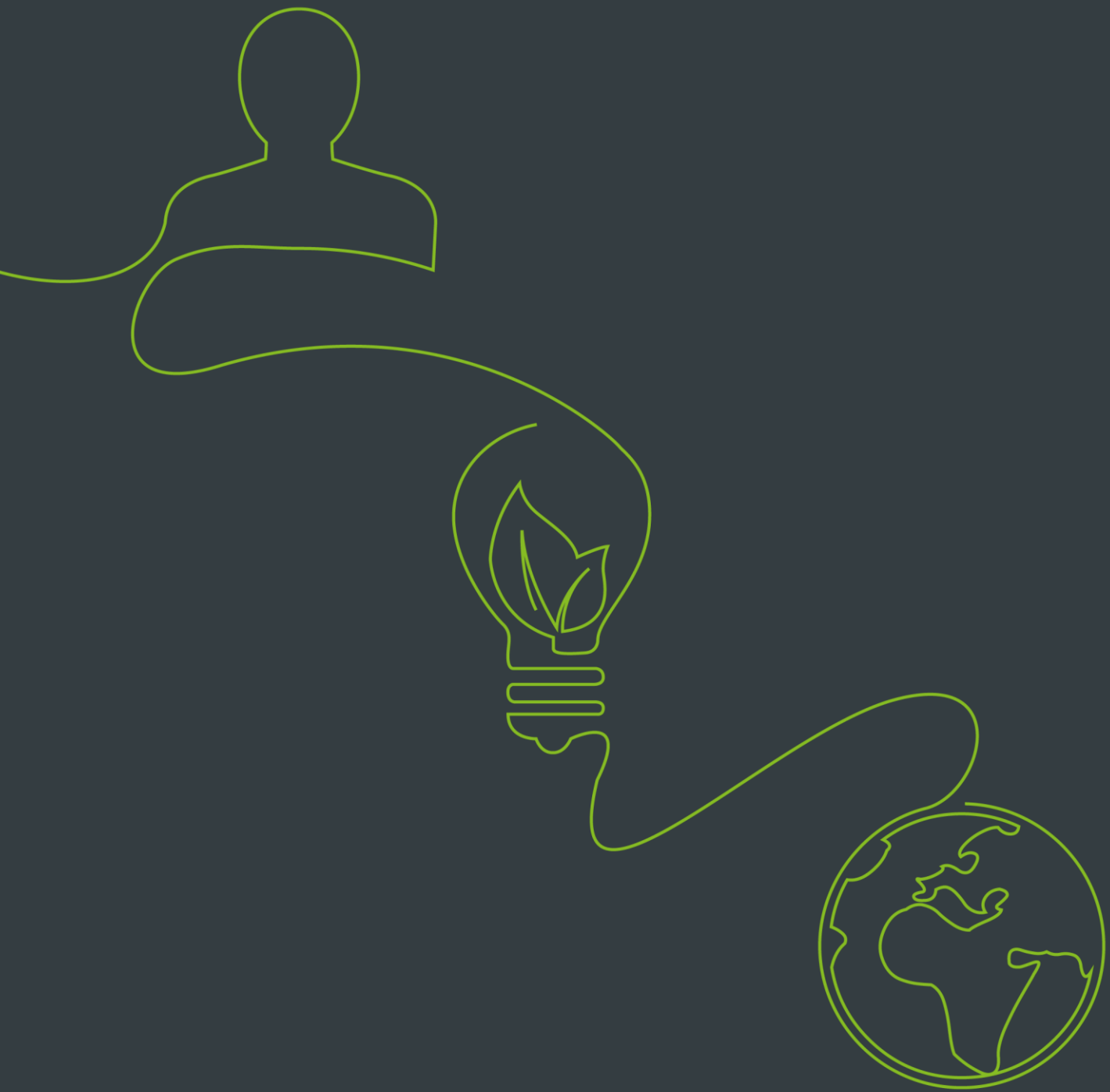
Bird & Bird & Corporate PPAs

An international perspective



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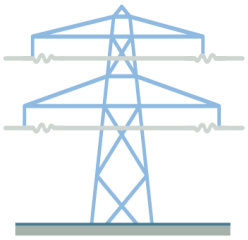
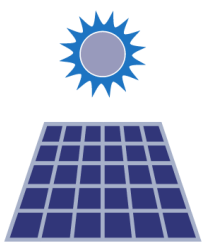
Introduction

*Large corporations are continuing to set the agenda for the growth of renewable energy across the globe. Corporations globally purchased **5.4 gigawatts** of clean power directly from generators in 2017 under a **Corporate Renewable Power Purchase Agreement (Corporate PPA)**. A Corporate PPA allows corporate consumers and generators to take advantage of a range of economic, reputational and sustainability benefits.*

Bird & Bird's lawyers advised on one of the earliest corporate PPAs in 2009 and we have become an experienced advisor on these structures globally.

This paper looks at the main drivers behind the growth of Corporate PPAs and comments on the market for them in key jurisdictions across Western Europe, the Nordics and Asia-Pac.



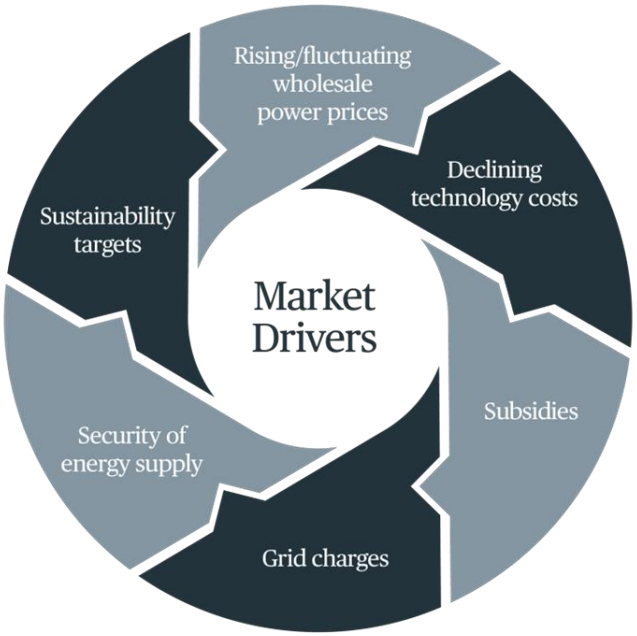


What are corporate renewable power purchase agreements?

A Corporate PPA allows corporate consumers to purchase power on a long term basis directly from renewable energy generators without being co-located. This is an alternative to the traditional model where a utility purchases power from lots of generators, transports it on the electricity grid and then on-supplies power to consumers. They are long term agreements (typically between 10 – 20 years) and provide price certainty for both the corporate and the generator using fixed or floor pricing structures.

Global Corporate PPA Market[1]

The Corporate PPA market continues to grow. A record total of 5.4 GW of Corporate PPAs were signed by 43 corporations in 10 different jurisdictions in 2017. The largest markets were the USA and Europe, each accounting for 2.8 GW and 1GW of Corporate PPAs being concluded respectively. Within Europe, activity was particularly strong in the Netherlands, Norway and Sweden. Within Asia-Pac, Australian corporations entered into over 400 MW of Corporate PPAs in 2017 and relatively expensive whole power prices will provide an incentive for securing relatively cheap renewable power at a fixed price. Major players in the global corporate PPA market to date have been Google, Apple, Amazon, Unilever, Microsoft and others.



