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ENERGY & NATURAL RESOURCES 2018

VIRTUAL ROUND TABLE

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Introduction & Contents

The Energy & Natural Resources Roundtable 2018 features seven experts from around the world. In this roundtable, our panel of experts outline how to attract capital in the current stressed financial climate, discuss the current M&A landscape, and detail recent regulatory changes and developments. Highlighted topics include: hydropower, oil and gas, mining, and the trend towards cleaner energy sources. Featured countries are: Brazil, Bulgaria, Canada, Germany, Myanmar, Nigeria, United Kingdom, United States and Vietnam.

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In 1992, he became a law and natural resources graduate of the University of Brasilia. Two years later, he also graduated as a master of laws from the University of Dundee Centre for Energy, Petroleum and Mineral Law and Policy.

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Silke has extensive experience of advising on electricity and gas transactions internationally across the entire value chain of the energy sector. She has advised on a series of upstream and downstream gas projects, gas sales and purchase agreements, gas pipelines, conventional and renewable power projects as well as interconnectors, transmission and distribution grids and storage facilities.

1. Can you outline the current energy & natural resources landscape in your jurisdiction?

Kubler: The energy & natural resources landscape in Germany is undergoing a severe transformation. Germany has only limited energy resources of its own and has a history as an importer of fossil and nuclear fuels. Imports have always been complemented by domestic production, mostly of lignite, hard coal and some natural gas. As long-term trends, we observe a decline in domestic production of fossil fuels, the phase-out of nuclear power, a more efficient use of energy and above all a massive increase of domestic power production from renewable sources, mostly wind and solar. These developments have been driven mostly by energy policy and the aim to reduce CO2 emissions.

In power production, we have seen large investments in renewable energy sources, which is a strongly regulated part of the market. The increasing share of wind and photovoltaic power strongly affects the entire power market, e.g. by driving down the utilisation of conventional power plants, but also by driving down wholesale prices due to close-to-zero marginal costs. As a consequence we have observed changing market forces and economics. Power and gas incumbents like E.ON and RWE have adapted their business models.

Regarding the German gas market, production of natural gas in Germany and immediate neighbours has been under pressure for years, due to field depletion, earth tremors and political pressures. Imports of natural gas still form the backbone of the gas supply.

Overall, there is hardly any energy business not affected by the trend towards cleaner energy sources and a more efficient use of energy.

Vilhena: Brazil has always been a strong mining jurisdiction. Over the years, it has attracted significant exploration, development and production investments by both foreign and national players. The country is a major producer of iron ore and niobium, among around 80 other substances. It has strong in-country supply chain and human resources for the mining industry.

The current scenario is a positive one and improved from past years. New and important investments, both domestic and from abroad, have been made in the past year in the mining, power, as well as the oil & gas sector. Looking ahead seems more promising, with indications of further investments, by both juniors and majors, in the natural resources sector.

Goldberg: Gas is a key resource with around 50% of the total domestic gas demand having been sourced from the UK Continental Shelf ("UKCS") in the North Sea in 2012.

Coal remains an important source of generation in the UK – with the country's eight operational stations accounting for approximately 15% of total energy generation – although it is slowly being phased out. Measures already exist to ensure that new coal power stations are not built unless emissions are broadly consistent with those from gas, Carbon Capture & Storage ("CCS") abatement technology is demonstrated, and that further decarbonisation of the plant is possible in the future. Nuclear energy also still has a strong footing in the UK. There are currently 15 nuclear reactors operating on eight sites in Britain, providing roughly one-fifth of the UK's electricity.

The renewable energy share of electricity generation (including wind, hydro and other renewables) reached a record high of 24.4% in 2015 and has not significantly fallen in the subsequent two years.

Massman: Vietnam generates about 40% of its power from hydropower plants. Oil and gas deliver 31%. Under a government blueprint, coal is projected to cover over 56% of all electricity production capacities by 2030. Petroleum is the main source of commercial energy, followed by coal, which contributes about 25% of the country's energy (excluding biomass). The country has considered establishing nuclear power since 1995. Russia and Japan had agreed to finance and build atomic power plants by 2020, but in 2016 the plan were deferred in favour of gas and coal.

Vietnam has huge potential regarding the production of clean energy. It has the best conditions for developing solar power due to being one of the countries with the most hours of sunlight during the year and best conditions for creating wind power due to its 3000km coastline. As a result, Vietnam in general, is able to attract much FDI for developing clean energy projects.

Another notable fact is the recent increase of the wind tariff. Currently, Vietnam has implemented wind power projects with a total capacity of 160 MW. The new tariff shall attract new and more foreign investments in the wind power industry in Vietnam.

Jemide: This question will be answered from the viewpoint of the Nigerian Power Sector, and the Oil and Gas sector.

The Nigerian Power sector value chain comprises of the Generation Companies ("GENCO's") who generate power and are mostly owned by private sector participants; the Transmission Company of Nigeria, which is currently owned by the government and responsible for transmission of power; and the Distribution Companies ("Discos") which are jointly owned by government and the private sector but operated by the private sector. Nigeria currently has an installed on-grid capacity of about 12,000 mw but currently generates between 3,500-4000MW on average. About 80% of the power is generated by thermal power plants using natural gas while the remaining 20% is generated by hydro power plants. Other participants in the sector include Independent Power Producers who develop generation plants either for captive use or to sell to the Discos as Embedded Generators. On the lower rung of the ladder more recently are the mini grids and the Stand Alone Solutions.

Another key participant in the sector is the Nigerian Bulk Electricity Trading Company ("NBET") which offtakes the power produced by the GENCO's and sells same to the Discos. The sector is regulated by the Nigerian Electricity Regulatory Commission ("NERC") empowered by the Electric Power Sector Reform Act ("EPSRA") 2005 (the principal legislation governing the sector) to licence participants operating in the sector, set tariffs and issue regulations for the operation of the sector.

"Large oil & gas exploration companies are currently showing great interest in Bulgaria as they undertake projects in the Black Sea.
- Kostadin Sirleshtov"

The Nigerian Oil and Gas sector, on the other hand, can be categorised into three major sub-sectors which are the upstream, midstream, and downstream sub-sectors. The upstream sector covers oil and gas field activities such as exploration and production, the midstream sector involves activities relating to transportation, bulk sales, and storage of products, while the downstream sector involves the sale, marketing, and distribution of refined products.

The key regulatory agencies in the oil and gas sector in Nigeria are the Ministry of Petroleum Resources (MPR) and Department of Petroleum Resources ("DPR"). The DPR is the body that ensures compliance with industry regulations; and processes applications for licenses, leases, and permits. A key participant in the industry is the Nigerian National Petroleum Corporation which is a vehicle through which the Nigerian government participates in the sector. It owns and manages government's interest in petroleum assets.

Nigeria produced an average of 1.67m barrels of crude per day in 2017 and an average of 7,852 mmscf of gas per day (period between October 2016 to October 2017). Due to Nigeria's low refining capacity, most of the crude produced are exported. Similarly, due to domestic gas utilisation constraints, about 77% of Nigeria's commercialised gas production is exported. Petroleum exports revenue represents about 90% of Nigeria's total exports revenue.

