



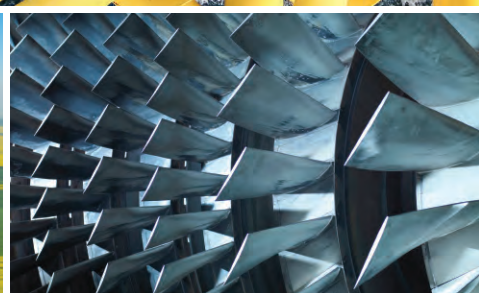
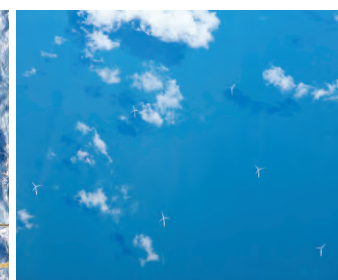
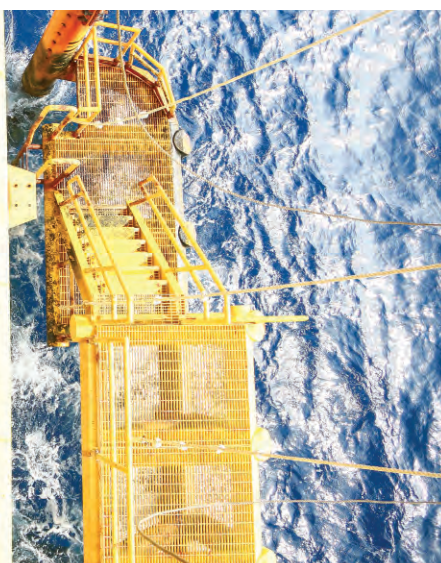
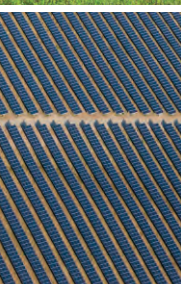
HERBERT
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EUROPEAN ENERGY HANDBOOK

A SURVEY OF THE LEGAL
FRAMEWORK AND CURRENT
ISSUES IN THE EUROPEAN
ENERGY SECTOR

LEGAL GUIDE
TENTH EDITION

2017



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Third Energy Package

Throughout this publication, we refer to the two Directives and three Regulations adopted by the European Council and the Parliament on 13 July 2009 as the “Third Energy Package”. For ease of reference, the Directives and Regulations adopted as part of the Third Energy Package: EU Directives 2009/72/EC, 2009/73/EC and Regulations (EC) No 713/2009, No 714/2009 and No 715/2009 are referred to as the “Third Electricity Directive”, the “Third Gas Directive”, the “ACER Regulation”, the “Electricity Regulation” and the “Gas Regulation”, respectively. Where the context so requires, we refer collectively to the two Directives as the “Third Electricity and Gas Directives” and to the Regulations as the “Electricity and Gas Regulations”, as appropriate.

Climate Change Package

We refer to the four Directives, one Regulation and one Decision adopted by the European Parliament on 17 December 2008 and the European Council on 6 April 2009 as the “Climate Change Package”. For ease of reference, throughout this publication, we refer to EU Directives 2009/29/EC, 2009/28/EC, 2009/31/EC and 2009/30/EC as the “New EU ETS Directive”, the “Renewable Energy Directive”, the “CCS Directive” and the “Biofuel Directive” respectively. Further, we refer to EU Decision No 406/2009/EC and Regulation (EC) No 443/2009 as the “GHG Reduction Decision” and the “Emissions Standards Regulation”, respectively.

Where required, we have referred to the previous internal energy market directives 1996/92/EC and 1998/30/EC as the “First Electricity Directive” and the “First Gas Directive”, respectively and to Directives 2003/54/EC and 2003/55/EC as the “Second Electricity Directive” and the “Second Gas Directive”, respectively.

Throughout the publication, we refer to Transmission System Operators as “TSO” and to Distribution System Operators as “DSO”.

We use the following abbreviations for the various unbundling models:

FOU: Full Ownership Unbundling

ITO: Independent Transport Operator

ISO: Independent System Operator

Legal advice

Please note that the content of this publication does not constitute legal advice and should not be relied on as such. Specific advice should be sought about your specific circumstances. The deadline for the submission of chapters was 31 March 2017.

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Foreword

Welcome to the 2017 edition of European Energy Handbook!

This year's edition provides a legal framework of the energy sector in each jurisdiction, covering the structure and design of the gas and electricity industries, the regulations governing them, as well as existing and planned projects such as cross-border interconnectors. Different types of generation and production such as renewable technology, nuclear energy, and upstream are examined, and legal and regulatory issues surrounding these are set out.

This edition also reports recent legal and commercial developments in each jurisdiction and covers issues as diverse as the design of electricity markets, the reform of the support schemes for renewable electricity, new cross-border interconnections, taxation issues for the upstream sector and significant commercial transactions and privatisations in the energy sector.

In addition to contributions for the European Union, Belgium, France, Germany, Spain, Russia and the United Kingdom from our own offices, this year we have contributions from Loloci & Associates (Albania) Schoenherr (Albania, Austria, Bulgaria, Croatia, the Czech Republic, Hungary, Montenegro, Romania, Serbia, the Slovak Republic and Slovenia), Peterka & Partners (Belarus), Dimitrijevic & Partners (Bosnia and Herzegovina), S.A. Evangelou & Co LLC (Cyprus), Kromann Reumert (Denmark), Ellex Raidla (Estonia), Roschier (Finland and Sweden), Kyriakides Georgopoulos Law Firm (Greece), BBA Legal (Iceland), Arthur Cox (Ireland), Meitar Liquornik Geva Leshem Tal Law Offices (Israel), Legance Avvocati Associati (Italy), COBALT (Latvia and Lithuania), Arendt & Medernach SA (Luxembourg), Karanović & Nikolić (the Former Yugoslav Republic of Macedonia), Refalo & Zammit Pace Advocates (Malta), Houthoff Buruma (the Netherlands), Arntzen de Besche Advokatfirma AS (Norway), WKB Wierciński, Kwieciński, Baehr (Poland), Campos Ferreira, Sá Carneiro & Associados (Portugal), Homburger (Switzerland), Kolcuoğlu Demirkan Koçaklı (Turkey), and Sayenko Kharenko (Ukraine).

Since the publication of our 2015 edition, a number of EU-wide changes have had a far-reaching impact on the European energy sectors and beyond. In the context of low oil and gas prices, the falling cost of renewable energy, and the emergence of new technologies such as electricity storage and blockchain, EU energy policy is being reimagined with an aim of achieving a functional Energy Union.

The Energy Union Package adopted by the European Commission in February 2015 placed a renewed focus on a low-carbon, secure and competitive Energy Union. More widely, the European energy market is moving towards full integration with co-ordinated capacity remuneration mechanisms, market coupling, and cross-border trade across Europe contributing to this aim.

Decarbonisation and further integration are also at the centre of the Clean Energy Package (the "CEP") released by the European Commission in November 2016. The CEP sets out climate change measures, building on previous initiatives and introducing new targets and measures. The focus of the policy it contains hinges on energy efficiency, fair deals for consumers, and the establishment of the EU's leading role in the field of renewable energy.

So far, 2017 has seen the political agreement of a new gas supply security regulation and the introduction of new rules in relation to intergovernmental agreements concluded by Member States in the gas sector. No doubt, further changes are afoot with the anticipated implementation of the CEP over the next couple of years.

Finally, the impact of "Brexit" on both the UK and EU energy sector is also likely a key element of uncertainty, change and interest for policy makers and sector market participants as the UK prepares to leave the EU in 2019, and negotiations regarding Britain's future relationship with the EU are taking shape.

Silke Goldberg

Partner, Herbert Smith Freehills LLP
September 2017



Introduction

Rt Hon Sir Edward Davey MP

Former Secretary of State for Energy and Climate Change

I am delighted to introduce the 2017 version of "The European Energy Handbook" which provides an in-depth survey of current issues in the energy sector in 42 European jurisdictions.