The outlook for 2018 and beyond provides for optimism. Global corporates continue to be increasingly conscious about managing their energy needs and being seen to act sustainably by procuring electricity directly from renewable sources has become a strategic priority. Thirty five new companies became members of RE100 in 2017, a group of companies who have pledged to work towards meeting 100% of their energy requirements from renewable sources, bringing its total membership to 116. In addition to this, economic drivers such as the continued fall in the levelised cost of generating renewable energy and the phasing out of feed-in-tariff based fiscal incentives in several jurisdictions should continue to push the growth of Corporate PPAs globally in 2018.

That said, a potential barrier to the market may be created by the European Commission's proposal for a recast Renewable Energy Directive (RED II) with its amendments to provisions concerning guarantees of origin (GOs). Presently, offtakers (including corporate consumers under a Corporate PPA) are able to obtain GOs directly from renewable generators to certify the source of the renewable power. However, the RED II proposal imposes an obligation on Member States to ensure that GOs from renewable generators that already

[1] Source: Bloomberg New Energy Finance

receive financial support from a support scheme (e.g. feed in tariffs) are placed into a central auction as opposed to allowing them to be transferred directly to offtakers. The rationale behind this is to prevent such generators receiving double compensation. If implemented, this proposal would have a negative effect on Corporate PPAs, and could depress the price of GOs, as one of the key drivers to a corporate consumer for entering into a Corporate PPA is being able to demonstrate through GOs that it has procured power from renewable sources.

On 17 January 2018, the European Parliament put forward an amendment to the proposal to the effect that a renewable generator will be deemed not to be receiving double compensation where GOs are transferred directly to a supplier or consumer either in a competitive setting or pursuant to a long-term Corporate PPA and thereby not requiring them to place such GOs into a central auction. The proposal for RED II is now subject to inter-institutional negotiations between the European Commission, European Parliament and the Council, and will be finalised later this year. While a framework to allow the transfer of GOs between organisations and across borders would be a good thing, such a framework should facilitate – and not restrict – the ability for corporate consumers to obtain GOs directly from renewable generators pursuant to a long term Corporate PPAs.

Opportunities and threats

Corporate Consumer

Opportunities

- Fix/floor/cap power price - hedge against rising and fluctuating energy prices in the wholesale markets. Prices have almost doubled in past 10 years, with high volatility.
- Achieve sustainability targets and objective to buy 100% of power from renewable sources. This has become as important, if not more important, than economic drivers.
- Smaller corporates can club together to share risk and enhance bargaining power.

Threats

- Board appetite for the deal – economic benefits only stack up if the board trusts the power price forecasts. Board often unwilling to pay more in short-term for lower prices in long term.
- Complexity/costs in negotiating the contracts. Power purchase is not core business. Hurdle for small and medium sized enterprises.
- A utility will still be required to provide power when the generating station is not generating (renewable power is intermittent). Allocation of balancing risk is a key issue – it can affect the level of price certainty that is achieved.
- If a project finance lender has financed a project it may require further security: e.g. direct agreement with the corporate or parent company guarantees.
- Change in law risks affecting the commercial balance of the deal and triggering re-negotiation.

Generators

Opportunities

- Generator can achieve a stable price over the long-term as the corporate consumer often has more appetite to hedge against forecast rising/fluctuating power price rises. This is particularly attractive for projects financed by listed yieldco funds and project finance.
- Consumer sometimes willing to pay higher than wholesale prices in the short term (on the expectation that this will pay off in the long-term when prices rise and consumer still has the benefit of the fix).
- The phasing out of renewable subsidies means that Corporate PPAs offer a new route to market for Generators

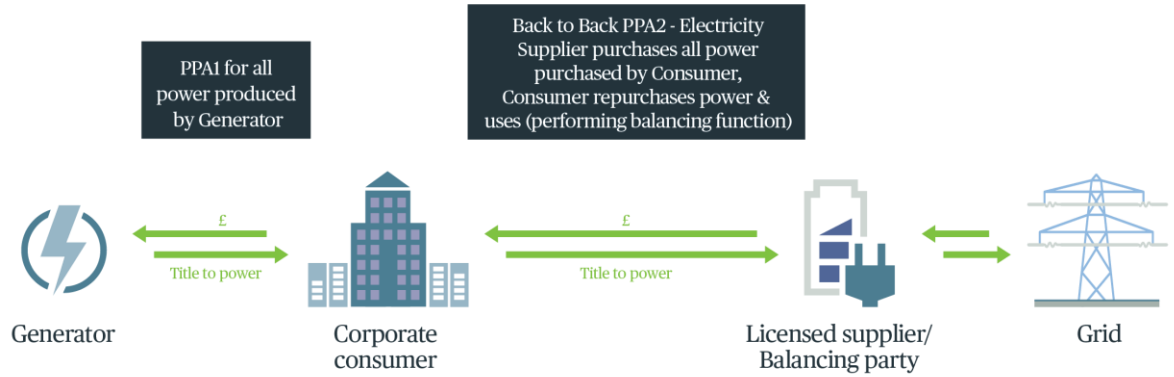
Threats

- Price – the price the corporate consumer is willing to pay / set the floor at may not be sufficient to bank the project
- Creditworthiness/bankability of offtaker – a bigger issue for unsubsidised projects as the Corporate PPA will represent almost 100% of total project revenues.
- Power offtake not core business for the corporate: if power prices decline will the corporate default in order to buy their way out of a bad bargain?
- Inconsistencies between regulatory regimes in different member states
- The deal will need to be bankable. There is not yet a "standard" Corporate PPA – more complex to get a Corporate PPA approved by banks/investors?

Corporate PPA contract structures

The two leading models for Corporate PPAs are what are known as (a) the "Sleeved" Corporate PPA; and (b) the "Synthetic" Corporate PPA. The Sleeved Corporate PPA is the contract structure that has mainly been adopted in Europe, whereas the Synthetic Corporate PPA has been the preferred contract structure for corporate consumers in the USA.

A) "Sleeved" Corporate PPA



Key features:

Generator sells power directly to the consumer and the utility then sleeves the power through the grid and supplies it to the consumer's site (together with top up power as necessary):

1 Generator sells power at the meter point to corporate consumer under PPA1.

2 Corporate consumer immediately on-sells power at the meter point to the utility under PPA2. The utility then "sleeves" the power through the grid and sells power to the corporate consumer at its site. The utility will perform a balancing service under this PPA2 (renewable energy is intermittent) by topping up the renewable electricity with extra if needed (for example when the generator is not generating).