Sirleshtov: Large oil & gas exploration companies are currently showing great interest in Bulgaria as they undertake projects in the Black Sea. These include: Total, OMV, Repsol, Shell and Petroceltic. In the period between 2010-2012, Bulgaria undertook a huge investment program in renewable energy with over 2000 MW installed – primarily PV and wind. Bulgaria operates two units of nuclear power plant Kozloduy. The lifetime of these units was just extended with an additional 20 years and there is a project for uprating with the support of Toshiba. The plans for between one to three additional nuclear units are under way.

2. Have there been any recent regulatory changes or interesting developments?

Kubler: There were substantial regulatory changes in recent years concerning the subsidy scheme for renewable power. The system was originally based on fixed feed-in tariffs for renewable power which were specified by the legislator. This has now been changed to a more market-oriented system in which the guaranteed feed-in tariffs are determined through an auctioning process which takes place before the respective new renewable capacities are built. This has immediately changed the risk-/reward profile of any investment into renewables. While under the old scheme every investor could rely on predefined guaranteed tariffs he now has to compete against other (potential) investors for the most cost-effective solution in the auctioning process. For photovoltaic power, the new system was introduced in 2015. Since then, feed-in tariffs have dropped by 46% to a level of 4.9 €ct/kWh. The new regulatory scheme was extended to on- and off-shore wind in 2017 as well, with similar or even stronger effects. Bidders interested to build off-shore wind capacities along the German coastline have on average offered feed-in tariffs of 0.44 €ct/kWh, obviously counting on the possibility to earn higher prices by direct sales of electricity. So far, each tender was successful in the sense that the intended capacity was fully auctioned. However, the growth corridor for renewable capacities currently specified in German law might not be sufficient to reach the national goal of an 80% share of renewables in total power consumption in 2050.

Vilhena: 2017 saw the introduction of a new royalty law for the mining sector. It meant a move from a net to a gross revenue base. Rates were increased for a number of minerals, but reduced only for a few. There were also changes to how royalty is shared among the different levels of government. Concerns were raised by the private sector, but it seems they can live with royalty increase, for the most part.

A new mining authority was created to replace the old Department of Mines. It is said the new authority, called the National Mining Agency, will have more autonomy, less political influence and be more efficient. Directors of the Agency will be appointed by the President of the Republic, confirmed (or rejected) by the Senate and have a fixed term, during which they cannot be sacked. This should result in better governance.

For the oil & gas sector, important legislative events took place recently. Firstly, the Production Sharing law was amended to release Petrobras (the state owned company that dominates the Country's market) from mandatory operatorship and minimum 30% stake in all blocks in the deepwaters area known as "pre-salt". This should entail the attraction of more players, foster competition and give Petrobras a much needed break from heavy mandatory investments. Secondly, the extension over time of a generous tax benefit plan for the oil & gas sector was approved.

In the power sector, the privatisation of state owned generator and transmission company, Eletrobras, was well received by the market and should attract private interests, both national and foreign.

Goldberg: Over the course of the last two years, there have been a few important changes in the oil and gas sector:

- The Oil and Gas Authority was established in 2016 as an independent regulator and government company with the Secretary of State's regulatory powers in respect of oil and gas. In addition, the overall responsibility for the offshore oil and gas industry has passed from the Department of Energy and Climate Change to the Department of Business, Energy and Industrial Strategy.

- The Offshore Installation (Offshore Safety Directive) (Safety Case etc.) Regulations 2015 have been implemented. These require all existing production installations in the UKCS to have an updated safety case approved by 19 July 2018 in order to comply with the new regulations.
- The UK Government published a formal discussion paper on 8 March 2017 on tax issues for late-life oil and gas assets, primarily focused on ensuring that the fiscal regime supports the transfer of late-life assets as part of the objective of maximising recovery of oil and gas from the UKCS. The paper's focus is on those assets which could continue to produce but may be decommissioned early unless further investment in such assets can be encouraged.
- The Best Available Techniques ("BAT") Reference document for the Hydrocarbons sector (or "BREF") is expected to be finalised by mid-2018. The BREF is intended to summarise BAT already applied under economically viable conditions in the hydrocarbons sector and help the sector share a common understanding of high-performance.

Despite the challenges for renewables, some significant milestones occurred over the course of the last two years, which suggest that decarbonisation of the UK power market continues to be rapid.

Along with other sectors, Brexit – and the potential for the UK to withdraw from the single energy market and Euratom – has created some uncertainty for the UK power market which will hopefully be resolved when the details of Brexit are clearer.

Massman: The new Solar PPA was issued in 2017 to solve the lack of regulation on solar power projects. Moreover, the issuance of the Circular 16/2017/TT-BCT on the power distribution of rooftop solar plants and the alleviation of the operating license for power plants (under 1 Mw capacity) are notable developments in the power/energy industry in Vietnam. Moreover, the implementation of the Direct Power Purchase Agreement could step into pilot phase in near future; thus, it is estimated to create better access to clean energy and increase of investment up to US$2 billion in clean energy.

After the U.S. decided to withdraw its participation of the TPP, the remaining TPP members will likely sign the now called CPTPP (TPP 11) in the first quarter of 2018. The TPP will make the Vietnamese market more attractive due to technology advances, reduction of production costs and high demand for renewable energy.

Another notable major trade agreement is the FTA between the European Union and Vietnam. The EVFTA will provide certain tax reductions to 0% for clean technology equipment as well as equal treatment for companies.

Furthermore, the Investor State Dispute Settlement (ISDS) will ensure highest standards of legal certainty and enforceability and protection for investors. It is going to be applied under the TPP 11 and the EVFTA. Under that provision, for investment related disputes, the investors have the right to bring claims to the host country by means of international arbitration.

Further securities come with the Government Procurement Agreement (GPA) which is going to be part of the TPP 11 and the EVFTA. The GPA in both agreements mainly deals with the requirement to treat foreign bidders and domestic bidders equally when a government buys goods or requests for a service worth over the specified threshold.

Jemide: The Nigerian power sector has witnessed significant events which indicate a policy shift from the reliance on on-grid solutions to off grid/renewable solutions in a bid to improve access to electricity. Recent initiatives by the government highlights this drive. For example, the Rural Electrification Agency ("REA"), tasked with the responsibility of ensuring that rural parts of the country have access to electricity, in 2017 introduced two key flagship projects, namely: The Energizing Education Project which is aimed at providing up to 87.6MW to certain federal universities and the Energizing Economies Programme aimed at deploying renewable mini-grid technology to selected economic clusters.

Closely related with the focus on the off-grid solution is that Nigeria has also witnessed a growing number of Stand Alone Solutions ("SAS")/ Solar Home Systems ("SHS"). This can be seen in the growing number of foreign and local renewable energy companies' activity involved in the deployment of SAS and SHS. Another significant development which highlights the policy shift is the Federal Government's execution of solar Power Purchase Agreements with solar power developers in July 2016 with a total capacity of 1125Mw. The move seeks to diversify Nigeria's energy mix by adopting other power generation options from the conventional means of power generation.