The publication of this handbook comes at a time when the low and zero carbon agenda is disrupting every energy market far faster than policymakers, investors and incumbents expected – and this is one of the key themes that emerges in many of the reviews included in this year's review. And the scale of this disruption is likely to accelerate over the next decade.

This stark view comes from observing how the transition away from fossil fuels is already working in its early stages – how European power prices have been depressed by the increase in renewable electricity, how the economics of transmission and distribution networks are transforming and then considering the early evidence of how other energy markets for transport and heating fuels could be similarly disrupted.

Until recently, the energy industry has widely had the expectation that we will need fossil fuels as part of our energy mix for several decades more. Analysis has focused on the high probability of rising global demand for energy and rising incomes levels, coupled with the challenges of technical innovation and deployment of low and zero carbon alternatives. With a strong conclusion that the demand for coal, oil and gas will remain strong for some time yet.

However, many industry players are now beginning to question whether this conclusion is misplaced in relation to certain fossil fuels, not because they will prove wrong, but because of the economic impact of the transition itself. The impact on market dynamics. On prices. And on policymakers' responses.

So we need much more focus on the economics and politics of the transition – not when the end game and final switchover might be.

Take the power sector – which is ahead of transport and heating markets on the path to decarbonisation. The speed of innovation, industrialisation – and so cost reduction – has surpassed almost all commentators' expectations. Many new wind and solar power plants no longer need subsidy, and the policy framework of auctions is driving remaining levels of subsidy out of the system, just as intended. Even without effective, meaningful carbon prices, renewables are increasingly winning the economic race.

But they are helped in this because of their cost structure and its impact on the workings of electricity markets: the marginal cost of solar and wind is close to zero, thanks to Mother

Nature, and so they always win the race to produce the power we need, whenever the sun shines and the wind blows. The so-called "merit order effect" is leaving fossil fuel power plants idle far longer than the original investors had expected. And given investors can see competition from low or zero cost clean power only getting fiercer in the future, why would they invest in new fossil plant?

This observation is hardly new. And it has led to policymakers responding with capacity markets and other interventions to stop existing fossil plants from closing, and even to incentivise new plant, to ensure the lights stay on during windless, winter nights.

What has not been well discussed, is the sustainability of such interventions and subsidies for gas and coal power. The justification of such subsidies today – that the sun doesn't always shine, and the wind doesn't always blow – is already being challenged faster than expected just 2 years ago. It is now a serious possibility that the justification will be overturned within the next decade. Not because Mother Nature changes, of course. But because of technology.

The astonishing innovation in the storage of electricity is the lead development. Coupled with the accelerating electrification of transport we will see in the 2020s, with charging vehicle batteries at night making low carbon power even more financially attractive and network management easier, economics will drive the disruption.

But then factor in smart technologies, demand-side technologies, energy efficiency, the development of lower cost cable technology to link up our grids across Europe, renewable power technologies that are more predictable, like tidal lagoons and tidal turbines, to name but a few. It is surely now possible to believe that Europe's power sector will have the ability to offer 24/7 security of electricity supply, 365 days a year, without fossil fuel plants – certainly in the 2030s.

Why would policymakers subsidise greenhouse gas emitting power plants, when the market is offering subsidy-free clean power?

And elsewhere in the power market – in transmission and distribution networks, the low carbon transition is increasingly disrupting cost structures and pricing. With distributed power stations producing electricity closer to the end user, the old centralised economics of power are being seriously challenged too.

Will such disruption flow into transport and heating energy markets in the next 10 years? Almost certainly. From the analysis of the Carbon Tracker Initiative, which suggests long term exploration for oil and gas only makes sense in ultra-low cost basins, to the advances in insulation technologies and non-methane heating gases, the future is upon us.

There are of course many unknowns on this low carbon transition. On electricity and heat, it is possible that the fossil fuel industry may embrace new technologies and invest in carbon, capture and storage technologies. On heat, we may get a cost breakthrough on hydrogen production that fundamentally changes the competitiveness of hydrogen versus methane gases. Solar and storage technologies may continue their revolutionary impacts across all energy forms even faster than expected today.

What we can say with certainty is this: this is an exciting time of change and challenge for the fossil fuel industry and the clean energy industry alike, and in a time of such significant change publications like this handbook have never been a more important tool for those looking to make long term investment decisions.



Edward Davey

Energy law in Turkey

Recent developments in the Turkish energy market

Okan Demirkan, partner, Gökçe İldiri and Cihan Mercan, associates, Kolcuoğlu Demirkan Koçaklı, Istanbul

In 2015 and 2016, liberalisation of the energy sector removed a key concern for the Turkish energy sector. Turkey had started a significant liberalisation process in the energy sector in 2001, with the electricity sector taking a leading role. With the liberalisation process, the Turkish energy sector has become more competitive, attracting more investors in all fields of energy. However, the targeted extent of liberalisation has not yet been achieved. This is largely the reason why Turkey enacted a new petroleum law, a new electricity market law and is about to introduce significant amendments to its natural gas market law, all shortly after the tenth year of the initial market laws of 2001 and 2003.

Turkey enacted the new Electricity Market Law (the "EML") and the new Turkish Petroleum Law (the "TPL") in 2013. In line with Turkey's substantial demand potential and its renewable energy targets, Turkey has also introduced the Regulation on Generating Electricity without a Licence; the Regulation on Documentation and Support of Renewable Energy; the Regulation on Technical Evaluation of Solar Energy Based Licence Applications; the Communiqué on Wind and Solar Measurements for Preliminary Licence Applications; the Contest Regulation on Pre-Licence Applications Regarding Generation Facility Based on Solar and Wind Energy; and the Regulation on Renewable Energy Resources For Electricity Generation.

Although Turkey had taken remarkable steps in liberalising its energy market, these steps were not sufficient to reduce foreign dependency. With this main focus, Turkey aims to stop being an energy importer and start exporting energy. Following the general elections held in November 2015, Mr. Berat Albayrak was appointed as the new Energy and Natural Resources Minister and he declared that in the long run, Turkey aims to (i) increase its general energy storage capacity; (ii) increase storage obligation rates on import from 10% to 20%; (iii) use different energy storage options; and (iv) support investments in the energy sector, with a particular focus on renewable energy. In the past decade, Turkey increased its installed capacity from 39,800MW to 74,000MW, while Turkey's energy consumption increased from 160 billion kWh to 264 billion kWh. As announced by Minister Albayrak, Turkey is further planning to make an investment of 15 quadrillion Turkish Liras to strengthen the infrastructure of its electricity supply system network in the coming years.

In order to achieve these targets, several significant developments affecting the Turkish energy market and its players occurred in late 2015 and 2016. As per the Energy Market Regulatory Authority's electricity sector report prepared for the year 2015, electricity generation has increased to 259.69 TWh with a growth rate of 3.07%.

Significant legislative developments

Recent changes in the Natural Gas Market Law

The principal piece of legislation governing the natural gas market is the Natural Gas Market Law (the "NGML"). The NGML was amended in June 2016. This change introduced a new competition-related restriction for distribution licence holders, whereby these licence holders can now have distribution licences in only two Turkish cities. In addition, the Energy Market Regulatory Authority ("EMRA") decided to set the storage requirement for import licence holders at 6% of the annual gas import amount. This percentage was 10% prior to November 2016.

Draft Nuclear Liability Law and Draft Nuclear Law

Turkey recently has taken important steps for the construction of two nuclear power plants in Akkuyu and Sinop. However, Turkey still needs to adopt the necessary legal framework, including an independent regulatory authority. To this end, the Ministry of Energy and Natural Resources (the "MENR") prepared two draft laws: the Draft Nuclear Energy Law and Draft Nuclear Liability Law.

The Draft Nuclear Energy Law provides for the establishment of a new regulatory body: the Nuclear Regulatory Authority ("NRA"). NRA will conduct licensing and oversight activities. It will not be attached to the MENR, making it an independent authority. This law will also set forth the activities which require a licence or a permit from NRA.