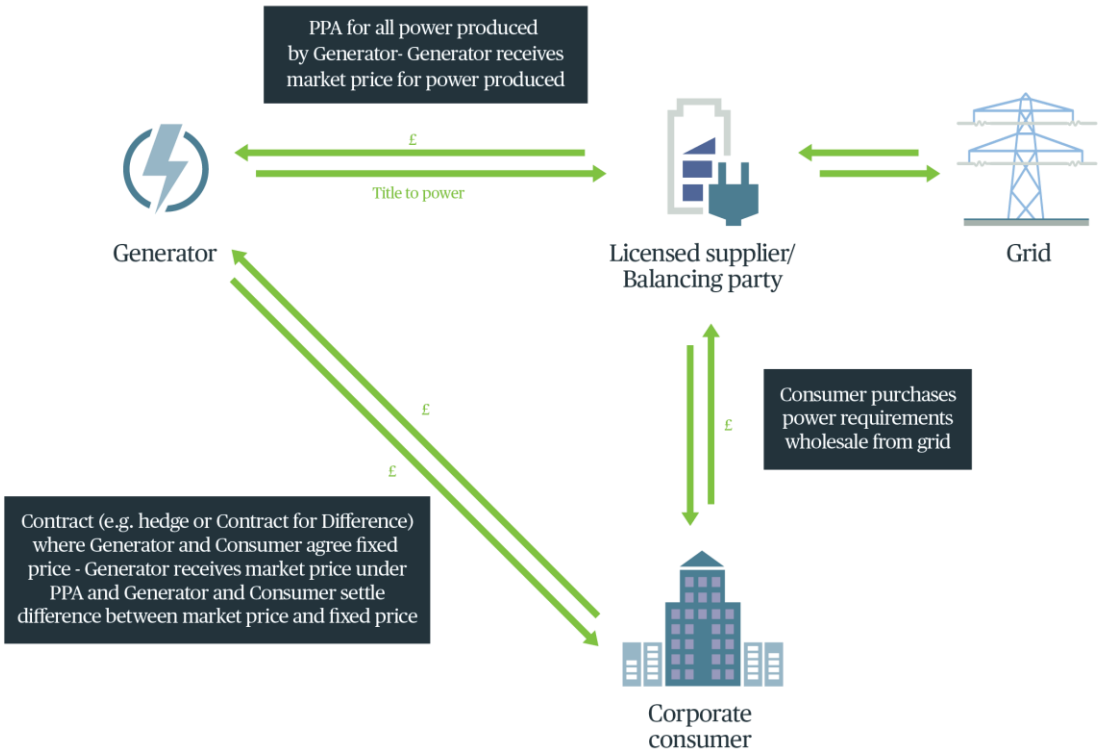
3 Renewable benefits can be sold either directly from generator to utility or to corporate consumer.

4 Regulatory regimes usually require a licensed utility to be involved to put electricity onto the grid (i.e. transport the power from the generator's site to the consumer's site).

5 The generator can be entirely independent or sometimes the corporate consumer may make an investment into the generator itself to support the project (and open a new revenue stream in potential dividends).

6 Depending on the regulatory regime, the licensed utility and balancing party may be the same entity (as in the UK) or separate entities (as in the Netherlands).

B) "Synthetic" Corporate PPA



Key features:

Generator "virtually" sells the renewable electricity that it produces to a corporate consumer for a fixed price.

1 Generator sells renewable electricity to a utility under a standard power purchase agreement at a market price

2 Utility continues to sell power to the corporate consumer under a standard electricity supply agreement at a market price.

3 In parallel to these conventional contracts the generator and the corporate consumer enter into a contract for difference, option or other financial hedge where they agree a fixed "strike" price for the renewable electricity produced by the generator.

4 Generator and corporate consumer settle the difference between the fixed strike price and the variable market price at which the generator sells the renewable electricity it produces to the utility. This serves as a hedge to the electricity price at which the corporate consumer purchases under its standard electricity supply contract with the utility.

Which model to choose?

Sleeved

Direct relationship with the generator – easier to show power used is procured from renewable sources, enhanced reputational benefits

Ability to contract with a generator at build stage – demonstrate "additionally" by adding new green power to the grid, rather than reallocating existing renewable energy to the corporate.

Synthetic

Power can be sold "virtually" across separate energy markets (e.g. across US states or across countries). This has been a strong driver for use of synthetic PPAs in the USA (the USA energy market is disaggregated).

Simpler structure – it is a contract for difference/financial hedge. In world of increasingly volatile power prices we wonder if the synthetic model will begin to emerge in Europe.

International Case Studies

United Kingdom

An established contractual model and safe regulatory environment makes the UK an attractive market for Corporate PPAs.

Corporate PPA Market in the UK

Corporate PPAs have been around in the UK for some time. However, it is only in more recent years that they have become more prominent. This is most likely because the availability of fiscal incentives, such as FiTs and ROCs, to utility scale renewable projects up until March 2017 meant that there was little commercial imperative on generators to explore such arrangements. Instead, they would enter into shorter term utility PPAs with a licensed supplier, often on standard forms, for the offtake of all of their power as the support payments were sufficient to demonstrate the long term income stream to lenders.

More recently, the rise of wind and solar in the UK and the convergence of a number of market conditions has created the perfect storm for the growth of Corporate PPAs. The closure of the ROC scheme to new participants from 31 March 2017 means that generators are seeking alternative routes to market. A long term PPA with a credit-worthy corporate offtaker could be the difference between a bankable and non-bankable project. In addition, the ever decreasing cost of generating renewable energy means that they will be able to compete on price. From a corporate perspective, Corporate PPAs are an attractive prospect to companies who increasingly want to be seen to be acting sustainably and who want to protect against highly volatile electricity prices.

As a result, major corporates playing in the UK Corporate PPA market now include Shell, BT, M&S, EE, Unilever, Mars, Ford, Sainsbury's, Nestle, McDonalds, HSBC, Lloyds and Nationwide. In addition to this, many more corporates with operations in the UK (including companies such as Unilever, Tesco, Sky and Mace) are also members of RE 100, the group of companies who have pledged to work towards meeting 100% of their energy requirements from renewable sources.

Corporate PPA Structures in the UK

The aggregated nature of the electricity grid and the regulatory framework has meant that the large majority of Corporate PPAs in the United Kingdom have been concluded using the "sleeved" structure. While Marks & Spencer was an early pioneer of the "synthetic" model using a contract for difference type structure across 20 sites, we are not aware of this approach being widely adopted since then.

That said, we are beginning to see a number of new models emerging within the market. These include:

1 The "mini-utility" or "supply-lite" model where a corporate sets up an affiliated mini-supply company and becomes the balancing party itself. The generator sells output to the mini-supply company who then sells it to the affiliated corporate under an electricity supply agreement. This model is commonly used in Ireland. This requires significant investment by the corporate consumer in setting up a licensed supply company and gaining the expertise required to manage its own energy supply or outsource this function. However, the benefit to the corporate is to disrupt the energy supply chain, reducing the number of parties needed to negotiate an energy supply deal and take control of its energy procurement strategy for the long term.

2 Building on the "mini-utility" model, Octopus Investments, the UKs largest investor in solar farms, has set up its own licensed supply company, Octopus Energy, offering a range of 100% renewable tariffs to business and domestic customers. Octopus Energy may well be able to procure the power from its own generating assets, disrupting the role of the utilities. This will enable asset owners to offer a simple integrated service to corporate customers.

3 The "club" or "consortium" model where small or medium sized companies may begin to take advantage of Corporate PPAs by grouping together to share the risks and enhance bargaining power. This approach has been successfully used in the Netherlands. We think this will be attractive for larger deals such as offshore wind projects.

Singapore

Being situated near the equator, Singapore receives a healthy dose of sunshine, so it is not surprising that most of the Corporate PPAs in Singapore involve solar energy.

Solar-leasing is the predominant PPA model adopted by solar energy solutions providers based in Singapore. There are mainly two types of solar-leasing: on-site and off-site.

On-site PPA solar-leasing involves the installation of solar photovoltaic ("PV") systems on the rooftop of the consumer's building. The consumer is only required to pay for the solar energy generated and consumed at a fixed agreed price or a variable rate based on a fixed discount to prevailing electricity prices. Solar PPAs typically last for a period ranging from 20 to 25 years. Such a model is especially suitable in dense urban cities like Singapore, as it requires minimal land use.

