We continue to be surprised by the momentum in the energy transition we are witnessing globally. While for many years this has been dominated by Europe, where our renewables practice has its roots, we are very aware that investment in renewables has, for several years now, been greater outside of Europe. In Asia Pacific, the development of alternative energy sources continues to be cited as a core structural driver for growth. This is of course led by the huge investment in China and India, but is not confined to those countries.

The past 12 months has seen a step-change in the pace of development of renewable and other green energy transactions in the region. While traditional fuel sources, including gas and coal, will continue to be important for many years to come, three major transactions underline what we believe to be a fundamental shift in the outlook for the future energy mix in the region. These are:

- the project financing of the Formosa 1 offshore wind farm project in Taiwan – Asia’s first offshore wind project financing and the pathfinder for the large pipeline of offshore wind projects to follow;
- the $US5bn divestment of Equinor Energy which holds more than 180 assets comprising 11,135MW of capacity across Australia, Japan, India, Indonesia, Philippines and Thailand – this is the largest renewable energy generation acquisition in history; and
- the issuance by IOC of US$1.58bn of green bonds on the London Stock Exchange – the largest ever green bond listing on the LSE.

Linklaters is proud to have acted on each of the above market-leading deals (as well as many others as outlined in the following pages). We are excited to be at the forefront of this exciting and developing market in Asia Pacific and we look forward with enthusiasm to supporting our clients, whether developers, contractors, financiers, governments or others, to achieve their ambitions in the sector.

We hope this country by country overview which outlines some of the key regulatory and other challenges and opportunities for many years this has been dominated by Europe, where our renewables practice has its roots, we are very aware that investment in renewables has, for several years now, been greater outside of Europe. In Asia Pacific, the development of alternative energy sources continues to be cited as a core structural driver for growth. This is of course led by the huge investment in China and India, but is not confined to those countries.

We were the first firm to establish a dedicated Green Energy Group in Asia Pacific with dedicated renewable energy experts who specialise in the full range of no – or low – carbon energy projects and the trading of green energy products. Our group covers the full spectrum of renewables projects including onshore and offshore wind, solar, biomass, biofuels, wave/ tidal, geothermal, hydropower, waste and waste to energy. We offer clients unrivalled global coverage combining:>

- hands-on knowledge of the requirements of the different renewable energy technologies;
- in-depth, local policy and regulatory insight; and
- leading practices for M&A and financing transactions of all kinds.

Our team in Asia Pacific combines top class international experience in cross border transactions (including experience in target destination markets for Asian investment in the energy and utilities sector), with well established expertise within the region. We advise on the laws of England & Wales, New York, Hong Kong, Japan, Singapore and Thailand; in combination with our alliance firms, we also provide clients with integrated advice on the laws of Australia, India, Indonesia and Vietnam.

Introduction.

Key contacts of our Asia Green Energy practice

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Our Green Energy practice in Asia Pacific

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Our recent Asian renewable experiences.

Thailand
- the lead arranger and a lender on the US$130m project financing of a 1,124MW Kohala Hydro IPP hydropower station in Pakistan to be developed by Kohala Hydro Company (pvt)Ltd.
- China Development Bank as lenders on the US$180m project financing of the design, engineering, construction, commissioning and operation of the 999MW UEP Wind IPP in Sindh Province, Pakistan
- Standard Chartered Bank on the project financing of a windfarm in Sindh Province
- the lenders on the project financing for the development of the 780MW Suk Khiark hydropower project in Pakistan
- the fund manager on the establishment of an infrastructure fund for the transfer of solar power assets of approximately 118MW owned by subsidiaries of a Thai-listed company engaged in solar and alternative energy
- Kiao Kor Wind Power, a subsidiary of Ratchaburi, on the project contracts, including joint venture arrangements, O&M contracts and project financing
- the borrower of the THB 6.435bn limited resource financing of a 1124MW Kohala Hydro IPP hydropower station in Pakistan to be developed by Kohala Hydro Company (pvt)Ltd.
- the sponsors on the potential project financing of a 35% shareholding in a green energy company which owns majority equity stakes in three Indonesian companies which have developed and operated three solar power projects in Indonesia
- the sponsors on the potential project financing of a 35% shareholding in a green energy company which owns majority equity stakes in three Indonesian companies which have developed and operated three solar power projects in Indonesia
- Global Power Synergy Public Company Limited on its acquisition of a 40% interest in a 20MW solar farm owned by Thai Solar Renewable Co. Ltd
- Solar Power Co. Ltd on its THB 1.15bn sale of a 40% stake in three of its solar power projects to Ratchaburi Electricity Generating Holding Plc.
- SPPC Public Company Limited on its potential public offering and the equity joint venture in relation to the development of its solar farms in Thailand
- Kasikbank Public Company Limited on the project financing of a 5MW solar park project in Chonburi province, Thailand
- an international energy developer on two 28MW solar projects
- Diamond Generating Asia Ltd as joint venture partner on the development of one of the largest solar projects in Asia
- Double A (1991) Public Company Limited on a THB 135bn project financing for a pulp mill project with a design capacity of 472,500 tonnes per annum and an SPPI-50MW biomass power plant project in Prachinburi Province
- Deutsche Bank AG, Singapore Branch, in relation to its US$150m equity financing in Biomass Electric Co. Ltd, for the purpose of financing the development and construction of a 65MW biomass power plant in Prachinburi province

Key
- Wind
- Solar
- Hydropower
- Biomass
- Geothermal
- Waste to Energy

Malaysia
- the sponsors on the US$655m financing of the Bakun Hydroelectric Project
- on the anchor offshore agreement for the 2,400MW Bakun Dam in Sarawak Malaysia, representing the Malaysian/PRC industrial power customer

Philippines
- Macquarie Infrastructure Holdings Philippines Pte Ltd on the US$220m joint venture with Ayala Corporation and UFC Philippines Wind Holdco I B.V. to invest in wind farms in the Philippines
- Diamond Generating Asia Ltd on its investment into the 80MW Canadian wind farm in Ilocos Norte
- Diamond Generating Asia Ltd on its joint venture with Michigan Power (wholly owned subsidiary of Ayala Corporation) to explore solar power opportunities in the Philippines
- a major energy companies on its bid to acquire a 50% stake in the CBK 720MW hydro project in Luzon, the Philippines

India
- a bidder on the potential acquisition of a portfolio of operational and developing wind and solar projects
- the ECA and commercial bank lenders on a potential 750MW solar project financing in India
- the sponsors on the US$950m Almati Hydropower Project in Karnataka, India
- Gwemli Mauritius on the acquisition of SunEdison’s operational solar and wind energy assets in India

Australia
- Please refer to the credentials set out on page 13

Japan
- a Japanese bidding consortium on their potential bid to acquire Equinor Asia Pacific’s renewables portfolio of over 170 assets including solar, wind and hydroelectric power projects in Taiwan, Japan, Australia, India, Indonesia, the Philippines and Thailand
- a potential bidder on 999MW sale of its Japan renewables portfolio
- ING Bank in relation to the ¥12.1bn financing of Nippon Solar Services’ construction of a utility-scale solar photovoltaic power plant in the Ota Prefecture in Kyushu
- Snam in connection with the €36.5m project financing of a greenfield 41.6MW solar photovoltaic plant located near Samo, Tochigi Prefecture, Japan
- ING Bank on the financing of Najil PV Goto-Kashiwa solar photovoltaic power plant in Najil, Okazaki,
- an international lender on the financing for the construction, operation and maintenance of the Nanazoshi c.12MW solar PV plant in Japan (substantially finalised)
- the sponsors on a corporate reorganisation involving 12 solar projects comprising 913MW in aggregate
- an international sponsor on its potential project finance facilities for the development and construction of a solar PV plant in Japan
- an international offtake power producer on the development and project financing of a 30MW solar PV plant
- a Japanese regulator on risk allocation mitigation strategies for wind, solar and biomass project financings in Japan
- an European solar PV operator on the development of its first solar portfolio in Japan
- the Japanese lender on the financing and hybrid securitisation of a portfolio of PV assets
- Japanese lenders on the limited recourse financing of a solar project totalling 30MW in the western part of Japan

South Korea
- the sponsors on an acquisition of 80% of the total shares of a wind power generation company which has a wind power project in Yeongam, Jeollanam-do, South Korea
- a leading offshore wind developer on its market entry into South Korea

Lao PDR
- Suzo Energy Asia Co., Ltd. as sponsor and shareholder of the borrower, on the amendment of the US$10m refinancing for the 150MW Houay Ho power plant in Laos in connection with the shareholding change
- Glow Energy Holding Public Company Limited in regards to the acquisition of a 25% interest in Nam Ngum 2 hydro power project in Laos
- a major Russian power company on the potential acquisition of a stake in the Nam Ngum 1 hydro project in Laos

Vietnam
- BIM Group on its joint venture with the energy arm of Philippines’ Ayala Corporation to develop approximately 330MW of solar power projects, Phase 3 is ongoing and involves the construction of a 30MW solar power project. We are advising on all aspects of this transaction including joint venture arrangements, O&M contracts and project financing
- O&I and UOB on the project finance of the 1,231MW solar farm in Vietnam, including the implementation of an innovative financing structure

Indonesia
- an international energy company on its bid to acquire an interest in a developer of power projects in Indonesia, with an active portfolio of operating and under-development projects (thermal and renewables)
- the arrangers on a US$660m secured loan facility for the purpose of, among others, the financing for the Star Energy Group consortium’s equity contribution towards acquisition of a portfolio of Indonesian geothermal assets currently owned by Chevron and the refinancing of the senior secured notes issued by Star Energy Wayang Windu
- the lender on the structuring and hybrid - project financing of a greenfield hydro renewables project in Indonesia
- Ratchaburi Electricity Generating Holding in exploring the possibility of investing into three Indonesian run-of-the-river hydropower projects in North Sumatra. One project is in operation and the other two projects are still under construction
- an international investor on its potential joint venture to develop an offshore windfarm in South Sulawesi, Indonesia
- the commercial lenders on the US$255m bank and bond debt financing of a geothermal power project in Indonesia for Dayeulambak Singa Pratama, Ltd.
- Enel Green Power on the development, in joint venture with PT Optima Nusantara Energy (‘PT ONE’), of the 55MW Way Rabai geothermal power project
- a number of renewable energy companies on the regulatory regimes and structuring considerations for the development of large scale and/or small scale solar PV projects in Indonesia
Our recent European renewable experience.

**United Kingdom**
- the sponsors on the financing of development of the 650MW Moray offshore wind project
  - the lenders on the refinancing of the 400MW Gwynt y Mor offshore windfarm
- Macquarie Capital Industrial Partners and the Macquarie consortium on the acquisition of all operating windfarms held by Babcock & Brown in Scotland (part of a 555MW deal across several windfarms under construction (156MW))
- DONG Energy Wind Power A/S on the refinancing of the 160MW Tellenes onshore windfarm located in southern Norway
- as lenders on the acquisition of a strategic stake in the Sheringham Shoal offshore windfarm, UK
- as lead arranger and BPI France and La Banque Postale as lenders on the limited recourse financing of a portfolio of 27 wind farms acquired by Engie in France
- on the contemplation and completion of the 160MW development of the Beatrice offshore windfarm
- and the £270m reorganisation and limited recourse refinancing of its portfolio of solar plants in central Sweden
- as lead arranger and BMC as lenders on the
- on the formation of the Novera Macquarie landfill gas joint venture and on the acquisition of a strategic stake in the Sheringham Shoal offshore windfarm, UK
- on the construction and financing of the 2025MW Project Finance portfolio
- on the acquisition and financing of a substantial portfolio of UK renewables assets, as borrower on the £174m refinancing of a biomass and landfill gas UK portfolio
- on the acquisition and financing of a substantial portfolio of UK renewables assets, including over 50 landfill gas sites in the UK
- on the acquisition of the partial refinancing of its portfolio of solar plants in Hungary
- on its acquisition and development of a geothermal power plant in Sweden
- on its acquisition and development of a greenfield biofuels development project
- the c.£400m financing to Octopus Investments for a portfolio of 74 UK ground mounted solar projects
- on the acquisition of three offshore windfarm projects in the UK and Scotland valued at c.£3bn
- as lead arranger and BMC as lenders on the
- on the construction and financing of the 650MW offshore Gemini wind farm in the Dutch North Sea
- as lead arranger and BPI France and La Banque Postale as lenders on the limited recourse refinancing of a portfolio of 27 wind farms acquired by Ence in France
- on the acquisition, development and sale of the Weilheim geothermal project in Bavaria, Germany - this is the largest geothermal project in Germany up to 25 MW
- on the acquisition and financing of the 650MW offshore Gemini wind farm
- on the c.£400m financing of the 400MW Gwynt y Mor offshore windfarm
- on the construction of the 160MW development of the Beatrice offshore windfarm
- as lead arranger and BMC as lenders on the
- on the construction and financing of the 650MW offshore Gemini wind farm
- on the completion of the 160MW development of Europe’s largest photovoltaic energy park in Castels, France
- on its acquisition and development of wind farms in Spain and other jurisdictions
- on the construction and development of a greenfield biofuels development project
- on its acquisition and development of wind farms in Spain and other jurisdictions
- on its acquisition and development of wind farms in Spain and other jurisdictions
- on its acquisition and development of wind farms in Spain and other jurisdictions
- on its acquisition and development of wind farms in Spain and other jurisdictions
- on the acquisition and financing of a substantial portfolio of wind farms in Spain (as main sponsor) on a
- on the construction and financing of the 400MW Gwynt y Mor offshore windfarm
- on the completion of the 160MW development of Europe’s largest photovoltaic energy park in Castels, France
- on its acquisition and development of wind farms in Spain and other jurisdictions
- on its acquisition and development of wind farms in Spain and other jurisdictions
- on its acquisition and development of wind farms in Spain and other jurisdictions
As the renewables projects sector gains momentum, Linklaters is emerging as a market leader and has been active in dozens of large wind, solar and biomass financings and portfolio acquisitions in Europe. Sources describe the group as possessing ‘great industry knowledge and the capacity to handle very complex deals’, praising its ‘succinct analysis and pragmatic advice.’