The second draft law, the Draft Nuclear Liability Law, will govern third party liability in the field of nuclear energy. The MENR stated that this draft was prepared in line with the 2004 Additional Protocol to the Convention on Third Party Liability in the Field of Nuclear Energy, and will extend the limitation period for actions regarding loss of life and personal injury to 30 years. This law will also require operators of nuclear power plants to have and maintain insurance to cover their liabilities.

Omnibus Law & Electricity Market Licence Regulation

The primary pieces of legislation governing the electricity market, the EML and the Electricity Market Licence Regulation (the "Licence Regulation"), came into force in 2013. Since their enactments, both legislations have been amended a number of times. More recently, in June 2016, the Turkish parliament passed the Law on Amendment of the Electricity Market Law and Certain Laws, an omnibus law amending numerous areas of Turkish law (the "Omnibus Law"). Among others, the Omnibus Law and recent changes in the Licence Regulation brought new additional share transfer restrictions within the preliminary

licence and generation licence terms, and changed the renewable energy support mechanism.

In 2013, EMRA introduced the Regulation on Generating Electricity without a Licence, which dictates that generation facilities with an installed capacity of up to 1MW based on renewable energy resources are exempt from the requirement to obtain a generation licence. Moreover, if a company generates more electricity than it consumes, the surplus may be sold in the same distribution region in which it is generated, within the scope of the renewable energy support mechanism. Recently, certain amendments to the Regulation on Generating Electricity without a Licence came into force on 23 March 2016 and 22 October 2016. According to these amendments, a maximum capacity of 1MW per transformer centre can be allocated to individuals or legal entities generating solar or wind energy (excluding rooftop installations), regardless of the number of consumption facilities owned by that individual or legal entity. When calculating the 1MW limit, both the individual or legal entity and entities in which such persons have direct or indirect control are considered as the same person.

Recent deals

Recent privatisations and privatisation news¹

After completing the privatisation of all state owned electricity distribution companies, previously owned by Türkiye Elektrik Dağıtım Anonim Şirketi in 2013, Turkey started to place more importance on the privatisation of state owned electricity generation assets. In late 2015 and 2016, several electricity generation assets owned by Elektrik Üretim Anonim Şirketi ("EÜAŞ") have gone into different stages of privatisation. Below is a summary of privatisations that have been completed as of 1 April 2017:

Power plant	Approximate bid value (US\$ million)
Orhaneli and Tunçbilek Thermal Power Plant ("TPP")	521
Soma B TPP	685.5
Karacaören 1 and 2 Hydroelectric Power Plants ("HPP")	177.6
Kadincık 1 and 2 HPPs	298.8
Doğankent, Kürtün and Torul HPPs	435.2
Manavgat HPP	131.2
Fethiye HPP	44.8
Hopa TPP	26.5
Şanlıurfa HPP	68.6

Below is a summary of privatisations that are still waiting for approval or the parties' signatures as of 1 April 2017:

Power plant
Tortum HPP
Adıgüzel and Kemer HPPs
Almus and Köklüce HPPs
Menzelet and Kılavuzlu HPPs
Anamur, Bozyazı, Mut-Derinçay, Silifke and Zeyne HPPs

In addition to the privatisation of electricity generation assets the Mayor of the Istanbul Metropolitan Municipality, Mr. Kadir Topbaş, has announced that an initial public offering may be initiated for İGDAŞ, Istanbul's natural gas distribution company. According to Mayor Topbaş's statement, İGDAŞ's shares will first be offered to the natural gas consumers in Istanbul. The public offering to be held for İGDAŞ's 51% shares was approved by the Istanbul Metropolitan Municipality Council in December 2015. The tender for the privatisation of İGDAŞ has not yet been announced. İGDAŞ is the greatest natural gas distribution company of Turkey, with approximately 6 million customers. 94.5% of İGDAŞ's total share capital is held by the Istanbul Metropolitan Municipality.

On 28 December 2016, the Privatisation Administration approved the privatisation of TP Petrol Dağıtım A.Ş., a petroleum distribution company, for an amount of TRY 490 million.

Private deals

As per PwC's Energy Deals 2015 Annual Review, 2015 was exceptional in terms of the breakdown of public and private deals. With the decrease in privatisation deals, the share of private deals increased from 18% in 2014 to 63% in 2015. According to PwC's Energy Deals 2016 Annual Review, the number of deals changed from 44 in 2015 to 30 in 2016 but the total deal value decreased by 59% from US\$4.8 billion to US\$2.0 billion. 2016 over-compensated the exception of 2015 in terms of the public-private deals breakdown. With the recovery in privatisation activity, the share of private deals decreased from 63% in 2015 to 43% in 2016.

There have been a number of takeovers in Turkey's energy market in 2015 and 2016. SOCAR, BP and BOTAŞ signed the Shareholders Agreement for the Trans Anatolian Natural Gas Pipeline Project Company, which will operate the TANAP Pipeline transporting natural gas produced from Azerbaijan's Shah Deniz II field in the Caspian Sea to Turkey and then to Europe through Turkey. The signing ceremony for the Shareholders Agreement was held on 13 March 2015. BP's accession to the Shareholders Agreement, by way of acquisition of a 12% stake in TANAP from the Southern Gas Corridor company (SGC), is considered quite critical for the project implementation.

Other notable transactions were Goldman Sachs' acquisition of a 13% stake in SOCAR Turkey Enerji for US\$1.3 billion and Total Oil's sale of its fuel retail arm in Turkey to Demirören Group, for US\$356 million. In addition, Doğan Group acquired 50% of Aytemiz Petrol and returned to the oil and gas sector after the sale of its Petrol Ofisi shares to OMV.

In February 2016, OMV announced it would sell up to 100% of its wholly owned subsidiary Petrol Ofisi, the leading company in the Turkish oil products retail and wholesale market. OMV signed the share purchase agreement with VIP Turkey Enerji AS, a subsidiary of Vitol Investment Partnership Ltd., on 3 March 2017. Vitol has agreed to acquire OMV's shares in Petrol Ofisi, subject to certain conditions precedent and relevant regulatory approvals. The total purchase price was announced as approximately €1.368 million.

Another notable transaction by a foreign investor was the sale of 51% shares in the Turkish fuel retailer Citypet, to the Lebanese oil trading company BB Energy.

Significant other market developments

EPİAŞ

One of Turkey's targets was the establishment of an energy stock exchange, which would create a whole new market of its own and become a significant investment opportunity. The EML introduced the "market operation activity", to be conducted by a newly incorporated company, namely EPİAŞ. EPİAŞ was incorporated in March 2015. Türkiye Elektrik İletim Anonim Şirketi ("TEİAŞ") and Borsa İstanbul ("BI") each hold 30% of the corporation's total shares, with the remaining 40% held by various private energy companies. Under this shareholding structure, TEİAŞ and BI hold Class A and Class B shares, whereas the private energy companies hold Class C shares.

Renewable energy

In January 2011, the Law on Utilisation of Renewable Energy Resources for the Purpose of Generating Electrical Energy (the "RER Law") underwent a significant set of amendments, in which feed-in tariffs and other incentives were introduced. With these amendments the RER Law established a renewable energy support mechanism ("RERSM"). In order to achieve Turkey's 2023 target of increasing the share of renewable energy sources to 30%, the EML and the RER Law were also amended recently, on 4 June 2016. In addition to these amendments, the Regulation on Certification and Supporting of Renewable Energy Resources (the "RERSM Regulation") was amended on 1 May 2016.

Before the amendments, power plants within the scope of the RERSM Regulation were subject to a system in which the generated energy was sold to the market operator without a generation limitation or a risk regarding the price or amount of energy generated. In addition, power plants were free of obligations regarding the balance mechanism. Therefore, they did not have to pay any imbalance expenses. The RER Law guaranteed the prices in terms of US cents, and access to loans were relatively easy due to predictable cash flows. Power plants operating under the RERSM portfolio system could sell all of their products to a market operator and they did not have to engage in any market activity. With the amendments in the RERSM Regulation, power plants within this regulation's scope may now sell the generated energy directly to the free market.