In January 2018, port operator PSA Singapore entered into a deal with Sunseap Group ("Sunseap") to roll out solar power solutions across its terminal facilities in Singapore. Under this PPA, Sunseap will build and install a 4MWp solar system across five sites in PSA's Singapore terminals. The solar photovoltaic system is expected to be operational by the end of October.

Other notable on-site PPA projects include ST Kinectic's PPA that it has entered into with Sunseap, Sunseap will provide solar energy to ST Kinetic through solar panels installed on the rooftops of Sunseap's premises at 5 locations through Sunseap's five MWp solar system.

On the other hand, off-site solar-leasing does not involve the installation of solar PV systems on the rooftops of the consumer's buildings. Instead, solar energy is harnessed from rooftop farms that the energy provider owns in other parts of Singapore. An off-site solar-leasing arrangement is suitable for consumers who are unwilling or unable to install solar systems on their own rooftops.

In June 2017, Jurong Town Corporation ("JTC") entered into a 15 year contract that will allow the solar energy generated at 27 of its buildings to be fully exported to the national power grid. Under the contract with Sun Electric, JTC will charge the firm monthly rentals for rooftop spaces that are pegged to market prices of electricity and Sun Electric will supply, install and maintain the solar panels, which will generate up to 5 MWp of electricity and be ready within a year.

Another notable project involves Microsoft who entered into an agreement in March 2018 with Sunseap Group where Microsoft will purchase 100% of the renewable output from Sunseap's new 60MWp solar project to power its data centres in Singapore. The 20 year agreement is the largest ever solar project in Singapore, and Microsoft's first clean energy deal of this kind in Asia.

South East Asia

Elsewhere in South East Asia, the majority of PPAs involve off-takers (purchasers of energy) that are state-owned energy utilities. Corporate off-takers are few and far between.

The few Corporate PPAs that are executed in South-East Asia are concentrated within the Malaysian State of Sarawak and more recently, in Merchang, Jasin and Gurun. State government initiatives have resulted in an increased inflow of investments and projects in Sarawak, which has in turn driven up the demand for energy. As such, Sarawak Energy ("SE"), an electrical utility wholly-owned by the State of Sarawak, has been entering into PPAs with various corporations for the supply of renewable energy.

In December 2016, Scatec Solar entered into a partnership with local ItraMAS-led consortium that has entered into three 21 year PPAS with Tenaga Nasional Berhad (TNB). The three solar projects total nearly 200 MW and the 3 photovoltaic solar parks cover more than 200 acres each.

In February 2016, SE entered into a PPA with Malaysian Phosphate Additives (Sarawak) Sdn Bhd ("MPAS") for the supply of 150MW of electricity. MPAS' integrated phosphate complex, the first of its kind in South East Asia, will be powered by electricity that is mainly generated from SE's hydroelectric plants.

Other deals involving SE include the supply and sale of 140MW of power to Tokuyama Corporation, a Japanese manufacturer of chemicals, over a period of 10 years. Also, SE concluded a Corporate PPA in 2014 with Press Metal Bhd, a Malaysian-based aluminium company, to provide 500MW of electricity over 25 years.

Australia

The Corporate PPA market in Australia is still in its infancy, but showing significant potential for growth.

In Australia, there are compelling reasons for corporate energy consumers to consider procuring energy directly from clean and renewable energy assets. The first and most persuasive being the falling cost of energy production from renewable energy assets when compared to the cost of energy procured from more customary sources, which is increasing both in Australia and internationally.

Secondly, with Australian developers and investors finding it challenging to find medium to long term PPAs from a "retailer", there is a gap in the market that corporate energy consumers can help to address. If such corporate energy consumers enter into Corporate PPAs directly with renewable energy generating projects, it provides these projects with contractual price certainty on the price of both the electricity they intend to export and the value of the associated large scale renewable energy certificates. This will assist projects in meeting bankability requirements, allow them to gain access to different types of finance and stimulate further investment in the sector as institutional investors see key project risks around pricing being alleviated.

Thirdly, market participants in the energy sector will need to remain cognisant of the transformation taking place in relation to the way in which Australia generates and distributes energy. With the number of renewable energy assets increasing at a substantial rate, the natural consequence is a move towards a decentralised market with energy production and consumption being accessed on a local level rather than from large utilities. This shift may encourage corporate energy consumers to procure energy directly from local renewable energy assets through the mechanism of a Corporate PPA.

The renewable energy sector in Australia is largely driven by a Commonwealth Government scheme to increase the proportion of electricity generated from renewable sources and reduce greenhouse gas emissions from electricity generation. The Renewable Energy Target is the legislated scheme for large-scale generation of 33,000 GWh by 2020, meaning that by 2020 approximately 20% of Australia's electricity generation will be from renewable sources.

There are a number of examples of Corporate PPA style transactions that have either reached financial close or are currently being procured:

- Sydney, New South Wales - University of Technology, Sydney (250 kW, Solar)
- Sunshine Coast, Queensland - Sunshine Coast Regional Council (5 MW, Solar)
- Melbourne, Victoria - Victorian State Government (96 MW, Wind)
- Melbourne, Victoria - Group led by the City of Melbourne (110 GWh pa required, type TBD)
- Sydney, New South Wales - Transport for NSW (134 GWh pa required, type TBD)
- Newcastle, New South Wales - Newcastle City Council (5 MW, Solar)

The US and European experience in relation to Corporate PPAs allows the Australian market to develop from a rather unique standpoint. Australian corporate energy consumers can take comfort from such international experience and seek to adopt a best practice approach to selecting which contractual models it will deploy in the market.

Sweden

The Nordic countries, Sweden, Denmark, Norway and Finland are diverse when it comes to energy mix, and also have different support schemes for renewable energy.

The joint Swedish and Norwegian support scheme for renewable energy, the Swedish-Norwegian electricity certificate system, is a market based system, and does not guarantee the owner of the renewable installation a specific price for the power generated. As the power generator takes a price risk related to the sale of the electricity from the renewable installation, many financers, such as banks, require that the price risk is hedged.

One way to hedge the price risk is to sign a long term Corporate PPA with an off-taker. As there is an integrated Nordic energy market, it is possible to purchase the electricity in one country and use it in another country.

Wind power investments in Sweden have increased significantly in the second quarter of 2017 after the expansion of the electricity certificate system, with 18 TWh of capacity until 2030 being made available by the Swedish Energy Commission.

In the recent years we have seen more long term Corporate PPAs being entered into in the Swedish market. In 2013, Google signed a 10-year Corporate PPA for all the electricity output from a large wind farm, to be used in another Nordic country. Google, IKEA and other large corporates have signed a number of PPAs in Sweden since then, and the trend is increasing, with aluminium corporate Norsk Hydro signing a 19-year PPA purchasing power from the Markbygden wind farm in northern Sweden in November 2017, one of the world's largest corporate wind PPAs. The term of such agreements is normally between seven to 20 years. While they are interested in having a predictable price for their energy over a longer time period, many corporates also want to show that they are acting sustainably and are contributing to put additional renewable capacity onto the electricity system.

Finland

Even though Corporate PPAs are still quite rare in Finland, the market is very well suited for them. The new support mechanism being introduced for renewable projects is likely to lead to reduced levels of subsidies, meaning that generators may increasingly look to Corporate PPAs in order to hedge against volatile prices and secure a long term fixed price.

