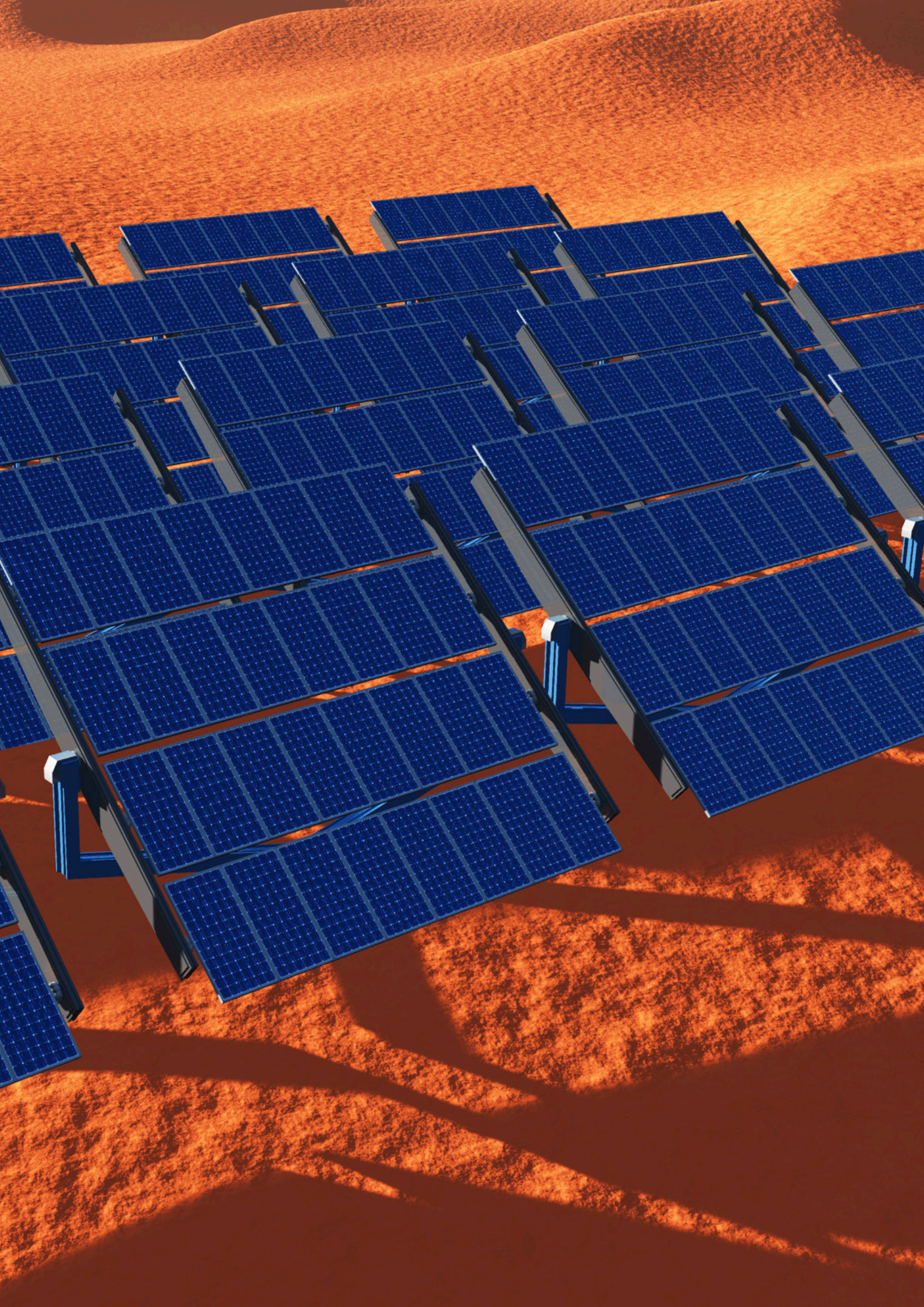


The rise of corporate PPAs

A new driver
for renewables

BAKER & MCKENZIE





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Executive summary

From regulatory uncertainty to low fossil fuel prices, the renewable energy industry is challenged on a number of fronts around the world. But in the last three years a new development has emerged that has the potential to breathe new life into the sector – the corporate renewable energy power purchase agreement (PPA).

What are corporate renewable PPAs? Instead of buying power direct from utilities, a number of businesses are now purchasing electricity under long-term PPAs directly from independent generators, as well as investing themselves in generation assets. Though captive power and industrial power supply arrangements have long been a feature of the conventional power sector, the last three years have seen the growth of this phenomenon in the renewable energy sector, led by non-industrial corporate purchasers.

This report provides market intelligence into corporate renewable PPAs and the various ways to negotiate, document and finance corporate renewable PPA transactions. It is based on a survey of over 100 senior executives and complemented by in-depth interviews with high-level individuals active in the market. Key findings of the report include:

1 Corporate renewable PPAs are surging around the world. In the US alone, almost 1.6 GW of renewables capacity was contracted through corporate renewable PPAs in H1 2015. This is a huge figure given that just 650 MW was contracted between 2008 and 2012, according to the American Clean Skies Foundation¹. This trend shows no signs of abating. Nine out of ten survey respondents expect more corporates to enter into renewable energy PPAs in the next 18 months than in the last 18 months.

2 The early entrants to the corporate renewable PPA market are some of the largest businesses in the world, including Google, Facebook and Amazon. Despite corporate renewable PPAs being very complex to negotiate and finance, survey data indicates that small and mid-sized companies can also sign these deals. In Europe, smaller companies are forming consortia to generate sufficient power demand to make a PPA feasible.

