely to be a useful source of finance for any but the largest companies. For others, private equity firms, sovereign wealth funds and other non-traditional sources of capital may be a more promising prospect.

Perhaps the ideal vehicle for some projects would be a yieldco. The availability of capital for operating power assets is not the same as that for building them. In a world of low interest rates in developed economies, investors have an appetite for putting their money into operating infrastructure assets with predictable cash flows. The yieldco model is designed for "clean" assets which are already established and no longer exposed to, e.g.,

Africa rising?

Tuesday 21 April 2015



construction risks. Spinning out such projects into yieldcos has become an attractive means for solar developers to raise money to invest in new projects, but the model depends on a strong pipeline of completed projects - not something that most African countries so far have an abundance of.

Ultimately, whilst foreign capital is important, African problems need African solutions. This is likely to mean a combination of political/civil society action and a willingness on the part of those in Africa who have capital to invest it at home. In the former category, organisations like the [National Taxpayers' Association](#) in Kenya are to be encouraged for the work they

are doing to improve the transparency of public finances and hold the government to account. There is also scope for governments to do more to help the development of specific sectors of the economy, like power, by putting an appropriate and stable regulatory framework in place.

South Africa has recently demonstrated how well-designed auction mechanisms can be used to increase generation capacity substantially, and ensure that competitive pressure is maintained on prices. The South African REIPPP process for renewables is a good example of this, at a time when ECAs and multilaterals are increasingly keen on renewable rather

than fossil-fuelled (and in particular coal-fired) generation. However, other, smaller African countries may not find it so easy to organise effective international tender processes (and bear the costs involved). The lack of grid infrastructure in many African countries may either be an obstacle to further growth of renewables (as it often is for new conventional generation) or act as a stimulus to the development of off-grid renewables (analogous to the "leapfrogging" of fixed telephony by the growth of mobile usage in Africa), the potential for which has been noted by IRENA and others. As in other continents, off-grid will work best in conjunction with cost-effective power storage (which will initially increase prices).

Transatlantic perspectives on energy market reform: challenges and opportunities for investors

Tuesday 21 April 2015



Capacity markets: can't live with them, can't live without them?

This session on the challenges and opportunities for investors arising from energy market reforms in the US and the EU focused on capacity markets. Robin Cohen, Vice President, Charles River Associates, gave the opening presentation. Stuart A. Caplan, Co-Chair of Dentons' US Energy practice, provided "a case study of what to avoid" in capacity market design. Brian Tilley, Head of Energy Policy Development UK, E.ON, provided a utility perspective on recent UK market reforms. Martin Crouch, Senior Partner, Electricity Transmission, Ofgem, and a UK representative on the boards of the EU regulatory

organisations ACER and CEER, looked at the subject from a pan-EU perspective. Simon Skillings, Director, Trilemma UK, reappraised the need for capacity markets and made the case for demand-side measures. Charles July, Partner in Dentons' London office, chaired.

The Energy Trilemma

Governments in both the EU and the US have been grappling for some time with the triple challenge of (i) maintaining secure supplies of energy (ii) at an affordable cost whilst (iii) decarbonising the electricity generating mix. Capacity markets are one way of responding to the first two parts of this challenge.

By rewarding those who generate electricity not just for generating it, but for guaranteeing that their capacity will be available in times of peak demand, and rewarding those who consume electricity for not drawing power from the grid at such times, capacity markets seek to prevent the occurrence of blackouts and excessively high electricity prices in times of system stress, and to ensure that generators and others make sufficient investments to deal with the consequences of having an increasingly high proportion of intermittent renewable generating capacity on the system.

Capacity markets are created because policymakers believe either that energy markets will not provide the requisite price

Transatlantic perspectives on energy market reform: challenges and opportunities for investors

Tuesday 21 April 2015

signals to cause generators e.g. to invest in peaking plant to provide additional power in times of scarcity or because they fear the consequences (public reaction and political interference) if energy prices rise to the levels where they would provide such signals. From one perspective, such interventions may be inevitable, as the amount of subsidised renewable generating capacity on the system means that the cost of electricity supply becomes increasingly divergent from the “commodity” price of power and it becomes harder to derive clear signals from market prices. But while an energy market is the product of the actual supply and demand for power, a capacity market is a regulatory construct - ultimately the state or the system operator is procuring capacity. In doing so, it can either try to form an estimate of how much additional capacity is required to remove the risk of blackouts or excessive price spikes and invite bids to provide just that capacity which would otherwise not be available, or it can provide a market-wide subsidy for all those who will guarantee to provide capacity up to a certain level on certain terms. There are other variables as well: for example, the process can be based on volume or on price, contracts can be awarded for varying lengths of time, different rules can be set for different types of plant (or the market can be restricted to specific types) and so on.

Lessons from the US

Because they are in a sense artificial creations, making sure that competition works properly in capacity markets is hard. Every feature of capacity market design is put in place to try to influence behaviour in a particular direction, but the risk of miscalculation, providing opportunities for gaming or the exertion of market power and other unintended consequences is high, and even the best-calculated set of capacity market

parameters will require adjustment as the underlying market circumstances change over time.

In the US, capacity market prices have fluctuated a lot over the bidding periods between 2007/2008 and 2017/2018 - more often than not as a result of rule changes.

“The key lesson from the US is that there is no such thing as a right answer to the question of exactly what the rules of a capacity market should be ...”

Broadly speaking, the initial basis of US capacity markets was that the capacity price should equal the net cost of new entry (CONE) when the market has the right amount of capacity available (CONE has to be calculated on the basis of specific assumptions about the technology and prices involved). The rules have since been changed in two main waves: first to deal with concerns about generators withholding capacity to drive up prices and secondly to counteract the incentives that some wholesale buyers of power had to drive down capacity prices. The picture has been further complicated by the emergence of demand-side response providers as major providers of capacity



“Too high penalties will affect bankability; too low penalties will fail to incentivise ...”

at highly competitive rates, but which if “over-stimulated” may unfairly affect the position of some generating plant.

The key lesson from the US is that there is no such thing as a right answer to the question of exactly what the rules of a capacity

Transatlantic perspectives on energy market reform: challenges and opportunities for investors

Tuesday 21 April 2015

market should be - they will always need to be reassessed and revisited - but some sort of capacity market is probably the only way to avoid unacceptably high energy prices.