The NERC has enacted key regulations in its bid to push the narrative for the utilisation of off grid power solutions and renewable energy sources such as the Mini Grid Regulations 2017, Eligible Customer Regulations and the Regulations on Feed in Tariffs for Renewable Sourced Electricity 2015.

The Oil and Gas Sector is anticipating the passage and approval of a number of bills and policies which will have significant impact on the current structure of the Industry. The overall intention of the Federal Government as enunciated in the Economic and Recovery Growth Plan (2016-2017), The Petroleum Industry Governance Bill ("PIGB"), the National Gas Policy ("NGP"), the National Petroleum Fiscal Policy and the National Tax Policy are geared towards attracting investment and liberalisation of the sector. Some of the contemplated impact of the bill/policies are: (a) creating an independent regulator of the petroleum industry; (b) shifting Nigeria from a crude oil export-based economy to a gas-based industrial economy; (c) optimising Nigeria's abundant natural resources to accelerate the nation's industrial development; (d) creating an efficient and transparent industry; and (e) tax reforms by introduction of Hydrocarbon Tax to replace the Petroleum Profits Tax currently being paid by Upstream Oil and Gas Companies.

Sirleshtov: Since 2015, the commissioners at the Bulgarian utility regulatory authority – the Energy and Water Regulatory Commission (EWRC) – are appointed by the Bulgarian Parliament thus strengthening the independence of the Regulator. It is currently implementing a step-plan for further liberalisation of the electricity and the gas markets.

The other interesting development is the large number of international arbitration cases started from various international investors against the Bulgarian Government – CEZ, EVN, Energo-Pro, renewable energy investor.

McPherson: The trend towards greater participation of indigenous communities in energy and natural resource projects is critical to the sector. It is a time of reconciliation between governments, indigenous peoples and industry in Canada and this impact cannot be understated. Virtually any large energy or natural resource project in the country will require consultation and negotiation with indigenous groups. The interests of indigenous groups will often vary project-to-project. In certain circumstances indigenous communities may seek an economic role in projects in their traditional territories, with an increasing number of examples of equity participation.

3. Are there any barriers or restrictions to foreign investment for energy and natural resources in your jurisdiction?

Vilhena: In general, there are no barriers or restrictions to foreign investments for energy and natural resources in Brazil. The exception applies to mining in the border area, a strip of 150km from the country's inland international borders. In this area, foreign investment is restricted to a 49% minority stake.

Goldberg: The UK does not have a special foreign investment regime specific to the energy sector. The Government however announced in 2016 that it intended its existing regime on the investment in critical infrastructure.

The announcement was made in the context of the approval of Hinkley Point C – the UK's newest and largest nuclear power project. Although not specifically addressed at similar energy projects, the Government's news nevertheless have wider implications for future infrastructure investment. Although the announcement refers to critical infrastructure, the Government has so far only identified nuclear energy as falling within this category.

Subsequent correspondence by the Secretary of State that an extension of the Government's power of intervention (pursuant to the Enterprise Act 2002) is envisioned. Foreign investors will no longer be able to divest of any significant interest in a new nuclear power project pre-completion without the Government's consent. The Government also intends to hold a "special share" in every newly-built nuclear projects, and introduce new conditions which effectively prohibit the sale of interest without obtaining consent.

The reform also entails the introduction of a new security requirement which appears to be exclusively concerned with national security and not wider public policy considerations. Although no further details have been published so far, it is worth noting that the new requirement relates to ownership and control. The essential question will therefore be what level of control will constitute the relevant threshold.

Massman: Unfortunately, FDI in the sector is not yet sufficient due to electricity pricing and the content of the final power purchase agreement. Negotiation of the power purchase agreements (PPA) with the EVN, the sole buyer of power is time-consuming, which leads to an increase in total project costs. These issues lead to restraining investments and delayed development of the clean energy industry in Vietnam. Further, there are continuing concerns about lack of transparency in solar power prices and a published roadmap for the retail sector. This leads to foreign investors' concern about stability of power prices.

Furthermore, investors face obstacles such as lack of qualified human resources and underdeveloped supporting industries. In order to improve, EVN has been conducting various training programs for technical experts in the last few years, especially for power plants and similar trainings should be introduced for the renewable energy sub-sectors as well, in order to meet up with new requirements.

Jemide: From a legal perspective, there are no barriers or restrictions to foreign investment into Nigeria. Nigerian laws encourage foreign investment into Nigeria. The Nigerian Investment Promotion Commission Act 2004 established the Nigerian Investment Promotion Commission to facilitate foreign investment into Nigeria and ensure that foreign investors are not restricted in their ability to repatriate funds invested in the country. Also, the Foreign Exchange (Monitoring and Miscellaneous Provisions) Act guarantees unconditional transferability and repatriation of any foreign capital invested in Nigeria.

However, investment into the sector has been discouraged by certain sector related issues and macro-economic conditions. Some sector specific issues in respect of the Power Sector include: (a) illiquidity of the Power sector value chain due to a variety of issues; (b) non-cost reflective tariffs; (c) inadequate gas supply; (d) transmission constraints for on-grid power generators. Some sector specific issues in respect of the Oil and Gas sector include (a) regulatory uncertainty due to the number of bills awaiting enactment; (b) pipeline vandalism and insecurity in the Niger Delta area; and (c) non-commerciality of supply of gas to the domestic market.

Another non-sector specific issue which has discouraged foreign investment was the inability of investors to repatriate funds due to shortage of foreign exchange in 2016 and the early months of 2017. Although this situation has improved significantly following CBN's intervention issue in mid-2017, investors are still wary and are taking a cautious approach to investing in Nigeria.

Sirleshtov: The short answer to this question is: No. We have huge investments in the Bulgarian energy and natural resources market from all over the world. In accordance with World Bank Studies, there are quite some indirect barriers to investment, especially in the field of public procurement where there is a certain level of lack of transparency.

In recent years we have seen various international sanctions, which are imposing limitations to the business in Bulgaria – against Russia, etc. The Bulgarian Parliament passed certain pieces of legislation targeting the offshore companies operating in the fields of mining, concessions and alike. This is an international practice and so the limitation of the offshore companies in these fields are providing certain barriers and restrictions to capital flowing from such structures.

McPherson: The Canadian Association of Petroleum Producers (CAPP) forecasts that overall Canadian oil production will grow to 5.1 million b/d in 2030, up from 3.85 million in 2016. This will be driven by a 53% increase in oil sands production of up to 3.7 million b/d in 2030 from 2.4 million in 2016.

What Canada's energy markets need for greater returns is additional capacity to transport oil to markets in North America and globally. This means that more pipelines need to be built. There continues to be developments on this front. On 18 January 2018, TransCanada Corporation confirmed commercial support for its Keystone XL crude oil pipeline. The $8 billion project would begin in Hardisty, Alberta and extend south to Steele City, Nebraska. This builds on the 20 November 2017 decision by the Nebraska Public Service Commission to approve the Keystone XL route through the state.