3 The primary motivation behind renewable PPAs is economic, with green/sustainable advantages as a runner up. Some 60 percent of surveyed corporates exploring renewable PPAs cited economic factors as their primary reason for doing so while 30 percent cited environmental

¹ American Clean Skies Foundation and GreenBiz, Google is just a small slice in the new corporate PPA boom, www.greenbiz.com/article/google-just-small-slice-new-corporate-ppa-boom, 2015

motivations. From the perspective of generators, corporates are often prepared to offer higher prices than utilities in markets where commodity prices are low. This price difference can be the difference between a project going ahead or not. Agreeing a fixed electricity price under a corporate renewable PPA will also give the generator - and its financiers - certainty as to the revenue that will be realised from electricity sales and remove the risk associated with exposure to volatile spot prices in wholesale electricity markets. This price certainty may also help a project secure finance and proceed to implementation.

4 The benefits of corporate renewable PPAs to offtakers and generators are substantial, but careful consideration needs to be given to risks that are unique to these deals. Power price fluctuations, and specifically that wholesale power prices may decline below the agreed strike price for a longer period of time than anticipated, top the list of corporate renewable PPA risks. Some 45 percent of corporate survey respondents said power price fluctuations were a high risk, more than double the number that identified any other risk as 'high'. Additional risks include counterparty credit risk, accounting considerations and regulatory/subsidy issues.

5 There are numerous ways to structure corporate renewable PPAs, many of which are complex. According to the Rocky Mountain Institute's Business Renewables Center, three quarters of corporate renewable PPAs structured in Q1 2015 were synthetic. There are three primary types of synthetic PPAs - contract-for-differences, options and commodity hedges. According to the survey data, corporates have a preference for contract-for-differences PPAs, although preferences depend on a variety of factors.

6 Financing renewable energy projects with corporate PPAs is more challenging than financing projects with standard utility PPAs due to the often lower credit ratings of corporates, corporates' more frequent fluctuations in power demand, collateral allocation and other issues. Every surveyed bank seeks a first lien on specific project collateral in loan documentation underpinning corporate PPAs. However, three quarters of surveyed corporates and corporate advisors stated that security over specific collateral should be sought in the PPA documentation. Careful consideration therefore needs to be given to how this collateral is allocated between these two parties.



The corporate renewable PPA market today

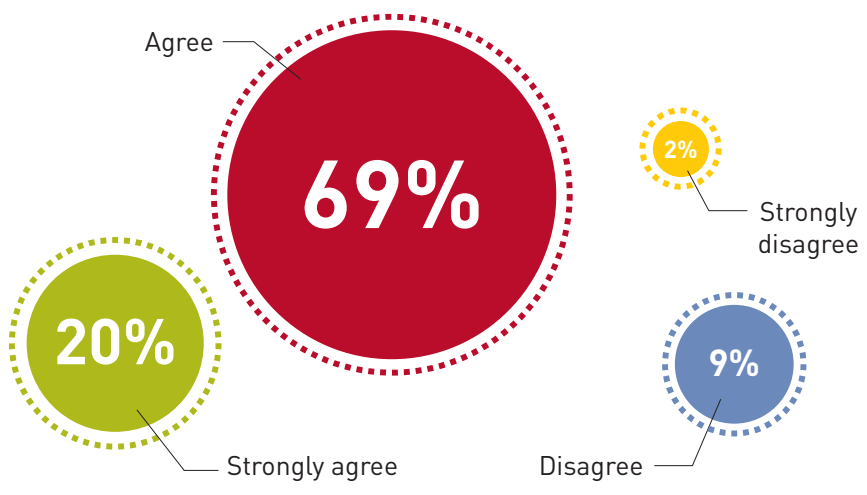
The corporate renewable PPA market has grown significantly in the past three years. Almost 1.6 GW of renewable energy capacity was contracted through corporate renewable PPAs in the US alone in H1 2015, a substantial figure given that only 650 MW was contracted between 2008 and 2012². Statistics on the volume of corporate renewable PPAs executed are not available outside the US, but a series

of deals indicates that large businesses throughout the world are now more than ever seriously exploring purchasing renewable power.

This trend is gathering pace. Almost 90 percent of surveyed corporates, utilities, independent power producers (IPPs) and investors believe more corporates will enter into PPAs in the next 18 months than in the past 18 months.

² American Clean Skies Foundation and GreenBiz, Google is just a small slice in the new corporate PPA boom, www.greenbiz.com/article/google-just-small-slice-new-corporate-ppa-boom, 2015

To what extent do you agree that more corporates will enter into PPAs in the next 18 months than in the previous 18 months? (All survey respondents)





What is driving this growth? Six out of ten surveyed corporates interested in purchasing renewable power in the past 18 months cited cost savings as the primary reason. A further 30 percent said an internal green or sustainability agenda was the main objective for executing corporate renewable PPAs.

Sustainability is certainly rising up the agenda for some of the world's largest corporates. A report from the non-profit sustainability organisation Ceres found that 43 percent of the Fortune 500 companies have set targets relating to renewable energy procurement, energy efficiency or cutting greenhouse gas (GHG) emissions. The appetite to 'go green' is highest amongst Fortune 100 companies – 60 percent have set green targets as of 2013. In contrast only 30 percent of the Fortune 250-500 companies have such targets³.

In reality, corporates enter into renewable energy PPAs principally for two reasons. "We are entering into a PPA for economic and sustainability reasons," explained the procurement officer at a global industrial company who wished to remain anonymous. "I don't believe we would do it unless the project met both of these criteria. Our internal sustainability group is very strong and has a lot of influence. But if we couldn't show an economic benefit we would try to reduce our carbon footprint in another way."