The EU dimension

A number of EU countries have introduced capacity markets or are considering doing so. Unhelpfully for the development of the single EU electricity market, the resulting rules or proposals represent a patchwork of different approaches. Although the European Commission has cleared the UK's capacity market rules under the state aid regime, it remains generally concerned about the potential for capacity markets to fragment the single market, distort competition by favouring particular technologies or producers, and create barriers to inter-state trade. [Post-Summit Note: On 29 April 2015 the Commission's Directorate General for Competition launched a [sector inquiry](#) into capacity markets, initially covering 11 Member States, which will run summer 2016 - potentially putting a brake on the further development of capacity market proposals in a number of countries in the short term.]

The greatest challenge for those designing capacity markets in the EU is to ensure that, in seeking to attract investors, they do not introduce unnecessary costs, whether in the form of "unnecessary" payments to those whose generating capacity would have remained available to the market in any event; in increased cost of capital being priced in to bids to compensate for perceived regulatory uncertainty; or as a result of excessive discounting of energy market revenues due to perceived price uncertainty. And, as EU Member States struggle to meet a target of interconnection capacity equivalent to 10% of their installed generating capacity, there is still no satisfactory answer to the question of what happens if an interconnected generator is simultaneously

obliged to provide capacity to two national markets that are suffering simultaneous system stress events (as may happen, for example, when an anticyclone sites over North West Europe for several days, resulting in no wind power output). Unsurprisingly, the Commission requires that interconnected capacity should be eligible to bid in to capacity markets in order to protect the integrity of the single market; in practice not only does this complicate market design, but it may be questioned whether interconnectors, whose funding is subject to a separate regulatory regime, actually need to be supplied with the "missing money" that capacity markets are intended to provide to new generation projects and others.



Another issue that was hotly debated in the development of the UK capacity market regime was the level at which penalties

“Achieving mass participation in demand-side response and arriving at a position where the public believes that its money is being well spent will not be easy.”

for non-delivery should be set - both on providers of new generating capacity for failure to construct new capacity and on participants for failing to provide capacity when called upon in a system stress event. Too high penalties will affect bankability; too low penalties will fail to incentivise the desired behaviour and simply be treated as a cost of non-compliance.

As if all this were not enough, the European Commission appears to be contemplating some significant electricity market reforms of its own. In its proposals for Energy Union, it has hinted at reforms to the Target Model, which seeks to optimise cross-border flows of power within the EU, just at the point when the Target Model has almost been fully implemented and legislated for in its current form. Ultimately, this may be the right thing to do, as the Target

Transatlantic perspectives on energy market reform: challenges and opportunities for investors

Tuesday 21 April 2015

Model does not address the bigger problem of increasing the available interconnection capacity between Member States, but, for the moment, market participants could be forgiven for feeling like passengers in a plane which is being rebuilt before it has left the runway. It may take some time before it becomes clear whether - and in what timescale - the Commission is aiming for a truly integrated EU-wide market or simply at improving the functioning of markets that remain essentially defined by national borders.

The neglected demand side

From another perspective, debates on capacity markets, particularly in the UK and the EU, have focused far too much on the supply side. It is natural for governments, system operators and regulators to take a risk-averse approach when faced with the potential risk of blackouts, but there is a good case to be made that the short-term risks to security of supply have been overstated. The risks of "loss of load" around which the reliability standard for the British capacity market have been designed, for example, do not equate to "the lights going out". Consumers may be being asked to pay to subsidise existing generating capacity, which does not need the additional money, and new generating capacity, which is not needed at all - or which at least is poor value when compared with demand side response

and/or permanent reductions in energy demand, which should always be cheaper to provide if the market rules allow it to compete on a level playing field with the supply side.

Achieving mass participation in demand-side response and arriving at a position where the public believes that its money is being well spent will not be easy. If demand-side response is to become attractive to more than the tiny proportion of consumers who behave in the perfectly rational way that economic theory suggests they should, more fundamental market reforms are likely to be needed. It may be necessary to oblige industry parties to procure demand-side response in the same way that they have previously been obliged to procure electricity generated from renewable sources ;and to redefine building and appliance standards so as to make the fitting of automatic control systems compulsory. It may even be necessary to reintegrate energy sales and local distribution network operation or make the provision of demand-side response the default setting, from which consumers would have to opt out, rather than an active choice that they have to opt into. In this context, it is welcome that, as a first step, British regulator Ofgem is moving from thinking about removing the barriers to demand-side response to considering what should be done actively to encourage it.



Middle East energy – global risks and repercussions

Tuesday 21 April 2015



This was a panel on the factors shaping the politics of the Middle East and its implications for the global energy industry. The Hon Sir Dominic Asquith, Senior Advisor to Dentons in Washington, D. C. spoke with the experience of a former British Ambassador to Iraq, Egypt and Libya. Dr Hans Jakob Schindler, a member of the UN Security Council sanctions monitoring team and a former German diplomat in Iran, spoke, in his personal capacity, on the Iranian nuclear sanctions “comprehensive deal”. Dolan Hinch, Head of Project Finance for the Middle East and Africa, Deutsche Bank, gave a financier’s perspective. Humphrey Douglas, Partner in Dentons’ London office, chaired.

Radical instability

A glance at any newspaper reminds us of those parts of the Middle East where state structures have collapsed or are on the brink of doing so. But even in some apparently stable parts of the region there is the potential for instability as leadership passes to a new generation and the Middle East goes through a transitional period. The effects can be seen across the region, including in Saudi Arabia, Egypt and the UAE. Fiscal challenges combined with political instability cause economic uncertainty. There is a tension between new ideas and priorities from the new leadership, and a desire to also maintain old relationships, resulting in a lack of consistency and direction. This is compounded by a fragmentation of society and the inadequacy of existing state structures.