Also on 18 January, a decision by Canada's National Energy Board set down a generic process to hear any future motions as they relate to provincial and municipal permitting issues for Kinder Morgan's Trans Mountain Expansion Project. The $7.4 billion project will twin the 1,150-km route of the existing Trans Mountain Pipeline, which is the only west coast link for western Canadian oil. Pipeline capacity will increase from 300,000 to 890,000 barrels of oil per day.The Government of Canada granted approval for the project in November 2016.

Enbridge Inc.'s Line 3 Replacement Program will provide more capacity to support Canadian crude oil production growth, and U.S. and Canadian refinery demand. The project has a C$5.3-billion Canadian component and a US$2.9-billion American component. The Line 3 Replacement Program will fully replace 1,660-km of Line 3 with new pipeline and associated facilities between Hardisty, Alberta and Superior, Wisconsin. The completion of these projects is important in providing the additional transportation capacity that oil producers in Canada need.

4. With the Portuguese Government establishing that solar power is the next step towards diversification, how do you think this could affect the fulfilment of the EU set 20-20-20 goals?

Goldberg: As the EU is set to adopt the more ambitious target of 35% green energy for 2030 – as well as new principles on future financial support to renewable energy sources – governments will start to look more closely as to how they can achieve these targets. Therefore, targeted programmes for particular technologies which are particularly promising given the geographical and topographical situation of a specific country (such as, for instance, the technology specific target corridors in Germany) may well become more popular and, in this context, the Portuguese focus on solar.

5. How important is international collaboration in accelerating the development and global deployment of sustainable energy technologies?

Kubler: International collaboration is essential and absolutely required in order to come to a sustainable energy system. Even the traditional fossil-fuels-based energy system in Germany and many other European countries was and is depending on international collaboration, namely in the form of energy imports. The dependency on international trade will not go away in a sustainable energy system.

At present, Germany produces approx. 150 bn. kWh of renewable energy per year, which falls short of covering total final energy consumption in Germany of roughly 2,500 bn. kWh per year. Even if we exploit all potentials of renewable energy production and energy efficiency, we will most likely not be able to scale up production to the required volumes. That means Germany will almost certainly remain a net importer of substantial amounts of energy. In the long run, imported energy will have to be non-fossil and renewable, be it in the form of electricity, hydrogen or CO2-neutral hydrocarbons (gases and liquids) produced from renewable sources and recycled carbon.

International trade in electricity and other energies must continue – that becomes clear already from looking at the volumes side (i.e. annual consumption). In addition, international trade in electricity helps provide the required flexibilities. Balancing out aggregate demand and aggregate supply is much easier to do for large geographical areas than small areas, e.g. because in large areas fluctuations in renewable power production even up to some extent.

Massman: It is crucial. Innovation will be the key driver in the transition to a low-carbon economy. Technological change and development will significantly enhance the portfolio of options available and, over time, will bring down the cost of achieving global climate change goals. Governments have an important role in this context. They can help by creating an attractive environment for research, development and demonstration and safeguarding the drivers of innovation. Well-designed targeted technology policies on both the supply and demand sides are a fundamental ingredient in a strategy to accelerate innovation. While the specific combination of policy measures will depend on country circumstances, in all cases it will be important to set the appropriate framework to allow breakthroughs to happen.

Vietnam is one of several countries most vulnerable to climate change and the negative impacts of unsustainable exploitation of water resources of the Mekong River. Therefore, Vietnam continues to integrate climate change readiness into its development planning, and is fully committed to reducing greenhouse gas emissions by 8% by 2030, and even upwards of 25% if the country receives necessary support from the international community.

Jemide: For a developing economy such as Nigeria, international collaboration is essential to access sustainable energy technologies and improve the efficiency of the power sector. Strategic partnerships with developed countries would no doubt improve the deployment of new power utilities equipment for enhancing access to power. The Nigerian government in its drive to improve the available capacity of the country has released policy documents towards achieving power generation through renewable technologies. Although there is an abundance of renewable sources (such as solar and wind), Nigeria lacks the required infrastructure to harness its renewable energy sources. Therefore, collaboration with Development Finance Institutions ("DFIs") and other international development organisations will be required. An example of such collaboration expected to yield results in the near future is the collaboration between the

Deutsche Gesellschaft Fur Internationale Zusammenarbeit (GIZ) GmbH, a German DFI and certain Nigerian state governments under the Nigeria Energy Support Programme in 2017 which facilitated the deployment of renewable energy technologies for rural electrification geared towards the utilisation of efficient renewable technologies in those states.

Another benefit of international collaboration is the improvement of access to financing for the procurement of such efficient technologies. For example, the World Bank through the Power Sector Recovery Programme has expressed its willingness to support the Nigerian electricity market to the tune of US$2.5 billon. It is contemplated that part of these funds would be utilised for the acquisition of sustainable energy technologies to enhance Nigeria's generation output capacity.

Sirleshtov: The international collaboration is key for accelerating the development and global deployment of sustainable energy technologies. Between 2010-2012 alone, the price of PV project implementation in Bulgaria decreased at least twice. Battery for electricity storage is another field where we see a 12% average decrease of price and further innovation.

As an EU Member State, Bulgaria is embracing the policies of the Union and embraces the policies related to the deployment of sustainable energy technologies, sustainable energy efficiency, energy-from-waste, etc.

6. Are there any incentives for companies to become more sustainable?

Kubler: Of course all companies have to comply with environmental regulations, e.g. regarding pollutants in exhaust fumes. However, that is more a requirement than an incentive, although penalties for failure to comply could be seen as such.

For consumers of primary energy, there are additional incentives to become more sustainable. One example is an element in the price of energy that reflects the lack of sustainability and the resulting environmental damages. That is the idea behind the emissions trading system of the EU (ETS) – put a price on CO2, and consumers will find cost-effective ways to reduce emissions. In some EU countries, there is also a carbon tax. In Germany, however, there is only the ETS, and that system only applies to large energy consumers. Companies are only affected if they have large combustion units, i.e. mainly in power and heat production as well as in the industry segment. There are additional incentives which are not price-related. For example, there is a subsidy scheme in Germany for combined heat and power (CHP) plants. This incentivizes energy suppliers to produce heat and power in CHP plants which is more efficient and needs less primary energy than the separate production of heat and power. Also, gas-fired CHP plants are privileged under the CHP subsidy scheme compared to coal-fired CHP plants, because gas-fired plants produce less CO2 and pollutants and are therefore considered more sustainable.

Oil products and natural gas sold to small consumers are not included in the ETS. Incentives for energy suppliers to make their products more sustainable are either given by regulation – e.g. biofuel quotas for transport fuels – or by demand. Consumers are sometimes willing to pay a higher price for a more sustainable product. There are, for example, gas companies in Germany which focus on mixed products of natural gas and bio-methane.