Floating LNG

In 10 March 2016, EMRA permitted floating LNG storage and regasification unit investments, categorising these activities as "storage", to secure its gas supply and reduce its reliance on Russian gas. EMRA issued the first floating LNG licence to Etki Liman İşletmeleri, a subsidiary of Limak Group.

Shale gas

The MENR estimates that approximately 551 bcm of recoverable shale gas potential is available in Turkey, notably in the south-east (particularly the Anatolian Basin and the Diyarbakir Basin) and in the north-west (particularly in the Thrace Basin and in the Sivas and Tuz Gölü Basins). Recently Norwegian Statoil and Canadian exploration company Valeura Energy Inc. signed an agreement to explore the shale gas potential in the European north-west of Turkey.

Endnotes

1. Information under this section is obtained from the Privatisation Administration's website.

Overview of the legal and regulatory framework in Turkey

A. Electricity

A.1 Industry structure

In Turkey, the Electricity Market Law (“EML”) and the Electricity Market Licence Regulation (the “Licence Regulation”) are the primary pieces of legislation governing the electricity market. To enhance Turkey’s liberalisation process, which began in 2001 with the previous market law and licence regulation, the EML and the Licence Regulation entered into force on 30 March 2013 and 2 November 2013, respectively. Since its enactment, the Licence Regulation has been amended six times.

Key market players and relevant state authorities

The Ministry of Energy and Natural Resources (the “MENR”) is ultimately responsible for preparing and implementing energy policies, plans and programmes in coordination with its affiliated institutions. Under the support of the MENR, the Energy Market Regulatory Authority (“EMRA”) is the competent administrative and regulatory authority supervising the electricity market. EMRA’s powers and duties can be summarised as issuing licences; setting, amending, enforcing and supervising regulations on performance standards; distribution of power and customer services; setting out pricing principles; and maintaining the development and performance of infrastructure for implementation of new power trading and sales methods. It exercises its powers through the Energy Market Regulatory Board (the “EMRA Board”).

In addition to private companies, there are four state-owned companies active in the electricity market: (i) Elektrik Üretim A.Ş. (“EÜAŞ”), the state generation entity; (ii) Türkiye Elektrik İletim A.Ş. (“TEİAŞ”), the state transmission entity; (iii) Türkiye Elektrik Ticaret ve Taahhüt A.Ş. (“TETAŞ”), the state trading entity; and (iv) Türkiye Elektrik Dağıtım A.Ş. (“TEDAŞ”), the state distribution entity.

Since its enactment in 2013, the EML has been amended a number of times. In June 2016, the Turkish parliament passed the Law on Amendment of the Electricity Market Law and Certain Laws, an omnibus law amending numerous areas of Turkish law (the “Omnibus Law”).

Licensing regime

The Licence Regulation regulates the following market activities: (i) generation (coal, hydro, geothermal, wind, solar, hydraulic, biomass, biogas, wave, current and tidal energy sources); (ii) transmission; (iii) distribution; (iv) wholesale; (v) retail; (vi) trade; (vii) import; and (viii) export. In order to conduct any of these activities, companies must obtain a licence from EMRA. Companies must obtain separate licences for each electricity market activity.

Under the Licence Regulation, in order to conduct electricity generation activities, companies must obtain a generation licence from EMRA. Only limited liability partnerships and joint stock corporations established in Turkey can obtain electricity generation licences. There are no restrictions on foreign shareholding in electricity market companies in Turkey.

Obtaining a preliminary licence is a prerequisite for obtaining a generation licence for applicants. A preliminary licence is issued for a specific term, to those having submitted an application to EMRA to conduct electricity generation activities. The preliminary licence’s purpose is to enable the applicant to obtain the necessary permits, approvals and licences, as well as to acquire ownership or usufruct rights to the land where the generation facility is to be located, during the application’s evaluation. The Licence Regulation determines the detailed requirements of the regulatory approval process to obtain a preliminary licence and generation licence. According to the recent changes on the Licence Regulation, the term of a preliminary licence will be determined by EMRA, depending on source type and installed capacity. The term can vary between 24 months and 36 months.

The Regulation on the Amendment to the Electricity Market License Regulation, published on 24 February 2017, separates preliminary licence applications for renewable energy resource areas (“RERA”) from those made by other entities generating electricity. Under the Licence Regulation, the generation licenses are granted for a term of ten to 49 years. However, the term of generation licenses granted for RERA cannot exceed 30 years. The Regulation on the Amendment to the Electricity Market Regulation also sets forth procedures to be followed for obtaining a preliminary licence for RERA.

The EML defines the market activities which may be conducted without a licence. Under the EML and the Regulation on Generating Electricity Without a Licence (introduced by EMRA on 2 October 2013) (the “Unlicensed Generation Regulation”), generation facilities with an installed capacity of up to 1MW based on renewable energy resources are exempt from the requirement to obtain a licence. Moreover, if a company generates more electricity than it consumes, the surplus may be sold in the same distribution region, within the scope of the Renewable Energy Resources Support Mechanism (the “RERSM”). The Council of Ministers is authorised to increase the maximum installed capacity for a renewable energy plant to operate without a licence, up to 5MW. Two Regulations Amending the Unlicensed Generation Regulation and two Communiqués Amending the Communiqué on Unlicensed Electricity Generation in the Electricity Market were published in the Official Gazette on 23 March 2016 and 22 October 2016, respectively entering into effect on the dates they were

published. The most important change is the new 1MW total installed capacity limit for unlicensed facilities held directly or indirectly by the same individuals or entities.

The first amendment regulation introduces a minimum self-consumption ratio, which places a maximum limit for the excess energy that can be sold to distribution companies. Accordingly, the installed capacity of unlicensed wind and solar generation facilities cannot exceed 30x the capacity of the consumption unit associated with the generation unit.

Organisational structure for generation, transmission and distribution of electricity

TEİAŞ conducts all of Turkey's transmission activities. The EML does not envisage TEİAŞ's privatisation. The distribution network however is divided into 21 regions, with a different distribution company in each, all of which have been privatised. TEDAŞ no longer operates any distribution companies, but continues to own the distribution assets. While EÜAŞ still has an important role in the electricity generation market, private entities' role is rapidly increasing, both through privatisations as well as new facilities.

Extent of implementation of the Third Electricity Directive

Turkey has taken considerable steps in fulfilling the unbundling requirements set forth under the Third Electricity Directive. Under the former EML, which was abolished in 2013, distribution utilities were required to unbundle retail sale and generation activities by the end of 2012. On 12 September 2012, EMRA adopted Resolution No. 4019, setting forth the principles and procedures to separate the operations of companies holding a distribution licence for distribution systems and retail sales. The ultimate purpose of this Resolution is to ensure that such operations are conducted by separate legal entities. In addition, EMRA introduced the "Procedures and Principles concerning the Legal Unbundling of Distribution Systems and Retail Sales" in September 2012. "Spin-off" was selected as the optimum unbundling method for distribution utilities: distribution utilities were required to establish a separate company for retail sale activities and obtain a separate retail sale licence from EMRA, by the end of 2012. In addition, newly established retail sales companies were allowed to sign agreements to purchase services from distribution utilities until the end of June 2013. Therefore, the utilities were allowed to complete the entire unbundling process by the end of June 2013.

The shareholders of distribution utilities can own the newly established retail sales utilities' shares. However, as of 1 January 2016, distribution utilities are not able to purchase administrative and support services from companies under the parent company's control. Additionally, as of 1 January 2016, retail sales companies and distribution utilities must use different physical premises and information system infrastructures.

A.2 Third party access regime

TEİAŞ conducts all of Turkey's transmission activities. TEİAŞ is required to meet the demands of individuals and companies for connection to the transmission network. The Licence Regulation sets forth certain circumstances for rejection of requests for connection to the transmission and/or distribution systems operated by TEİAŞ.