The established boundaries have broken down, or are at risk of doing so, in a number of places, and, at the same time, armed groups seizing power in weakened states create new frontiers: examples include Syria, Iraq, Libya and Yemen. Loose or weak security has contributed to the growth of sectarianism and general discordance in the political Islamic world. At present, the US seems unwilling to engage sufficiently to provide significant stability from a security standpoint - and in any event there is an argument that reliance on US assistance ultimately can weaken a state in the longer term as much as it can help to hold it together in the short term. It is perhaps academic whether the rise of ISIS owes more to the withdrawal of US forces from Iraq or their previous presence there, but the Summit heard that it is certain that current US policy contributes to the fragility of the anti-ISIS coalition.

Speakers asserted that the failure of Western governments’ policies stems from an inability to understand key realities about the Middle East. They seem to have been caught off guard by the fact that the (re-)introduction of “democracy”

into countries in the region does not automatically lead to a stable politics that is not dominated by religious ideology and sectarian divisions. Islamist influences are not necessarily moderated by democratisation. For example, the West broadly supported the uprising against Mubarak in Egypt, accommodating the Muslim Brotherhood but leaving a number of its historic regional allies vulnerable. The subsequent polarisation of Egyptian society and ongoing fluidity of the situation following the rise and fall of the Muslim Brotherhood has resulted in a long period of instability. In too many Middle Eastern countries, the true legitimacy or source of authority of the government or the state itself is unclear. There is an undeniable problem with the West, most recently being manifested in a widespread belief, in the Arab world, that the USA is to blame for the rise of ISIS.

However, the underlying causes of instability in the Middle East are arguably more a matter of demographics and the economy than of ideology. The lesson of the so-called “Arab Spring” was not that Middle Eastern countries were suddenly all about to undergo profound political change in a direction that would be broadly welcome to the West: rather, it simply showed that the established social contract in those countries is under tremendous pressure from an increasingly youthful and urban population but also from a culture dominated by religion and subject to increased radicalisation. Disaffection with the status quo, insufficient opportunities for employment outside an inefficient public sector and access to the internet and social media will lead different individuals and groups in different directions - including, in some cases, more or less radical versions of Islamism.

The traditional social contract in many Middle Eastern countries is fraying, partly because the state’s powers of patronage are limited. In particular, the traditional means

Middle East energy – global risks and repercussions

Tuesday 21 April 2015

of redistributing the wealth of the state through energy subsidies is harder to manage in a world of lower oil prices, encourages energy inefficiency and tends not to favour those most in need of the state's largesse.

The Gulf States have not, until now, taken steps to address a number of growing problems they are facing as result of the instability in the region, the ongoing tensions with Iran and the low oil prices. They are often seen to be immune from the problems faced elsewhere in the Middle East but there is some risk that this may change.

States and society itself are already fragmenting and the relationship between the ruler and ruled is changing. The deterioration of the welfare state and development of the new information environment is redefining individual, collective and transnational identities. In the near future more chaos is to come, which will fuel further regionalism and fragmentation.

Investment challenges

The political disarray has inevitably affected the confidence of international institutions investing and financing deals in the Middle East. The key drivers to investment are social, political, and economic stability - all of which can be hard to predict or measure objectively. As a result there are shifting levels of commercial activity and momentum based on perceived political risk. Among the concerns for potential investors are the classic political risk categories of war, civil disturbance, transfer and inconvertibility, expropriation and nationalisation or breach of contract by government or state sponsored entities. There is also a wider category of reputational and regulatory risks. How will involvement in particular markets be perceived by shareholders, regulators, customers and the general public? What is the risk of exposure to sanctions or other regulatory action as a result?



The unpredictable political situation over recent years has often led to the high expectations of potential investors turn rapidly into disappointment. This was certainly the case in Egypt which appeared to be on the rise, with numerous infrastructure investments, but then abruptly descended into instability. In recent months, the enthusiasm has started to return. There remains significant optimism over the rapprochement with Iran but any positive outcome to the negotiations will take some time to result in real change on the ground. Iraq too has not fully met the expectations of investors over the last decade but is showing some new signs of promise, including with opportunities in the renewable sector.

In the medium to long term, one would expect the markets in Iran, Iraq and even Syria to stabilise with significant need for investment in new infrastructure projects after years of neglect. Saudi Arabia and the UAE, and to a lesser extent other Gulf States, continue to need investment for power and petrochemicals projects - although the funds previously provided by government in the Gulf States is no longer as forthcoming, given the low oil prices.

“... the traditional means of redistributing the wealth of the state through energy subsidies is harder to manage in a world of lower oil prices ...”

There are only 15 to 20 banks active in the region. Liquidity has dried up due to factors such as less available capital as a result of Basel III and fines or other losses imposed on banks, leading to retrenchment of international banks to home jurisdictions. The perception of sustained political risk does not inspire confidence. Alternative sources of capital such as insurance and pension funds are not very active in the Middle East, nor is financing through the capital markets such as bond issuances and commercial paper. Greater government investment in the Middle East via export credit agencies has

Middle East energy – global risks and repercussions

Tuesday 21 April 2015

gone some way to bridge funding gaps and provide political risk mitigation, as has funding from the IFC and World Bank. There is also a new trend of obtaining some form of political risk insurance. However, generally there is less appetite for debt on a standalone basis. Banks operating in the region face issues obtaining internal approvals and in their dealings with rating agencies. It is possible that Chinese capital will come to play a bigger part in the region, as Japanese investment has in some cases, but China's overall strategy in the region it thinks of as "West Asia" is not entirely clear.