Goldberg: There are a number of mechanisms which support renewable electricity generation in Great Britain. The main sources of support are Contracts for Difference for large scale low carbon generation and Feed-In Tariffs for small-scale generation, but other schemes exist as well:

- Contracts for Difference ("CfD") incentivise large scale low-carbon electricity generation (including clean and fossil fuel plants fitted with carbon capture and storage technologies). They provide increased certainty of revenue levels for generators which in trigger further investment. Eligible generators enter into long-term contracts under which they are paid, or pay, the difference between a market reference price and a fixed strike price. If the strike price exceeds the market reference, the counterparty pays the generator the difference; if the strike price falls below the reference, the generator pays back to the counterparty the difference between the two prices.

- Feed-in-tariffs is a financial incentives government scheme for small-scale electricity generation from renewables and low-carbon energy sources. It involves participating licensed electricity suppliers making payments on both the generation and export from eligible installations.

- The Renewable Heat Incentive ("RHI") is a government incentive which provides financial incentive encouraging the uptake of heat from renewable sources by, amongst other, businesses and the public sector. The policy covers England, Wales and Scotland; a similar scheme in Northern Ireland was closed in February 2016. The UK Government has confirmed that the budget for the scheme would

continue until 2020/21. Following consultation in 2016, the RHI is undergoing reform to ensure that it promotes the development of low-carbon heating technologies and is more cost effective.

- In recent years there have been a number of reforms within the renewable energy sector. For instance, the exemptions from the Climate Change Levy ("CCL") – a tax on UK non-domestic supplies of certain energy products – are no longer available. The Renewables Obligation, previously one of the main renewables support mechanisms, is also in the process of being replaced by Contracts for Difference and was closed to new applicants on 31 March 2017.

Massman: Due to a number of barriers renewable energy sector is facing, the Government has established a coordinated strategy in line with region-based planning and investment mechanism supporting energy development.

Import duties: exemption from import tax on machines, equipment, tools and materials imported for production activities.

Valued Added Tax (VAT): Vietnam has three VAT rates: 0%, 5% and 10%. However, renewable energy enterprises get an exemption for the purchase of investment equipment to develop their projects.

Corporate Income Tax (CIT): Standard corporate income tax for enterprises is 20%. Enterprises in oil and gas industry have to pay tax ranging from 32% to 50% depending on geographic location.

Soft loans: Investors are provided with preferential loans of up to 80% of the investment cost of projects.

Avoided cost tariff: Avoided cost tariffs are applied in formulating the purchasing price of electricity generated by small renewable energy power projects with an installed production capacity of 30 MW or less, such as small hydropower plants. Avoided cost tariffs reflect the cost of producing electricity from thermal power plants, investment costs to extend transmission lines out to areas with hydropower plants, the cost of power generation from thermal power plants, and the environmental costs incurred by fossil fuel-based electricity production. Avoided cost tariffs help small renewable energy power projects sell electricity at a price that is equivalent to other generation sources.

Jemide: The Nigerian government has provided fiscal incentives to promote the development of renewable energy and energy efficiency measures. These incentives aimed at supporting companies are set out in a number of policies, most prominent among which is the National Renewable Energy and Energy Efficiency Policy (NREEEP) approved by the Federal Government in 2015. The following are some incentives provided under the NREEEP:

- Free Custom Duties for two years on the importation of equipment and materials used in renewable energy and energy efficiency projects;
- Allow project developers to obtain soft loans and special low interest loans from the Renewable Electricity Fund for renewable energy supply and energy efficiency projects;
- Tax incentives to manufacturers of renewable energy and energy efficient equipment in the form of a five-year tax holiday on dividend incomes from investments in domestic renewable energy source and for manufacturers from date of commencement of manufacturing; and
- Government assistance for allocation or grant of land to manufacturers of energy efficient products and renewable energy projects.

Further, NERC issued the Regulation on Feed in Tariffs ("REFIT") in December 2015, which provides eligible projects with a guaranteed offtake market, and offers a simplified licensing/permit process. The REFIT imposes an obligation on the Discos and NBET to purchase 1,000MW each on a "must buy" basis, of the target generation output cap of 2000MW forecasted to be achieved by 2020. By virtue of the foregoing, developers are able to enjoy priority grid access for clean energy for eligible projects.

Sirleshtov: Unfortunately we see very little incentives for companies to become more sustainable in Bulgaria. Furthermore, certain regulatory changes introduced in recent years effectively retroactively penalized the renewable energy producers who were innovative and creative.

At the same time, Bulgaria (through EU funds and its own incentives) provides for certain energy efficiency support measures. Furthermore, the Bulgarian Government allocated over €1 billion for energy efficiency of buildings in an attempt to focus on further sustainable development.

> *"In Canada, the low-carbon economy is here to stay. The federal and most provincial governments are implementing policies to reduce carbon emissions."*
>
> *- Duncan McPherson*

McPherson: Yes. In Canada, the low-carbon economy is here to stay. The federal and most provincial governments are implementing policies to reduce carbon emissions.

The federal plan is the Pan-Canadian Framework on Clean Growth and Climate Change. It includes a national approach to carbon pricing and requires Canada's provinces and territories to create plans as well—or be subject to new federal rules. In Alberta, the province's Climate Leadership Plan includes carbon pricing, capping oil sands emissions to 100 megatonnes per year and developing more renewable energy.

With new laws restricting carbon emissions coming into force across the country, energy companies need to adapt to this structural change. This includes producing oil with lower-carbon emissions per barrel. Innovations also include creating technologies for converting CO2 emissions into valuable products. Canada's Oil Sands Innovation Alliance is a consortium of oil sands producers and is leading the way in GHG conversion.

7. In regards to renewable energy, how beneficial are non-governmental aggregation agreements?

Goldberg: Aggregation has started to emerge as a serious player in the renewable sector in a number of jurisdictions. However, it tends to mean slightly different things to different people depending on the jurisdiction.

In the US, it tends to describe a growing movement of mainly municipalities such as for instance Chicago and San Francisco buying bulk electricity for the benefit of their residents in order to assist with lowering energy costs. In such a model, the relevant municipality will conclude a long-term power purchase agreement with an electricity supplier, taking advantage of the fact that in negotiating a price for all of its inhabitants in a single contract it will have better bargaining power. Such aggregation can of course be applied to conventional as well as renewable generators; most such contracts are in relation to renewable plants. Elsewhere in the United States, Boston-based organisation "A Better City" enabled buyers to aggregate their demand and negotiated as a group to get a better price based on the number of participants. Each buyer-participant then entered into their own power purchase agreement for a share of the renewable output from a particular renewable energy project. Reportedly, this aggregation project attracted as diverse buyers as MIT (44 MW) and the Boston Medical Center (15.6 MW).

An example from India in 2014 shows how the World Resources Institute helped launch, in 2014, an aggregation project for rooftop solar demand for six parties: Coca Cola; Infosys; IBM; Cognizant; Philips; and Bangalore International Exhibition Center. This type of purchaser aggregation model serves for a wide range of organisations who would like to participate in the growing renewables market but may not wish to invest directly in RES projects or who do not have sufficient demand for electricity to justify entering into PPAs with generators by themselves.