Chambers Global, Projects & Energy: Europe-wide

Band 1: Projects & Energy - Global
Chambers Global 2018

Band 1: Projects & Energy - Europe
Chambers Global 2018

Band 1: Energy & Natural Resources: Power – UK
Chambers Global 2018

Band 1: Energy & Natural Resources: Renewables & Alternative Energy – UK
Chambers Global 2018

Band 1: Projects - UK
Chambers Global 2018

Team of the Year: Project Finance
IFLR European Awards 2018

Projects, Energy and Natural Resources - Firm of the Year
The Legal 500 UK Awards 2017

European Solar Deal of the Year: Vela Energy Solar PV Portfolio Refinancing
IJGlobal Europe Awards 2017

European Biomass Deal of the Year: Tees Biomass
IJGlobal Europe Awards 2017

Project Finance Team of the Year
IFLR European Awards 2016

Power Deal of the Year – MGT Power (Tees Biomass)
PFI Awards 2016

Wind Deal of the Year 2015 – Project Gemini
Environmental Finance 2015

European Wind Deal of the Year: Galloper Offshore Wind
II Global Europe & Africa Awards 2015

“Linklaters LLP is ‘top notch for global renewables projects.’”
Legal 500 EMEA, Project Finance & Energy: France

“The strengths of an office such as Linklaters is that it is made up of a multidisciplinary and multinational team, able to cover the main areas of activity and support its clients competently, regardless of the topic.”
Chambers Europe 2018, Projects & Energy

“Prominent projects and energy practice, with leading offices in the UK, France, Germany and Russia. Areas of expertise include project development, financing and M&A, as well as oil and gas, power and infrastructure projects across Europe and Africa. Renewables is a further area of focus.”
Chambers Global, Projects & Energy: Europe-wide

“As the renewables projects sector gains momentum, Linklaters is emerging as a market leader and has been active in dozens of large wind, solar and biomass financings and portfolio acquisitions in Europe. Sources describe the group as possessing ‘great industry knowledge and the capacity to handle very complex deals’, praising its ‘succinct analysis and pragmatic advice.’”
Chambers Global, Projects

Clients are hugely impressed by the quality of the service and bench strength of the team, observing: ‘They manage to walk the fine line between providing sound advice and remaining commercially oriented. The depth of their team is such that the lawyers from juniors through to partners imbue confidence that the advice and support we are getting is accurate, realistic in terms of its negotiability and current in respect to the deluge of regulatory changes constantly being introduced.’

Chambers Global 2017, Projects and infrastructure: Asia-Pacific Region
Along with a large volume of investment, we are starting to see a number of trends emerge.

**OFFTAKERS**

- Following the trend in the United States and the United Kingdom, Australia is seeing a rapid increase in interest in large corporate offtakers, as energy companies and banks increasingly distance themselves from investment in new coal-fired power stations. For example, AGL remain committed to getting out of coal by 2048 (despite significant pressure from the Government) and Westpac has publicly stated that it is looking to decrease its investment in coal and increase its investment in more energy efficient projects.

**INVESTORS**

- There is a large volume of investment occurring in Australia in the renewable industry in the lead up to 2020 when the RET peaks at 30,000 GWh. This is driving a booming M&A market and new project developments particularly in the solar space.

**STORAGE**

- With the looming closure of coal-fired power stations, and as energy companies and banks increasingly distance themselves from investment in new coal-fired power stations, an opportunity exists for renewable energy generators, coupled with dispatchable capacity (such as battery storage, pumped hydro or gas peaking plants) to make up for the load power shortfalls. This is consistent with the Reliability Requirement of the proposed Guarantee.

**FINANCING**

- Traditionally, and as a function of how financial institutions fund themselves in Australia, most project finance banks have preferred to provide debt maturing at five to seven years post construction. However, with shifting market dynamics created by funding from government entities and a Renaissance of European bank interest in our market, we are now seeing the stretching of debt tenor to periods as long as 15 to 18 years for projects where sponsors want to remove refinancing risk.
- Non-bank debt providers, including investors who participate in debt capital markets, are showing interest in mature renewable projects with long-term contracted revenue streams ensuring the funding burden on traditional project finance banks who can allocate capital to new greenfield renewable projects.
- Traditionally project financing of a renewable energy project is dependent on the availability of a long-term offshore contract (beyond 10 to 15 years). However, sponsors are now also considering bundling projects on a portfolio basis, rather than on a separate non-recourse basis, to aggregate and diversify contracted and merchant revenue streams.

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**Where we’re at**

Australia’s electricity sector has traditionally been dominated by coal-fired generation. Over time, this has become a pressing issue, both for environmental reasons and as many coal-fired generators have started to approach the end of their design lives, requiring new capacity to be introduced. Australia, one of the first countries in the world to set a national Renewable Energy Target ("RET"), designed to increase the amount of electricity generated from renewable sources and reduce greenhouse gas emissions. It does so by setting a target for the amount of electricity to be supplied by renewable energy generators, and penalises certain entities (usually electricity retailers) for failing to source a certain percentage of their energy needs from renewable sources.

The initial aim in 2001 was to source two per cent of the nation’s electricity generation from renewable sources. This was quickly reached in 2009 and a more ambitious target of 23.5 per cent renewable energy by 2020 was set (equivalent to 33,000 GWh). Australia is on track to meet, and even exceed, this target by 2020.

**Policy developments**

In October 2017, the Federal Government announced that it would pursue a new National Procurement Committee (the Guarantee). The proposed Guarantee broadly involves the imposition of two new obligations on electricity retailers:

- The Reliability Requirement – aims to ensure there is sufficient dispatchable electricity supply to meet peak demand in each region of the Australian National Electricity Market ("NEM") by encouraging investment in dispatchable generation or demand response resources where there is a material gap between forecast demand and supply;
- The Emissions Requirement – aims to drive down the NEM’s greenhouse gas emissions by requiring market participants to demonstrate that the emissions intensity of the electricity they purchase each year (measured in tonnes of carbon dioxide emitted per megawatt hour) is below a set threshold (determined by reference to an emissions trajectory set by the Federal Government).

Although the Council of Australian Governments ("COAG") Energy Council voted on 14 August 2018 to progress the development of the Guarantee by approving the release of the draft National Electricity Law Amendment, the Prime Minister announced on 20 August 2018 that the Guarantee would be placed ‘on hold’ in the face of opposition to the Emissions Requirement, and that the COAG Energy Council would discuss whether to continue with the development of the Reliability Requirement. The Prime Minister also indicated on 20 August 2018 that the Federal Government plans to adopt a number of the recommendations made by the Australian Competition and Consumer Commission in its Final Report on the Retail Electricity Pricing Inquiry. These include:

- Granting the Australian Energy Regulator ("AER") powers to address behaviour which has the effect of manipulating the perfect output of the NEM; and
- Replacing consumer ‘standing offers’ (which are essentially guaranteed minimum terms of retail electricity supply) with a ‘default offer’, the maximum price of which would be set by the AER in each NEM region.

In September 2017, the Clean Energy Regulator ("CER") announced that there were enough projects at a sufficiently advanced stage to meet the large-scale RET. The CER had previously estimated that for the 2020 target to be reached, the total new capacity of renewable energy projects that needed to be announced and built between 2016 and 2019 was 6000 MW. The combination of a stable federal RET and state government renewable energy schemes provided a strong incentive for project development in 2017. As a result, a total of 6032 MW of new large-scale generation was firmly announced between 2016 and January 2018.

The majority of these projects are either under construction or already operating. The infographic below tracks project development between 1 January 2016 and 30 June 2018.

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1. Clean Energy Australia Report 2018
2. Clean Energy Regulator, Large-scale Renewable Energy Target market data, published online 18 July 2018
Australia’s foreign investment regime – changes relating to wind and solar farms

On 1 July 2017, a number of changes were introduced by the Australian Government to its foreign investment regime, including clarifying the treatment of wind and solar power stations. The changes are a welcome development for Australia’s foreign investment regime, given that there has been substantial debate regarding:

- the classification of the land on which wind and solar power stations are located (namely whether it is agricultural or commercial land); and
- whether the infrastructure relating to a solar or wind power station is a chattel or fixture (whereby the solar and wind power station contributes to the value of the land, and consequently satisfies the applicable monetary threshold).

Previously, the land on which wind and solar power stations are located was ordinarily considered to be:

- where the land was being used (or could reasonably be used) for primary production, agricultural land. Acquisitions of interests in such land attract a monetary threshold of A$15 million (satisfaction of which is calculated based on the applicant’s cumulative interests in agricultural land); or
- where the land was not being used (and could not reasonably be used) for primary production, vacant commercial land (if the view was taken that the wind and solar farm infrastructure was not a substantive permanent building that could be lawfully occupied by persons, goods or livestock). Acquisitions of interests in such land attract a zero dollar monetary threshold.

Much of the debate related to the treatment of the solar and wind farm infrastructure, i.e. whether these assets are considered chattels or fixtures (which was determined by the “FRB test” on a case-by-case basis).

To the extent the solar or wind farm infrastructure was considered a fixture, this infrastructure contributed to the value of the land and therefore the monetary threshold was more likely to be satisfied.

The Federal Government has clarified the treatment of wind and solar power stations by confirming that:

- land is not vacant if there is a wind or solar power station located on the surface of the land; and
- land is not agricultural land where:
  - an application has been made to a government authority to establish or operate a wind or solar power station on the land;
  - the whole or predominant use of the land is for a wind or solar power station;
  - an approval is in place to allow the wind or solar power station to be established or operated on the land; or
  - the land was acquired solely for the purpose of meeting a requirement of the government approval for a solar or wind power station, or its sale or predominant use for this purpose.

The practical implications of these amendments are that:

- Where: approval has yet to be obtained for the construction of the solar or wind power station on the land; or
- an application for approval has not been made to a government authority to establish the solar or wind power station, the land will continue to be considered agricultural land (assuming the land is used, or could reasonably be used, for a primary production business) and therefore the A$15 million cumulative monetary threshold will apply.

- Where the land is not used wholly or predominantly for a primary production business and:
  - approval has been obtained for the construction of a solar or wind power station on the land; or
  - an application for approval has been made to a government authority to establish a solar or wind power station, though the construction of a solar or wind power station is not complete, the land will be considered vacant commercial land (unless there is a substantive permanent building on the land that can lawfully be occupied by persons, goods or livestock) and therefore a zero dollar monetary threshold will apply.

Further:

- Where a solar or wind power station has been constructed on the land, the land will be considered non-vacant commercial land, in which case, given that public infrastructure is located on the land, either:
  - a A$57 million threshold will apply (if the foreign person has a right to occupy the land or be involved in the central management and control of the entity that holds the land); or
  - a A$261 million threshold will apply (if the foreign person has not a right to occupy the land or be involved in the central management and control of the entity that holds the land).

For completeness, despite the above, it is noted that the zero dollar threshold will apply in each of the circumstances described above where the acquirer is a foreign government investor.

Requirement for an open and transparent sale process

On 1 February 2018, the Federal Treasurer announced that, to address the Federal Government’s concern with ensuring Australians are afforded an opportunity to participate in sales of agricultural land holdings (a concern manifested during the Treasurer’s consideration of the recent sale of S. Kidman & Co Limited), the Treasurer will now (as part of the national interest assessment) consider whether, for transactions involving agricultural land, Australians were given an opportunity to acquire the relevant land. Approval will generally not be granted for acquisitions by foreign persons of agricultural land unless there has been an “open and transparent sale process”, requiring:

- the land being offered for sale publicly and marketed widely (i.e. advertised on widely used real estate listing websites, or in regional or national media for a minimum of 30 days); and
- an equal opportunity for bids or offers to be made for the land while available for sale.

Where a foreign person seeks the approval of the Treasurer to acquire agricultural land, they will need to demonstrate how they became aware that the land was for sale (including evidence of the sale process) and that the sale was subject to an open and transparent sale process.

While an exception to the requirement for an open and transparent sale process has been introduced in respect of acquisitions of leasehold interests for wind or solar farm developments (which the Australian Government has confirmed also extends to licences), no such exception currently exists for acquisition of other interests in Australian land for the purposes of a wind or solar farm development (for example, freehold interests or easements). The Australian Government is still considering how their requirement will work in practice. However, this requirement will materially impact the ability of developers to acquire agricultural land for the purposes of wind and solar farms.

September 2018

This publication is intended merely to highlight issues and not to be comprehensive, nor to provide legal advice, and its contents should not be relied upon as legal advice, either generally or in relation to any specific transaction.

Western Australia

- Colgur wind farm
- Emu Downs solar farm
- Emu Downs wind farm
- Flato Rocks wind farm
- Greensough River solar power plant
- Mumbida wind farm
- Northam solar farm
- Walkaway wind farm

South Australia

- Alendale wind farm
- Canunda wind farm
- Catholic Country wind farm
- Clements Gap wind farm
- Hallett wind farm
- Horshamde wind farm
- Lake Bonney wind farm
- Mt. Milor wind farm
- Olympic Dam solar
- Starfish Hill wind farm
- Tungkotta Hill wind farm
- Waterloof wind farm
- Wattle Point wind farm
- Wilkogloeche wind farm
- Wyalla wind farm

Victoria

- Bald Hills wind farm
- Bennimal wind farm
- Challicum wind farm
- Chrymawarra solar farm
- Hepburn wind farm
- Kerang solar farm
- Lal Lai wind farm
- Macarthur wind farm
- Mansabool wind farm
- Mortlake wind farm
- Mount Glorious wind farm
- Morion’s Lane wind farm

Tasmania

- Mt. Mercer wind farm
- Nirranda wind farm
- Portland wind farm
- Salt Creek wind farm
- Stockyard Hill wind farm
- Solar Systems demonstration project
- Toora wind farm
- Wombat wind farm
- Wonthaggi wind farm
- Woolsthorpe wind farm

New South Wales

- Beryl solar farm
- Boco Rock wind farm
- Bodangora wind farm
- Broken Hill solar power plant
- Cockrill 2 wind farm
- Cullerin Range wind farm
- Glen Innes wind farm
- Goonumbla solar farm
- Gullen Range wind farm
- Gunning wind farm
- Manildra solar farm
- Moree solar farm
- Nyngan solar power plant
- Sapphire wind farm
- Silverton wind farm
- Taralga wind farm
- Trina Solar, rollout of roof-top solar leasing product
- Wellingtion solar farm
- White Rock solar farm
- White Rock wind farm
- Woolbanna wind farm

Queensland

- Blackwater solar farm
- Bowen solar farm
- Buli Creek solar farm
- Chinchilla solar farm
- Cullenroe solar power station
- Cock Shee solar P/W battery storage/ system management plant
- Coopers Gap wind farm
- Darling Downs solar farm
- Forsayth wind farm
- Hamilton solar farm
- Lakelands solar project
- Mckibye wind farm
- Mount Emerald wind farm
- Oakley solar farm
- Queensland Government wind farm asset sales
- Teebar solar farm
- Wespasolar farm
- Whitsunday solar farm
- Windy Hill wind farm

Asia

- Babcock & Brown Wind Partners global wind portfolio
- China Datang Corporation Renewable Power – AusChina Energy Group
- Datang Ji Lin Shuangliao wind farm
- Heikki, Lijun & Zhanhuwa wind farms (Phases 1 & 2)

Australia’s Renewable Energy industry is growing globally, with a particular focus on the Asia-Pacific region. The development of renewable energy projects, such as wind and solar farms, is driven by the need to reduce carbon emissions and meet increasing energy demands. Australia is well positioned to be a leader in this field, with its abundant natural resources and established infrastructure. Renewable Energy in Australia

September 2018

This publication is intended merely to highlight issues and not to be comprehensive, nor to provide legal advice, and its contents should not be relied upon as legal advice, either generally or in relation to any specific transaction.