In cases where system connection and use of the system by generation companies are possible, the licence holder and TEİAŞ and/or the distribution licence holder must conclude connection and system usage agreements. The Regulation on Connection to and Use of System regulates the principles regarding connection to and use of system, while the Grid Regulation and the Tariff Regulation regulate the terms and conditions regarding the applicable tariffs for connection to and use of the system. More recently, (i) the Regulation on Amendment of the Regulation on Electricity Market Connection to and Use of System and (ii) the Regulation on Amendment of the Grid Regulation were published in the Official Gazette dated 30 July 2016. The amendment regulations set forth certain capacity limits for connection of consumers to the system.

A.3 Market entry

In general, licence transfer is not permitted under the Licence Regulation. However, with approval from the EMRA Board, legal entities holding an electricity generation licence are permitted to transfer rights and obligations related to their licences (i) to another legal entity by way of merger or spin-off, and (ii) to another legal entity established under the same shareholding structure. Furthermore, legal entities holding an electricity generation licence may transfer the generation facility to another legal entity seeking to conduct electricity generation activities, by way of sale, transfer or lease, subject to EMRA's approval. Correspondingly, the legal entity acquiring the generation facility must obtain a new generation licence from EMRA, before such transfer.

In addition to the above-mentioned transactions, the Licence Regulation grants a step-in right to banks and financial institutions that provide loans to licence holders, allowing them to request licence transfers from EMRA. The proposed transferee will undertake all obligations of the former licence holder under the loan agreement.

These types of transactions are not considered "licence transfer". The transaction mentioned in item (ii) above and the transactions relating to project financing allow the transferee to obtain a generation licence that maintains the terms and conditions of the former licence.

The Licence Regulation also sets forth certain share transfer restrictions. Under Article 6 of the EML (amended with the Omnibus Law) and Article 19 of the Licence Regulation, direct or indirect changes in shareholding structure and/or share transfers (aside from certain exceptions set forth under the Licence Regulation) are forbidden within the preliminary licence period. EMRA may cancel a preliminary licence if such a transaction occurs.

Before enactment of three Regulations on the Amendment to the Electricity Market Regulation (the "Amendment Regulations"), published at the end of 2015, in October 2016 and February 2017 respectively, there were only some exceptions to this principle. In addition to the situations relating to inheritance and bankruptcy, this prohibition did not apply to:

- changes in the shareholding structure of publicly listed legal entities with regard to their publicly listed shares;
- changes in the shareholding structure of legal entities with publicly listed shareholders, with regard to the publicly listed shares of these shareholders;

- companies granted a preliminary licence for facilities established in line with international agreements; and
- indirect changes in the shareholding structures of companies holding preliminary licences resulting from changes in their foreign shareholders' shareholding structures.

In addition to the above, the Amendment Regulations provide eight new exceptions to the share transfer restriction principle. Accordingly, the share transfer restriction will also not apply to:

- direct or indirect changes in the shareholding structure of an entity holding a preliminary licence, caused by a public offering of this entity's shares or the shares of its direct or indirect shareholders;
- direct or indirect changes in the shareholding structure of a legal entity holding a preliminary licence, caused by the exercise of pre-emption rights by the entity's shareholders;
- changes resulting in direct partnership of the indirect shareholders of a legal entity holding a preliminary licence, which are stated in the preliminary licence of such entity, without any changes in their shareholding percentages in this legal entity;
- direct or indirect changes in the shareholding structure of a state-owned entity, resulting from this entity's privatisation;
- direct or indirect changes in the shareholding structure of an entity holding a preliminary licence, among the existing shareholders, which do not result in a change of the company's control;
- direct or indirect changes in the shareholding structure of an entity holding a preliminary licence (in which majority of shares are directly or indirectly held by state institutions and organizations), caused by a capital increase or a change in shareholders, provided that there is no new shareholder, other than state institutions and organizations;
- direct or indirect changes in the shareholding structure of an entity holding a preliminary licence, caused by this entity's or its direct or indirect shareholders' acquisition of their own shares, within the scope of the Turkish Commercial Code; and
- direct or indirect acquisition of shares in an entity holding a preliminary licence, by foreign legal entities or entities controlled by these foreign entities, which are established in accordance with the Turkish Commercial Code, by using foreign resources.

After obtaining a generation licence, the following share transfers are subject to EMRA's prior approval:

- direct or indirect acquisition of shares representing at least 10% of the licence holder company's share capital (5%, if the company is publicly traded); and
- share transfers resulting in a change of the company's control, regardless of the change in the shareholding percentage of the shares.

A.4 Cross-border interconnections

The EML and the Electricity Market Import and Export Regulation (the "Export/Import Regulation") set forth the principles and procedures for electricity import and/or export, and the principles pertaining to allocation and use of

interconnection capacity for cross border trade in the electricity market. Under the Export/Import Regulation, electricity import and/or export from or to countries that meet the international interconnection condition can be conducted by supply licence holders, subject to EMRA's approval. Accordingly:

- TETAŞ and private companies holding supply licences may engage in electricity import and/or export; and
- generation companies may engage in electricity import;

provided that the relevant provisions permitting such activities are included in their licences.

On 18 September 2010, a trial run was carried out for the synchronous parallel connection of the Turkish national electricity system (operated by TEİAŞ) to the European Network of Transmission System Operators for Electricity ("ENTSO-E"), for the Continental Synchronous Regional Network of Europe. In April 2015, TEİAŞ became an observer member after Turkey's successful synchronisation with the ENTSO-E Continental Europe Region. TEİAŞ signed a long-term agreement for a permanent connection to the continental European grid, following a trial period that started in September 2010. The observer member status will give TEİAŞ the possibility to attend groups and task forces within the association. This will facilitate cooperation between ENTSO-E and TEİAŞ, whenever this adds value for the operators and the customers they serve.

Turkey is currently in the process of implementing three interconnector projects:

- the establishment of underwater cables in the Black Sea, between Turkey and Romania;
- the establishment of underwater cables between Turkey and the Turkish Republic of Northern Cyprus; and
- the interconnection between a network of eight territories¹.

B. Oil & Gas

B.1 Industry structure

Downstream petroleum and liquefied petroleum gas market

In Turkey, the Petroleum Market Law ("PML") and the Liquefied Petroleum Gas ("LPG") Market Law govern downstream petroleum and LPG market activities (together referred to as "Petroleum Markets"). The Petroleum Markets were liberalised following the introduction of the PML in 2003 and the LPG Market Law in 2005.

Under the PML and LPG Market Law, EMRA is the competent regulatory authority for the Petroleum Markets. EMRA's duties regarding the Petroleum Markets include, *inter alia*, (i) preparation of regulations and pricing principles; (ii) licensing of facilities and activities; (iii) inspection of these facilities and activities; and (iv) enforcement of compliance with these regulations.

Smuggled and illegal fuel were significant issues, and the main reason for the development of the PML and LPG Market Law, as well as the regulations set by EMRA, was to tackle these issues. To this end, the PML and LPG Market Law both have a licence requirement per facility, for all activities in the Petroleum

Markets. The types of licence are:

- refining;
- processing;
- lubricant production;
- storage;
- transmission;
- eligible consumer;
- bunker delivery;
- distribution;
- transportation; and
- dealership.

Secondly, the PML requires refineries and importers to use a chemical called “National Marker” for diesel and gasoline. Thirdly, distribution companies must install automated technology to monitor pump sales and regularly notify these metrics to EMRA. These key regulatory requirements have effectively prevented smuggled and illegal fuel in Turkey.

Other significant issues in the Petroleum Markets relate to competition restrictions and the typical retail ownership model in Turkey. Under the Turkish Competition Board’s communiqués, the term of an exclusive dealership agreement cannot exceed five years. In addition, the PML provides that (i) sales made by a distributor through the stations operated by it cannot exceed 15% of the distributor’s total local market share and (ii) the distributor’s total local market share cannot exceed 45% of the total local market. While the LPG Market Law does not restrict the sales made by a distributor through the stations operated by the distributor, it provides that the distributor’s total local market share cannot exceed 45% of the total local market. However, the market shares of the key distributors in the Petroleum Markets are far below 45%. The largest market shares are 24.32% for OMV Petrol Ofisi A.Ş. and 16% for Opet Petrolcülük A.Ş. in the petroleum market and 29.36% for AYGAZ and 10.60% for OMV Petrol Ofisi A.Ş. in the LPG market.