Iran

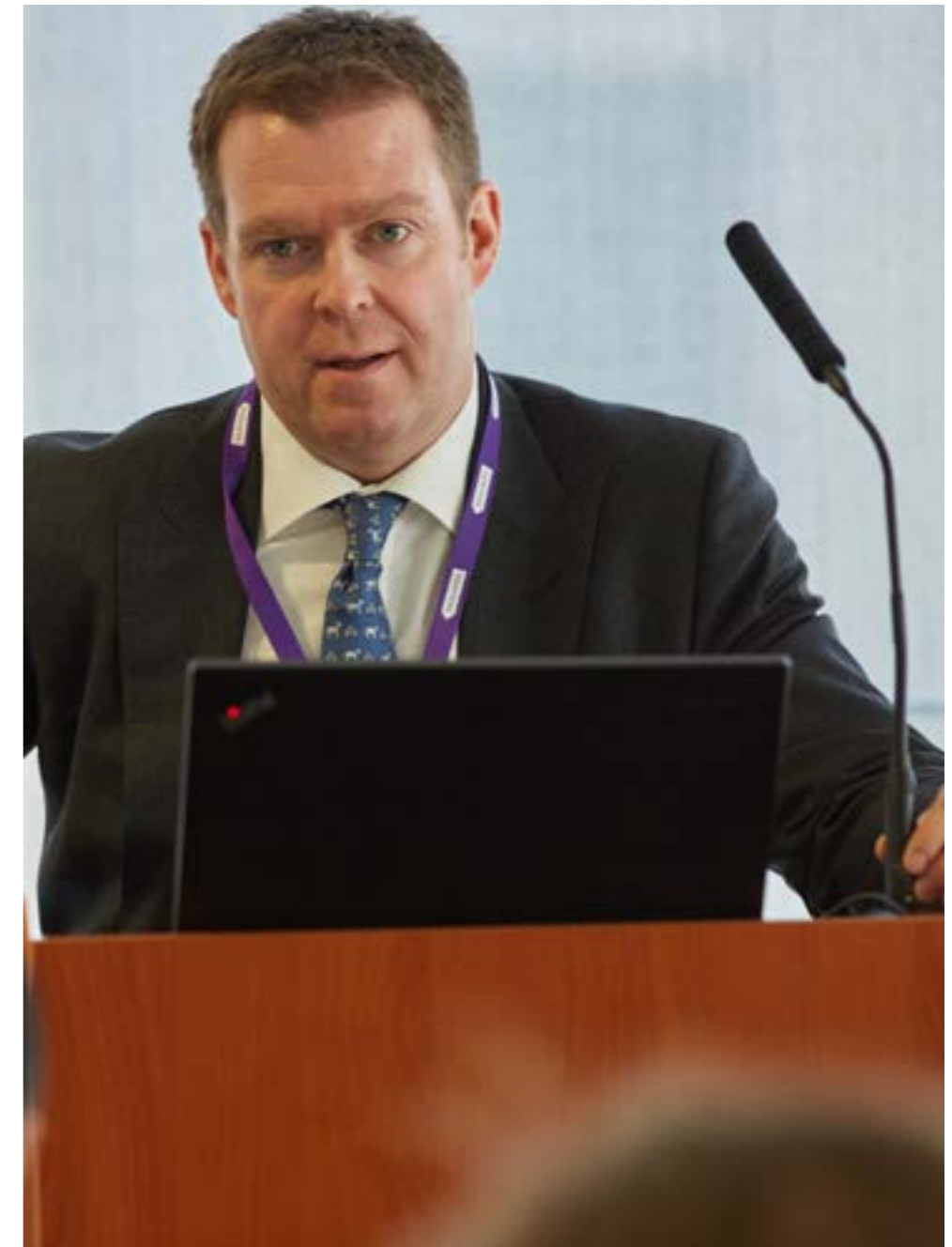
The recently proposed nuclear deal between Iran and the "P5 + 1" countries (the Permanent Members of the UN Security Council plus Germany) that would allow the lifting of sanctions are under close scrutiny. It is clear that a number of potentially difficult points remain to be agreed (for the details of what has been agreed and what remains to be agreed, see the [slides](#) on Iran for both the Middle East and Risk breakout sessions and recent publications by the [Belfer Center](#) at Harvard).

The politics of implementing the deal in its final form are also uncertain. On the Iranian side, it is hard to tell what the Supreme Leader really thinks about the deal, and how far it would strengthen or weaken the current regime if successful. In the US, certain elements of Congress have a rejectionist approach vis-à-vis nuclear negotiations, but they present no alternative "better deal", presumably because they calculate that no deal is the more likely route to regime change in Tehran.

If the deal succeeds, one immediate consequence is likely to be an increase in Iran's oil and gas production, which would

“The Iranian Government appears to be serious in its attempts to attract international participation ...”

be one more factor in the web of global influences putting downward pressure on the oil price. The Government is also likely to take steps to subsidise the Rial (pumping hard currency into the system and withdrawing Rials from the system) to avoid a devaluation (which might devalue it to one-fifth of the current value). In the longer term, a range of opportunities should open up, including the development of domestic and export pipeline networks and the exploration and development of resources in the Iranian part of the Caspian Sea. The Iranian Government appears to be serious in its attempts to attract international participation - notably by proposing to replace the "buy-back", service-contract based model with a new form of contract that would allow foreign investors to take ownership of extracted petroleum, although not the project assets. There is huge potential for foreign investment, but a number of challenges remain, such as the potential for "snap back" of sanctions, the significant involvement of the Revolutionary Guard in many projects, and the spillover impacts of instability and conflict elsewhere in the region.



Risk management for energy lawyers: key issues

Tuesday 21 April 2015

“In March 2015, Schlumberger agreed to pay £232 million for Sudanese sanctions violations”

International law and cyber crime - all in a day's work for a GC

Under the banner of “risk management for energy lawyers: key issues for 2015”, this session covered a number of hot topics for global companies and their legal departments.

Human rights

Peter Herbel, Former Senior Vice President and General Counsel, Total SA, and now General Manager, CSR Consult, spoke about the impact of international human rights law on businesses.

International human rights law instruments apply to states rather than businesses, but there is a significant body of soft law that applies human rights principles to business activities, notably the Guiding Principles promulgated by the UN in 2011. There is a corporate moral responsibility to avoid infringements of human rights. However, by integrating consideration of human rights issues into business planning and structures, companies can also avoid significant costs and liabilities.

Oil and gas companies that do not address the human rights implications of new projects can face delays costing millions of dollars per week while they resolve issues with communities and public authorities. Recent cases have also shown how human rights arguments can be used by communities making claims for damages or seeking remediation against oil and gas companies in respect of the environmental impacts of their projects. Another potential area of exposure to human rights liabilities is where companies operating in conflict zones employ private security forces to keep their facilities safe.

Total has gone to great lengths to embed human rights principles in its business, by providing training to its employees, insisting on human rights compliance among its sub-contractors and educating industry partners, including other international and national oil companies. While human rights compliance may technically only be a matter of “soft law” for businesses, it also makes hard economic sense.