This model requires the purchase aggregators to agree on a number of core terms such as price, and contract term and as such the relevant PPAs tend to be relatively complex to negotiate. However, they are nevertheless beneficial for both the generator as well as the offtakers. In an increasingly zero-subsidy world, such contracts provide generators with long-term price and offtake security whereas the offtakers obtain lower power prices as well as certainty as to the renewable origins of their supply.

Another aggregation model is currently being applied in Germany, where an electricity supply company operates entirely on the basis of aggregating smaller renewable power projects. Based on the concept of "swarm intelligence" or "swarm energy", Lichtblick provides an IT platform through which it aggregates smaller renewable sources to a virtual power plant. The same company also offers an aggregation project for about 3,000 renters in 50 buildings in an area of Berlin Hellersdorf. The participating buildings are equipped with solar rooftop installations which generate electricity which is then sold to the renters at a cheaper tariff than the conventional market price.

Overall, intelligent and innovative aggregation solutions are likely to play an increasing role as the electricity market evolves to include new types of market participants such as 'prosumers' and as new technologies (e.g. electric cars which both use electricity and are able to serve as storage facilities for the grid) enter the market more widely.

McPherson: Renewable energy is clearly a growth area in Canada. Investments are increasing and this trend will continue. The market for renewables is still evolving, but the demands of lower carbon emissions and government policy priorities means the share of clean energy in Canada will grow.

This will be accelerated by the continued drop in the costs of renewable energy technology, such as solar and wind. The price of generating energy from utility-scale solar photovoltaic technology, for instance, went down 11% from 2015-16.

8. What markets currently provide the best opportunities?

Vilhena: The offshore oil & gas market will keep providing relevant opportunities, as the National Petroleum Agency has schedule a number of rounds of bids over the next years.

In the power sector, the announcement of the privatisation of Eletrobras (the country's state owned power generation and distribution giant) is likely to attract a large number of investors.

As to the mining sector, zinc and copper have attracted interest, so has gold, potash and niobium.

Goldberg: There are exciting projects in a number of fields and the renewables secondary market is very active at the moment in nearly all European jurisdictions. This is particularly the case in GB, Ireland and France.

In parallel to this, the GB power market is experiencing rapid changes at the moment; the growth of decentralised energy, an increasingly diverse generation make-up, narrowing and lowering subsidies and greater energy demands do not only pose technological, financial and regulatory system challenges, but also create new opportunities at the same time. Energy storage constitutes one field that should see increased activity and attention in the future, both in relation to electricity and gas storage.

Some potential opportunities are, however, intrinsically linked to the progress and success of the on-going Brexit negotiations and the ultimate departure deal that the UK Government is able to strike with Brussels. Until more clarity on the terms of this agreement becomes available, uncertainty will remain a continuing feature of the UK energy market.

Massman: Vietnam and Myanmar are both emerging markets that offer lots of opportunities. While Vietnam is a country with huge economic growth since the 2000s and has a decent standard of legal certainty, Myanmar has just opened up for the international markets to invest. The Government is eager to change the jurisdiction in favour of more international investment. However, the county still possesses out-dated laws and regulations.

<u>Vietnam</u>

In 2030, the population of Vietnam will reach 105 million (an increase of 12.6% from 2015). Amidst strengthening recovery in the global economy since late 2016, Vietnam's gross domestic product (GDP) expanded by 6.8% in 2017, while inflation has so far moderated and core inflation remains low, at less than 2%.

Therefore, the infrastructure of Vietnam needs to continue to expand with the pursuit of rapid economic development, especially in telecommunications, information technology, oil and gas exploration, power generation and renewable energies, transportation, technology, aviation and education. These sectors will offer the most promising opportunities for international companies over the next few years. Healthcare will also be a growing sector as the Government expands programs and an increasingly wealthy population spends more on medical treatment.

<u>Myanmar</u>

As one of the least developed countries in Asia, Myanmar has market opportunities in nearly every sector, including infrastructure, transportation, telecommunications, tourism, hotels, agriculture, energy, healthcare, professional services and franchising. International firms specialising in

construction equipment, resource extraction, refining facilities, power generation, renewable energy, processed foods, auto parts, chemicals computers, textiles, fertiliser, animal feed and medical equipment will find opportunities in Myanmar.

Jemide: Nigeria's power market offers broad investment opportunities in the on-grid and off grid space. In 2017, NERC introduced the eligibility regime in the sector through the issuance of the Eligible Customer Regulation which is expected to promote healthy competition among existing power generators and investors looking to invest in large scale electric power generation.

However, due to the subsisting challenges with on-grid power, off-grid solutions have attracted more investment in recent times, some of such solutions include:

Mini Grids: This option has the potential to liberate Nigeria's power sector, and is expected to improve access to power in rural and urban areas. Up to $100 million of World Bank funds have been earmarked for the development of mini grids. The Mini Grid Regulation has ushered in a new wave of opportunities as it seeks to bridge the power supply gaps in underserved and unserved areas. The Rural Electrification Agency estimates that Nigeria's mini grid space could potentially attract investment opportunities of up to $9.2 billion.[1]

Off Grid Renewable Solutions: With the challenges plaguing grid generation, there is a market for innovative renewable solutions which provide a viable alternative to grid power. Off grid renewable solutions can be adopted to provide electric power to commercial and industrial clusters, and agricultural settlements.

Standalone Solutions: Standalone Solutions are also providing a viable option for meeting small scale electricity needs. The MTN Lumos has raised over $100 million in foreign investment, making it one of the largest investments in Nigeria's off-grid industry. The standalone solutions are useful in sub-urban and rural areas lacking access to grid power.

In the Oil and Gas sector, gas monetisation presents the best opportunity for investment and growth domestically and internationally. From a global perspective, the largest contribution to future energy demand is projected to come from natural gas with its share in global energy mix expected to increase by a significant 3.6 percentage points between now and 2040. The following presents opportunity for gas monetisation:

Liquified Natural Gas ("LNG"): Though Nigeria's LNG is focused towards exports, LNG can also be supplied to the domestic market, as it can be transported through alternative means including Trucks by road or vessels by inland waters. With the problem of pipeline vandalism, LNG provides a suitable and cheaper alternative means of transporting gas in large volumes. Global predictions show that LNG imports will supply significant portion of global gas demand. For instance, it is estimated that LNG will supply 50% of China's natural gas imports, and two-third of Europe's 80% gas consumption by 2035.

Gas to Power: The power sector provides the best opportunity for the utilisation of gas in Nigeria. Gas is the major feedstock for power generation in Nigeria as more than 85% Nigeria's installed capacity is generated by thermal plants. However, one of the major issues which has affected the operations of the power sector is inadequate gas supply, collection losses by Distribution Companies, insufficiency of electricity tariff etc. As a result of the on-grid power issues, many end users have turned to off-grid power options, most of which are still thermal focused. Thus, there is a demand for gas to power for residential and industrial clusters willing to go off grid.

Liquified Petroleum Gas ("LPG"): Currently, LPG only accounts for approximately 5% of household energy mix in Nigeria and is the least utilised of the four major cooking fuels in Nigeria. About 30 million households in Nigeria still depend on firewood as an energy source. The hazardous and environmental issues which arise from the use of firewood present a viable business case for the penetration of LPG in the Nigerian market. The government has also set out its policy for the LPG industry in the National Gas Policy.