The new competitive bidding system for renewable energy

In November 2017, the Finnish government published a new legislative proposal to introduce a new competitive auction system for renewable energy projects. This will replace the current feed-in tariff based support scheme. At the moment the proposal is pending a review by the Finnish parliament and the European Commission and might thus see some alterations before its final approval

The proposed legislation would permit developers of wind, biogas, firewood, solar or tidal electricity projects to participate in a competitive process to bid for state-offered subsidies ("**premiums**"). All bids would be considered equal in terms of the technology used and the premiums would be awarded to the most cost efficient projects as a result of the competitive bidding process.

The competitive bidding process would be organized by the Finnish Energy Authority subject to a specific budget mandate for each year. The government has set the maximum amount of generation capacity to be awarded premiums at 2 TWh, which would be divided between 2018-2020. Due to the relatively small amount of 2 TWh it is likely that this quota will be used up rapidly. However, it is unlikely it will be exhausted in 2018.

The auction bidding process would be in a form of closed tendering and the premiums awarded would be determined based on a generator's bid for the premium it requires when the market price for electricity is less than electricity's reference price (30€/MWh). The premium paid would decrease if electricity's market price exceeds the reference price and would ultimately reach zero during high market prices.

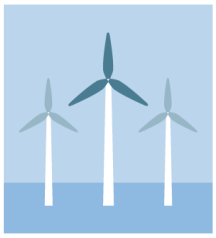
In exchange for being awarded the premium (in addition to the market price for electricity), the successful generators have to produce the amount of electricity they have agreed to in their offer. A failure to do so would result in the generator having to pay the State compensation. A generator's obligations under the premium system would last for a pre-determined time period and the premiums would be paid for a maximum of 12 years.

Corporate PPAs in the context of the Finnish electricity market

Finland is part of the Nordic wholesale electricity market, which includes the Nordic countries as well as the Baltic countries. The power grids in different countries are interconnected. The Finnish system is in direct contact with the system of Sweden, Norway, Estonia and Russia. Due to the interconnected systems it is fairly easy to trade electricity from one country to another. For example a large IT-company has concluded a long term corporate PPA with a Swedish wind farm for its Finland base premises.

No license or permit is required for electricity sales operation in Finland. The Finnish Energy Authority must, however, be notified in order to construct an electricity generation plant with an expected capacity of over 1 MVA. Interconnection to the transmission grid is based on the principle of open and non-discriminatory network access. In accordance with the Finnish Electricity Market Act, a network operator is obliged to connect all generation facilities that fulfil the technical requirements and pay the relevant grid fees.

In order to become an electricity supplier in Finland, a generator must acquire a party code and enter into an agreement with a company to act as a balancing party. Alternatively a generator could perform the balancing function itself or enter into agreement with another electricity retailer who has an agreement with a balancing party (the so called "chain of open delivery").



The Netherlands

Corporate PPAs have shown to be an excellent instrument not only to lower the financing costs of renewable energy development but also to raise the sustainable profile of large corporates.

Dutch regulatory environment

The EU has set targets for renewable energy generation, the reduction of CO2- emissions and measures to halt global warming. These targets are extremely ambitious for the Netherlands. By 2020 it must generate 14% of its energy from renewable sources, increasing to 16% in 2023 as well reducing its total energy consumption by 1.5% on an annual basis. The EU recently agreed to another binding renewable energy target of achieving 35% of renewable energy production in the EU in 2030. The Dutch renewable energy goals have become even more ambitious thanks to a successful liability case brought against the state by Dutch citizens and the Urgenda Foundation. In its ruling, the District Court of The Hague ordered the state to increase its binding target for the reduction of greenhouse gas emissions from 14-17% to 25% by 2020.

The Dutch government has implemented a variety of measures and regulations to support investment in renewable energy projects such as the SDE+ (*Stimulation of Sustainable Energy Production*) regulation and the EIA (*Energy Investment Tax-reduction*). The SDE+ is an operating feed-in-tariff subsidy and is designed to compensate renewable generators the difference between the cost price of generation and the market value of the electricity for each kWh of generated: the so called "non-profitable portion". Companies investing in renewable energy and energy-efficient technology may also be entitled to the EIA, which allows companies to deduct 55% of the investment costs from the fiscal profits, on top of any permitted depreciation.

Despite these regulatory changes and a favourable investment climate, the Netherlands is still lagging behind in achieving its 2020 targets. However, change is on its way. Large quantities of PV panels are being installed in dedicated ground-based solar PV parks as well as on rooftops and the first subsidy free offshore wind farm has been tendered. There is also increasing political pressure on the newly formed Dutch government. Climate change and stimulating renewable energy production are important pillars of its coalition agreement for 2017 – 2021, in which it committed to reduce CO2 emissions 49% by 2030. The Dutch government aims to introduce support mechanisms for projects that reduce CO2 emissions that fall outside the SDE+ regulation, such as carbon capture and storage (CCS) projects.

Mandatory unbundling

The Netherlands has implemented EU unbundling requirements in a very restrictive way, prohibiting electricity and gas network operators from being part of a corporate group that includes companies generating, supplying or trading in energy in the Netherlands (the "**group prohibition**"). The group prohibition has adversely affected the credit worthiness of the traditional offtakers such as utility companies, stripping the grids of their balance sheet. Long-term Corporate PPAs with a company with a high(er) credit rating provide an alternative way for project developers in attracting cheaper finance and meeting their bankability requirements.

PPAs cornerstone in project finance

Increasing the deployment of renewable generation assets is capital intensive and, as with any project finance structure, large amounts of funds have to be committed before any revenue is generated by the project company. As is typical for project finance structures, the security for the lenders sits in the long term projected cash flows of the project, rather than the company's assets or balance sheet. The PPA is crucial to this and making a project "bankable".

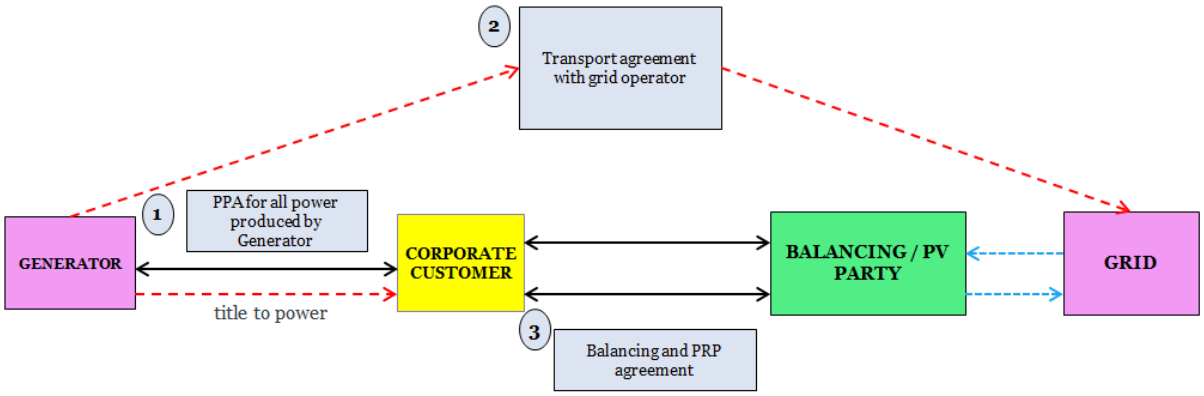
Corporate PPAs could help to fill this void. A long term PPA with a credit worthy corporate counterparty that has a stable pre-agreed price formula, ideally containing cap and floor mechanisms to mitigate the volatility of the electricity prices, could secure a steady revenue for the project to repay its debt and be the difference between the project being "bankable" or not.