The typical retail station structure in the Turkish market (95%) is the Dealer Owned Dealer Operated (“DODO”) model. Under this model, the dealer owns/has rights over the real estate under a lease agreement or a usufruct agreement. However, the dealer provides rights over the real estate to the distributor under a lease agreement or a usufruct agreement for the purpose of leverage for the distributor against contractual breaches by the dealer. However, in parallel with the term of the exclusive dealership agreement, the Turkish Competition Board’s communiqués also state that the term of these lease agreements or usufruct agreements cannot exceed five years either: this results in a five-year renewal cycle for stations operated under the DODO model.

Downstream natural gas market

Due to insufficient natural gas sources, Turkey depends on import of gas. Natural gas is imported from Turkmenistan, Azerbaijan and Iran, in addition to LNG from Nigeria and Algeria.

The Natural Gas Market Law (the “NGML”) governs downstream natural gas activities. Under the NGML, natural gas

market activities are the import, export, transmission, storage, wholesale and distribution of natural gas, as well as the sale, distribution and transmission of Compressed Natural Gas. The MENR is the ministry responsible for the downstream natural gas market and EMRA is the relevant regulatory authority.

With the enactment of the NGML in 2001, the Petroleum Pipeline Corporation (“BOTAŞ”) lost its monopoly rights on natural gas imports, distribution and sales. However, BOTAŞ remains the key player in the market, as it owns and operates the gas transmission network and still imports approximately 80% of the natural gas consumed in Turkey. In addition, although the NGML stipulated that BOTAŞ was to be unbundled starting from 2009, BOTAŞ has not been divided into separate companies.

However, the enactment of the NGML did contribute to the liberalisation of the natural gas market. For example, after BOTAŞ’s natural gas agreement with Russia expired in 2011, four privately-owned companies, namely Enerco, Bosphorus Gaz, Avrasya Gaz and Shell signed an agreement with Gazprom and obtained import licences to import natural gas from Russia.

Another important issue in the natural gas market is the competition related restrictions. Under the NGML, no company can sell natural gas corresponding to more than 20% of the estimated national consumption determined by EMRA, and import companies cannot import natural gas corresponding to more than 20% of estimated national consumption. A recent amendment in the NGML introduced another restriction: distributor licence holders can have licences in only two Turkish cities.

B.2 Third party access regime to gas transportation networks

Third party access to petroleum distribution, transmission and storage networks

Under the PML, a distribution licence holder cannot discriminate between the stations it operates and those operated by dealers. As for transmission and storage, transmission and storage licence holders with spare capacity in their facilities must address the transmission and storage demands of third parties if these demands conform to, *inter alia*, (i) the tariff of the licence holder; (ii) the capacity of the relevant facility; and (iii) the minimum amount in the tariff of the licence holder.

Third party access to gas distribution, transmission and storage networks

Under the NGML, distribution or transmission licence holders must provide access to the system or allow the use of the system without any discrimination between third parties.

In parallel with the NGML, the Natural Gas Market Licence Regulation provides that distribution, transmission and storage licence holders can decline the demands of third parties and eligible customers only if (i) their capacity is not sufficient; (ii) they cannot perform their existing obligations otherwise; or (iii) they may be ordered to pay significant financial compensation due to their existing contractual obligations. In addition, if the third party undertakes to cover the necessary expenses, this third party’s request cannot be declined.

The BOTAŞ Transmission Network Operation Principles (the “Network Operation Principles”) and the Regulation on Natural Gas Market Transmission Network Operation also regulate third party access to the transmission network. Under these pieces of legislation, a connection contract must be concluded between BOTAŞ and the relevant licence holder. In addition, a standard transportation contract must be concluded for gas transportation. Furthermore, the Network Operation Principles is an integral part of the standard transportation contract to be concluded between BOTAŞ and the relevant licence holder.

In addition, the Natural Gas Market Distribution and Customer Relations Regulation govern third party access to distribution networks. Distribution companies must connect all consumers within their region.

B.3 LNG terminals and storage facilities

LNG terminals and storage facilities

In Turkey, there are two underground natural gas storage facilities: the Silivri Underground Natural Gas Storage Facility and Tuz Gölü Underground Natural Gas Storage Facility owned and operated by BOTAŞ. The first phase of the Tuz Gölü Underground Natural Gas Storage Facility was completed and came into service in February 2017. The second phase of the project is still under construction and according to the MENR’s official website this phase will be completed in 2020.

In addition, there are two LNG terminals: the BOTAŞ Marmara Ereğlisi LNG Terminal in Tekirdağ and the Ege Gaz Aliğa LNG Terminal. Recently EMRA also categorised floating liquefied natural gas (FLNG) activities as “storage” and issued the first FLNG licence to Etki Liman İşletmeleri A.Ş.

Recent developments on LNG terminals and storage facilities

The NGML and the Natural Gas Market Licence Regulation required import licence holder applicants to (i) conclude lease contracts with storage licence holders to ensure storage of 10% of their annual gas import or (ii) obtain a commitment from storage licence holders confirming that they will have such storage capacity within five years. However, the current total capacity of the three storage facilities in Turkey is below 10% of the nation’s annual gas import amount. The NGML was amended in June 2016 and EMRA was granted the authority to determine for what percentage of the annual gas import amount such a commitment must be obtained. On the grounds of this authority, EMRA recently set the applicable percentage at 6%.

C. Energy trading

C.1 Electricity trading

In addition to the EML and the Licence Regulation, electricity trading is particularly regulated under the Regulation on Electricity Market Balancing and Settlement (“Balancing and Settlement Regulation”). This sets forth the principles and procedures regarding day-ahead market and real time balancing of the active electricity demand and supply, as well as settlement of trade in these markets.

In Turkey, supply licence holders can conduct electricity trading activities (wholesale, export, import and retail sales). Electricity traders must either (i) conclude a bilateral electricity purchase agreement with another licence holder or (ii) contribute to

the organised markets themselves, in order to participate in the electricity market. Electricity is traded mostly through bilateral negotiated agreements on an over-the-counter basis. Agreements are not subject to EMRA’s approval and so all commercial terms and conditions are freely negotiable. Electricity can also be traded on a day-ahead and real-time basis.

The EML introduced the “market operation activity”, to be conducted by a newly incorporated company, Enerji Piyasaları İşletme Anonim Şirketi (“EPIAŞ”). EPIAŞ was incorporated in March 2015 and obtained a market operation licence on 1 September 2015. TEİAŞ and the Istanbul Stock Exchange (Borsa İstanbul A.Ş.) hold Class A and Class B shares in EPIAŞ, while private energy companies hold Class C shares (40% of EPIAŞ’s shares). Upon its incorporation, EPIAŞ started conducting the market operation activities of the organised wholesale electricity markets (including day-ahead market activities) other than those operated by the Istanbul Stock Exchange and TEİAŞ. TEİAŞ continues to conduct balancing activities.

C.2 Gas trading

In Turkey, gas trading is only physical, and regulated in each separate licence and the Network Operation Manual of BOTAŞ. Under the relevant regulation, the supplier of the gas may be (i) an import licence holder; (ii) a wholesale licence holder; or (iii) a production licence holder.

D. Climate change and sustainability

Turkey became a party to the United Nations Convention on Climate Change in 2004 and also ratified the Kyoto Protocol in 2009. The Kyoto Protocol was extended by the Doha Protocol in December 2012. However although Turkey is listed in Annex 1 of the Kyoto Protocol, Turkey is not within the scope of Annex B and therefore has no quantitative carbon emission reduction obligation under the Kyoto Protocol.