Relevant experience

Australia’s Renewable Energy industry teams together extensive experience in dealing with the complex and broad ranging legal issues associated with the development, acquisition and sale of renewable energy assets. We have acted for sponsors, purchasers, vendors and financiers, and advised on all facets, everything from M&A, finance, tax and infrastructure.

手头有手头理解与了解这些相关问题的领域和发展与拓展与使用，我们团队也提供了相关领域和范围的视角和范围。

Which sectors are active?

The PRC is the world’s largest electricity producer and it is reported that its installed generation capacity exceeds 1,770 GW.1 In 2017, the PRC produced almost 6,418 billion kWh of electricity. This was mainly produced using coal (70.91%) and hydroelectric power (18.61%). In comparison, wind generation represented 4.76% and solar generation 1.84%.2 The country’s power generation composition by source of energy, as of 2017, was as follows:

![Electricity Generation in the PRC (2017)](image)

In recent years, the Central Government has been actively promoting the use of renewables as part of a wider effort to address pollution concerns and comply with China’s international commitments with respect to reduction of carbon emissions.

Policy planning in the PRC is driven by five-year plans. Once a plan is issued, competent agencies will issue sectorial development plans. The current five-year plan (the 13th five-year plan) was issued by the National Development and Reform Commission (the “NDRC”) on 17 March 2016, and the National Energy Administration (the “NEA”) issued a sectoral plan for energy on 26 December 2016 (the “13th Energy FYP”). The 13th Energy FYP contains ambitious targets, both in terms of research and deployment of energy infrastructure. Its objectives in relation to the “strong development” of renewable energy include:

- **Wind energy**: developing generating capacity beyond 210GW (the installed capacity as of H1 2018 was approx. 172GW according to publicly-available estimates), with 500MW of capacity coming from offshore wind turbines;3 and
- **Solar energy**: developing generating capacity beyond 110GW (the installed capacity as of H1 2018 was approx. 155GW according to publicly-available estimates), with 500MW of capacity coming from solar heating.4

The 13th Energy FYP also contains provisions setting out Jiangsu, Guangdong and Fujian provinces as regions where the construction of offshore wind projects will be encouraged. More detailed five-year development plans have been promulgated for hydropower, wind energy and solar energy.6

The Central Government has been actively promoting the use of renewables as part of a wider effort to address pollution concerns and comply with China’s international commitments with respect to reduction of carbon emissions.

How does the system work?

The power generators for renewable energy producers are the grid operators and possibly end-users.

- **Grid operators**: grid operators are the offtakers for energy produced by renewable sources. The PRC does not operate a unified grid system but instead power transmission and distribution is managed through six regional grids. Five grids are managed by subsidiaries of State Grid Corporation, while the remaining grid (South) is managed by China Southern Power Grid.

- **End-users**: recent reforms have opened the possibility for end-users to enter into power purchase agreements with renewable energy producers.

- **Electricity producers** (conventional and renewable) in the PRC include:
  - The “Big 5”: the five major power producers in the PRC are state-owned companies commonly referred to as the “Big 5” and comprise China Datang Corporation, China Guodian Corporation, China Huadian Group, China Huaining Group and China Power Investment Corporation.
  - Other state-owned companies: State Grid Corporation and China Southern Power Grid have power generation subsidiaries, and so do other large state-owned companies such as Shenhua. Some smaller regional state-owned companies also engage in power production.
  - Private power producers: a small number of private power producers also operate in the PRC.

Regulatory bodies

**National Energy Commission (the “NEC”)**

The NEC is a ministerial-level coordinating commission. It is headed by the prime minister and includes high-ranking members (usually ministers) from different departments and ministries, including both the NDRC and NEA.7

The NEC is the highest authority in charge of power and energy in China, including renewable energy. It is responsible for formulating national energy development strategies, analyzing material issues which present a threat to energy security and energy development, and coordinating among energy-related departments and ministries in respect of major issues concerning domestic energy development and international energy cooperation.

**National Development and Reform Commission**

The NDRC is a ministerial-level agency responsible for a wide range of matters, including national economic planning, regulating foreign investment, approving projects of national importance and enforcement of specific aspects of the PRC Anti-Monopoly Law.

- The NDRC’s specific responsibilities with respect to renewable energy include determining purchase prices for renewable energy to be offered by grid companies, planning and management of renewable energy generation projects and examining and approving the grid construction plans of renewable energy power plants.

**National Energy Administration**

The NEA was established in 2013 as a vice-ministerial rank agency subordinated to the NDRC and is responsible for drafting laws and regulations relating to energy development, formulating industrial policies and standards relating to various sources of energy (including renewables), promoting research and development and supervising and controlling energy consumption and rationalising energy production.

The NEA has established a Renewable Department8 which is responsible for drafting regulations and plans as well as executing initiatives relating to renewable energy. The NEA and its Renewable Department have launched initiatives such as the Information Management Platform for Renewable Power Projects,9 which simplified the approving-filing process for and provided a simpler way to claim incentives with respect to renewable power projects.

**Local governments and administrative departments**

Pursuant to the Renewable Energy Law, administrative departments of local governments in charge of energy are responsible for the development and utilisation of renewable energy within their respective jurisdictions and the preparation of local development plans for small-scale renewables in rural areas.

Local governments and administrative departments are also involved in various aspects of renewable energy projects through their role in permitting, zoning and construction and safety supervision. In practice, local regulations play an important role in relation to permitting and project development.

Government incentives

**Feed-in tariffs and incentives**

The PRC has implemented feed-in tariffs for an expanding scope of renewable electricity sources since 2009. Feed-in tariffs in the PRC are fixed purchase prices and are determined by the NDRC based on its evaluation of the cost of electricity generation. Generally, the feed-in tariff rate will be determined by NDRC in the approval documents for renewable power plants via a bidding process. For renewable power projects with feed-in tariffs for renewables are set out in notices issued by the NDRC. We set out below a summary of these (as of 8 August 2018).

2. Source: China Electricity Council

6. Source: China Electricity Council

10. Source: http://www.nea.gov.cn/2018-08/02/c_137363846.htm
The guaranteed utilisation rate under Document 625 is set on a provincial basis. On 2 April 2018, the NEA issued to local governments the Notice on Ensuring the Bunden on Renewables Sector Enterprises, prescribing a strict implementation of the programme of guaranteed purchase of renewable power, a deadline for achievement of full-scale compliance by no later than 2020 and a commitment that the NEA will suspend construction of local projects that fail to make guaranteed purchases. In addition, on 5 March 2018, the NEA issued the Notice on the Results of Monitoring and Risk Forecasting of Wind Power Investment, in which three provinces were given “Code Red” status, thereby signifying that the relevant local governments will not approve further wind power projects in these areas. This notice also reiterates authorities’ responsibility to implement the framework set out in Document 625 through the issuance of local implementation measures, including in respect of the guaranteed utilisation rate.

As a new initiative, the NEA is planning to launch a renewables electricity quota system supported by tradable renewable electricity certificates (”RECs”) as a measurement instrument. Upon the proclamation of the initiative, grid companies, electricity retail companies and end-users participating in electricity trading (the “Electricity Users”) will be obliged to obtain RECs by consuming renewable electricity and maintain a statutory amount of RECs to meet the quota requirements. If an Electricity User fails to acquire enough RECs by renewable electricity consumption as required, it must purchase RECs from other Electricity Users in order to meet the quota requirements. According to the NEA, this new REC initiative is a key enhancement to Document 625 in respect of the reduction of curtailment as it sets a specific standard for renewable energy consumption. In addition, with the obligation to purchase the RECs of Electricity Users, the financial stress on the Renewable Energy Development Fund will be significantly eased.

### Topical issues

#### Curtailment

Curtailment is one of the key issues affecting the development of renewables in the PRC is the practice of curtailment by grid operators. While the PRC has been actively developing its regional grids and ultrahigh-voltage (or “UHV”) cross-provinces distribution lines, the issue remains an important one for renewable power producers.

According to public reports, the PRC curtailed 12% of its potential wind energy in 2017 and a number of installed wind turbines are not connected to the grid. There is, however, a big variation in curtailment between different regions, with curtailment in Gansu province reaching levels above 30% for 2018.

Curtailment has developed due to a shortage of grid capacity and despite statutory provisions mandating the purchase and dispatch of renewable energy. To remedy the issue, the NDRC introduced on 31 May 2016 a new approach to curtailment through the issuance of the so-called “Document 625”. Document 625 does not propose to end curtailment completely, but provides for:

(i) a new mechanism for allocating operational hours (to be planned by the “NDRC” and “NEA”) with guaranteed purchase of power during allocated hours;

(ii) compensation for renewable power producers when curtailment is applied (with conventional power producers being required to bear the costs if the curtailment is due to such power producers going beyond allocated capacity); and

(iii) the possibility for renewable power producers to negotiate contracts with end-users for non-allocated hours (with priority dispatch).

#### Foreign investment and services opportunities

The PRC regulates foreign investment through various instruments with one of the most important being the Catalogue of Industries for Guiding Foreign Investment (the “Catalogue”), which defines which activities are prohibited, restricted or encouraged with respect to foreign investment.

Several activities relating to renewable energy (including construction of renewable power plants) are listed under the “encouraged” category of foreign investment in the Catalogue, and do not require a minimum level of domestic participation. Indeed, the Central Government seems increasingly to be seeking to attract foreign investment in the renewables and green energy sector. For example, recent reforms under the Catalogue are to add tidal current renewable power plants to the types of power plants into which foreign investment is encouraged and the requirement for domestic equity control of grid construction and operation businesses has been removed.

### Source

13  This price range is applicable to solar power plants approved after 1 January 2018. The feed-in tariff for solar power varies among these resource districts determined by the NDRC based on the average solar resources and relevant costs, specifically being 0.59 yuan/kWh, 0.69 yuan/kWh and 0.75 yuan/kWh.

14  This price range is applicable to wind projects approved after 28 May 2018 (except for those approved in 2018 in accordance with the existing 2018 provincial wind power construction plans issued before 28 May 2018).

15  With respect to other power plants, the feed-in tariff differs among the provinces and will be determined by the NDRC based on the average power purchase price of the grid companies in the province and the construction/operation cost of the power plant. For the inter province power plants, the feed-in tariff will be the power price of the receiving province minus the relevant cost in the power transfer.

16  0.75 yuan/kWh for agricultural and forest biomass; 0.65 yuan/kWh for waste incineration biomass; the feed-in tariff for other types of biomass varies among the provinces.

17  Source: http://zfxxgk.nea.gov.cn/auto87/201803/t20180323_3131.htm

18  Source: http://zfxxgk.nea.gov.cn/auto87/201803/t20180323_3132.htm

19  The Catalogue is a catalogue issued by NDRC and Ministry of Commerce (“MOFCOM”) to regulate foreign investment in certain sectors in China. The Catalogue comprises three sections: (i) encouraged; (ii) restricted; and (iii) prohibited. Sections (ii) and (iii) constitute a constantly updated negative list for foreign investment access (“Negative List”). While investment in industries that fall within the encouraged category or outside the Catalogue do not require prior approval from MOFCOM, those which fall within the scope of the Negative List are subject to such prior approval or are barred from foreign investment.

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<table>
<thead>
<tr>
<th>Source</th>
<th>Price (yuan/kWh)</th>
<th>Applicable notice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar</td>
<td>0.55 to 0.75</td>
<td>Notice of NDRC on the 2018 Price Policy for Solar Photovoltaic Projects (国家发展改革委员会关于2018年光伏发电项目上网电价的通知)</td>
</tr>
<tr>
<td>Wind</td>
<td>To be decided in the bidding process of the power project</td>
<td>Notice of NDRC on the 2018 Regulations to the Construction and Administration of Wind Power (国家发展改革委员会关于2018年风电项目建设有关要求的通知)</td>
</tr>
<tr>
<td>Hydropower</td>
<td>To be decided in the bidding process of the power project, or to be calculated on a case-by-case basis</td>
<td>Notice of NDRC on Perfection of Power Price Mechanism of Hydropower (国家发展改革委员会关于完善水电上网电价形成机制的意见)</td>
</tr>
<tr>
<td>Biomass</td>
<td>0.65 to 0.75</td>
<td>Notice of NDRC on Perfection of Power Price of Agricultural and Forest Biomass (国家发展改革委关于完善农业和林业生物质发电价格形成机制的意见)</td>
</tr>
</tbody>
</table>
Renewable Energy in India.

Regulatory framework for renewable energy in India

The renewable energy sector in India has witnessed significant growth as well as foreign and domestic interest in the last few years. At the end of 2017-18 the total renewable power installed capacity in the country was almost 70 GW. The Indian government’s ambitious target to reach 175 GW of renewable energy capacity by 2022 (of which about 100 GW is planned for solar power, and 60 GW for wind power) and its commitment to promote clean energy initiatives has encouraged project sponsors to participate in the Indian renewable sector. In this brochure we have briefly discussed the regulatory regime and key policy initiatives applicable to renewable energy, including the key regulators and administrative authorities involved. We have also highlighted key topical issues that investors consider while doing renewable energy transactions in India.

Key sectoral issues

Financing or Investment

- Rapidly declining tariffs influenced by competitive bidding processes have raised concerns on the sustainability and commercial viability of projects. Press reports suggest caping solar tariffs and wind tariffs are moving from competitive bidding.
- Inherent seasonality of power generation adversely impacts cash flows of the renewable energy project during the non-productive season.
- Capital expenditure and project costs are significantly higher when compared to conventional power projects.
- Cost of project financing through facilities availed from domestic financial institutions is expensive with sponsors having to bear higher interest rates.

Regulatory and other infrastructure related issues

- Considerable delay in providing grid connectivity except for projects that fall in the dedicated transmission corridor where access to grid infrastructure is swift and efficient.
- Complexity of subsidy structure and no uniform practice followed by state agencies while formulating subsidy guidelines.
- Availability of sufficient contiguous land at competitive prices that is required for installation of project facilities, delays in land acquisition and limited state support in the land acquisition process.

Overview of the applicable legal framework and government policies

The power sector was liberalised in the 1990s and private sector participation was allowed in power generation, distribution and transmission. Today India has a federal system of governance with the central government and the state governments each being entitled to legislate on matters related to electricity and power, including incentives.