Some 10 percent of corporate survey respondents said neither economic nor green factors were their main reason for entering into renewable PPAs.

The majority citing 'other' factors are based in low-income countries, where there may be no alternatives to direct PPAs because there is no access to the grid or because the power supplied is extremely intermittent.

This is a strong driver for growth in many emerging economies. "Just as cell phones empowered their owners with connectivity where fixed lines failed, the private sector IPP business model is allowing its stakeholders to leapfrog insufficient centralized power generation," explained Rollie Armstrong, Managing Director at CRONIMET Mining Power Solutions. "Many African countries, businesses and residential communities – whose growth and prosperity have been put at risk because of scheduled load shedding, exorbitant electricity price hikes, forced load curtailment, or no access at all to the state grid – are now accessing cheap, reliable and clean power from PPAs with private sector PV IPPs."

Corporate renewable PPAs are also being driven by generators. Utilities in some major renewable energy markets such as the US are not offering PPA prices that create adequate returns for investors. As Clyde "Skip" Rankin III, Partner at Baker & McKenzie explains, corporate offtakers can be prepared to offer higher prices, which sometimes makes a project financeable. "Corporate PPAs are a great boon to the industry because utilities were becoming very cautious about entering into long term PPAs at prices that developers hoped to obtain due to low natural gas prices," he said. "We recently

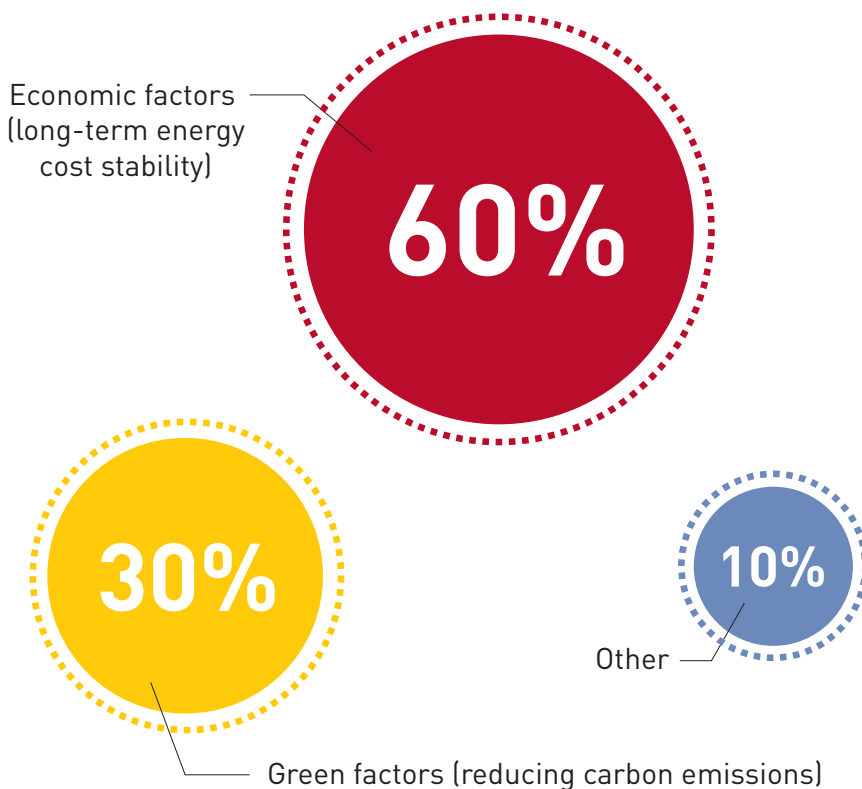
worked on a deal where the corporate offtaker was prepared to pay a little bit more per MWh than a utility would be able to, and this difference allowed the developer to sign a 15-year contract. There are few utilities that will contract for what a corporate is willing to pay today. You're probably talking at least a dollar or two below. That's real money to the developer and yet not such a major risk to the corporate."

In addition, corporate renewable PPAs that establish a fixed electricity price will give the generator certainty as to the revenue the generator will

realise from the electricity it sells and remove the risk the generator might otherwise face if it were to sell electricity in a wholesale market and be paid a relatively volatile spot price for its electricity. This certainty of price and revenue provides comfort not only for the generator but also for a prospective lender looking to finance the project. In this way, corporate renewable PPAs setting fixed electricity prices can help a renewable energy project secure finance and proceed to implementation, which it might not have done had the project been exposed to wholesale market price risk.

³ Ceres, Power Forward 2.0: How American Companies Are Setting Clean Energy Targets and Capturing Greater Business Value, 2014

What are the primary reasons behind your organization looking at signing a renewable energy PPA? (Corporate survey respondents)





The US leads the way

The US is furthest ahead when it comes to corporate renewable PPAs. Corporates entered into over 1.5 GW of renewable energy PPAs in the US in H1 2015, already surpassing the 1.4 GW of PPAs signed in 2014, according to the American Clean Skies Foundation. By contrast, only 600 MW of corporate renewable PPAs were executed in 2013. Some of the most notable deals in 2015 thus far include:

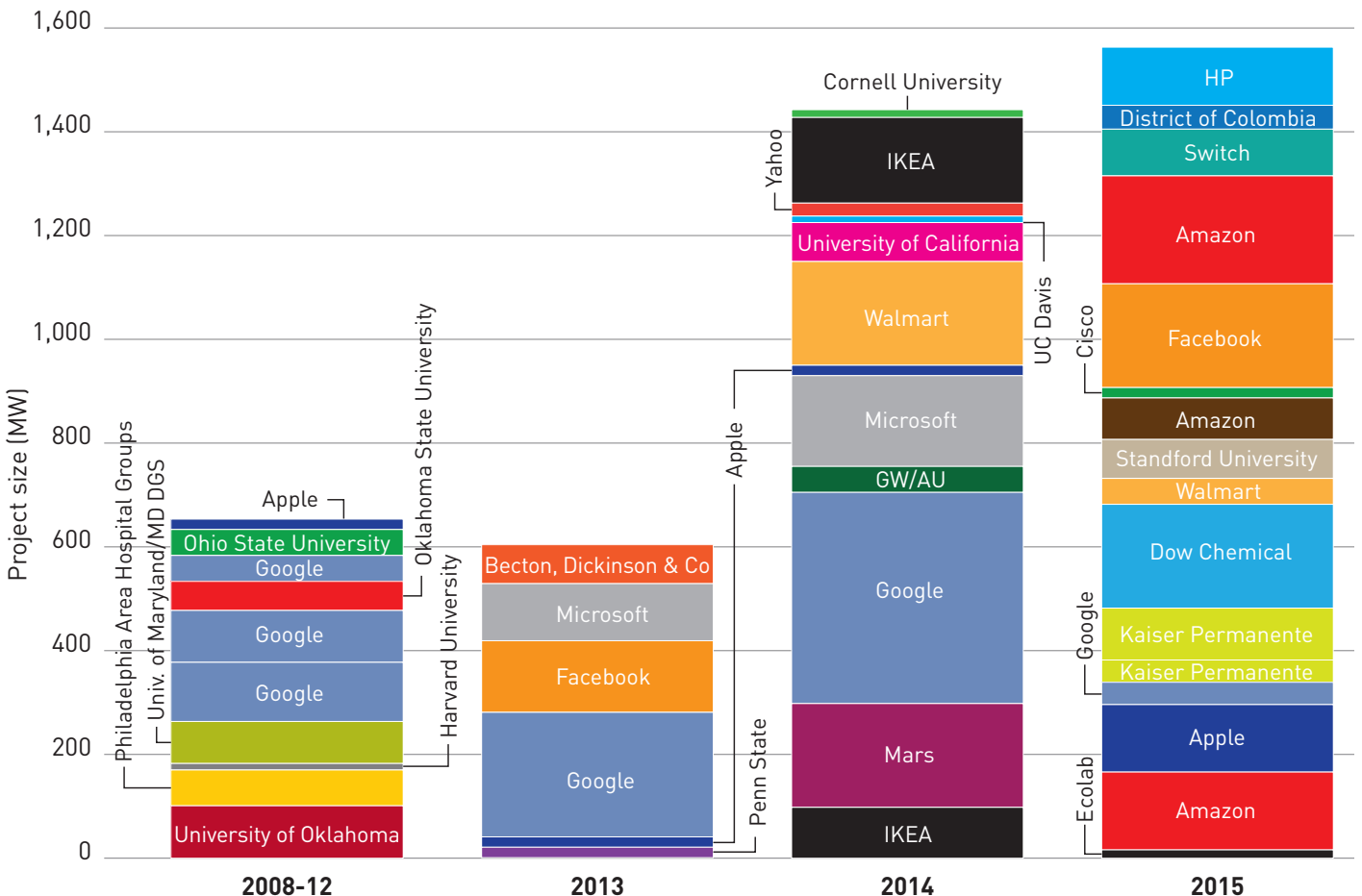
- Amazon's purchase of 100 percent of the power of Pattern Energy's 150 MW Fowler Ridge wind farm, currently being built in Indiana. When

operational, the wind farm will power electricity grids that serve Amazon's data centres.

- Facebook's purchase of the output of Alterra Power and Starwood Energy's 204 MW Shannon wind farm under a 13-year hedge contract.
- The Dow Chemical Company's purchase of 200 MW of power from a wind farm located in south Texas under a 15-year PPA. It will power the company's manufacturing site in Freeport, Texas.

Survey respondents are unequivocal that the US will maintain its dominance. Almost 50 percent

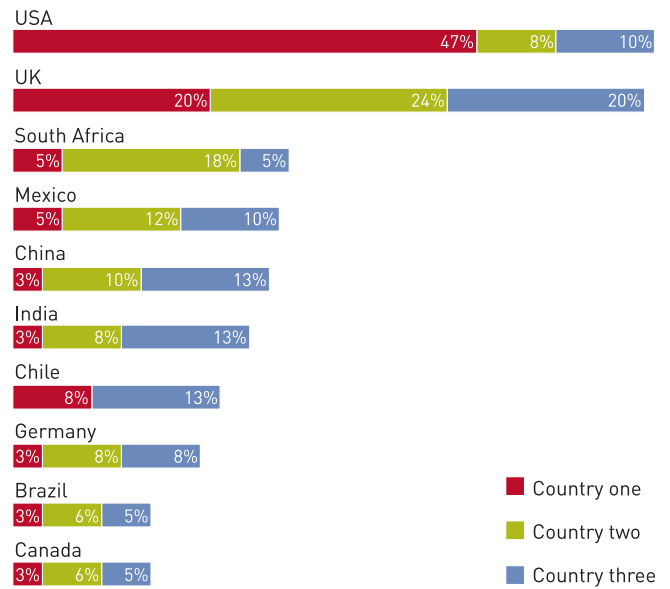
American Clean Skies Foundation (c)



believe the greatest volume of renewable energy capacity contracted through corporate renewable PPAs in the next 18 months will be in the US. This is significantly more than the 20 percent stating that the UK will be the most active market for corporate renewable PPAs.