Sirleshtov: The energy-from-waste sector is providing good opportunities in Bulgaria at present. Energy efficiency is also an interesting field where we see a lot of focus from Government and businesses alike.

We hope that given the newly adopted targets for renewable energy investment, we will see further focus on renewables – mainly biomass and wind energy.

Oil & gas is a sector, which has been traditionally very slow and unpopular in Bulgaria, but over the last five to six years the situation changed quite rapidly. We are expecting new entrants in this field.

The gas interconnectors are definitely on the Governmental agenda with both international pipelines and local interconnectors with Greece, Serbia, Turkey and Romania being the focus at the moment.

9. Following the commodities crash we have seen a large number of mining companies declare bankruptcy. Can you outline the different bankruptcy and restructuring options that currently exist for struggling companies within the sector?

Vilhena: Brazil has out-of-court and in-court judicial recovery systems, which are similar to the US's and Canada's, apart from a bankruptcy process, which again is not much different from that of many other countries. Recent examples of large and medium size natural resources companies being able to successfully come out from insolvency procedures shows that the Brazilian system can work well in this regard.

Goldberg: There is no special bankruptcy and restructuring regime for the energy sector in the UK and the general laws of bankruptcy and insolvency would apply.

1 https://www.vanguardngr.com/2017/12/nigerias-annual-mini-grid-electricity-investment-opportunities-reach-9-2bn-rea/

10. How can the industry attract capital given the current stressed financial climate?

Kubler: An industry can attract capital in Germany if it contributes to solving the problems arising in the context of energy transition from fossil to renewable energies. One example for an industry that attracts capital in Germany despite overall stressed financial climate is the sector of grid operators, in particular power transmission grids. This industry has to handle increasing renewable power volumes mainly produced by wind farms located in the North of Germany. These volumes have to be transmitted to the main consumption centres in Germany, making substantial grid extension necessary. Cumulated investments in the power transmission grid (i.e. not including the distribution grid) between 2008 and 2016 were around €40 bn. A further €50 bn is expected by 2030. What makes these investments attractive – aside from the fact that additional capacities are required in the future – is the relatively low risk. This is because the operation of power (and gas) grids falls into the category of state-regulated business, i.e. revenues are regulated such that a certain return on equity can be achieved. Foreign investors, amongst others large infrastructure funds, have already acquired shares in transmission system operators or power and gas grids.

Another example of an industry that attracts capital, even though on a much smaller scale, is the energy storage industry. New business models have emerged around appliances, such as large batteries to stabilise the power grid or small batteries for private households, financed by specialised investment funds and venture capitalists but also by large investors. Future potential of investments is likely also in the field of Power-to-X technologies as they have the potential to significantly contribute to the reduction of greenhouse gas emissions.

Jemide: In respect of the power sector, it is estimated that up to $20 billion in funding will be required to reinvigorate the sector by 2024.[1] Attracting such investment will be dependent on the provision of key indicators that collectively create a favourable investment climate. Some of which include:

Boosting Power Sector Liquidity: Through the implementation of the policy interventions proposed in the Power Sector Recovery Program aimed at managing the market deficits, shortfalls and forex issues, and possibly the recapitalisation of NBET to improve its creditworthiness.

Cost Reflective Tariff: It is important to ensure that the applicable tariff regime is reflective to attract investment. In order to ensure cost reflectivity, it is important to put measures in place to allow for tariff adjustments to reflect changing economic realities that affect the profitability of the sector.

Reformation of the Legal and Regulatory Framework: In order to encourage investment in the sector, it is important that the government address the gaps in the current framework which may be achieved by revising the EPSRA to ensure clarity as to regulatory structure.

Ramping Up Transmission Infrastructure Development: It is important to ramp up the development and rehabilitation of transmission infrastructure in order to attract investment for development of power projects.

In respect of the oil and gas sector, resolution of the following issues could potentially attract investment in the sector particularly for gas projects:

Regulatory Certainty: this can be achieved by passage into law of all pending petroleum industry related bills such as the Petroleum Industry Governance Bill and the Fiscal Bill. Also, the implementation of key government policies such as the National Petroleum Policy and National Gas Policy.

Resolution of the Security Issues in the Niger Delta and Pipeline Vandalism: which has discouraged investment in critical infrastructure such as gas pipelines, gas production facilities etc.

Liquidity of the Power Sector: The power sector being the single largest offtaker of gas presents the best opportunity for monetisation of gas. Resolving the power sector liquidity problems will encourage investment in critical gas infrastructure as the Power Sector presents a ready market for increased utilisation of gas.

Gas Pricing: It is important that the government takes steps to address the gas pricing mechanism in Nigeria as the insufficiency of the pricing in the gas market compared to the cost of commercialising the gas would always make flaring an option.

Sirleshtov: Over the last 12 months, CMS in Bulgaria managed to close the two largest renewable energy refinancing projects on our market. The considerable sustainability of the renewable energy market since 2015 provided us with certain opportunities for refinancing from the likes of Unicredit, SG, IFC, EBRD.

There is certain availability of EU funds for the Bulgarian energy sector, which will be utilised in the coming years. We also see a growing interest from banks in Asia – China Development Bank, Korea Development Bank, JBIC and alike – to the Bulgarian energy sector.

1 https://www.thisdaylive.com/index.php/2017/09/20/filling-nigerias-infrastructure-gap/

11. Can you outline the current merger & acquisition landscape?

Kubler: Mergers and acquisitions in the German energy business are flourishing, for a number of reasons.

The formerly giant midstream companies like E.ON and RWE – but also companies like Ørsted (formerly known as Dong Energy) from Denmark – have reinvented themselves with regard to their core business and company structure. These companies separated their traditional business from renewable energy and customer services. Parts of the separated business are sold either by IPOs or bilateral deals. In the latter case this is at times followed by a further break-up given that the canvasser may only be interested in parts of the acquired company.

In addition, the energy market is increasingly entered by pension funds or other financial investors, which are looking for investment targets in business areas promising stable long-term profits, such as grids.

Last but not least the general trend towards digitalisation adds some interesting acquisitions as incumbents need to speed-up and buy digital knowledge and experience.

Goldberg: There is no special merger & acquisition regime for companies active in the UK energy market; instead, they are subject to the general merger control regime.

Merger review in the UK is primarily conducted by the Competition and Market Authority ("CMA"), though the Secretary of State may intervene in exceptional cases if the transaction raises, amongst others, national security concerns.

There is no obligation to notify the CMA of a proposed merger, although in practice a large number of transactions are notified in the interest of legal certainty. The fact that a notification has not taken place does not preclude the CMA from reviewing the merger.

The CMA's jurisdiction to review a transaction (including mergers, acquisitions and joint ventures) is triggered where: Two or more undertakings cease to be distinct; and either (a) the UK turnover of the target company exceeds £70m; or (b) as a result of the transaction, the newly merged undertaking will supply or acquire 25% or more of goods and services of a particular description in the UK as a whole (or a substantial part of it).