Electricity Act, 2003

- The Indian government, through the Electricity Act, 2003 (the “Electricity Act”) is the primary Indian legislation that regulates the power sector including aspects such as generation, distribution and sale of renewable energy. A licence is required to transmit, distribute or trade in electricity. The Electricity Act contemplates two types of power producers: (a) independent power producers, which are entities that generate electricity for commercial third party or open market sale; or (b) captive power producers, which are entities that generate electricity for their own use or captive consumption of an industry (or group of industries).
- The regulatory and administrative responsibilities under the Electricity Act are bifurcated between various central and state level entities or agencies. The Central Electricity Regulatory Commission (“CERC”) is the central regulator that is responsible, among other things, for inter-state related electricity issues while the respective State Electricity Regulatory Commissions (“SERCs”) are the state regulators that are responsible for intra-state related electricity issues. This is described in greater details in paragraph 3.1 below.
- The Electricity Act recognises multi-year tariff principles, lists factors that should be considered by the relevant regulatory commission while determining tariffs and provisions of tariffs by allowing cross subsidisation. These measures ensure transparency and predictability in the tariff structure. The Electricity Act has also introduced provisions relating to mandatory open access of transmission and distribution systems (i.e. non-discriminatory provision for the use of transmission lines or distribution systems and associated facilities). Detailed regulations have been prescribed by the CERC and SERC on the renewable energy certificate mechanism. These regulations aim at the development of the power market from non-convention energy sources through the issuance of tradable and saleable credit certificates, which helps facilitate inter-state transactions involving renewable energy with the least cost and technology involved.

National Renewable Energy Bill, 2015 (“Bill”)

- In July 2015, the Indian government circulated the draft Bill, which among other things, provides for a framework to facilitate and promote the use of renewable energy. The draft Bill contemplates the formulation of a national level policy on renewable energy that will specify the broad principles for medium and long term renewable energy targets, focus on development of a sustainable renewable energy development and eliminate barriers for deployment of renewable energy related technologies.
- The Bill also proposes to establish the “National Renewable Energy Fund” and “State Green Fund” that will provide grants and other monetary contributions to meet the expenses of implementing the objectives of the national renewable energy policy. The government is currently engaged in a consultative process with the industry and it is difficult to ascertain a timeline within which the draft Bill will become a statute.

National Electricity Policy (“NEP”)

The Indian government has developed the NEP to encourage development of the power sector by laying emphasis on the need for optimum utilisation of non-conventional energy resources such as solar, hydro, wind and bio-mass. The NEP provides that SERCs should specify appropriate terms and conditions for promotion of renewable energy.

National Tariff Policy (“NTP”)

The NTP was notified by the Indian government to ensure financial viability of the power sector and promote transparency, consistency and predictability in regulatory approach across jurisdictions. The NTP was amended in 2016 and several reforms were introduced to promote renewable energy and the sourcing of power through competitive bidding, outline various parameters (such as revenue in proportion, cost of debt and rate of depreciation on assets) and set out general principles that must be followed by the relevant commission while determining tariffs for renewable energy projects. On 30 May 2018 further draft amendments were circulated for comment, proposing changes such as higher revenue in proportion (before introduction of a subsidy surcharge for a maximum period of one year from the date of opting for open access) and further terms and conditions in relation to standby charges.

National Solar Mission (“NSM”)

NSM was launched by the Indian government in 2010 and intends to achieve solar generation capacity of 100 GW by 2022. NSM aims at creating conditions for rapid scale-up of capacity and technological innovation to drive down costs towards grid parity. Solar generation has been promoted through scale-up in grid connected solar projects, development of large solar parks and rapid installation of grid connected solar rooftop projects. The government has also implemented a viability gap funding scheme wherein funding is provided to sponsors selected through a transparent bidding process, to procure solar power at a pre-determined fixed tariff.

National Policy on Biofuels (“NPBF”)”

The Union cabinet approved the NPBF on May 2018 with an aim to increase usage of biofuels in the energy and transportation sectors of India during the coming decade. The NPBF further aims to utilise and develop domestic feedstock, including the production and consumption of biofuels as a substitute to fossil fuels, while also contributing to national energy security, climate change mitigation and providing new employment opportunities.

National Wind-Solar Hybrid Policy (“NWPSP”)

The Ministry of New and Renewable Energy released the NWPSP on 14 May 2018 (as amended on 13 August 2018) with the objective of providing a framework for promotion of large grid connected wind-solar photovoltaic (“WPV”) hybrid systems for optimal and efficient utilisation of transmission infrastructure and land, reducing the variability in renewable power generation and achieving better grid stability, as well as encouraging new technologies and methods involving the combined operation of wind and solar PV plants.

Foreign investment in renewable energy

As per the prevailing foreign investment policy, 100% foreign investment is allowed in activities engaged in the renewable energy sector subject to the provisions of the Electricity Act and other relevant state renewable energy policies.

Key regulators and other administrative agencies

CERC and SERCs

- As discussed above, the Electricity Act provides for the constitution of a CERC and, for each state – a SERC. Among other things, the CERC and the SERCs are responsible for regulating tariffs in relation to generation, transmission, supply and distribution of electricity, issuance of licences and fixing trading margins (if found necessary).
- The CERC and SERCs also act as quasi-judicial bodies. The CERC is responsible for adjudicating upon disputes involving generating companies or transmission licences in relation to any inter-state activities. The respective SERCs are responsible for adjudicating upon disputes between licensees and generating companies within their jurisdiction, and also to refer any disputes to arbitration.

Ministry of New and Renewable Energy (“MNRE”)

MNRE is the main administrative body that is responsible for formulating schemes and policies in relation to development and commercialisation of renewable energy. State level nodal agencies have also been setup for the effective implementation of central and state schemes in relation to the promotion of renewable energy.

State Energy Development Agencies

The State Energy Development Agencies (“SEDA”) are the state government authorities which are responsible for formulating and implementing renewable energy policies that will attract private participation in developing projects. The renewable energy policies of most states contemplate SEDA to be the main authority responsible for granting project approvals. SEDAs also assist sponsors in procuring other permits and consents (such as pollution control clearances etc.) required for establishing and operating renewable energy projects.

Transmission utilities

- Under the Electricity Act, the central government may nominate any government company to be a central transmission utility (“CTU”), and the various state governments may nominate the state electricity board (“Board”) or any government company to be the state-specific transmission utility (“STU”). To this effect, the function of transmission utilities is to undertake transmission of electricity with the CTU being responsible for inter-state transmission and the STUs being responsible for intra-state transmission activities.
- Power Grid Corporation of India Limited is the only national-wide transmission licenses long with a few private transmission companies who have asset-specific licences. Each state has its in-state transmission licensee in the form of a state government promoted company or the Board.

Indian Renewable Energy Development Agency (“IREDA”)

IREDA is a government company established to promote, develop and extend financial assistance for setting up projects relating to renewable energy in India. IREDA has prescribed detailed norms that set out the terms on which financing facilities are offered to renewable energy project developers. IREDA also plays a key role as a program administrator in respect of certain incentive schemes that have been formulated by the MNRE for solar and wind power projects.

September 2018

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The overall potential for renewable energy in Indonesia is described in the RUPTL 2018-2027 as follows:

<table>
<thead>
<tr>
<th>Sector</th>
<th>Capacity (MW)</th>
<th>Exploited (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geothermal</td>
<td>29,554</td>
<td>4.00</td>
</tr>
<tr>
<td>Hydro</td>
<td>79,091</td>
<td>6.40</td>
</tr>
<tr>
<td>Bioenergy</td>
<td>32,654</td>
<td>5.10</td>
</tr>
<tr>
<td>Solar</td>
<td>207,896</td>
<td>0.04</td>
</tr>
<tr>
<td>Wind</td>
<td>60,647</td>
<td>0.01</td>
</tr>
<tr>
<td>Sea wave</td>
<td>17,989</td>
<td>0.00</td>
</tr>
<tr>
<td>Mini micro hydro</td>
<td>19,385</td>
<td>1.00</td>
</tr>
</tbody>
</table>

How does the system work?

PT Perusahaan Listrik Negara ("PLN"), the state-owned operator, owns the vast majority of the power generation capacity, production and transmission networks for electricity. In addition to PLN’s own generation, the Government has, for a number of decades, licensed independent power producers ("IPPs") to generate electricity for use in Indonesia. The licences allow the IPPs to generate a stated amount of electricity for use in Indonesia. This electricity must be sold under a power purchase agreement ("PPA") between the IPP and the relevant buyer of electricity which, in practice, is usually PLN. The price at which electricity may be supplied to PLN must be approved by the Ministry of Energy and Mineral Resources. Hence, the tariffs do not cover the cost of generation. As PLN performs a "Public Sector Obligation", the Government provides substantial subsidies for the difference between generating costs and consumer tariffs. As of August 2017, total installed power generation capacity in Indonesia had the following breakdown of ownership:

- PLN (state-owned operator) – 79,091 MW (73.8%)
- IPPs – 10,457 MW (19.2%)
- Renewables (other than Geothermal) – 3,835 MW (7.0%)

Overview of recent developments in renewables

Under the National Energy Policy (2014), 23% of all electricity must be procured from renewables by 2018.

The 2018-2027 RUPTL stated a 23% renewables target by 2025. However, despite the increased number of PPAs signed by PLN this target is unlikely to be achieved by the Government.

From 2014 to 2016, tariff regulations were issued for geothermal, mini-hydro, solar, wind energy, biomass and biogas IPPs.

However, despite the increased number of PPAs signed by PLN this target is unlikely to be achieved by the Government.

PLN’s new tariff regime does not apply to PPAs already signed, as these will be grandfathered using existing tariffs.

PLN’s generation cost

The Minister of Energy and Mineral Resources ("MEMR") has also issued a new regulation on setting PLN’s BPP for particular procurement, both locally and nationally. The BPP will be set annually by MEMR on the basis of a proposal from PLN which references the BPP from the previous year (i.e., the "BPP" for 2017 will be applied for procurement from April 2018 to March 2019). This regulation does not set out a formula or components for calculating the BPP - it merely stipulates numbers – and there is no BPP for particular energy sources.

This means renewables energy needs to compete with other cheaper electricity sources, such as coal, because pricing will be linked to the BPP which includes all energy sources, rather than having a specific feed-in tariff for renewable energy.

MEMR has separately set the actual BPP of PLN for 2018, which is valid from 1 April 2018 until 30 March 2019.

Government incentives and tax breaks

Under Presidential Regulation No. 4 of 2016 on the Development of Electrical Infrastructure as amended by Presidential Regulation No. 14 of 2017 ("Perpres No. 4"), power projects may obtain incentives from the central and/or regional government in the form of, among other things: (i) fiscal incentives; (ii) facilities for licensing and non-licensing; and (iii) subsidies.

In addition, based on MOF Regulation No.130/PMK/BI 2016 on the Granting of Government Guarantees for the Acceleration of the Development of Electrical Infrastructure ("Regulation 130/2016"), there are two types of fiscal guarantee provided by the Indonesian Government:

- Unconditional Government Guarantee (UGG)
- Conditional Government Guarantee (CGG)
the Government to support acceleration of power infrastructure development. The first type is the loan guarantee for loans to PLN for development of its own power infrastructure. The second type is the business viability guarantee for IPPs to secure certain payment obligations of PLN. In order to obtain the guarantee, as mentioned above, the power projects will have to be included on a list drawn up by PLN. This list is officially approved by the Ministry of Energy and Mineral Resources, and forwarded to the Directorate General of Risk and Financing Management.

The Government has provided: (i) income tax incentives in the form of reductions in taxable income, extended tax loss carryforward period, accelerated depreciation and amortisation rates, and dividend WHT concessions; and (ii) various concessions on import duties and taxes. However, the ability of Government to achieve its new renewables target may depend on the willingness of the Government to provide further incentives (fiscal incentives or subsidies) to renewables developers.

Topical issues

Foreign ownership limits for small-scale renewables and shareholder structuring

Restrictions on foreign direct investment into a foreign capital investment company are set out in the Presidential Regulation No. 44 of 2016:

> Electricity generation capacity of ≤9 MW – reserved for 100% national ownership
> Electricity generation capacity of 9 MW-10 MW – maximum foreign ownership is 49%
> Electricity generation capacity of >10 MW – maximum foreign ownership is 95%, or 100% during the concession period if tender is carried out through the PPP mechanism
> Geothermal power plants less than or equal to 10 MW (open up for IPPs to tender is carried out through the PPP mechanism)

The requirement that smaller-scale renewable projects (other than geothermal projects) between 1 MW and 10 MW are subject to a majority domestic ownership requirement gives rise to investment viability and operational challenges for prospective foreign sponsors in these types of projects. However, the Indonesian investment law (Law No. 25 of 2007) does not require that an Investor’s economic benefits and returns must correspond to its shareholding portion. It is therefore open to sponsors to seek to:

> re-distribute the economic risks and returns from the project, and
> despite their 49% shareholding, exercise effective management and operational control over the project company.

There are various possible ways to do this (non-voting shares, preference shares, shareholder loans and service agreements, etc.), each raising different issues under Indonesian law that need to be assessed and managed.

New tariff regime

Whilst the Government’s desire to adopt a pricing structure for renewables that assists in reducing the existing average cost of generation (and in turn reducing the subsidy dependency of PLN) is laudable, it remains debatable as to whether benchmarking renewables against the cost of generation from other energy sources at a particular point in time is a legitimate comparison. In this regard, it should be noted that in comparing the cost of procuring renewables generation against (for example) the cost of procuring coal-fired power generation at a point in time, undoubtedly does not take proper account of other fluctuations in fossil fuel prices (which are passed through to PLN and included in the cost of generation) over time or indirect environmental costs of continued reliance on fossil fuels in the fuel mix.

Risk allocation under the Power Purchase Agreement
Regulation of the Ministry of Energy and Mineral Resources No. 10 of 2017 on Basic Provisions of Power Purchase Agreement (“Regulation 10/2017”) which prescribes certain PPA risk allocation concepts that PLN must follow for certain power projects was amended by Minister of Energy and Mineral Resources Regulation No. 49/2017 (“Regulation 49/2017”) and Minister of Energy and Mineral Resources Regulation No. 10/2018 (Regulation 10/2018) (Regulation 10/2018)). Regulation 10/2017 caused much consternation in the industry, as it appears to codify certain risk allocation principles – particularly with regard to political risk and PLN grid risk – that roll back safeguards that have for years underpinned the bankability of Indonesian PPAs. As a result, Regulation 49/2017 and Regulation 10/2018 were introduced to improve upon the position surrounding risk allocation principles with regards to political risks and government related force majeure for the IPPs. However, there are still some concerns affecting the IPPs under Regulation 10/2017 which remains unchanged in Regulation 49/2017 and Regulation 10/2018 including the absence of deemed dispatch payments to IPPs where a force majeure event affects PLN’s electricity grids.