Sanctions

Sanctions were discussed by Andrew Cheung, General Counsel of Dentons' UKMEA region (who also chaired the session) and Ramin Hariri, Partner in Dentons' Paris office.

The figures speak for themselves. In July 2014, the US authorities fined BNP Paribas US \$8.9 billion for violating sanctions against Iran, Cuba and Sudan. In March 2015, Schlumberger agreed to pay £232 million for Sudanese sanctions violations: it thought that it was operating outside the reach of the US sanctions regime by using a non-US subsidiary, but the involvement of US secondees and

payments being routed through the US meant that it was still subject to the regime.

It is important not just to realise how much can be at stake when sanctions regimes are infringed, but how complex they can be, particularly in a world where the relevant legislation is constantly being tweaked and updated and there are multiple sources of overlapping, and sometimes conflicting, rules (e.g. the US, EU, Australian, Canadian and Dubai regimes). Sanctions compliance is a full-time job, and not just one that can be written up in a “policy” and left to a central “compliance team”. An awareness of sanctions risks and policies has to permeate right through the business from the CEO to those on the ground, so that they ask the right questions and ensure that they are not engaging in business with sanctioned entities or individuals - even indirectly, through apparently non-sanctioned agents.

Specifically with reference to Iran, it is important to understand that the Joint Comprehensive Plan of Action announced on 2 April 2015 is very far from meaning the end of sanctions. There are multiple triggers for the lifting of the various sets of sanctions relating to Iran, some of which will remain in place, be re-established or are subject to reactivation. The reactivation of contracts after sanctions have been lifted is also not straightforward. Moreover, foreign companies seeking to establish or re-activate investments in Iran face a number of further challenges. The Iranian Constitution ostensibly reserves the energy industry to the public sector; there is no systematic protection of IP rights; and judicial procedures are lengthy and complex, although Iran does have a good record of respecting arbitration awards.

Risk management for energy lawyers: key issues

Tuesday 21 April 2015

Cyber security

Karl V. Hopkins, Partner in Dentons' Houston office, and security experts from KCS Group, discussed and demonstrated cyber security risks.

Companies can be divided into two groups: those that have been hacked and know it, and those that have been hacked and don't know it. The only way to be completely secure is not to connect to the internet, and sometimes the best way to protect the most important information may be not to use a computer at all. Both the German and Russian intelligence services have recently been investing in typewriters. This

“... sometimes the best way to protect the most important information may be not to use a computer at all.”

poses massive challenges to the modern business pressures and demands we all face, which mean we need to be available everywhere and any-time and rely on technology to achieve that.

Energy companies are as vulnerable to cyber attacks of various kinds (crime, espionage, war or hacktivism) as any other organisation, and can suffer serious financial, regulatory and reputational damage as a result of a successful attack. When security is breached, the way that a company responds to and learns from the breach is key. It is essential for cyber security to be dealt with at C-Suite level, but legal counsel also have an important role to play, for example in preparing a response plan and ensuring documents relating to cyber security matters are protected by legal privilege.

No firewall is perfect, but much of the most effective hacking today does not rely on having to breach a company's IT defences: hackers can often manipulate us into "inviting them in" to our systems. By accepting a LinkedIn request to connect from an unknown individual (usually featuring a suitably attractive photo), we enable hackers to access all sorts of personal information about ourselves that can give them "the keys to the door" so that they no longer have to "jump over the wall". Firewalls anti-virus software cannot protect us against previously unknown and invited malware. This shows neatly how cyber is as much a people and human behavioural issue as it is technological.



Risk management for energy lawyers: key issues

Tuesday 21 April 2015

Energy Charter Treaty

Michelle Bradfield, Partner in Dentons' London office, explained how the Energy Charter Treaty can be used as a tool to minimise the political risk associated with energy projects.

A bilateral investment treaty between two countries provides companies from one country with protection from interference with their business by the government of the other - without those companies having to have any legal relationship with either government. The Energy Charter Treaty (ECT) is an investment treaty that provides similar protections on a multilateral basis for companies belonging to 52 states (including the EU Member States, Japan, Australia, Turkey and Uzbekistan).

The ECT has been used to launch claims against 25 of these states. So far one of the largest categories of claims has been against Spain and other states which made retrospective adjustments to the subsidies applicable to renewable electricity projects. These changes have been characterised as breaches of the ECT provisions on expropriation without compensation, fair and equitable treatment, and full protection and security. Other notable cases include the claim of Yukos against Russia (where the Tribunal awarded US\$51.6 billion in damages) and the ongoing case of *JKX Oil & Gas v Ukraine* (arising out of increases in royalty payments levied, gas purchasing restrictions, and restrictions on foreign cash transactions and the repatriation of dividends).

Investment treaties can be a cost-effective, even if not immediately obvious, way of protecting your business.



Global outlook for the oil and gas industry

Tuesday 21 April 2015

Oil prices - where will they settle and what do they mean?

Against the background of continuing uncertainty about the level of oil prices in the medium and longer term, this panel considered the forces shaping the global outlook for the oil and gas industry. Richard Mallinson, Geopolitical Analyst, Energy Aspects, discussed the economic and political impacts of oil price volatility. Andrew Moorfield, Managing Director, Head of EMEA Energy, Scotiabank Europe plc, focused on implications for investment and possible M&A activity in the sector. Mike Borrell, Senior Vice President Europe and Central Asia, Total, focused on other, long-term challenges facing the oil and gas industry. Rob Cross, Senior Vice President, Natural Gas Europe, Statoil, discussed the future of gas in Europe. Simon Wynn, Executive Director, Upstream Asia, Willis, explored the impact of oil prices on the insurance market. The session was chaired by Michael Hurst, Partner in Dentons' Calgary office, and Javier Laso, Partner in Dentons' Madrid office.

Is US\$60-70 the natural level?

Following its sharp decline in 2014, there have been signs of a recovery in the oil price. But it is too soon to say that the time of low oil prices is over.

Consumers are certainly benefiting from lower oil prices. Indeed the demand response to the oil slide from consumers has been stronger than was expected. This may be chipping away at the oversupply that has driven prices down, but it is too soon to start putting higher prices into budgets and models.