Where the CMA decides to commence the review procedure, it has 40 working days to reach a Phase 1 decision and decide whether or not to refer the proposed transaction to a more thorough Phase 2 investigation. Phase 2 type reviews are generally only started if the CMA believes that the transaction has resulted in a significant lessening of competition in the market or may be expected to do so. If a Phase 2 reference is made, the CMA has a maximum of 24 weeks to complete its investigation and render a decision.

In 2016, the CMA conducted an investigation of the UK energy market, but did not suggest that any changes to the current merger regime would be needed as a consequence.

Massman: FDI capital has been rising since the last few years. In the first six months of 2017, the total FDI capital to Vietnam is US$19.2 billion, an increase of 54.8% compared to the same period last year. Vietnam's M&A market continues to be active in 2017 after reaching a record-breaking deal value of US$5.8 billion in 2016. The number of M&A deals amounts to 2,062 deals worth US$1.8 billion from January to May 2017, up 116.2% year-on-year.

The market in 2017 sees several M&A deals in state-owned enterprises where the privatisation is pushed hard by the Government. Vietnam Beverage – a company of a Thai billionaire managing ThaiBev – bought more than 53% shares in Sabeco – a company owned by the Ministry of Industry and Trade at US$5 billion. This is the most notable and successful privatisation deal this year.

Also in December 2017, Shinhan Bank Vietnam Ltd. ("Shinhan Bank Vietnam") acquired ANZ Bank (Vietnam) Limited ("ANZ Vietnam")'s retail business. This successful transaction has been considered as a big step for Shinhan Bank Vietnam's development in Vietnam market, as well as a rapid growth for Vietnam retail banking.

Sirleshtov: The M&A market in the field of renewables in Bulgaria is slightly recovering. We are currently advising five ongoing deals and we hope to be able to close these in the coming months.

The largest deal on the market represents the disposal of CEZ interests in Bulgaria – the sale of the largest distribution network, the second largest thermal power plant, etc. The deal is almost completed at this point, primarily attracting Bulgarian-based companies.

McPherson: 2017 witnessed a dramatic spike in oil and gas M&A transactions by value, with over $41.3 billion dollars in transactions being executed over the course of the year. Most of this activity was driven by large multinational upstream producers exiting the Canadian market and deploying their capital elsewhere. We have seen this cycle before during other periods of sustained low commodity prices (such as the late 1990s). As with that occasion, we actually see this as a potential opportunity for Canadian producers who know the Canadian operating environment to purchase high value assets. A new wave of domestically driven growth is expected to continue in 2018.

This new wave will be driven by the emergence of attractive new plays such as the Duvernay East Shale Basin and Alberta Montney—and the corollary deployment of innovative new drilling and completion techniques which have rendered wells in these areas as productive and cost effective as comparable U.S. shale plays.

In 2018, the inventory of asset disposition packages in these and other areas is expected to be meaningful as producers continue to high grade their portfolios through non-core asset divestitures and consolidation within the industry continues.

Buyers will be looking for substantial, contiguous land positions in the most prospective parts of these plays that reflect strategic opportunities for accretive growth either through incremental acquisitions or participation in crown lease sales.

We expect to see creativity in transaction structures, such as:

- Non-traditional buyers entering the market
- Use of equity of buyer as consideration for assets
- Use of deferred payments for assets, giving seller some upside if commodity prices improve in the near term
- Transactions driven by "liability management concerns"—the emergence of a strong Licensee Liability Rating as an attractive acquisition attribute—enables buyers to enhance their own liability management strategy while at the same time upgrade their asset inventory
- Synthetic or "manufactured" royalty transactions—alternative source of capital, effectively realising income on an asset immediately

All in all, there are many reasons to anticipate continued activity on the oil and gas M&A front in 2018.

12. In an ideal world what would you like to see implemented or changed?

Kubler: Less and better regulation would be a great start. At the EU-level, we have the Emissions Trading System (EU-ETS) as a major means of climate policy. Although it does not cover all emissions, it could potentially be a substantial contribution to achieving the emissions target and at the same time provide a stable regulatory environment for energy investments.

Unfortunately, the ETS has become rather ineffective in the last years, and emissions allowances were available at dumping prices (below 10 Euros per tonne of CO2 equivalent). The problem is not that the ETS was badly conceived, but that at the national level policymakers have in parallel introduced many more instruments in areas already taken care of by the ETS. Instruments like subsidies, tax rebates, quotas, bans and so forth are often implemented at the micro-level, aiming at specific segments or technologies. After a short time, the instruments turn out to be either ineffective or too costly and have to be reworked. The result is that policymakers get to choose which investments are rewarded and by how much.

Thus, there is also a regulatory risk, which is why the policymakers' micro-management dis-incentivizes investments. For the climate there is absolutely no gain, because emissions under the ETS are just shifted to somewhere else. In an ideal world, policymakers would give up micro-management, abolish the mess of additional instruments and let the ETS do its job. Emissions would be avoided in the ways and by the technologies which are the most cost-effective, and the consumers would end up paying less in taxes and energy bills.

Vilhena: In an ideal world, my wish list would include prevalence of the rule of law; elimination (or at least severe reduction) of corruption; improved and enforced accountability of politicians, government officials and executive of corporations; stable and efficient application of the law; full security of tenure; less government intervention in business; reasonable government takes; responsible and efficient use of tax revenues; serious environmental and community concerns.

Goldberg: The energy sector seems to be a sector which subsequent governments have liked to dabble which has led to frequent interventions in the regulatory regime.

Ideally, I would like to see a regulatory regime supportive of renewable energy and new technological challenges such as flexibility and storage services, prosumers and private wire projects which provides legal certainty for investors and consumers alike. This regime would be easy to access and not be overly bureaucratic and have a guaranteed duration commensurate with the investment cycles for renewable projects in order to insulate new projects from regulatory and legislative changes. However, given that such a regime would need to take account of future technological changes and meet bankability requirements, this is likely to be quite difficult to achieve.

Sirleshtov: This one is easy – we need the authorities to read and implement their own policies and documents, and to apply the legislation accordingly.

McPherson: What would be best for business in Canada and globally is a world where free trade thrives. Rising protectionism is a serious challenge to this. We are experiencing this now in Canada as negotiations continue regarding the North American Free Trade Agreement (NAFTA) between Canada, the U.S. and Mexico. Energy trade has been highly successful between the three countries under the 1993 Agreement.

Canadian governments and industries are working hard to see NAFTA successfully renegotiated. Energy leaders in the U.S. are doing this too. For example, in his 2018 speech on the state of American energy on 9 January, the American Petroleum Institute's (API) president and CEO Jack Gerard spoke about how North America provides a tremendous example of integrated and interdependent energy markets that benefit all three trading partners. Gerard said that, "NAFTA has been critical to that success. NAFTA makes energy more affordable and improves opportunities for U.S. companies in Canada and Mexico." Gerard also urged the U.S. administration to revise NAFTA in ways that maintain these benefits.