Regulation 10/2017 (as amended by Regulation 49/2017 and Regulation 10/2018) only applies to new PPAs to be entered into by PLN and importantly for the renewables sector does not apply to “intermittent” power generation projects (e.g. solar and wind projects), mini-hydro projects below 10 MW, biomass power projects and municipal waste to energy projects. However, Regulation 50/2017 although payable in Rupiah. For recent large-scale power projects, PLN has accommodated sponsor and lender concerns on currency risk inherent in this arrangement by entering into a tripartite converting agreement with a local bank under which PLN will guarantee the USD amount on conversion back from Rupiah. However, we expect that PLN may be reluctant to offer this concession for the smaller-scale renewables developments, and accordingly residual currency risks will need to be assessed and managed carefully by the sponsors.

Currency issues

Despite their 49% shareholding, exercise effective management and operational control over the project company. There are various possible ways to do this (non-voting shares, preference shares, shareholder loans and service agreements, etc.), each raising different issues under Indonesian law that need to be assessed and managed.

New tariff regime

Whilst the Government’s desire to adopt a pricing structure for renewables that assists in reducing the existing average cost of generation (and in turn reducing the subsidy dependency of PLN) is laudable, it remains debatable as to whether benchmarking renewables against the cost of generation from other energy sources at a particular point in time is a legitimate comparison. In this regard, it should be noted that in comparing the cost of procuring renewables generation against (for example) the cost of procuring coal-fired power generation at a point in time, undoubtedly does not take proper account of other fluctuations in fossil fuel prices (which are passed through to PLN and included in the cost of generation) over time or indirect environmental costs of continued reliance on fossil fuels in the fuel mix.

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Currency issues

Indonesian Law No. 7 of 2011 on Currency, together with the implementing regulations issued by Bank Indonesia, imposes certain currency restrictions, including that Rupiah must be used to settle financial obligations within the territory of Indonesia. PBI 17/3/2015 also provides that business entities must also state the price for goods and/or services only in IDR. It is further clarified by SEBI 17/11 that business entities are prohibited from stating the price for goods and/or services simultaneously in both IDR and foreign currency (dual quotation).

BPP figures are denominated in USD and IDR which leaves open the possibility to denominate the tariff in the PPA in USD under Regulation 50/2017 although payable in Rupiah. For recent large-scale power projects, PLN has accommodated sponsor and lender concerns on currency risk inherent in this arrangement by entering into a tripartite converting agreement with a local bank under which PLN will guarantee the USD amount on conversion back from Rupiah. However, we expect that PLN may be reluctant to offer this concession for the smaller-scale renewables developments, and accordingly residual currency risks will need to be assessed and managed carefully by the sponsors.

Land acquisition and spatial layout plans

Power and infrastructure projects in Indonesia continue to be plagued by land acquisition problems, particularly in the populated areas of Java Island.

In 2012, Indonesia enacted a new regulatory framework governing land procurement in the public interest. Power plants and electricity transmission distribution fall within the scope of this law. The recent successful application of these regulations in the context of the Central Java IPP project has given renewed hope that these new laws can actually deliver large-scale infrastructure projects that would once have been incapable of development.

However, another key problem in this area is the misalignment between the national and regional spatial layout plans. The Government has recently introduced amendments to the spatial planning regulatory framework to accelerate amendments to spatial plans and potentially for strategic projects to proceed on the basis of their inclusion in the national spatial layout plan. Nevertheless, only time will tell if these changes will in practice facilitate the issuance of local permits, such as location permits required for land acquisition, that have been held up due to misalignment between the national and regional spatial layout plans.

September 2018

This publication is intended merely to highlight issues and not to provide legal advice, nor to provide legal advice, and its contents should not be relied upon as legal advice, either generally or in relation to any specific transaction.
We set out below a brief summary of the regulatory regime for the renewable sector in Japan and some topical issues relating to the renewables sector.

Which sectors are active?

Current Energy Mix

Japan's main source of energy is thermal power with coal and LNG representing the most prominent sources of energy in its current energy mix. Renewable energy (excluding hydro power) has increased from 1.4% (in 2011) to 7.7% (in 2016).

The chart below sets out estimated annual power generation capacity per each renewable source.

<table>
<thead>
<tr>
<th>Source: Statistics from METI's FIT Committee in September 2017</th>
</tr>
</thead>
</table>

**2017 Energy Mix**

- **Thermal (LNG, Coal, Oil)**: 83.4%
- **Nuclear**: 1.6%
- **Hydro**: 7.3%
- **Renewables**: 7.7%

**Annual Power Generation Capacity from Renewables (FY2016)**

- **PV**: 90.9%
- **Wind**: 2.8%
- **Geothermal**: 0.7%
- **Small scale Hydro**: 3.2%
- **Biomass**: 2.9%

Source: Statistics from METI’s FIT Committee in September 2017

Switching to renewable energy

Renewable energy consists of 22-24% of the Government’s 2030 Energy Mix plan. While the certified capacity of solar power already exceeds the target amount in the 2030 Energy Mix, wind and biomass energy will need significant investments in order to achieve the target set in the 2030 Energy Mix.

<table>
<thead>
<tr>
<th>Source: Ministry of Economy, Trade and Industry</th>
</tr>
</thead>
</table>

**2030 Energy Mix**

- **LNG**: 27%
- **Coal**: 26%
- **Oil**: 3%
- **Nuclear**: 20-22%
- **Hydro**: 8.8-9.2%
- **PV**: 7%
- **Biomass**: 3.7-4.6%
- **Wind**: 1.7%
- **Geothermal**: 1.1%

| Source: Ministry of Economy, Trade and Industry |

How does the system work?

Certification by METI of a renewable energy generator

A renewable energy generator is only eligible for the benefits prescribed under the feed-in tariff scheme if it obtains a certification from METI in respect of the renewable energy facility (the “METI Certification”). The METI Certification is obtained after satisfying certain requirements such as:

- an ability to generate power on a stable and efficient basis;
- proper repair and maintenance including the ability to repair the facility within three months;
- agreed location;
- output measurement;
- conversion efficiency; and
- construction and operating costs recorded and provided to METI.

The METI Certification may be revoked if any of the requirements are no longer satisfied. However, unless revoked, it remains valid for the entirety of the procurement period.

If there are any material changes in respect of a renewable energy facility (including, for example, a change in the proposed capacity of the renewable energy facility) that has received a METI Certification, METI must certify the change based on the new specifications of the renewable energy facility. The circumstances in which changes must be certified and in which the tariff may be amended were expanded by regulations introduced on 31 August 2017. The circumstances in which changes will need to be certified and in which the tariff will be changed include the following events:

- in solar projects with a capacity of less than 100kW, the capacity of the photovoltaic panels is increased by greater than 3%;
- in solar projects with a capacity of greater than 100kW, the capacity of the photovoltaic panels is increased by greater than 30kW;
- the capacity of the photovoltaic panels is decreased by greater than 20% (for example, by reducing the number of photovoltaic panels);
- there is a major change in circumstances which requires the existing interconnection agreement to be re-executed. A “major change” is a change in relation to certain important terms and conditions in the interconnection agreement, including:
  - the interconnection agreement is terminated due to, for example, the generator’s failure to pay the cost of constructing the interconnection or failure to comply with the curtailment measures applicable to the renewable energy facility (please see Curtailment below);
  - the generator proposes a change in the method of constructing new grid lines (i.e. aerial or underground); and
  - the generator proposes a change in the person constructing new grid lines (i.e. from the applicant to the utility).

Such major changes include where there is a change resulting in “overloading”. Overloading is where the capacity of the power conditioner to which the photovoltaic panels are connected is lower than the aggregate capacity of the photovoltaic panels, so that the amount of power generation outside of peak daylight hours is improved. Overloading will not be prohibited, however, if the number of the photovoltaic panels is subsequently increased after a METI Certificate is obtained, such change must be certified and a new tariff will apply to the project.

Minor changes to the renewable energy facility (including a change to the project site) do not require METI to certify the changes, and only require a notification to be made to METI.

In addition, a METI Certification provided after 1 April 2014 will be withdrawn automatically if the relevant renewable energy generator does not enter into an interconnection agreement with a utility within a certain period of time. In respect of:

- METI Certifications provided between 1 April 2014 to 31 March 2015, the renewable energy generator must enter into an interconnection agreement within 360 days, and
- METI Certifications provided between 1 April 2015 to 31 March 2016, the renewable energy generator must enter into an interconnection agreement within 450 days.

Further amendments were introduced to the certification regime through an amendment act passed in the Japanese Diet on 25 May 2016, whereby a reverse auction procurement process will be implemented in Japan from 1 April 2017 (please see Topical Issues below for further details).
Feed-in tariff regime (implemented until 1 April 2020)

> Under the feed-in tariff regime, utilities are required to enter into a power purchase agreement and an interconnection agreement with a renewable generator certified by METI. The relevant utility must:
>   - take all power produced by the renewable installation (a business plan to start operation of the relevant renewable energy facility must be submitted to the relevant utility if curtailment occurs due to exceptional circumstances)
>   - pay a specified tariff for all power actually received; and
>   - offer a connection to the generator (that the generator must pay for).

The idea is to de-risk renewables from market pricing risks based on a pro forma power purchase and interconnection agreement prepared by METI with little/no scope for additional risk transfer and no capacity payment (i.e. the utility does not take resource risk). In our experience, there is very little scope to negotiate the terms of this pro forma power purchase and interconnection agreement. Please see Power Purchase and Interconnection Agreement – Key Terms, below, for a summary of some key terms.

> Utilities are compensated for purchasing renewable electricity by a surcharge imposed on end-user consumers, which thereby bear the additional cost of the renewable energy.

> Following concern that in some instances utilities had withheld interconnection applications from renewable energy generators, METI made various changes to the feed-in tariff regime in respect of (i) curtailment, (ii) additional refusal rights for “designated utilities” (defined as those utilities who have exceeded their grid capacity to enter into an interconnection agreement if the generator is unable to demonstrate that it will be able to start generating within a certain period after signing the interconnection agreement and (iv) measures with respect to delays in development projects.

> Once determined, the tariff applied for the duration of the procurement period. The set tariff is not automatically adjusted by reference to any variable elements such as inflation, retail energy price etc.

> Prior to the amendments in January 2015, in principle, the tariff was set on the date of application for interconnection to the grid line. Following the amendment, the tariff was fixed by reference to the date the interconnection agreement was entered into between the generator and the relevant utility. The tariff payable by the utility under the regime up to 1 April 2017 is specified by METI and we set out below the current tariff table.

<table>
<thead>
<tr>
<th>Type of Renewable Energy</th>
<th>Feed-In Tariff (JPY / kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FY2017</td>
</tr>
<tr>
<td>Solar</td>
<td></td>
</tr>
<tr>
<td>&gt;10kW</td>
<td>28</td>
</tr>
<tr>
<td>10-20000kW</td>
<td>21</td>
</tr>
<tr>
<td>&gt;20,000kW</td>
<td></td>
</tr>
<tr>
<td>Reverse Auction (see below)</td>
<td></td>
</tr>
<tr>
<td>Wind</td>
<td></td>
</tr>
<tr>
<td>Onshore</td>
<td>22</td>
</tr>
<tr>
<td>Offshore</td>
<td>36</td>
</tr>
</tbody>
</table>

Revised feed-in tariff regime April 2017

> As costs for solar power decrease, METI introduced a new feed-in tariff which sets the tariff rate for different renewable sources for the subsequent three years. Tariffs will vary depending on the capacity of the power plant, with plants up to 2MW being subject to a 21 JPY/kWh tariff and plants over 2MW coming under a new auction scheme.

> Approvals for 456,000 projects totaling 27.7GW were reported to have been cancelled following the enactment of the new tariff regime.

> Meanwhile, the feed-in tariff for offshore wind has been fixed at 36 JPY/kWh (having been increased from 23 JPY/kWh in 2014 through the fiscal year 2020/20). As the Government seeks to encourage expansion in the sector (see section entitled ‘Offshore wind zones bill approved by Cabinet (9 March 2018)’ below for further information).

Reverse auction for solar power (implemented from 1 April 2017)

> As referred to above, from 1 April 2017 a competitive reverse auction process has been introduced for solar projects with capacity greater than 2MW.

> Developers who meet certain criteria and pay the required deposit will have the opportunity to submit a bid and compete for the right to supply a fixed amount of power to the utilities at auctions which are expected to be held between one and three times per year. Bids in the auction will be accepted from the lowest until the capacity available at the relevant auction is fully allocated.

> The ceiling bidding price was set at 21 JPY/kWh in the first auction which took place in November 2017. 141MW was awarded in November 2017 out of a possible 500MW, with surrounding issues such as land grid connection and terms of the auction security deposits being cited as possible reasons. The maximum bidding price in the auction taking place in August 2018 was reduced to 15.5 JPY/kWh (not disclosed in advance of the auction) – each of the 9 developers taking part in the August 2018 auction exceeded this cap, and accordingly none of the proposed 250MW was awarded. One additional auction is taking place in November 2018. In response to feedback from market participants, METI has amended the terms of the auction security deposit.

Offshore wind zones bill approved by Cabinet (9 March 2018)

> A new law to allow long-term use of open sea zones for offshore wind was approved by a Cabinet meeting on 9 March 2018. The law will allow wind farm operators to use offshore sea zones for a period of 30 years whereas before this law, right of possession in general common sea areas could only be retained for 3.5 years.

> Potential operators are set to bid in public auctions for the sea areas under the new legislation. The Government will announce the winners of bids to use the feed-in tariff price which currently stands at JPY 36 (USD 0.39 cents) per kWh.

> As part of the Government’s mid-term energy mix policy, the Government is targeting an increase in wind power generation to 10GW by March 2031 (from 3.37GW in March 2017). The new target includes 0.82GW of offshore wind generating capacity which, at present, only stands at 65MW.

Japanese media reports that Asomori, Akiha, Saga and Nagasaki are likely to be among the five zones to be created. The draft legislation is now awaiting Diet approval.

> The bill was not approved by the Diet at the ordinary session which ended in June 2017. The expectation is that the bill will be approved in subsequent sessions in autumn 2018 or the ordinary session in 2019.

Topical issues

Curtailment

> In order to avoid excess supply of electricity to the grid lines, utilities are permitted to direct certain renewable energy generators to restrict the output of electricity. Curtailment of electricity generation may be applied only after the relevant utility has implemented measures to mitigate curtailment (a) restricting output of its own electricity generation facilities other than its photovoltaic facilities, wind power facilities, nuclear power facilities, hydraulic power facilities and geo-thermal power facilities and (b) sale of excess electricity in the electricity market.

> Following regulatory amendments in January 2015, the curtailment measures apply to renewable energy generators producing electricity by installing solar photovoltaic facilities, wind turbines, and biomass generation facilities (hydro and geothermal are considered as base load electricity and as such are not subject to curtailment).

> Further, while “designated utilities” can impose unlimited curtailment without financial compensation, there are caps on periodical curtailment before utilities must pay compensation.