A measure for determining levels of production activity is the US rig count for the production of shale gas and shale oil. The US is still cutting spending on rigs, which are needed to maintain levels of production from US shale. However, despite certain cuts in the industry, supplies are still

growing and year-on-year growth in production may not decline until the end of 2015.

That said, it is likely that the US shale producers will cut production before the non-OPEC producers. Whilst shale producers in the US can restart production relatively easily if prices were to rise again, other non-OPEC producers are less easily able to restart production, which could have the effect that production by those OPEC producers is halted for several years.

Within OPEC, there is a division between the Gulf Co-operation Council (GCC) countries and non-GCC countries. The GCC countries have sufficient reserve funds to weather a lower oil price to a greater extent than non-GCC countries, whose economies are faltering with the lower oil price. The GCC countries (led by Saudi Arabia) want to retain market share and therefore are unlikely to agree to a cut in production at the next meeting. In March 2015, Saudi Arabia had record production.

So the next significant movement in oil prices may be down again, to reflect continuing oversupply - although it is unlikely that prices will fall below US\$40. In the longer term, it seems likely that it is 2009-2014 which will appear as the years of anomalously high prices, and US\$60 to US\$70 per barrel will become the normal range.

“The US is still cutting spending on rigs, which are needed to maintain levels of production from US shale.”



Impacts of volatile prices

Oil price volatility has dangerous consequences for non-GCC countries, such as Libya and Iraq, whose economies depend on oil revenues and cannot rely on substantial reserve funds. Governments are already facing problems with extremists in these countries. As they become less attractive to investors and investment is pulled out, extremists are able to move in. Greater political (and therefore economic) challenges in the region will result from this vicious cycle.

Other impacts of current oil prices include increased interest from the Middle East to acquire onshore oil and gas assets (other than LNG) producing 50,000-75,000 barrels per day, and increased sale of equity in US projects. Investors will be willing to deploy capital from sales of other assets into the US because the rate of return for projects in many traditional jurisdictions does not compare with the rate of return made by

Global outlook for the oil and gas industry

Tuesday 21 April 2015

investors in US shale. Norway IRR in the last three years has been 11% compared with IRR for a US shale project of 40% as technology has moved on and costs have reduced.

“... Shell/BG will not be the last deal to include majors as well as smaller companies.”

However, for international investors in US shale, the target value of acquisitions is probably around US \$10 billion, or about 10 times the value of the typical small shale company: there will need to be some consolidation in the sector before it attracts significant international M&A activity. One motivation for Gulf investors in US shale (probably through joint ventures with US sellers rather than by direct acquisitions) is their interest in knowledge transfer to enable them to exploit their own significant shale resources. But industry consolidation will not be limited to US shale, and Shell/BG will not be the last deal to include majors as well as smaller companies. Meanwhile, the oil price decline is reducing purchasing of insurance and reducing spend on premiums by the upstream sector, but capacity in the market has increased significantly. Conditions in the insurance market are therefore increasingly competitive.



The longer term

Overall, the most important challenges facing oil and gas companies are largely long-term and were apparent before the decline in the oil price.

The principal challenge is that the industry is operating in a high cost environment, even if this was masked by the high oil prices between 2010 and 2014. It is not a resource challenge. There is an abundance of resources; however the limiting factor is the high cost to explore and produce those resources. In addition it is forecast that an extra 50 million barrels per day is required by 2050. The cost challenge is not new, and it will create a squeeze on profits.

There is and should be a greater focus on profitability portfolio management. This requires capital discipline.

For example Total has sold a quarter of its production and bought other assets totalling almost of a quarter of its production. It has renewed its capital.

“There is an abundance of resources; however the limiting factor is the high cost to explore and produce those resources.”

Current costs have reached levels which are unsustainable even at US\$100 per barrel prices. The challenge is to control capex and reduce opex while not compromising on safety - since failure to operate safely results in the largest costs of all. At the same time, oil and gas companies need to recognise their need for a “social licence”, working harder at creating and sharing “in-country” value and improving their environmental performance - for example by focusing on gas rather than oil (one of the drivers for the Shell/BG deal), limiting emissions through reductions in flaring, or investing in renewable assets such as solar.

Global outlook for the oil and gas industry

Tuesday 21 April 2015

Within Europe, there is a case to be made for developing a stronger gas market to promote both security of energy supplies and decarbonisation of power generation.

A successful gas market would involve continued gas use for heating and power in Europe, more import hubs in Europe and an environment to encourage development. At present, coal generates 30% of power, but 70% of emissions. One obvious step on the path to reducing emissions by 80% by 2050 is to phase out all coal generating plant without carbon capture and storage by 2030. It is not clear from the European Commission's Energy Union proposals that the political will exists at EU or national level to accept this view, and the €70 billion of investment in gas projects that goes with it. Yet 2030 is only 15 years away, which is not a long time in oil and gas infrastructure investment terms.

Part of that vision for the EU gas market in 2030 is likely to involve more, rather than less gas being imported from Russia. However distasteful it may be now to political leaders on both the EU and Russian sides, the fact remains that Russia needs EU markets and the EU needs Russian gas. It is notable that even 45% of the gas from Total's vast Yamal LNG facility in Russia's Far East will be committed to European markets.



How should the energy industry respond to any climate deal emerging from UNFCCC COP 21 in Paris 2015?

Wednesday 22 April 2015



The closing plenary session of the Global Energy Summit, appropriately scheduled to take place on [Earth Day 2015](#), offered a unique series of perspectives on the 2015 UN Climate Change Conference in Paris. Dirk Forrister, President and CEO, International Emission Trading Association (IETA), gave a keynote address setting Paris 2015 in the context of previous global climate change negotiations. Anne Lauvergeon, Founder and CEO of ALP S.A., Partner of Efficiency Capital, a fund dedicated to technology and natural resources, and a former CEO of AREVA, spoke on the involvement of business to the Paris process. Ashley Ibbett, Director of Office of Carbon Capture and Storage (CCS) in the UK Government's

Department of Energy and Climate Change, explained the role CCS has to play in tackling climate change. Adrienne Corboud Fumagalli, Vice President for Innovation and Technology Transfer, Ecole Polytechnique Fédérale de Lausanne (EPFL), gave an insight into the ways that innovative technology will facilitate interaction with and between the 40,000 delegates attending Paris 2015. Jeffrey C. Fort, co-director of Dentons' Climate Change practice, chaired.