Corporate PPA structures in the Netherlands

Mandatory unbundling requirements in the Netherlands mean it is possible for a generator and a corporate consumer to enter into a Corporate PPA without needing a utility to enter into a "back-to-back" PPA with the corporate consumer. This is because the "sleeving" of the energy is done by the grid operator, rather than by the utility. Rather than entering into a "back-to-back" PPA with a utility, the corporate consumer can transfer its program responsibility to a trading or balancing party, thereby reducing costs of its energy consumption.

Not only are Corporate PPAs without utilities being entered into in the Netherlands, there are also an increasing number of long terms PPAs entered into that involve utilities such as the long term PPA that the Dutch railway entered into for the offtake of the electricity of wind farm Luchterduinen and the PPA that Google entered into for the offtake of the largest solar park in the Netherlands. These structures provide the utilities with the economic certainty to invest in new renewable energy projects.

As the Dutch government is lagging behind achieving its renewable targets, a lot of renewable energy projects are still to be built. This means that there are increased opportunities for corporates to play a role in the energy transition towards a carbon neutral society. Corporates can lock in their costs of energy whilst diversifying their supply of energy. While most of the Corporate PPAs that have been concluded have so far been in respect of onshore wind projects, there is no reason why other renewable energy projects, such as solar, could take advantage of such structures.



An increasing number of Corporate PPAs are being concluded in the Netherlands. On the one hand they provide corporate consumers with the ability to accurately forecast their cost of energy over a long term and increase their sustainability profiles, while on the other hand, unlock lower financing costs for renewable generators. A few examples of corporates that are taking the lead in this area are Google, Philips, AkzoNobel, DSM and the Dutch railways NS.

Spain

Corporate PPAs could be used successfully in Spain to stimulate the development of new renewable projects. However, certain market barriers have so far prevented their widespread use.

Since 2013, the main support mechanism for renewable generation in Spain entitles generators that export power to the national pool to earn a "reasonable return" which is calculated by reference to the average return in the secondary market of 10-year Spanish government bond. To achieve this they are paid a "specific remuneration" on top of the market price that they receive for the electricity from the CNMC. However, the legislation allows the government to review and amend the specific remuneration every 6 years. The risk of a project's revenues changing every six years has led to a decrease in the length of financing terms available in the Spanish market for renewables projects, which in turn has had negative impact on the number of new renewable projects being developed in Spain.

The last two auctions held in May and July 2017 which awarded a total capacity of 3,000MW to renewable developers has shown that an unsubsidized renewables market is gradually becoming a reality without the need for any additional specific remuneration. While this removes the uncertainty of the level of specific remuneration that a project would receive, it would still leave a project exposed to volatile electricity prices that could go up or down, again negatively affecting the length of financing terms available.

A long term Corporate PPA with a fixed price would help to solve both of these issues and allow lenders to offer longer tenures of debt. In addition to this, there are several other factors that would support the growth of Corporate PPAs in Spain. This includes:

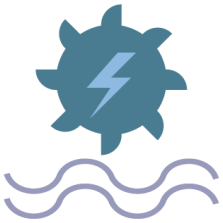
- the price on carbon emissions is putting upward pressure on electricity prices meaning consumers may be more willing to enter into a long term fix;
- large corporations (and progressive smaller corporations too) are committing to use renewable electricity;
- there some renewable projects that are no longer entitled to receive specific remuneration anymore as they would have reached the reasonable rate of return established by the government as a condition to receiving; and
- there are renewable generators that are looking for potential alternatives outside the specific remuneration support scheme.

Despite this, just one corporate PPA has been entered into in Spain between EDPR and Calidad Pascual as at the date of this report. There are a number of barriers to overcome in order to unlock the Corporate PPA market in Spain:

1 Term of the PPAs. Long term certainty of revenue is vital in order to construct, develop and finance a renewable project. At present corporate consumers are reluctant to sign up to long term PPAs with fixed prices. However, this should change as the rationale behind this thinking is more a matter of inertia and historical practices.

2 Price of the energy. While a fixed price under a Corporate PPA provides a generator and a corporate consumer with certainty and a hedge against market volatility, some corporate consumers will be wary to sign up to a long term corporate PPA if they think there is a possibility that spot power prices will reduce in the future. Traditionally, corporates have preferred to agree power prices year by year and so company boards are not accustomed to assuming the risk of a fixed price over a long term.

3 Regulatory burdens. The Spanish Energy Act 24/2013 expressly contemplates renewable generators and corporate consumers entering into Corporate PPAs as an alternative to selling and buying electricity on the spot market. However, in order to do so, the parties to a Corporate PPA would have to comply with certain regulatory requirements to supply information about the contract to the Spanish market operator and the Spanish regulator. This includes notifying the market operator on a daily basis of the electricity supplied and consumed pursuant to the Corporate PPA. This information must be provided to the market operator by a regulated market agent. Generators will typically have to subcontract this service to a professional market agent (usually supply companies provide this type of services) and the fees for such service would have to be built into the Corporate PPA. Additionally, corporate consumers would still have to enter into a contract with the network distribution company in order to pay the necessary grid access charges to take the power from the renewable generator. These additional costs could make a Corporate PPA a less attractive prospect to a corporate consumer (or a generator if the consumer is not willing to pay these additional costs). Finally, the Spanish Energy Act 24/2013 grants the Ministry of Energy power to further regulate bilateral agreements for the sale or purchase of electricity, including corporate PPAs which may impose additionally regulatory burdens in the future.



Italy

Towards the end of the last decade, the Italian renewable energy market entered into a period of rapid growth and transformation.

Towards the end of the last decade, the Italian renewables market entered into a period of rapid growth and transformation. This was due not only to the country's favourable climate but also, and mainly, to a legal framework known as "Conto Energia" which provided economic support to the renewable energy sector through the "feed-in-tariffs" scheme. This scheme provides a guaranteed payment for electricity generated and exported by PV plants to the grid. Italian legislation grants generators the option to sell electricity either through a mandatory purchase regime (ritiro dedicato), through bilateral agreements (PPAs) or on the electricity exchange market.

Since 2008, generators have opted more often for the mandatory purchase regime (ritiro dedicato) than for PPAs. The mandatory purchase regime is a simplified purchase and resale arrangement, entered between the generator and Gestore Servizi Energetici (GSE), the Italian national grid operator, whereby GSE purchases and resells the electricity to be exported to the grid (at a zonal price or a minimum guaranteed price) and, on behalf of the generator, transfers the fees for the use of the grid (dispatch and transmission fees) to distributors and to transmission system operators (TSO). However, since the beginning of 2013, the GSE has been charging generators of renewable energy who benefit from the mandatory purchase regime further extra costs, such as imbalance costs ("costi di sbilanciamento"), costs originating from the participation of the GSE in the intra-day market ("mercato infragiornaliero") and other relevant administrative costs for the services it supplies in relation to the mandatory purchase regime. This trend, along with a significant drop in the electricity demand and a sharp decrease in prices, pushed many generators (usually electricity generators on large scale) to explore how to increase their revenues by selling electricity power generated by their plants. PPAs are hence a valid alternative for generators to the mandatory purchase regime.