D.1 Climate Change Initiatives

The Regulation on Greenhouse Gas Emissions Monitoring (the “Emissions Regulation”) and the Carbon Market Voluntary Project Registry Communiqué” of the Ministry of Environment and Urbanisation (“MEU”) (the “Registry Communiqué”) govern the monitoring and registration of greenhouse gas emitting projects. The Emissions Regulation sets forth the procedures for monitoring, reporting and verification of carbon emitting projects. The Registry Communiqué sets forth the procedures and principles regarding the registration of projects developed in order to decrease greenhouse gas emissions and obtain a carbon certificate.

D.2 Emission trading

Turkey is not a party to the European Union Emission Trading Scheme (“EU ETS”), and therefore has not implemented the EU ETS Directive or the New EU ETS Directive. In Turkey, the Greenhouse Gas Monitoring and Emission Trading Branch Office of the MEU is the responsible governmental authority for monitoring and registering emissions trading.

D.3 Carbon capture and storage

Turkey has no legislative framework for carbon capture and storage and has not implemented the 2009 EU Directive on the geological storage of carbon dioxide (“CCS Directive”).

Furthermore, there is no specific national program for research related to the geological storage of carbon dioxide.

D.4 Renewable energy

Under Turkish law, renewable energy is governed by several legislative instruments such as the EML; the Licence Regulation; the Law on Utilisation of Renewable Energy Resources for the Purpose of Generating Electrical Energy (the "RER Law"); the Regulation on Certification and Supporting of Renewable Energy Resources (the "RERSM Regulation"); the Regulation on Renewable Energy Resource Areas; the Geothermal Resources and Natural Mineral Waters Law; and the Energy Efficiency Law.

There are several regulations on renewable energy, dealing with issues ranging from water utilisation agreements to equipment standards for solar energy plants. Among the important pieces of secondary legislation are the following:

- the Regulation on Solar Energy Based Electricity Generation Facilities;
- the Regulation on Competition for Licence Applications for Establishment of Solar Energy Based Generation Facility;
- the Regulation on Competition for Licence Applications for Establishment of Wind Energy Based Generation Facility; and
- the Regulation on Procedures and Principles Regarding Signing Water Utilisation Agreements to Conduct Generation Activity in the Electricity Market.

The principles to be applied on determination of RERA, applications for obtaining RERA usage right and competitions are regulated under the Regulation on Renewable Energy Resource Areas (which was recently amended with the Regulation on the Amendment to the Regulation on Renewable Energy Resource Areas, published on 11 April 2017).

The principles and procedures to be applied on the utilisation of renewable energy resources for the purpose of generating electrical energy are mainly governed by the RER Law, which entered into force on 18 May 2005. The renewable energy resources covered by the RER Law are wind, solar, geothermal, biomass, biogas (including landfill gas), wave, stream, tidal, river and arc type hydroelectric generation facilities with a reservoir area of less than 15 kilometres. In January 2011, the RER Law underwent a significant set of amendments, upon which the feed-in tariffs (FIT) and other incentives were introduced. With amendments in January 2011, the RER Law established the RERSM. This mechanism includes prices, terms, procedures and principles regarding payments, from which individuals generating energy based on renewable energy resources within the scope of the RER Law can benefit.

The EML and the RER Law were amended recently on 4 June 2016. In addition to these amendments, the RERSM Regulation was also amended on 1 May 2016. With these two sets of amendments, RERSM underwent a significant transformation. The energy generated by power plants is no longer subject to an isolated RERSM portfolio system but rather subject to a system which can be considered as partially FIT and partially feed-in premium. Before the amendments, power plants within the scope of the RERSM Regulation were subject to a system in which the generated energy was sold to the market operator without a generation limitation or a risk regarding the price or

amount of energy generated. In addition, power plants were free of obligation regarding the balance mechanism. Therefore, they did not have to pay any imbalance expenses. The RER Law guaranteed the prices in terms of US cents and access to loans were relatively easy due to predictable cash flows. Power plants operating under the RERSM portfolio system could sell all of their products to a market operator and they did not have to engage in any market activity.

With the amendments on the RERSM Regulation, power plants within its scope may now sell the generated energy directly to the free market. In return for sales income, they will pay the RERSM income to the market operator. RERSM income will be calculated by multiplying the sales amount with the market trade value (MTV). In other words, MTV will be the determinant element in this equation, regardless of the price at which the energy is sold in free market. In addition, the RER Price² will be paid to the power plants. Such price will be determined by multiplying the generation amount with FIT prices. The RER Price has a bilateral characteristic. It can be paid (i) to the licence owner for each licensed generation facility; or (ii) to the market operator by the licence owner if the MTV is higher than the FIT prices determined by the RER Law.

Another important change brought with the amendments is the imbalance obligation. Before the amendments, power plants were exempted from any imbalance obligation. They are now financially responsible for their imbalances and the related costs will be borne by respective power plants. In order to avoid such cost, power plants now have to make realistic forecasts regarding their generation capacity. Otherwise, they will have to bear the costs emerging in accordance with the Balancing and Settlement Regulation.

In line with other developments (the foremost being security of supply), the amount, price and payment terms and resources applicable to the RER Law is determined by a Council of Ministers' Decree dated 18 November 2013. The RER Law provides that renewable energy facilities can benefit from certain tax incentives upon a Council of Ministers' Decree. In addition, renewable energy facilities, related roads and transmission lines established in a forestry area or on State Treasury land benefit from 85% discounts on land allocation, lease or utilisation fees for ten years, provided that generation commences before 2015. Additional incentives are provided if domestic equipment is used in facilities commissioned before 31 December 2020.

In order to benefit from the RERSM, investors must obtain a renewable energy resource certificate. This certificate enables EMRA to monitor and track the power generated from a renewable energy resource, at the time of the power's trade in domestic and international markets. Investors must apply to EMRA to obtain such certificate before 31 October of each year. The application will cover (i) the amount of energy generated from the renewable energy resource for hybrid facilities and (ii) the whole volume of generation registered in the licence for the remaining facilities. Only full and complete applications will be received for consideration and then announced on EMRA's website within the first ten days of November. The applications will then be finalised and announced before 30 November of each year. Under the RERSM Regulation, generation licence holders can benefit from the renewable energy support

mechanism for a period of ten years starting from (i) the installment date of the initial capacity to the facility as registered in the licence or (ii) the registration date of the initial capacity with the renewable energy support mechanism if the capacity is registered with the renewable energy support mechanism before it is installed to the facility.

D.5 Energy efficiency

Under the Energy Efficiency Law, the Energy Efficiency Coordination Committee regulates energy efficiency activities. This law sets forth several mandatory obligations (eg, use of labeled equipment in industrial companies and buildings). It also includes provisions regarding energy efficiency education and awareness.

Article 7 of the Energy Efficiency Law requires industrial entities to appoint an energy efficiency controller. These entities must inform the General Directorate of Renewable Energy of their annual energy consumption. Furthermore, under Article 8 of the same law, industrial businesses may (i) voluntarily submit projects that increase efficiency or (ii) conclude agreements with the Renewable Energy General Directorate, undertaking to reduce their consumption levels by at least 10%, in return for certain incentives.

E. Nuclear energy

The nuclear power energy is a key aspect of Turkey's aim for economic growth. Turkey has taken decisive steps for the construction of two nuclear power plants. However, the general view among the industry is that Turkey does not yet have the required legal framework.

Nuclear power plant projects

The first nuclear power plant project is the Akkuyu Nuclear Power Plant (the "Akkuyu NPP"). In 2010, Turkey and the Russian Federation signed an intergovernmental agreement and provided a Build, Own and Operate model for the Akkuyu NPP. The first unit of the Akkuyu NPP is expected to be commissioned in 2022. The second nuclear power plant project is the Sinop Nuclear Power Plant (the "Sinop NPP"). The intergovernmental agreement relating to the Sinop Nuclear Power Plant was signed by Turkey and Japan in 2013; Turkey ratified this IGA in 2015. The Sinop NPP will be a Build Operate and Transfer model project. The project participants recently started to conduct the feasibility studies for the realisation of the Sinop NPP.