> 30 days: (if interconnection application is before 26 January 2015)

> 360 hours p.a. (if interconnection application is on or after 26 January 2015)

Delay in development

> From August 2015, further rules were introduced to avoid certified renewable energy generators from securing interconnection access without making any progress in the development of their power project.

> As a result, a utility should have rights under the relevant interconnection agreement (otherwise the utility may refuse to enter into an interconnection agreement) to terminate the interconnection agreement: and (b) the renewable energy generator fails to commence operation as specified within the interconnection agreement.

New METI certification

> If an interconnection agreement is entered into after 1 August 2017, a renewable energy developer (irrespective of whether a ‘METI’ Certification has been obtained) must prepare a business plan to start operation of the relevant renewable energy facility within three years from 1 April 2018 (for a later date when a new ‘METI’ Certificate is obtained).

> If it fails to comply with this, the procurement period will be shortened (provided that this does not apply if the reverse auction system is adopted). This does not apply if the reverse auction process implemented on 1 April 2017 was used to determine the tariff of the relevant renewable energy facility.
A drive for renewable energy

As part of well publicized policy initiatives, the South Korean Government led by President Moon Jae-in has recently announced efforts to lower the country’s heavy reliance on coal and nuclear in electricity generation by raising power production from renewables and LNG. This followed the ratification by South Korea in 2016 of the Paris Agreement adopted at the climate conference held in Paris in December 2015 (COP21) and due to come into force in 2020 whereby South Korea has committed to reducing its greenhouse gas emissions by 37% below business-as-usual emissions by 2030. According to a draft “Renewable Energy 2030” implementation plan released in December 2017, the Government declared that it will increase renewable energy’s share of the energy mix from its current level to 20% by 2030 by providing 48.7GW in new generating capacity. There is some level of expectation that the recent policy pronouncements will bring about additional regulatory changes to support offshore wind and other renewable projects. However, details of these changes have not yet been released.

Together with Japan and Taiwan, South Korea is seen as a possible growth market for the global offshore wind sector and is currently attracting interest from both domestic and international developers and their financiers in relation to the development of a pipeline of utility-scale offshore wind projects in the country.

How does the system work?

Regulatory bodies

- KEPCO. The state-owned Korea Electric Power Corporation ("KEPCO") is the controlling arm of all aspects of electricity generation, transmission, distribution, and retail sales in South Korea. In 2001, KEPCO’s generation assets were divided into six separate subsidiary power generation companies (the “GenCos”). Although this initial restructuring included plans to subsequently divest KEPCO of these subsidiaries, the reform started in 2004 and KEPCO still owns each of them. Apart from KEPCO, a number of independent power producers (“IPPs”) participate in the South Korean electricity market. KEPCO and the GenCos produce about 83% of all generation and IPPs produce the remaining 17%.

- KPX. The Korea Electric Power Exchange ("KPX"), also established in 2001 as part of electricity sector reform, coordinates the wholesale electric power market and determines prices sold between generators and the KEPCO grid. Generation companies compete to sell power into an hourly auction pool operated by the KPX, with KEPCO acting as a single buyer. The auction pool is a “cost-based pool,” meaning that the generation companies are required to bid at their variable cost of operations. That said, end-use electricity prices in South Korea are regulated by government and not necessarily tied to the actual cost of generation and distribution.

- MOTIE. Under the Electricity Business Act (also known as the Electric Utility Act) (the “EB Act”), the Ministry of Trade, Industry and Energy (“MOTIE”) is vested with the responsibility of establishing and implementing overarching policies relating to the energy sector including the electricity market. MOTIE’s primary responsibilities include (among others) (i) preparation of policies for the supply and demand of electricity; (ii) issuing licences for electricity generation businesses; (iii) approval of charges for the use of KEPCO’s transmission and distribution assets; (iv) oversight of KEPCO and KPX; (v) oversight of compliance by electricity generation businesses; and (vi) approving applications for the construction of new electricity generation projects and conducting pre-use inspections.

Legislative framework

The primary legislative instruments for the renewable energy sector in South Korea are the EB Act and the Act on the Development, Use and Diffusion of New and Renewable Energy (also known as the Act on the Promotion of the Development, Use and Diffusion of New and Renewable Energy) (the “Renewable Energy Act”). In addition, a range of other laws and regulations (together with subordinate presidential and ministerial decrees) will be relevant to the development of renewable projects in South Korea including (among others) those relating to the environment, construction, planning, land and sea-bed rights, fisheries rights and health and safety.

The generation, transmission and distribution of electricity in South Korea is a regulated business with the principal legislation governing such regulation being the EB Act. Among other things, the EB Act provides for (i) the granting of licences to engage in specified electricity businesses (including, in particular, generation, transmission, distribution and retail sales), (ii) protection of electricity customers, (iii) prohibition of certain unfair activities, (iv) a wholesale electricity market, constitution and responsibilities of the electricity regulatory body, and (v) safety management of generating equipment.

The Renewable Energy Act prescribes key matters in relation to new and renewable energy businesses including the rules and procedures with respect to the RPS scheme discussed below.

Grid allocation and connection

KEPCO presently holds a monopoly over the transmission, distribution and retail sales of electricity in South Korea. Developers of renewable energy projects which have obtained the necessary permits and approvals, including KEPCO, are required by the Regulations on Use of Transmission/ Distribution Infrastructure of KEPCO. KEPCO is required to agree to connect to its grid all electricity generation projects which have obtained the necessary permits and approvals, including KEPCO, are required by the Regulations on Use of Transmission/ Distribution Infrastructure of KEPCO. KEPCO is required to agree to connect to its grid all electricity generation projects which have obtained the necessary permits and approvals, including KEPCO, are required by the Regulations on Use of Transmission/ Distribution Infrastructure of KEPCO.

Permitting regime

The permitting process for the development of a renewables project in South Korea involves different authorities, for example:
- MOTIE, KPX, KEPCO, local government, Korea Electrical Safety Corporation ("KESCO"), the New and Renewable Energy Center, the Ministry of Environment, the Public Waters Management Agency and Ministry of Oceans and Fisheries.

An offshore wind project, for example, would require at least:
- the issuance of an Electricity Business Licence
- the issuance of an environmental impact approval
- the issuance of a Development Activity Permit
- approval / reporting of a construction plan for electric installations
- pre-use instruction
- execution of electricity supply and demand contract / registration as member of the KPX
- facility certification.

Government incentive programmes

RPS System

Currently, the key support mechanism for new renewable energy projects in South Korea is the renewable portfolio standard (“RPS”) scheme which replaced an existing feed-in-tariff mechanism in 2012. The RPS scheme requires state-owned and private power producers that have power generating facilities with installed capacity over 500MW to produce a minimum proportion of their power using new and renewable energy sources. The minimum proportion is 5% as at 2018 with annual increases to 10% by 2023 (although these targets are subject to review and adjustment every three years).

Compliance under the RPS scheme requires power companies to meet their RPS targets by either investing in eligible generation themselves or purchasing renewable energy certificates (“RECs”). Non-complying power companies must pay a financial penalty up to an amount which is 50% above the average market price of RECs for that year. The number of RECs allocated for electricity from renewable sources varies depending on the technology used, the location and the size of the installation.

ETS System

With effect from 1 January 2015, a cap-and-trade emissions trading scheme (“ETS”) for greenhouse gas emissions has been implemented in South Korea pursuant to the Act on the Allocation and Trading of Greenhouse Gas Permits. The ETS covers approximately 525 of the country’s largest greenhouse gas emitters or about 68% of national greenhouse gas emissions and provides a range of incentives (including where impacted entities invest in new and renewable energy projects) as well as penalties for failure to meet the relevant requirements.
Restrictions on investment

Foreign direct investment is not generally restricted or limited in South Korea. If a foreigner’s investment involving more than KRW 100,000,000 in a South Korean company exceeds 10% of the voting stock or results in participation in its management, then the investment is categorised as a direct investment under the Foreign Investment Promotion Law (also known as the Foreign Investment Promotion Act) (“FIPL”). All other minority stake investments are subject to the Financial Investment Services and Capital Markets Act and the Foreign Exchange Transaction Law (also known as the Financial Investment Services and Capital Markets Act and the Foreign Exchange Transactions Act) (“FETL”). However, regulatory requirements pursuant to FIPL and FETL are primarily procedural such as obtaining a foreign investment registration number from the Financial Supervisory Service and establishing certain accounts with a foreign exchange bank. Certain restrictions apply to the acquisition of ownership in certain public entities such as KEPCO.

September 2018

This publication is intended merely to highlight issues and not to be comprehensive, nor to provide legal advice, and its contents should not be relied upon as legal advice, either generally or in relation to any specific transaction. Like other international law firms, Linklaters is not qualified to advise on South Korean law. For the purposes of this note we have relied on our general understanding of the market including based on advice received from leading local South Korean counsel in recent transactions in the renewable energy sector.
Renewable Energy in Taiwan.

Overview

From a position of having a relatively low profile in the regional and international renewable energy community, Taiwan has fast become a focus of developers, investors and others as it seeks to pursue an ambitious agenda of rebalancing its energy mix away from largely imported fossil fuels and towards home grown wind, solar, hydro and other renewable energy sources. The key driver of this is the government’s decision to phase out nuclear power (which currently accounts for approximately 10% of Taiwan’s installed generation capacity) as well as to reduce its reliance on imported coal.

Taiwan’s geographical characteristics and relatively friendly investment environment make it a particularly attractive target for inbound investment from foreign investors.

In particular, the recent award of 5.5GW of grid capacity to new offshore wind projects is expected to result in a high level of activity for this market in the coming years. The successful financing in June 2018 of the 128MW Formosa 1 project, Taiwan’s first utility-scale offshore wind farm, demonstrates the appetite of the local and international bank market to provide long term project finance for offshore wind projects in Taiwan.

Which sectors are active?

Taiwan’s gross energy production was 270,278,709MWh in 2017.1 Taiwan’s main source of energy is thermal power with coal, nuclear and gas (including LNG) representing the most important sources of fuel in the island’s energy mix. The composition of installed generation capacity as of 2017 is as follows:

- **Coal**: 37.1%
- **LNG**: 30.6%
- **Nuclear**: 10.3%
- **Renewables**: 10.6%
- **Fuel oil**: 6.2%
- **Pumped-storage hydro**: 5.2%

In 2016, the government announced that, by 2025, it would phase out nuclear power generation. To plug this energy gap, the government announced ambitious targets to increase the amount of electricity generated from renewable sources to 20% of the island’s energy supply.2

Switching to renewable energy

The composition of Taiwan’s renewable energy generation capacity as of 2017 is as follows:

- **Conventional Hydro**: 39.6%
- **Solar**: 33.5%
- **Wind**: 13.1%
- **Waste**: 11.9%
- **Biomass**: 1.8%

The government aims to achieve the increase in renewable energy generation by developing the following sources of renewable energy generation capacity:

- **Solar**: 200GW by 20253
- **Offshore wind**: 5.5GW by 2025 (see below)
- **Onshore wind**: 1.2GW by 20224

To support the development of renewable energy the government in 2009 passed the Renewable Energy Development Act ("REDA") which provides for a feed-in tariff system (see further details below) and offers a range of incentives to renewable power producers. The REDA is currently under an amendment process in the legislative yuan (legislative assembly).

Switching to renewable energy

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The Electricity Business Act (the “EB Act”) was also subject to substantial reform in 2017, including provision for the future liberalisation of the electricity market but also addressing the development of renewable energy by providing for preferential measures for renewable power producers, such as priority grid connection and dispatch. Further regulatory changes have sought to facilitate the expansion of the offshore wind sector in Taiwan, such as incentives and subsidies, land, zoning and construction arrangements.

As well as legislative and regulatory measures, the government has also announced measures to streamline approval processes and significant investment in infrastructure designed to facilitate the development of renewable energy - such as the expansion of Taichung Port as a base for the development of the offshore wind sector.

How does the system work?

Role of Taipower

Taiwan Power Generation Company, commonly referred to as Taipower ("台電"), is the state-owned company under the control of the Ministry of Economic Affairs ("MOEA"). Taipower is the main energy producer in Taiwan and currently has a legal monopoly on the distribution and sale of electricity. Commercial private power producers are currently required to enter into a power purchase agreement ("PPA") with Taipower, although the recent amendments to the EB Act provide for:

- > the liberalisation of Taipower’s monopoly over the purchase of all electricity generation in Taiwan and pave the way to direct sales of electricity by renewable power producers to end-users;
- > the unbundling of Taipower’s electricity generation business and its transmission / distribution business; and
- > the establishment of a ‘transmission wheeling’ service by Taipower to access the grid.

Regulatory bodies

- **MOEA** responsibilities include setting the policies for electricity businesses and the power prices / charges, setting technical regulations and overseeing the administration of electricity facilities.
- **MOEA**’s energy-related functions are delegated to the Bureau of Energy ("BOE") and the Electricity Regulatory Agency ("ERA") and will be exercised by the MOEA. Taipower is the main energy producer in Taiwan and the public on the use of land.

The Electricity Regulatory Agency (a new regulatory agency to be designated by the MOEA pursuant to the EB Act, which will be responsible for (among other things) supervising and administering electricity enterprises and the electricity market, approving applications for the set-up of electricity enterprises, predicting and planning supply and demand, supervising and administering power dispatch and settling disputes between electricity enterprises or between electricity enterprises and users. Before the Electricity Regulatory Agency is established, its functions will be exercised by the MOEA.

- **BOE**- The fair trade commission is an independent agency which oversees competition and fair trade matters, including anticompetitive behaviour in the power sector.

Permitting regime

The permitting process for the development of renewables projects in Taiwan can be relatively complex and involve various authorities including the Environmental Protection Administration, MOEA, BOE, Taipower, local governments and other government agencies.

For example, an offshore wind project will require:

- > an EIA Approval;
- > an Establishment Permit;
- > a Recordation Approval;
- > entry into a PPA (see below);
- > a Work Permit; and
- > an Electricity Business Licence.

As well as a number of other consents and approvals.

Government incentives and tax breaks

Renewable energy is purchased by Taipower according to feed-in tariffs determined by the government (see below). In addition, the recent amendments to the EB Act provides other incentives to renewable IPPs, including:

- > subsidy programmes (such as equipment subsidies and demonstration subsidies) and the establishment of a specific fund to finance such subsidies. The fund is financed by power producers in proportion to their non-renewable electricity generation capacity;
- > exemption from import duties for renewable power equipment during construction or operation (provided there is no manufacturer for such equipment in Taiwan); and
- > various rights and arrangements for renewable IPPs in relation to zoning and construction regulations.

Feed-in tariffs

Feed-in tariffs ("FITs") for wind, solar, hydropower, biomass and waste are set in New Taiwanese Dollars ("NTD") on a yearly basis by the MOEA pursuant to the EB Act and the REDA. The REDA provides that the purchase price for renewable energy must not be lower than the average cost for domestic fossil fuel power production.