The road from Rio

Concerted international action to stabilise concentrations of greenhouse gases in the atmosphere at safe levels began

with the agreement of the UN Framework Convention on Climate Change (UNFCCC) in Rio de Janeiro in 1992. The UNFCCC has been ratified by most of the world. In subsequent UNFCCC Conferences of the Parties (CoPs), it has proved more difficult to reach binding international commitments that move beyond its fairly broad aims. So, for example, the Kyoto Protocol (1997) set binding emission reduction targets, but was not ratified by the US or Canada. CoP15 in Copenhagen produced explicit recognition of the need to limit global temperature increases to 2°C in order to avoid dangerous climate change and provided countries with a mechanism for committing to emissions reductions up to 2020, but fell

How should the energy industry respond to any climate deal emerging from UNFCCC COP 21 in Paris 2015?

Wednesday 22 April 2015

short of achieving legally binding agreements and was widely considered to have been a failure. CoP21 in Paris later this year has a new starting point (agreed at Lima in 2014) and aims to set out a framework for all countries to commit to emissions reductions beyond 2020.

To be fully effective, a UN instrument must be agreed by all parties. Given the issues at stake and the tensions between countries with developing and developed economies, the process of achieving agreement between all parties to the UNFCCC is never easy. But Paris 2015 can succeed - as long as it is recognised that it will only be a starting point, and not a final solution to the problem of international co-operation to mitigate the risk of climate change. Anybody who wants to hear at the end of CoP21 that greenhouse gas emissions and global temperatures will fall from now on will inevitably be disappointed: in the short and medium term, both will continue to rise. What matters is establishing a realistic pathway towards limiting temperature increases to 2°C. On market mechanisms and the creation of a global carbon pricing system, all that is needed to begin with are series of short, enabling provisions such as the [drafts](#) produced by IETA.

One of the key advantages of the approach being taken in Paris 2015 is the focus on “bottom up”, Intended Nationally Determined Contributions (INDCs) to emissions reduction by each country, which countries are invited to submit well in advance of the CoP rather than attempting to agree “top down” targets at the CoP itself. Proposed INDCs so far include a 26-28% reduction on 2005 levels by 2025 from the US and a reduction of at least 40% by the EU on 1990 levels by 2030. Another positive sign is the growth in emissions trading schemes adopted by national or sub-national governments,

including most recently a series of “pilot” schemes in China, one of which alone (Guangdong) represents a market equivalent in scale to the whole of Germany. In North America, the linkage of sub-national schemes in Quebec and California shows the potential for connecting different carbon markets that could eventually be exploited if links were to be established between, say, emissions trading schemes in Europe, China and North America - whether as a series of bilateral agreements or under the umbrella of the UN. Finally, the progress achieved in recent CoP preparatory sessions for Paris 2015 has been noteworthy (recent negotiations in Geneva actually ran ahead of schedule) and the French foreign ministry is clearly investing a lot of effort in the success of the project.

“... the process of achieving agreement between all parties to the UNFCCC is never easy.”

A different kind of CoP

Businesses, and a wider group of stakeholders, need to be involved in and enabled to contribute to the Paris 2015 process. This is recognised by both those organising Paris 2015 and an increasing number of influential global companies, such as the founding members of the [RE100](#) initiative that has

seen BT Group, Commerzbank, IKEA Group, KPN, Mars, Nestlé, Philips, Reed Elsevier Group and Swiss Re, amongst others, commit to going “100% renewable”.

One of the ways in which Paris 2015 will be different from Copenhagen in 2009 is that the organisers are determined to harness the power of social media to provide both real-time analysis of the negotiations and a flexible platform to pursue the conversation after the conference. As a result, the CoP process should be much more transparent and stakeholders in the negotiations, including business and civil society, should have a broader and deeper engagement with them. And after the conference there will be more scope to hold those who have signed up to any new deal to account. The goal is to make it impossible for any world leaders attending Paris 2015 to lapse into the sentiment expressed by President Obama when he said in an unguarded moment at Copenhagen “everybody here has other much more important business to take care of”.

Getting a deal at the CoP is the easy part

Paris 2015 can provide a framework that could provide the political impetus to establish trading schemes that result in a global carbon price and stimulate investment in action to reduce emissions. But what forms will that action need to take in order to avoid dangerous climate change?

Investment in renewable energy obviously has a key role to play. The challenge is to continue to reduce the costs and increase the efficiency of renewable technologies to the point where they are no longer reliant on subsidies, at least to the extent that they are now in many countries. At the same time, it is important to develop energy storage technologies

How should the energy industry respond to any climate deal emerging from UNFCCC COP 21 in Paris 2015?

Wednesday 22 April 2015



that will enable those renewable sources that only generate intermittently to operate more flexibly and help manage their impacts on the grid.

But renewables alone, even combined with inherently low-carbon generation in the form of nuclear power (where public opinion allows it to be deployed) are unlikely to be enough - and are also not necessarily the cheapest way of decarbonising all parts of the global economy. Anyone who experiments with the “2050 calculator” established by the UK Government as a way of assessing the impacts of different combinations of supply-side and demand-side measures on the achievement of its statutory goal of an 80% reduction in

greenhouse gas emissions by 2050, will find that significant action in other areas is also required.

In particular, the 2010-2015 UK Government believed that, with fossil fuels still providing over 80% of the world’s energy and some of the industrial processes that use them not being capable of replacement by low carbon electricity, it is important to focus on developing carbon capture and storage (CCS) so that CO² emissions can be permanently prevented from being emitted into the atmosphere by being trapped in suitable underground rock formations.