For the purposes of a third nuclear power plant, the Chinese State Nuclear Power Technology Corporation, US Westinghouse Electric Company and EÜAŞ signed a memorandum of cooperation on 24 November 2014. In the 23rd World Energy Congress held in İstanbul, the Turkish President confirmed that a third nuclear power plant is on the Turkish Government's agenda.

Legal framework

The Law on the Construction and Operation of Nuclear Power Plants and Energy Sale ("Law No. 5710") and the Regulation on the Principles and Procedures for Competition and Contracts within the Framework of Law No. 5710 are the main pieces of legislation which govern the procedures and principles for the construction and operation of nuclear power plants and the sale

of energy generated from those plants. By reference to Law No. 5710, the Turkish Atomic Energy Authority ("TAEA") has set forth the criteria that must be fulfilled by companies wishing to construct and operate nuclear power plants in Turkey. These criteria mainly make reference to the International Atomic Energy Agency Safety Standards for nuclear safety and to the nuclear power plant exporter's nuclear safety legislation for licensing.

In March and April 2017, the TAEA issued three new regulations in the field of nuclear energy: the Regulation on the Construction Inspection of Nuclear Power Plants provides for the procedures on construction of nuclear power plants in accordance with nuclear security principles. The two other regulations govern the management of nuclear power plants and their personnel.

Regulatory body and licensing

Turkey has two institutions in the field of nuclear energy. The predecessor institution is the Atomic Energy Commission ("AEC"). AEC was restructured in 1982 and TAEA was established by the Law on the Turkish Atomic Energy Authority. Under this law, TAEA was assigned responsibilities for both the promotion of nuclear energy and regulatory control of nuclear activities, and it is the licensing authority for nuclear facilities (ie, site licence, construction licence and operation licence). However, under international standards, the regulatory body must be independent of all entities that promote the development of the nuclear industry.

For the purpose of separation of TAEA's regulatory responsibilities, the MENR prepared a draft law (the "Draft Nuclear Energy Law"), which envisages the establishment of a new regulatory body: the Nuclear Regulatory Authority ("NRA"). The Draft Nuclear Energy Law provides that the NRA will only conduct the required licensing and oversight activities and the NRA will not be attached to the MENR, which promotes the development of the nuclear industry. The Draft Nuclear Energy Law also sets forth the activities which will require a licence or a permit from NRA. The MENR stated that the Draft Nuclear Energy Law will be enacted within 2016. However, it was still not enacted on the day this article was written.

Third party liability

Turkey has ratified the Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960, as amended by the Protocol of 28 January 1964 and by the Protocol of 16 November 1982 ("Convention"). In line with Article 7(b) of the Convention, the maximum liability of the nuclear installation's operator in respect of damage caused by a nuclear incident is 15 million SDR. Turkey has signed but not ratified the 2004 Additional Protocol to the Convention, which sets forth €700 million as the operator's minimum liability.

Turkey does not have any domestic law related to compensation for nuclear damage. However, an MENR official document dated 26 February 2016³ stated that the Ministry has prepared a draft law on third party liability in the field of nuclear energy (the "Draft Nuclear Liability Law") and this law will be enacted in 2016. However, it was still not enacted on the day this article was written. The Draft Nuclear Liability Law has not been disclosed to the public. However, the same document further provides that the Draft Nuclear Liability Law was prepared in

line with the 2004 Additional Protocol to the Convention, and the limitation period for nuclear damage claims will be extended to 30 years for actions regarding loss of life and personal injury, and in addition the operator of the nuclear power plant will be required to have and maintain insurance to cover its liability as in the 2004 Additional Protocol to the Convention.

F. Upstream

Upstream oil and gas activities are governed by the Turkish Petroleum Law (the "TPL") and the transit passage of petroleum is regulated under the Law on Transit Passage of Petroleum through Pipelines (the "Transit Law"). Under these laws, the General Directorate of Petroleum Affairs (the "GDPA") and the Transit Petroleum Pipelines Department of the MENR are the competent regulatory bodies for the oil and gas upstream and transit activities, respectively.

Key legislative features

The TPL entered into force on 30 May 2013 (the "PL") and replaced the former Petroleum Law dated 1954. The new law divides Turkey into two petroleum districts ie, on-shore and off-shore. It requires entities to obtain (i) a survey permit; (ii) an exploration licence; or (iii) an exploitation licence, depending on the type of upstream petroleum activity they wish to pursue.

The term of the exploration licence has been set at five years for on-shore and eight years for off-shore activity. The terms of these licences may be extended up to nine years for on-shore and 14 years for off-shore exploration. As for the exploitation licence, this type of licence is granted for 20 years and it may be extended twice, each time for ten years.

Petroleum right holders are allowed to export 35% of on-shore and 45% of off-shore crude oil or natural gas produced in the fields discovered after 1 January 1980. The remaining volume and the total of the crude oil and natural gas produced in the fields discovered before 1 January 1980 must be reserved for the needs of the State. Furthermore, the TPL states that a State share corresponding to 12.5% of the petroleum produced by exploration or exploitation must be paid to the State.

The TPL aims to liberalise oil and gas exploration and production and attract foreign investors. To this end, the TPL provides certain exemptions from customs tax, fees and stamp duty on import or domestic procurement of the materials, equipment, fuel, and land, sea and air transportation vehicles approved by the GDPA. Another tax exemption is that exploration and exploitation licence holders can use fuel exempted from special consumption tax. In addition, the total taxation of a petroleum right holder company, together with taxes withheld on behalf of its shareholders, cannot exceed 55%.

International oil and gas pipelines

The Transit Law assumes the existence of an intergovernmental agreement ie, it is applicable only if there is an international agreement related to the pipeline. Under this law, the applicable legal framework for a transit pipeline consists of the Transit Law, the intergovernmental agreement and the commercial agreements.

International oil pipelines

Currently, there is only one international transit pipeline crossing Turkey: the Baku-Tbilisi-Ceyhan Crude Oil Pipeline owned by BTC Consortium, transporting crude oil from the Caspian region to Ceyhan.

International gas pipelines

The international natural gas import and export pipelines are:

- Russia-Turkey Western Route Natural Gas Pipeline crossing Ukraine, Romania and Bulgaria to Turkey;
- Russia-Turkey Blue Stream Natural Gas Pipeline, transporting natural gas from Russia to Turkey through the Black Sea;
- Iran-Turkey Natural Gas Pipeline, transporting natural gas from Iran to Turkey;
- Baku-Tbilisi-Erzurum Natural Gas Pipeline, transporting natural gas from Azerbaijan through Georgia to eastern Turkey; and
- Turkey-Greece Natural Gas Pipeline, transporting natural gas from Turkey to Greece.

In addition, through the following natural gas pipeline projects, Turkey will become the regional energy hub and secure its natural gas supply security:

- Trans-Anatolian Natural Gas Pipeline ("TANAP") will transport natural gas from Shah Deniz Phase II field in Azerbaijan to Turkey and Europe. The construction of this pipeline started in 2015.
- Along the Trans Adriatic Pipeline ("TAP") the natural gas from Shah Deniz Phase II field will be delivered to South Italy through Greece and Albania.
- The Trans Caspian Natural Gas Pipeline will transport Turkmen gas across the Caspian Sea to Azerbaijan and Turkey.
- The Iraq-Turkey Natural Gas Pipeline, which will be natural gas pipeline from northern Iraq to Turkey.
- The Turkish Stream Natural Gas Pipeline, which will replace the South Stream Project and transport gas from Russia across an offshore section under the Black Sea to Turkey and from there into European markets. On 10 October 2016, Turkey and the Russian Federation signed an IGA for construction of the Turkish Stream pipeline.

Endnotes

1. Egypt, Iraq, Jordan, Lebanon, Libya and the Palestinian territories, Syria and Turkey.
2. RER Price is calculated according to the formula under the RER Law.
3. <http://www2.tbmm.gov.tr/d26/7/7-1446sgc.pdf>



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