Once fixed, the FITs for each category of renewable energy are published by the MOEA through a tariff notice. PPAs for renewable energy are entered into with Taipower (as grid operator) for 20 years based on the relevant FIT contained in the applicable tariff notice at such time. Depending on the type of energy, different pricing options may be available under the various tariffs.

A summary of the FITs for renewable energy applicable for the calendar year 2018 is set out below.9 The FITs for 2019 are expected to be announced at the end of October 2018.10

1. Source: Energy Supply and Demand Situation of Taiwan in 2017 published by the BOE at https://www.moeaboe.gov.tw/ECWEnglish/content/ContentLink.aspx?menu_id=1340
5. Source: Solar PV Two-Year Promotion Project "BOE" announcement https://www.moeaboe.gov.tw/ECWEnglish/content/ContentLink.aspx?menu_id=1540
7. Source: Article 3 of the EB Act

Linkantors
Renewable Energy in Taiwan.

Funding of the FIT

The ‘RED Fund’ was established 2009 to support renewable power generation, including by subsidising renewable energy tariffs. This is funded by conventional power producers, Government treasury contributions and other sources. While the Government is available to fund the FIT, the primary obligation for payment of the FIT sits with Taipower.

The proposed amendments to the REDA include changes to the use of the RED Fund. It is anticipated that, in the future, the RED Fund may no longer be available to subsidise renewable energy tariffs, and Taipower will instead be allowed to pass on the cost of renewable energy to end-users.

Restrictions on investment

There are generally no restrictions on foreign investment in the renewable energy sector in Taiwan (except for investment with national security concerns or investment from mainland China). Taiwan operates a “negative list” control on investments by foreign nationals whereby investments are allowed unless they are restricted or prohibited. Electricity generation is not subject to specific restrictions, although foreign investors are required to undergo an application process and obtain a foreign investment permit from the Investment Commission of the MOEA. The grant of a foreign investment permit also entitles foreign investors to certain fundamental investor protections including in relation to security concerns or investment from mainland China. Taiwan restricts or prohibits. Electricity generation is not subject to such restrictions.

Hot topics

2018 capacity allocations for offshore wind

In early 2018, the MOEA released the “Directives for Allocating Installed Capacity of Offshore Wind Potential Zones” (the “Allocation Directions”) which provided for a selection and bidding process for the allocation of 5.5GW of grid capacity to offshore wind projects which obtained approval of an Environmental Impact Assessment by the end of 2017.

The Allocation Directions provided for:

- a selection procedure for the award of fixed FiTs for:
  - a total capacity of 0.5GW for grid connection in 2020 (Tier 1 or ‘fast track’ projects);
  - a total capacity of 3GW for grid connection between 2021 and 2024 (Tier 2 projects); and
- a selection and bidding procedure for the award of a competitively determined tariff, for a total capacity of up to 2GW (Tier 3 projects).

The application process included certain requirements regarding (among other things) technical and financial capacity, permitting, confirmation regarding the prospects of achieving specified grid connection milestones, information on compliance with local content requirements and, in the case of the Tier 3 bidding process, the developer’s proposed tariff.

The MOEA awarded a total of 3.836MW of grid capacity through the selection process (Tier 1 and Tier 2 above) in April 2018, and subsequently awarded 1.664MW of grid capacity through the bidding process (Tier 3 above) in June 2018. A full list of the projects that were allocated capacity in the selection process and the bidding process can be found on the MOEA website.

The tariff applicable to the Tier 1 and Tier 2 projects will be the FIT applicable to offshore wind at the time the relevant project enters into the PPA with Taipower, whereas the tariff applicable to the Tier 3 projects were determined by competitive auction and are significantly lower than the current fixed FIT for offshore wind. There are also differences in the terms of the Grid Contract applicable to each of Tier 1, 2 and 3 (see below).

Grid Contract

All projects awarded capacity pursuant to the Allocation Directions are required to comply with the requirements set out in a grid contract (“Grid Contract”) to be entered into with the MOEA. The form of Grid Contract will be different for each of the projects and will address (among other things):

- achievement of key project milestones by specified dates;
- environmental compliance and funding obligations;
- local content requirements;
- ongoing reporting obligations;
- liability regime (including liquidated damages, other rights to claim damages and MOEA termination rights);
- requirement to provide performance bonds;
- lock-in of promotional offers;
- other secondary and ancillary obligations.

Projects will also be bound by the terms of the original selection proposals submitted to MOEA.

Offshore wind PPA

The model form of PPA that is used by Taipower for offshore wind projects regulates:

- the purchase of electricity by Taipower;
- the connection of offshore wind projects to Taipower’s electricity grid;
- it is a short document which does not seek to provide a comprehensive allocation of risks as between the generator and Taipower / government (as would be the case under a typical long term emerging markets ‘PPA’). Instead, it is more analogous to a prescribed statutory PPA used in the context of a feed-in-tariff model in developed and/or liberalised markets, and should be read in conjunction with the applicable regulatory regime in Taiwan.

The model PPA for offshore wind was updated by Taipower in December 2017 and is in a very similar form to the template form of PPA used in numerous existing onshore wind and solar projects in Taiwan.

Development Assistance Fund

The MOEA announced in February 2018 draft Rules on the Usage, Supervision and Management of Power Development Assistance Funds, which require projects to make contributions (based on electricity generated) to the ‘Power Development Assistance Fund’. The Fund will be used mainly to promote local community development and welfare.

Solar power

The government intends to achieve 20GW of solar PV installed capacity by 2025 through the development of both rooftop and ground-mounted systems, which are expected to respectively account for 3GW and 17GW. There have also been examples of floating solar technology uses.

In September 2016, the government approved a “Solar PV Two-Year Promotion Project” targeting to achieve 1.5GW of additional solar power generation within a two-year period. Under this plan, the government was to:

- create a “single-window” system to speed up administrative procedures;
- designate further locations for solar power generation;
- plan for grid expansion;
- encourage domestic banks to provide financing;
- amend laws and regulations to reduce regulatory restrictions on the development of solar power production.

The government is also encouraging the development of small scale capacity through the “Million Rooftop PVs Program”.

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11 This does not cover the Formosa 1 project, which is designated as one of three pilot projects, and was awarded capacity prior to the implementation of the Allocation Directions.

12 Projects awarded capacity through the selection process were listed at: https://www.moeaboe.gov.tw/ECW/porc8cp/wr/news.aspx?menu_id=41&news_id=15003

Projects awarded capacity through the bidding process are listed at: https://www.moeaboe.gov.tw/ECW/porc8cp/wr/news.aspx?menu_id=41&news_id=15003

Renewable Energy in Thailand

Which sectors are active?
As of the end of 2017, Thailand's existing generation capacity was 49,047.54MW, with a total generating capacity of renewable projects of 10,237.93MW. The country's renewable power generation capacity composition, as of the end of 2017, was as follows:

- Solar: 26.35%
- Wind: 6.13%
- Hydro: 30.17%
- Biomass: 30.84%
- Biogas: 4.64%
- Waste: 1.87%

Renewable Energy Generation Plan
In June 2015, the Ministry of Energy issued a revised Power Development Plan ("PDP") which covers the period from 2015 to 2036 ("PDP 2015"). According to the PDP 2015, the total generating capacity of renewable projects will represent 15-20% of the total power consumption in the country by 2036 — an increase from 8% under the PDP 2010, 3rd Revision. According to the PDP 2015, the total power generating capacity of the country at the end of 2036 will be 70,335MW.

The development of new renewable energy projects is also contemplated in the Alternative Energy Development Plan 2015-2036 ("AEDP 2015"), which was integrated as part of the PDP 2015. The amount of generating capacity of renewables as at 2036 under the AEDP 2015 accounted for 20% of the net energy demand in the country (in accordance with the PDP 2015 target for the total generating capacity of renewable projects of 15-20% by 2036), as follows:

- Solar: 28.37%
- Wind: 16.72%
- Hydro: 15.29%
- Biomass: 16.25%
- Biogas: 3.06%
- Waste: 2.55%
- Energy crop: 3.46%

The Ministry of Energy has recently been reviewing and revising the PDP 2015 and AEDP 2015. In this regard, the Ministry of Energy aims to finalise the plan by September 2018 which shall embrace the recent innovation and technology in the energy sector.

How does the system work?
Power Offtakers
The power generated from projects in Thailand will be sold under power purchase agreements ("PPAs") between project companies to one of the following offtakers (with a few exceptions whereby some of the power can be sold directly to industrial users):

- Electricity Generating Authority of Thailand ("EGAT") — a state enterprise responsible for the generation, procurement and transmission of electricity to other electricity authorities for further distribution to end users.
- Provincial Electricity Authority ("PEA") — a state enterprise responsible for the distribution and sale of electricity to end users in provincial and suburban areas; most of the electricity that PEA distributes to end users is purchased from EGAT and the rest is purchased directly from the power producers under the Very Small Power Producer Program.
- Metropolitan Electricity Authority ("MEA") — a state enterprise responsible for the distribution and sale of electricity to end users in Bangkok and its surrounding areas; as with PEA, they obtain most of the power by purchasing it from EGAT and the rest is obtained through direct purchase under the PPA under the Very Small Power Producer Program.

Private Power Producers
Apart from EGAT, there are three types of private power producers in the Thai power market:

- Independent Power Producer ("IPP") — a large scale power producer with a generating capacity of more than 90MW; IPPs will sell all electricity to EGAT under a long-term PPA, and in order to participate as an IPP, EGAT will — from time to time (to date there have been three rounds of IPP bidding in the country, in 1994, 2007 and 2012) — invite the private sector to submit a bid to sell electricity to EGAT in accordance with the needs set out in the PDP (as defined below) approved by the NEPC and the Cabinet.
- Small Power Producer ("SPP") — a small scale power producer with a generating capacity not exceeding 90MW which sells electricity to EGAT under a long-term PPA, i.e., 20-25 years (other than an "SPP" generating power from a renewable energy source where the "PPA" will be for a period of five years and renewal can be made upon request by one party).
- Very Small Power Producer ("VSSP") — a very small scale power producer with a maximum generating capacity not exceeding 10MW, which sells electricity to either PEA or MEA, depending on the location of the project.

Regulatory bodies
The National Energy Policy Council ("NEPC") has:

- authority to set a policy and a strategy for energy management and development, including an energy price;
- authority to assign other relevant authorities/entities to put such policy into practice and to follow up on the progress made by such authorities/entities;
- the leader of the National Council for Peace and Order (the Prime Minister) as its chairman; and
- the Office of Energy Policy and Plan which acts as the NEPC's secretariat office.

The Ministry of Energy ("MOE") has:

- authority over the procurement, development and management of energy;
- state sectors, such as the Office of the Minister, Office of the Permanent Secretary, Department of Mineral Fuels, Department of Energy Business, Department of Alternative Energy Development and Efficiency, Energy Policy and Planning Office; and
- supervises certain state enterprises, such as EGAT and PTT Public Company Limited.

The Energy Regulatory Commission ("ERC") was established by the Energy Industry Act B.E. 2550 (2007) as an independent regulatory agency.

- has authority to regulate the energy industry in accordance with government policy (e.g. policy from the "NEPC");
- has authority to prescribe the size/type of energy business in which an energy business licence is required or exempted;
- has authority to prescribe steps and procedures for the purchase from/to the selection of the seller (e.g. the bidding process); and
- has authority to issue permits/licences required for energy business, including those pursuant to regulations under the responsibility of other governmental agencies (with such governmental agencies' recommendation) such as factory licences and building construction permits.

Government incentives
Tariffs — Adder/FIT
The Adder scheme was first introduced in 2007 and was subsequently revised in 2009 and 2010 to encourage the development of renewable energy projects, whether SPP or VSSP projects. Both were entitled to receive an Adder, which was an additional amount paid on top of the price of electricity over a specified period.

Despite its popularity, the Adder scheme has been cancelled and has now been replaced by a Feed-in-Tariff or FIT scheme. Adder is still applicable to those operators who signed PPAs prior to the announcement of the discontinuance of the Adder programme, but new applicants cannot further apply for the Adder as EGAT/MEA/PEA have already issued announcements to discontinue the purchase of electricity under the Adder system.
### Adder rates for each type of renewable energy are set out in the table below:

<table>
<thead>
<tr>
<th>Energy</th>
<th>Adder (THB/kW-hour)</th>
<th>Special Adder for 4 districts in Songkra Province (THB/kW-hour)</th>
<th>Total Adder for 4 districts in Songkra Province (THB/kW-hour)</th>
<th>Supporting Period After COD (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Biomass</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) ≤ 1 MW</td>
<td>0.50</td>
<td>1.00</td>
<td>1.50</td>
<td>7</td>
</tr>
<tr>
<td>(b) &gt; 1 MW</td>
<td>0.30</td>
<td>1.00</td>
<td>1.50</td>
<td>7</td>
</tr>
<tr>
<td>2. Biogas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) ≤ 1 MW</td>
<td>0.50</td>
<td>1.00</td>
<td>1.50</td>
<td>7</td>
</tr>
<tr>
<td>(b) &gt; 1 MW</td>
<td>0.30</td>
<td>1.00</td>
<td>1.50</td>
<td>7</td>
</tr>
<tr>
<td>3. Waste</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Preservation or covering in a hole</td>
<td>2.50</td>
<td>1.00</td>
<td>3.50</td>
<td>7</td>
</tr>
<tr>
<td>(b) Thermal Process</td>
<td>3.50</td>
<td>1.00</td>
<td>4.50</td>
<td>7</td>
</tr>
<tr>
<td>4. Wind</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) between 50 kW and 200 kW</td>
<td>0.80</td>
<td>1.00</td>
<td>1.80</td>
<td>7</td>
</tr>
<tr>
<td>(b) &lt; 50 kW</td>
<td>1.50</td>
<td>1.00</td>
<td>2.50</td>
<td>7</td>
</tr>
<tr>
<td>5. Solar</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) ≤ 50 kW</td>
<td>4.50</td>
<td>1.50</td>
<td>6.00</td>
<td>10</td>
</tr>
<tr>
<td>(b) &gt; 50 kW</td>
<td>3.50</td>
<td>1.50</td>
<td>5.00</td>
<td>10</td>
</tr>
<tr>
<td>6. Water</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a)</td>
<td>6.50</td>
<td>1.50</td>
<td>8.00</td>
<td>10</td>
</tr>
</tbody>
</table>