This is unsurprising given the rate of growth of the US renewable energy market. A record 2.7 GW of solar capacity was installed in H1 2015, a 4 percent increase on the 2.6 GW installed in H1 2014 and a 59 percent increase on the 1.7 GW installed in H1 2013. The US will also continue to dominate corporate renewable PPA activity due to the sheer number of large companies capable of executing corporate renewable PPAs compared with other countries.

Which countries do you expect to contract the most renewables capacity under corporate renewable PPAs during the next 18 months? (All survey respondents)





Looking outside the US

The corporate renewable PPA market has developed more slowly outside the US and statistics on the volume of capacity contracted are hard to come by. Yet a number of notable corporate renewable PPAs have been structured in recent years, indicating certain markets have the potential for significant growth. The most notable are outlined below:

- Beginning January 2016, Apple will fully power its Singapore operations with solar energy pursuant to a long term contract it signed with Sunseap Group in November 2015.
- In early 2015, General Motors signed a 104 MW PPA with Enel Green Power for a wind farm in Mexico. It will supply all of the electricity required by GM's Toluca factory.
- In 2014, Google announced it will purchase all of the power produced at a 62 MW wind farm being constructed by Eneco in the Netherlands for ten

years. The electricity will power Google's new data centre that will come online in the Netherlands in 2016.

- In 2014, British telecommunications giant BT signed a £440 million long-term PPA for 100 MW of wind capacity to power its UK operations.

"The corporate renewable PPA market started in the US but we are now seeing it more in the UK and mainland Europe," confirmed Weero Koster, Partner at Baker & McKenzie. "This is partly because corporates are taking their corporate responsibility extremely seriously and are not only interested in buying certificates of origin and green certificates, but also really want to be involved in the development of renewable power. In addition, European utilities are now in a much weaker position than they were three years ago, which has reduced their appetite to enter into PPAs."

Which PPA structures are favoured?

Standard vs synthetic?

Large corporates such as Google and Apple appear to prefer synthetic rather than standard PPAs. Three quarters of all corporate renewable PPAs in Q1 2015 were synthetic, according to the Rocky Mountain Institute's Business Renewables Center.

Why is this? Firstly, standard PPAs are often not logistically possible. This could be the case if a corporation wants to procure power for an asset in a country with inadequate renewable energy resources or if the offtaker owns multiple load bearing assets in different locations. Synthetic PPAs enable a single renewable energy project to virtually power multiple assets. Standard corporate renewable PPAs may also face obstacles in jurisdictions where electricity from large projects is ordinarily sold into a pool for supply to and from the grid. By way of an example, large scale electricity generators in Australian states participating in the National Electricity Market may be required to sell electricity into the wholesale pool and receive the prevailing wholesale market spot price for that electricity. In this context, a synthetic rather than a standard PPA may be more appropriate.

"We are in the late stages of finalising a virtual or financial PPA and opted for this rather than a physical delivery PPA

Explaining PPA structures

Corporate renewable PPAs are extremely complex transactions and take a variety of different forms. Some of the most common are defined below:

Standard PPA: These are usually 10-20 year agreements to buy electricity generated from a project that flows directly to the purchaser. Standard PPAs guarantee the owner of the project a stream of revenue by selling the power at a fixed and often inflation-indexed price to a creditworthy purchaser.

Synthetic PPA: Synthetic PPAs are essentially hedges that avoid the physical delivery of power. They can be structured in many different ways. Three of the most common structures are:

- **Contract-for-differences (CfDs):** These are contracts between generators and offtakers that guarantee a set strike price will be paid for each unit of energy generated over an agreed period of time. There is no physical exchange of power. The project sells the power direct to the open market and the offtaker purchases power from the open market. If the market price rises above the strike price then the project pays the difference to the offtaker. Inversely, the offtaker compensates the project if market electricity prices fall below the strike price.
- **Options (call options, put options or collars):** Put options provide the project with an opportunity to buy the right to sell the generated electricity at a certain strike price. If wholesale power prices fall below this price then the option buyer can exercise its option to sell the electricity at the higher strike price. Call options enable the buyer to purchase electricity at a certain strike price.
- **Commodity hedges:** Corporates can also mitigate electricity price fluctuations by hedging the price of commodities used to generate electricity, such as natural gas and coal.

because we didn't want to have it delivered to a specific site," explained an energy procurement officer at a large global industrial company. "This is because our portfolio is always in transition. This wind farm will be 250,000 MWh and our biggest site in North America is only about 60,000 MWh. The rest are scattered across the US and Canada. It just isn't feasible to have a wind farm in every market powering each facility."

Standard PPAs are most appropriate for off-grid projects such as those powering mining operations where physical delivery of the power is essential. "We do a lot of work for large corporations and many prefer synthetic PPAs because it enables a project to power multiple assets," explained Mona Dajani, Partner at Baker & McKenzie. "Standard PPAs are more for off-grid environments."

There are multiple types of synthetic PPA structures (as explained in the box on page 11). Survey data indicates that CfD contracts will be favoured – 30 percent of surveyed IPPs plan to enter into CfD corporate renewable PPAs during the next 18 months, compared with only 20 percent that are planning to enter into options structures and 12 percent exploring commodity hedges.