The first commercial scale CCS power plant opened in Canada in 2014 at Boundary Dam. Two US projects, Kemper

“... the organisers are determined to harness the power of social media ...”

and Petra Nova, are scheduled for completion in 2016. The UK Government, advised by Dentons, is funding work on projects at [Drax](#) and [Peterhead](#). If the technology can be developed for cost-effective deployment in all coal-intensive power markets where the appropriate geology for CCS exists, it could make a major contribution to decarbonisation. If the switching of 1% of coal-fired generation to gas would produce as great a reduction in emissions as an 11% increase in renewable generating capacity, then the removal of emissions from that 1% of coal-fired generation would presumably be equivalent to a 22% increase in renewables.

Another major challenge is reducing the emissions that arise from deforestation and the degradation of forests, particularly in developing countries. Key initiatives here are the UN’s REDD programme, which aims to create a financial value for the carbon stored in forests, offering incentives to reduce emissions from forested lands, and REDD+, which goes beyond deforestation and forest degradation, and includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks.

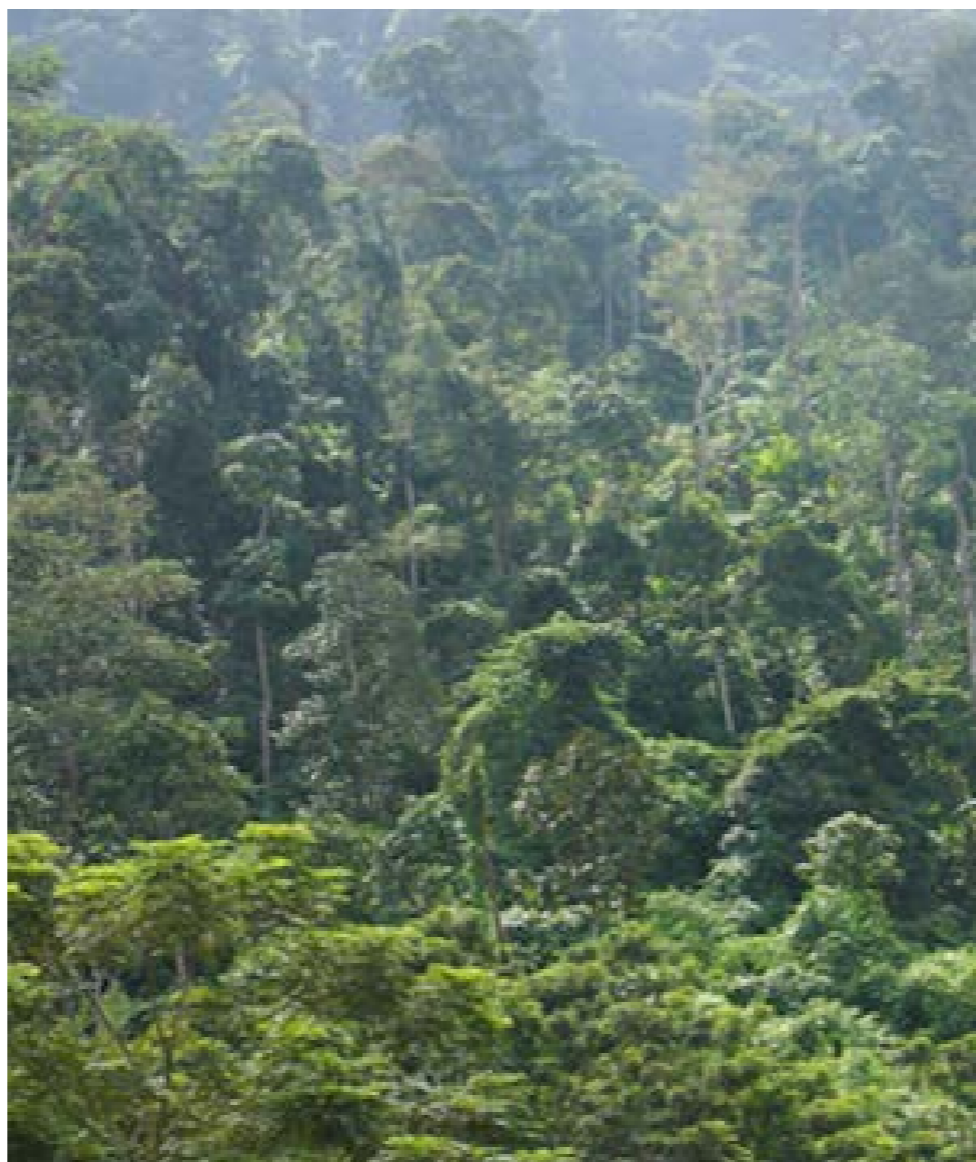
Global Energy Summit – Luncheon presentation

Tuesday 21 April 2015

During the Summit lunch break on 21 April 2015, Jeffrey C. Fort, co-director of Dentons' Climate Change practice and Partner in our Chicago office, gave a presentation entitled "Carbon Neutral Fossil and Development Projects", about the Cambodia Carbon Credit project. This is a landmark avoided deforestation project in Oddar Meanchy province, implemented under the umbrella of the UN's REDD+ initiative.

The project has demonstrated how it is possible to mobilise private capital to invest in anti-deforestation programmes in ways that can provide substantial returns, secure the delivery of environmental goals and provide sustainable jobs for those who live in and around the forests. The innovative structure for sales of the earned carbon credits in the Cambodia project was recognized by The American Lawyer for its "Pro Bono Global Deal of the Year" and "Citizen of the Year" awards.

Jeff discussed how the project agreement structure is an example of a replicable tool to move government owned and controlled carbon credits into the private markets. Degradation and deforestation of forests is responsible for more greenhouse gas emissions into the atmosphere (measured in tonnes of CO² - equivalent) than the entire transport sector. REDD+ projects provide a necessary technique not only to reduce those emissions but also to provide community development and biodiversity enhancement. Carbon credits earned by these projects are essential to support the ongoing work yet the pricing is less than the internalized carbon costs for most entities.



Global Energy Summit - we do indeed live in interesting times

Wednesday 22 April 2015



This booklet has summarised just a brief snapshot of the much more in-depth debate at our Global Energy Summit. As international lawyers committed to the energy industry, and with perhaps the world's largest team of private practice energy lawyers, Dentons is proud to contribute to the policy and economic debate about the future of our industry and to bring together policymakers, regulators, investors, operators and financiers to do so.

Please contact us if you'd like to talk about any of these issues in more detail.