PPAs in Italy are bilateral contracts executed "over-the-counter" at a purchase price directly negotiated with energy traders/wholesalers, which in turn negotiate with the TSO the price deriving from the energy generation. In a limited number of occurrences, where generator and consumer can be physically connected through a private network, generators may find it convenient to enter into a corporate PPA to sell directly to a customer who has a stable need for large volumes of energy. In this case using a PPA does not entail facing the complexities of accessing distribution/transmission networks and therefore the wholesaler may not be needed. Resorting to such "distributed generation" agreements have been made easier by GSE which has made this kind of OTC transactions simpler within the "efficient user systems" framework. Italy is still a young market and banks and generators are therefore sometimes reluctant to abandon GSE and to trust traders with long-term contracts. Although no regulatory provisions prevent parties from entering into long-term PPAs, in Italy PPAs are normally taken out for short periods (between 12 and 18 months). Parties prefer not to commit themselves for a long period, so that they can take advantage of any developments on the market in terms of the legislative and regulatory framework.

Furthermore, it is not easy to find a solid, “bankable” counter-party like GSE meeting the stringent requirements demanded by Italian banks. However, banks are increasingly becoming aware of unforeseen rise in balancing costs (not taken into account when the business plans of financed projects were drawn up). At a point where a change in regulations imposes such an "extra cost" and there is no easy and bankable solution to deal with it, the open market should be able to fix these costs (and that at a realistically lower level), and we may see Corporate PPAs taken up as a solution.

Denmark

There is great interest in Corporate PPAs in Denmark. However, low wholesale electricity prices and regulatory uncertainties have prevented their use.

Corporate PPAs are known in Denmark and due to its open economy and the international outlook of Danish businesses many of the Corporate PPAs entered into by Danish parties are related with activities outside Denmark. As a result, some of the biggest and publicly advertised PPAs are physically placed outside of Denmark but with Danish developers or sponsors. An example of this is a 15 year PPA made by Danish Commodities in 2016.

While there is great interest in Corporate PPAs in Denmark, there are some fundamental issues making the use of them difficult in Denmark. There are a number of legal issues which are not clarified and hence it is difficult for financial institutions to provide financing in respect of a Corporate PPA. Work is going on to eliminate or solve these obstructions and it is expected that these uncertainties will disappear in the near future.

The energy policy regarding renewables has changed considerably in recent years. There has never been a stable, long term legislative framework. Instead there have been a number of changes in fundamental and basic factors affecting the investment into renewable assets. Indeed, the Government has recently announced that it will be introducing new legislation. If such legislation follows recommendations from the Energy Commission, we can expect the new legislative framework to be technology neutral and only offer very limited subsidies. Despite this, there is a general consensus amongst politicians in Denmark that the amount of renewable energy sources shall continue to grow in the coming years.

Wind has dominated the renewable energy generation in Denmark for many years but solar projects are increasingly being completed. Biomass has been, and is still, popular. It is expected that solar projects may the most suitable vehicle for Corporate PPAs and there are a number of major companies who are interested in procuring electricity directly from solar plants under a Corporate PPA either for financial reasons or in order to raise their green profile (or both). Low wholesale electricity prices may serve to defer investment decisions regarding the entry into a Corporate PPA, but there is growing pressure on corporates to act sustainably meaning that companies will consider these solutions even though they may not financially be their best investment case.

Hungary

The new renewables support scheme may result in an upswing in the application of Corporate PPAs in Hungary.

The conclusion of Corporate PPAs in Hungary has not yet been widely adopted. There were two principal reasons for this. First, the support scheme for generating electricity from renewable sources has historically been very favourable, as it was based on a mandatory offtake principle (the so-called "KÁT system") with a guaranteed rate of return on investments secured by long term agreements with the TSO and a statutory obligation placed on balancing parties to pay a so-called KÁT-charge to the TSO. Second, companies in Hungary have the option to purchase certificates of origin (whether from generators or from an electricity trader) which attest that the electricity purchased was generated from renewable sources. Companies with an agenda for sustainability and environmental responsibility therefore have the opportunity to purchase certificates of origin without necessarily having to conclude a Corporate PPA with a renewable generator.

However, as of the beginning of January 2017, the support scheme for new renewable generation capacity over 0.5MWs changed to a competitive tender system (generally referred to in Hungary as the "METÁR system"). Support under the METÁR system is granted through a premium paid to renewable generators on top of the market price such generators achieve under PPAs concluded with offtakers. Renewable generation capacity below 0.5 MWs remains eligible for the KÁT system. The introduction of the METÁR system will require renewable generators to go out to market and conclude PPAs with offtakers (or traders), which may in turn lead to a rise in the number of Corporate PPAs.

Corporate PPAs may also be an attractive option for those renewable generators whose support under the KÁT system expires in the future. Such generators will become exposed for the first time to the risk of price volatility and a long-term Corporate PPA may very well be an attractive solution to mitigate against this. In addition to this, Corporate PPAs can be an important factor in the bankability of projects that do not or would not want to qualify for state support schemes.

A remaining barrier to Corporate PPAs is that many large corporates in Hungary continue to meet their self-imposed sustainability targets by purchasing certificates of origin rather than entering into Corporate PPAs. Renewable generators eligible for either the KÁT or the METÁR system are also not precluded from, at the same time, registering and selling certificates of origin. This has so far seemed to have had a negative effect on the conclusion of Corporate PPAs in Hungary.

Germany

Corporate PPAs have not been widely used in Germany due to the historically attractive support scheme available to renewable generators. However, updates to such scheme could change this.

In Germany, Corporate PPAs have not yet been widely used. This can be attributed to the attractive support scheme for renewable energy that has been in place for a number of years. This support scheme used to pay a so-called "market premium" which was based on a statutory reference price for a 20-year subsidy period. Additionally, corporate consumers in Germany have been able to take advantage of similar economic, reputational and sustainability benefits that are associated with entering into a Corporate PPA by entering into traditional electricity supply agreements that include the sale of certificates of origin for renewable energy in addition to the electricity sold. Using this, a corporate consumer is able to buy “green energy” for a fixed price.

However, amendments to the Federal Renewable Energy Act in 2017 triggered a shift away from the statutory reference prices to reference prices that are set by competitive auctions for wind and solar generators. The auctions are expected to result in lower reference prices being awarded. This could make long-term Corporate PPAs with a fixed price a far more attractive option for such generators. For instance, an onshore wind auction that took place in May 2017 set reference prices ranging from 4.2 to 5.78 ct/kWh while another auction in November 2017 set reference prices ranging from 2.2 to 3.82 ct/kWh.

There are a number of scenarios for how Corporate PPAs could be implemented into the German market:

1 renewable generators that currently receive the statutory "market premium" or auction reference price under the current support scheme enters into a Corporate PPA;

2 renewable generators that are no longer eligible to benefit from the German support scheme (e.g. after the expiry of the 20-year subsidy period) enter into a Corporate PPA; and

3 renewable generators voluntarily waive their right to participate in the German support scheme and conclude a Corporate PPA instead.