What type of synthetic/virtual PPAs does your company plan to enter into in the next 18 months? (Corporate survey respondents)

We do not plan to enter into synthetic/virtual PPAs with renewable energy projects



Contract-for-differences



Options (call options, put options or collars)



Commodity hedges



Other





Synthetic PPAs – exploring the major challenges and risks

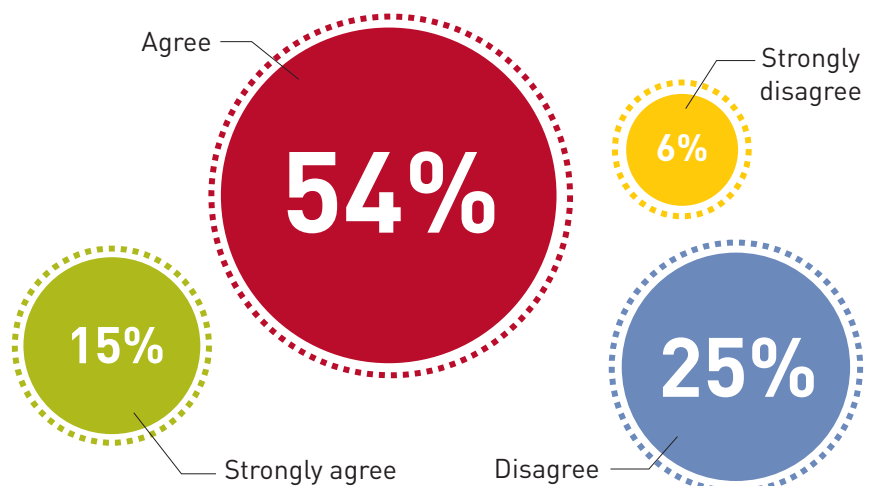
Innately complex transactions

If long-term synthetic PPAs are compelling for economic and sustainability reasons, why are more corporations not purchasing renewable power? The survey data offers some answers. Almost 70 percent of respondents agreed that corporates lack the necessary in-house skills to negotiate renewable energy PPAs. This not only dissuades many corporates from even exploring the possibility of a renewable energy PPA, but also results in

failure once negotiations have started. According to the Rocky Mountain Institute, between five and ten corporate renewable PPAs are significantly delayed or completely fall through for every one success story⁴. This also explains why most companies that have successfully executed corporate renewable PPAs are large corporations such as Facebook, Google and Amazon that have sufficient in-house resources.

⁴ David Labrador, RMI, <http://www.greenbiz.com/article/beyond-google-and-apple-whats-holding-corporate-renewables-back>

To what extent do you agree that most corporates lack the necessary skills in-house to negotiate renewable energy PPAs? (All survey respondents)

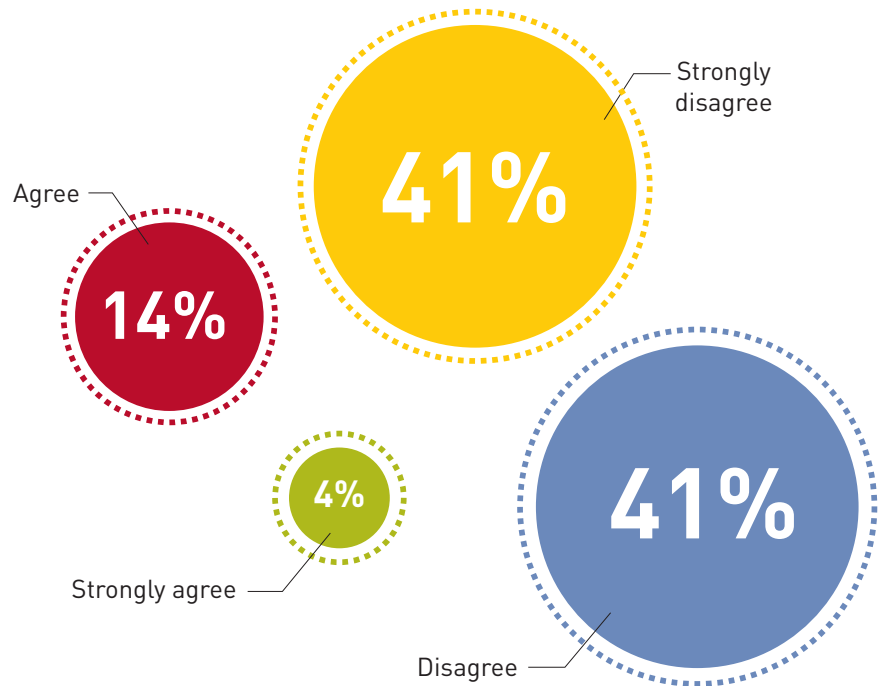


But the survey data shows that corporate renewable PPAs need not be limited to large corporations. Some 80 percent of respondents do not believe it is too complex for corporates to enter into renewable energy PPAs while 82 percent believe companies with a market capitalisation under \$10 billion can successfully structure corporate renewable PPAs. This implies corporates must seek advice from external providers at an early stage when negotiating these contracts.