### FIT rates for each type of renewable energy are set out in the table below:

<table>
<thead>
<tr>
<th>Capacity (MW)</th>
<th>FIT (THB/unit)</th>
<th>FIT (floating as per core inflation)</th>
<th>FIT</th>
<th>Supporting Period (years)</th>
<th>FIT Premium (THB/unit)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Waste (mix system)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) ≤ 1 MW</td>
<td>3.13</td>
<td>3.21</td>
<td>6.34</td>
<td>20</td>
<td>0.70</td>
</tr>
<tr>
<td>(b) between 1 and 3 MW</td>
<td>2.61</td>
<td>3.21</td>
<td>5.82</td>
<td>20</td>
<td>0.70</td>
</tr>
<tr>
<td>(c) &gt; 3 MW</td>
<td>2.39</td>
<td>2.69</td>
<td>5.08</td>
<td>20</td>
<td>0.70</td>
</tr>
<tr>
<td><strong>2. Waste (preservation or covering in a hole)</strong></td>
<td>5.60</td>
<td>5.60</td>
<td>-</td>
<td>-</td>
<td>0.50</td>
</tr>
<tr>
<td><strong>3. Biomass</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) ≤ 1 MW</td>
<td>3.13</td>
<td>2.21</td>
<td>5.34</td>
<td>20</td>
<td>0.50</td>
</tr>
<tr>
<td>(b) between 1 and 3 MW</td>
<td>2.61</td>
<td>2.21</td>
<td>4.82</td>
<td>20</td>
<td>0.40</td>
</tr>
<tr>
<td>(c) &gt; 3 MW</td>
<td>2.39</td>
<td>1.85</td>
<td>4.24</td>
<td>20</td>
<td>0.30</td>
</tr>
<tr>
<td><strong>4. Biogas (wasted water)</strong></td>
<td>3.76</td>
<td>-</td>
<td>3.76</td>
<td>20</td>
<td>0.50</td>
</tr>
<tr>
<td><strong>5. Biogas (energy plant)</strong></td>
<td>2.79</td>
<td>2.55</td>
<td>5.34</td>
<td>20</td>
<td>0.50</td>
</tr>
<tr>
<td><strong>6. Water ≥ 200 kW</strong></td>
<td>4.90</td>
<td>-</td>
<td>4.90</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td><strong>7. Wind</strong></td>
<td>6.06</td>
<td>-</td>
<td>6.06</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td><strong>8. Solar</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) household rooftop ≥ 10 kW</td>
<td>6.85</td>
<td>6.85</td>
<td>-</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>(b) solar farm on land</td>
<td>4.12**</td>
<td>-</td>
<td>4.12**</td>
<td>25</td>
<td>-</td>
</tr>
</tbody>
</table>

*Yala province, Pathum province, Lakhonburi province and certain districts in Songkla province
**Charged by the resolution of the National Energy Policy Council on 26 September 2016 (from THB 5.66 as approved by the National Energy Policy Council on 15 August 2014)*

SPP Hybrid Firm
The project was approved in principle by the NEPC on 17 February 2017 and has been led by the ERC in a form of competitive bidding process. The total target of electricity capacity to be purchased is 300MW and the applicant is categorised as a renewable SPP (i.e. a power producer with a capacity of more than 10MW but not exceeding 50MW). The capacity has been allocated to different geographical areas in Thailand e.g. Bangkok, central, west, east, south (excluding Phuket and Samui Island), northeastern, Phuket and Samui Island. The source of energy can be one type of renewables or more (proportion is not restricted) but fossil fuel must not be used.

Restriction on Foreign Investment
Generally, there is no restriction on the number of shares or percentage of shares to be held by a foreign entity, as the power generation business is not a restricted business activity under the Foreign Business Act B.E. 2542 (1999) (“FBA”). However, under the Land Code of Thailand (“Land Code”), a company in which more than 49% of the total shares are held by foreigners or where foreign shareholders make up more than half of the total number of shareholders, shall be considered a foreigner and shall not be permitted to own land. However, given that the renewable energy projects are types of businesses which are eligible for Board of Investment promotion, certain privileges are granted, and one of the key privileges (other than tax holidays and custom duty exceptions) is the ability of the project company to have ownership over the land in which the project will be located, despite the restriction under the Land Code.

Change of shareholding restriction under PPAs
There is also a restriction on change or restructure of the shareholding in the company which is a party to such PPA, whereby no change in the shareholding structure of the company will be permitted during the first 3 years after the COD, if such change would result in:
(i) the number of the original shareholders being less than half; or
(ii) the percentage of the shares held by the original shareholders being less than 51%.


Overview
The demand for electricity in Vietnam is rising rapidly to power the growing economy. Forecasts predict an annual growth rate for electricity of ‘near-double’ digits in the years to come. To keep pace with demand, the Government has envisioned substantial expansion to the national power generation capacity, with installed capacity planned to rise from the 2015 level of 38.6GW to 60GW by 2020 and 130GW by 2030. It is estimated that Vietnam will need as much as US$15 billion per year in capital investment for power development, a large part of which is expected to come from the private sector.

Renewable Energy
While the energy mix in Vietnam in the foreseeable future will still be dominated by traditional sources (including coal, gas and large hydro projects), renewable energy has gradually, but steadily, entered the limelight. In March, the Government issued the revised National Power Development Plan for the years 2011 to 2020, with a vision to 2030 (“Master Plan 7”). Under Master Plan 7, the Government’s expectation is that renewable energy projects (including small-sized hydro, wind, solar and biomass projects) will account for 9.9 per cent of the overall electricity capacity by 2020 and 21 per cent by 2030, generating 7 per cent of the nation’s electricity in 2020 and 10 per cent in 2030. Figure 1 illustrates the Government’s view of the proportionate contribution of various forms of renewable energy to the overall energy mix.

In order to meet these targets, the Government has rolled out a series of regulations aimed at clarifying the legal framework and incentives for the development of renewable energy projects. These policy developments, combined with a decline in global manufacturing costs for the technology necessary to leverage renewable energy sources, have generated significant interest among prospective investors.

Foreign ownership and investment form
There is no generally applicable limitation on foreign ownership in the renewable energy sector. At present, foreign investors can own up to 100 per cent of equity in power projects in Vietnam. Although some high-profile, foreign-invested, thermal power projects have been implemented in cooperation with the Government under the Build-Operate-Transfer (“BOT”) umbrella (a form of public private partnership), it does not appear that the Government will offer this kind of treatment for renewable energy projects as a general proposition (except, perhaps, for very prominent ones). Therefore, it is expected that most renewable energy projects will be carried out as independent power projects – the main implication being that there will be little need for investors to negotiate special terms or incentives or to obtain Government guarantees.

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September 2018
**Financing**

Power projects typically require significant capital investment, and as a result, are often financed with a significant portion of debt capital. It is unlikely that domestic Vietnamese banks alone will be able to provide sufficient funds to finance projects to meet the Government targets. However, international financiers are likely to face some notable challenges in participating in the financing of renewable energy projects. Firstly, except in rare cases of so-called ‘mega’ projects, foreign lenders cannot take security over land and other real property (even though land and other real property may be the most valuable project assets). Moreover, a number of issues persist that undermine a project’s viability and bankability, including:

- the tariff levels (see further Feed-in Tariff below);
- concerns surrounding the financial capacity of Electricity Vietnam ("EVN"), the national utility and the lack of a Government guarantee of EVN’s obligations (see further "EVN" and Government guarantees and incentives below);
- the form of statutorily mandated power purchase agreements, which contain some core, non-negotiable terms that allocate significant risk to investors (see further Power purchase agreement below); and
- with regards to solar power, the policy framework set out by the Government (including the tariff) is only effective until 30 June 2019, creating uncertainty as to the position after this date (see further Hot topics below).

These issues will be particularly acute for investors looking to put in place project finance arrangements, which rely on the project’s assets for security and look to the project’s revenue stream for debt servicing.

**Sale of electricity**

Currently, the national utility ("EVN" and its subsidiaries), has a monopoly over the transmission and distribution of electricity in Vietnam, and acts as the only wholesale purchaser of electricity from generators. The Government has set out its vision for a competitive power market, which will be fully implemented at the wholesale level by 2023.

Despite this intended transition, there is not yet any clear legal basis for a direct power purchase agreement between renewable energy generators and customers, such as factories and industrial parks. In fact, the regulations provide that EVN will be the sole buyer responsible for purchasing all power generated from generators. The Government has set out its vision for a competitive power market, which will be fully implemented at the wholesale level by 2023.

**EVN**

Market observers have expressed concerns about EVN’s creditworthiness, as EVN is the entity responsible for implementing massive levels of investment in electricity infrastructure, but currently struggles to make a profit from the law and highly regulated electricity retail tariffs (currently averaging 7.3 US cents per kWh). While this does not pose immediate problems, it could lead to long term systemic risk.

The World Bank is assisting EVN to improve its financial standing and obtain its own credit rating, which may provide greater comfort for concerned investors.

**Feed-in Tariff**

EVN must purchase all power generated by renewable energy projects at the Feed-in Tariff ("FiT") set by law. The FiT is denominated in Vietnamese dong (and electricity purchased by ‘EVN’ will be paid for in Vietnamese dong) and is linked to the Vietnamese dong-US dollar exchange rate announced by the State Bank of Vietnam (which gives some way towards protecting investors from currency depreciation).

However, neither the law nor the template power purchase agreements contain any adjustment mechanism for inflation or rising production costs, meaning the FiT may remain unchanged during the whole investment term (other than as adjusted for FX). Table 1 sets out the current FiT rate for each different type of renewable energy project. It should be noted that the FiT for solar projects will only apply for projects achieving commercial operation date ("COD") before 30 June 2019, when the relevant regulation expires.

**Power purchase agreement**

Renewable energy generators and EVN must negotiate and conclude their Power Purchase Agreements ("PPAs") on the basis of the standard agreement forms provided by law. The Ministry of Industry and Trade ("MOIT") has issued standard agreement forms for small hydro, wind, biomass, solid waste and solar power projects. While the parties can agree on additional provisions to the standard form PPA, they cannot vary its ‘basic contents’. Market information also suggests that EVN does not entertain negotiation outside this scope. However, the standard forms contain terms that allocate significant costs and risks to investors, and hence reduce bankability.

Some key points of concern are:

- the seller (generator) must bear the cost and risk of connecting the plant to the grid and the connection line will need to run through land owned by a variety of owners;
- the agreements do not contain a ‘no deemed commissioning’ clause to protect the seller when the plant is able to generate power but the purchaser (‘EVN’) fails to accept the power;
- if the seller terminates the PPA following a breach by the purchaser (‘EVN’), compensation for the seller is limited to the value of generated electricity for the previous year;
- the agreements do not contain a ‘stabilisation’ clause to expressly protect the seller against changes of law; and
- the governing law is automatically Vietnamese law, and acts as the only wholesale purchaser of electricity from generators.

Apart from the general assurances provided under the Investment Law (such as no nationalisation, assurance of profit repatriation, protection of existing incentives in case of change of law, etc.), the Government does not provide specific guarantees for renewable energy projects.

For example, the Government does not guarantee the contractual performance of EVN as the power purchaser under the power purchase agreement or guarantee foreign currency availability to convert Vietnamese dong revenues into, for example, US dollars. That being said, in theory, it may still be possible to obtain guarantees for large-scale and important projects (such as a PPP project).

**Investment incentives**

Renewable energy is classified as an especially encouraged sector, therefore, some incentives are available for investors as listed below.

**Government guarantees and incentives**

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**Investment incentives**

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**Table 2 - Incentives for renewables**

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<th>Category</th>
<th>Incentives</th>
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| Import duty | - Exemption for:  
- goods imported to form fixed assets; and  
- project materials, components, and assembled products that cannot be domestically manufactured. |
| Corporate income tax | - Exemption for the first four years;  
- 50 per cent reduction for the following nine years, and  
- Preferred tax rate of 10 per cent for the first 15 years. |
| Land lease | - Exemption ranging from 14 years to the entire project life depending on the project location. |

1. It should also be noted that current policies only cover photovoltaic ("PV") and not concentrated solar power ("CSP") technology.
2. The commercial operation date is the day on which a part or the entire grid-connected solar power plant is ready to sell power to the power purchaser and satisfies the following conditions: (i) initial testing has been completed for a part of the entire grid-connected solar power plant and interconnection facilities, (ii) the plant has a power operation licence in the power generation sector, and (iii) the seller and the purchaser have notified the meter reading to commence payment.

Hot topics

Wind power
On 10 September 2018, the Prime Minister of Vietnam issued Decision 39 revising certain aspects of the legal framework for wind power. Most importantly, the FiT for wind power projects will be increased from the VND equivalent of 7.8 US cents per kWh (the rate in place since 2011) to the equivalent of 8.5 US cents per kWh (onshore) and 9.8 US cents per kWh (offshore). The new FiT will be applicable for:

- any wind power plant (or relevant part of it) that achieves COD before 1 November 2021, in which case it will stand for 20 years from the COD; and
- existing wind power projects that have generated power before the issuance of Decision 39, in which case it will stand from the effective date of Decision 39 for the remaining term of the relevant PPA. Decision 39 will be effective from 1 November 2018.

Solar power

- Extension of FiT deadline – A significant issue in the development of solar power projects is the commercial operation deadline of 30 June 2019 to secure the FiT rate of 9.35 US cents/KWh. After much anticipation, on 31 August 2018, the Government officially approved an important carve-out of this policy for Ninh Thuan province, where many projects are proposed to be located. Under the Government’s Resolution 115, which generally introduces various social-economic incentives for Ninh Thuan province, the current FiT policy is to be extended in Ninh Thuan province until the end of 2020 for solar power and interconnection facility projects with designed capacity of 2,000MW that have been approved by the Prime Minister. Sources have indicated that dozens of projects already approved within the 2,000MW capacity pool may benefit from this extension, though an official list of eligible projects is yet to be announced. The MOIT is tasked with cooperating with EVN and the Ninh Thuan Provincial People’s Committee to implement this resolution.

- Approval situation – By June 2018 the government had approved around 100 solar projects with a combined installed capacity of over 7,600 MWp (more than 5,500 MWp of which is expected before 2020), representing a six-fold increase over the Master Plan 7. Even though many projects are still in an early development phase, the large number of approvals given has raised concerns of overcapacity and low-quality investment.

Perhaps in direct response to this, in May 2018 the MOIT received instruction from the Government Office to hold back approvals for projects that were undergoing appraisal until the national solar power plan is completed. Also in May, EVN and the MOIT signalled that they would implement measures to prevent system overload resulting from off-taking solar and wind power output, including exercising a power to request reduction or suspension of operation if needed to protect the power system.

Direct PPA

- In June 2018, the Electricity Regulatory Authority of Vietnam announced that it was developing a pilot direct PPA model between private power generators and corporate customers. The direct PPA model is a highly anticipated concept since it could provide investors with an alternative buyer to EVN. However, to date no regulation has been issued to accommodate this model.

September 2018

This publication is intended merely to highlight issues and not to be comprehensive, nor to provide legal advice, and its contents should not be relied upon as legal advice, either generally or in relation to any specific transaction.
### Key contacts

#### Australia

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