In scenario (1), the renewable generator would not be allowed to sell any certificates of origin that are associated with the renewable power to the corporate consumer because it is not able to do this and claim the market premium in respect of the same electricity. This eliminates the reputational benefit to a corporate consumer for entering into a Corporate PPA. However, a Corporate PPA could still be attractive for corporate customers that want to hedge their power price risks. Scenario (1) is also not possible for on-site Corporate PPAs as to receive the market premium, the electricity generated must be exported to the grid.

In scenarios (2) and (3), it is possible for renewable generators to enter into a Corporate PPA and to also sell any certificates of origin that are associated with the renewable power to the corporate consumer. As set out above, in light of the expected reductions in the reference prices awarded to renewable generators at auction, the conclusion of a Corporate PPA might become a more attractive option for renewable generators financially.

In all cases, the transport of the energy in Germany is done by the grid operator, rather than by the utility. A utility may be involved to supply the corporate consumer with top-up energy in times of intermittency. Renewable generators must ensure that the energy fed into the grid is completely and on a quarter-hourly basis allocated to a balancing group. The energy quantities procured by the corporate consumer must also be allocated to a balancing group. A balancing party managing the balancing group(s) (e.g. the utility supplying top-up energy) may be appointed to deal with settlement issues. It is also possible to involve a power trader in the Corporate PPA transaction, e.g. to address any intermittency issues that may arise in the context of Corporate PPAs.

Ireland

There has been only one Corporate PPA in Ireland to date. However, new dynamics in the Irish market are likely to catalyse the Irish Corporate PPA sector.

Whilst we don't have Bird & Bird offices in Ireland, we work closely with leading law firm Matheson on renewable energy projects in Ireland. Matheson have the market leading and largest dedicated Energy practice in Ireland and have excellent experience on Corporate PPAs and set out here for us some commentary on the Corporate PPA market in Ireland.

Renewable energy generators in Ireland have historically benefitted from a generous feed-in tariff scheme offered by the Irish government – the Renewable Energy Feed-in Tariff (REFIT). The availability of REFIT has offered very little incentive for generators to consider Corporate PPAs. Matheson has advised on the only Corporate PPA to complete to date in the Irish market – GE and Microsoft entered into a Corporate PPA in October 2017, which allows Microsoft to purchase the energy produced at GE's 37 MW wind farm in Tullahennel, County Kerry. However, Matheson are currently advising on a number of Corporate PPA transactions (primarily involving the large US tech companies) which are expected to close in 2018.

With REFIT now closed to new applicants, generators are increasingly looking for alternative routes to market. Corporate PPAs offer such a route and, crucially, can help generators secure project financing for their projects. In parallel, interest is ramping up from large corporates who are looking to leverage the benefits of entering into Corporate PPA arrangements for two main reasons:

1 electricity price hedging; and
2 social responsibility / sustainability.

These corporates, often US-based, have expertise in implementing Corporate PPA structures in other jurisdictions internationally.

The Corporate PPA market in Ireland is expected to adopt the "supplier-lite" model (which has been successfully used in Ireland for the past ten years on REFIT projects) where a corporate sets up an affiliated licensed supply company and also becomes the balancing party itself. Under the Corporate PPA, the generator sells the power (and transfers the renewable accreditations – GOOs) to the affiliated supply company who in turn sells it to the affiliated end-user corporate under an electricity supply agreement. This model is commonly used in Ireland. The corporate is likely to outsource the balancing and trading functions to a third party service provider (which is currently the case for "supplier-lite" REFIT projects).

The Irish Government recently announced the successor to REFIT – the Renewable Energy Support Scheme ("RESS"), which is potentially technology neutral / technology specific and open to solar. However, it is expected that RESS will not be launched until 2020 (as it will require State aid approval from the European Commission).

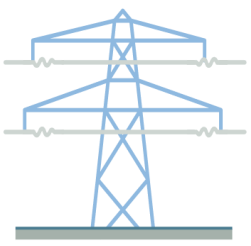
The delay in launching the successor to REFIT is expected to lead to strong growth in the Irish Corporate PPA market. The growth of large data centres in Ireland will also dramatically affect the Corporate PPA market. Ireland's transmission system operator, EirGrid, recently set out its future energy scenarios for the Irish market (see here). In most of its forecasts, data centres account for over 75% of new demand growth.

Poland

New draft legislation could curtail the use of Corporate PPAs in Poland

The current renewables support scheme in Poland has elements that support the use of Corporate PPAs, there are, however, also uncertainties. The unexpected change in real estate tax regulation has put several renewable energy projects under water as the revenues are no longer enough to cover the costs of the projects. It is anticipated that any new legislation amending this situation will not cover past projects and as a result renewable generators are actively seeking to recover or at least mitigate their potential losses. Entering into a Corporate PPA could be a solution for such renewable generators (and their lenders. Corporates are increasingly interested in such contract structures, so if structured in the correct way both parties could benefit.

It should however be mentioned that there is draft legislation being considered which would oblige many renewable generators (at least the larger commercial ones which will participate in the auction system after the new legislation enters into force) to sell 100% of energy produced on the power exchange until the end of 2020. This draft legislation is controversial because it is perceived that it will curtail the renewables market. If it is approved, then this would be a clear "no go" for Corporate PPAs for at least the next 2-3 years.



Our Energy & Utilities Group

Bird & Bird LLP is an international law firm. We combine exceptional legal expertise with deep industry knowledge and refreshingly creative thinking. We have over 1200 lawyers in 28 offices across Europe, the Middle East and Asia, as well as close ties with firms in other parts of the world.

Our Energy and Utilities team of over 100 lawyers spread across our network advise on energy and utilities matters across all of our practice areas. As an international team, our sector approach is not broken down by offices but into sub-groups that focus around particular aspects of the Energy and Utilities sector. A key focus area for us is renewable energy, covering solar, wind, biomass, anaerobic digestion, energy from waste and energy efficiency.

We believe we have one of the leading international renewable energy practices in the world, and have recently been ranked as the most active legal advisers on both renewable energy M&A and project transactions in Europe. We are a cohesive and expert team who understand how to work together to complete renewables projects to international investor standards.

This industry experience has meant we have closely tracked the emergence of Corporate PPAs, where global multinational corporations are buying electricity directly from the developers of wind and solar parks. This completely revolutionises the market for renewable power from subsidy and utility driven to market demand driven. We consider we are at the forefront of this market, having developed and negotiated innovative contract and business PPA structures, from physical PPAs to synthetic/virtual PPAs.

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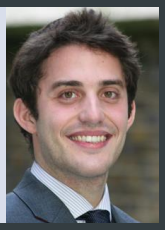

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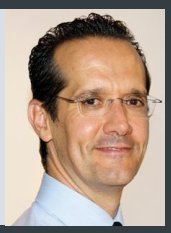

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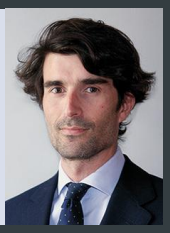

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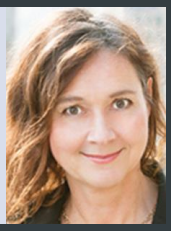

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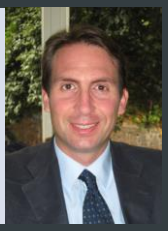

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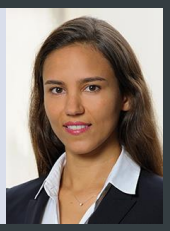

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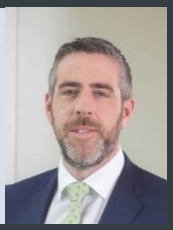

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