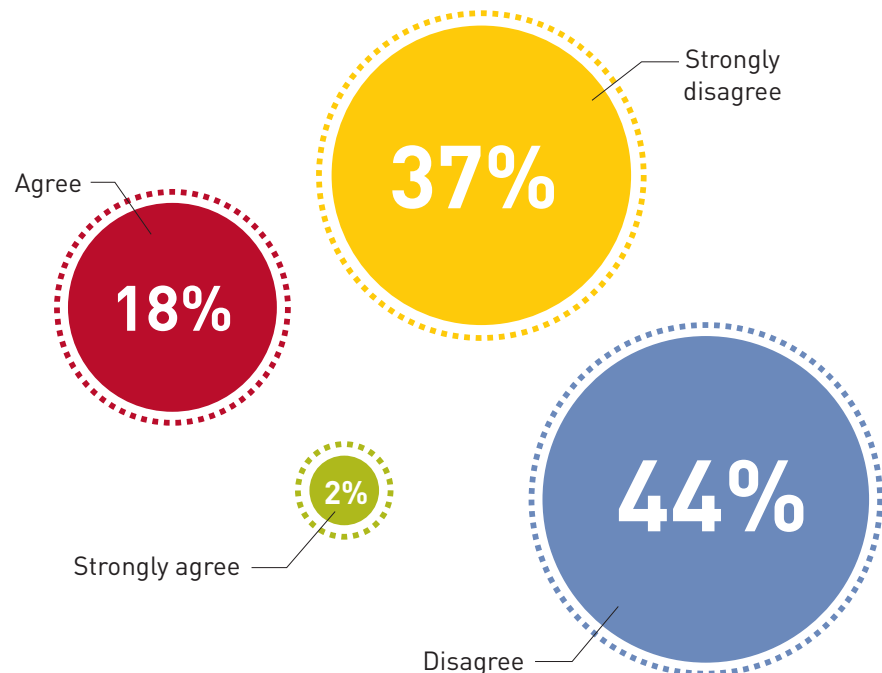
“A lot of companies don’t have the necessary skills in-house,” confirmed Mona Dajani, Partner at Baker & McKenzie. “They are not energy lawyers. Even the largest companies that do have skills in-house will often always use outside counsel. But it is really worth investing the time to get to know this market as they can save a lot of money in the long run. I always like someone from the in-house team to work with me, learn from me and monetize my knowledge so that my involvement is limited on subsequent PPAs.”

As Weero Koster, Partner at Baker & McKenzie explains, one way smaller corporates can enter into renewable PPAs is through forming consortia with other companies. “Small and mid-sized corporates have refrained from signing renewable PPAs because they either lack the expertise and knowledge to do so or because they lack the power demand to make it a viable exercise,” he said. “Outside the US and especially in Europe I am now seeing corporates forming consortia with others to get experience of how they work through combining their power demand.”

To what extent do you agree that it is only possible for very large companies (market cap over \$10 billion) to enter into renewable energy PPAs? (All survey respondents)



To what extent do you agree that it is too complex for corporates to enter into renewable energy PPAs? (All survey respondents)



Power price risk is top of the agenda

Complexity in arranging and negotiating contracts aside, many corporate renewable PPAs are not executed due to the inherent risks faced by both the offtaker and the project company. Power price risk most concerns corporates and IPPs. Some 45 percent of survey respondents said power price risk, and specifically that wholesale power prices may decline below the agreed strike price for a longer period of time than anticipated, was a 'high risk' to corporates. This is much more than double the number of survey respondents that identified any other potential risk as 'high'.

"Power prices are the one thing that really keeps me up at night," explained the procurement lead at a US technology company in the final stages of negotiating a renewable energy PPA. "If more natural gas is found or oil prices drop further, suddenly we're out of the money. All our market forecasts show market prices rising more quickly than our current PPA rate, but you can't be certain."

Power price risk is equally important to IPPs. Some 31 percent of surveyed project developers identified power price risk, or specifically the risk that wholesale power prices rise above the agreed strike price for a longer period of time than anticipated, as 'high risk'. This is significantly more than the number (19 percent) that consider counterparty credit risk a 'high risk'.

How significant are the following risks to corporates of entering into synthetic/virtual PPAs? (Corporates and service provider survey respondents)

Power price risk – wholesale power prices may decline below the agreed strike price for a longer period of time than we anticipated



Counterparty risk - the energy supplier may go bankrupt and therefore not meet its payment obligations should energy prices rise above the established strike price



Accounting risk - a virtual/synthetic PPA may impact our credit rating as it creates long-term liabilities



Power consumption risk – we may not be able to consume all power produced, but still have to pay for it



Accounting risk – a virtual/synthetic PPA may trigger derivative accounting



■ High risk ■ Medium risk ■ No risk

How significant are the following risks associated with synthetic/virtual PPAs? (Generator survey respondents)

Power price risk – wholesale power prices may rise above the agreed strike price for a longer period of time than we anticipated



Counterparty risk - the hedging counterparty (the corporate) may go bankrupt and therefore not meet its payment obligations should energy prices fall below the established strike price



■ High risk ■ Medium risk ■ No risk

Counterparty credit risk – a major consideration

Counterparty credit risk, specifically the risk that the energy supplier might go bankrupt and therefore not be able to meet its payment obligations if energy prices rise above the strike price, is the second most important risk for corporates evaluating PPAs. This is a particularly significant risk for banks and is a factor they dedicate significant resources to evaluating. This risk is therefore discussed in more detail in the financing section of this report.

Accounting considerations are paramount

The potential for derivative accounting to be triggered needs to be considered by corporates considering entering into long-term renewable PPAs. Eight out of ten surveyed corporate respondents consider the risk that synthetic PPAs trigger derivative accounting a 'medium' to 'high' risk issue.

"We want to avoid derivative accounting so it doesn't show up on our balance sheet and we don't have to do a monthly mark-to-market," explained a procurement

officer at a global industrial company. "The way we get around that in GAAP is by not having a guaranteed delivery output from the wind farm, but since we follow IFRS standards, it's more complex and we're still working with our auditors on the solution."

Regulatory risk is a stumbling block

The industry experts interviewed for this report frequently mentioned that regulatory and subsidy issues are a major obstacle to the execution of corporate renewable PPAs. Broadly speaking, regulatory challenges fall into two categories – subsidy changes and prohibitive regulations relating to the direct sale of power to corporations.

As Mark Clover, Director, Power & Utilities Australia, Project & Export Finance at ANZ explains, subsidy uncertainty is one reason why the corporate renewable PPA market has not taken off in Australia. "The regulatory environment has made renewable energy projects difficult for developers, offtakers and lenders," he said. "Retailers are hesitant to enter into long-

term PPAs if they think there will be a change of law or the renewable energy target will change or disappear and noting that their customer base is shorter term and subject to churn. Secondly, some of the retailers unfortunately have entered into offtaker agreements that are now out of the money as power prices didn't rise as fast as previously anticipated. This is partly caused by changing regulations."

Of course, uncertainty related to subsidy changes and renewable energy targets makes it harder to structure all PPAs, not just those with corporate offtakers. One challenge specific to corporate renewable PPAs is the regulations relating to the direct sale of power to corporate offtakers.

"If you're selling power directly to a corporate's manufacturing facility then you have all kinds of regulatory, interconnection and deliverability issues to contend with," explained Kevin Smith, CEO of SolarReserve. "Certain US states have different requirements on selling directly to corporates and wheeling issues as well. It's a lot easier in places like Chile."



Financing projects with corporate renewable PPAs – overcoming the challenges

In the absence of utility PPAs, corporate PPAs can be crucial in providing the long-term price certainty necessary to secure financing. However every surveyed debt provider stated that financing renewable energy projects with corporate PPAs is more challenging than financing projects with standard utility PPAs.

A creditworthy offtaker is key

The core issue for banks is that most corporate offtakers are likely to have a much worse credit rating than a load serving utility. Furthermore, it is unlikely that utilities will experience a significant decrease in power demand in the next 20 years. The same cannot be said for corporates, whose load is determined by the demand for their solutions.

“Financiers always look at the creditworthiness of the offtaker but when it is a utility there is some comfort because it’s unlikely they will suffer a significant drop in general power demand,” explained Kevin Smith, CEO of SolarReserve. “However, if demand drops for the product a facility is producing then its power demand will also fall.”

As Mark Clover, Director, Power & Utilities Australia, Project & Export Finance at ANZ explains, financing is not provided if the offtaker is not creditworthy, unless the bank wants to protect its relationship with the project owner.

“We’ve provided financing to a project with a corporate PPA where the offtaker wasn’t investment grade but it was supported by a strong customer relationship,” he said. “Without a strong customer relationship, if a customer asked us to bank a project with the same offtaker it would definitely present more challenges. We’ve done it, but it has to be for the right customer.”

This issue is particularly acute in off-grid settings, such as mining facilities, in low-income countries. If an individual mine does not have a sufficient credit rating, investors may still be willing to provide financing if the parent company assumes this risk. “We enter into private PPAs with mining and industrial companies and some of these companies are strong enough at their project company off-take level to sign a PPA,” explained Rollie Armstrong, Managing Director at CRONIMET Mining Power Solutions. “Some will provide PPA default guarantees from their European based holding companies. This mechanism is used to greatly reduce their PPA price while hedging IPP sponsors against real and perceived risk of default.”

Allocation of collateral needs careful consideration

Our survey data reveals a potential obstacle to financing renewable energy projects underpinned with corporate PPAs. Offtakers face a risk that the project company may go bankrupt and therefore not be able to meet its payment obligations should market power prices rise above the strike price. They therefore seek certain claims on the collateral of the project. Three quarters of surveyed corporates and corporate advisors stated that a first lien on specific collateral of the project should be sought in PPA documentation.

However, every surveyed bank stated they also seek first lien on specific project collateral in the loan documentation. Detailed thought therefore needs to be given as to how this collateral should be allocated between the debt provider and corporate offtaker.

Banks considering financing projects with corporate renewable PPAs should also ensure events of default in loan documentation match termination rights and events of default in the PPA so they are not left exposed. Some 86 percent of the bank survey respondents always seek to do this. Debt providers can also de-risk their investment by ensuring they have a cure period after default under the PPA to give them a chance to 'cure' the default, therefore preserving the value of the hedge. Some 57 percent of surveyed banks always insert language to this effect in loan documentation for projects underpinned by corporate PPAs.

Lenders considering financing projects in countries with low credit ratings should also pay close attention to any clauses that allow offtakers to exit PPAs without compensation to the IPPs. "Force majeure clauses aimed to allow state utilities or private off-takers to exit their PPA obligations without liquidated damages to the IPP need to be bankable and insurable," explained Rollie Armstrong, Managing Director at CRONIMET Mining Power Solutions. "The IPP cannot be exposed to liquidated damages from technical risk, controllable or uncontrollable, borne on the side of the PPA offtaker."

Curtailment is a big negotiating point

In standard PPA contracts utilities are often required to compensate the project for the loss of revenues from electricity sales and sometimes tax credit payments if a curtailment is enforced by the utility. As Skip Rankin, Partner at Baker & McKenzie explains, this requires careful consideration during negotiations between the corporate offtaker and investors.

"A big issue is to what extent the offtaker is responsible for any type of make-whole payments during a curtailment and how curtailment is defined," he said. "If it is imposed by a third party the answer is usually no because it is nothing to do with the offtaker. If the offtaker gets involved because the prices fluctuate drastically and the offtaker refuses to pay below the floating minimum price because the market is not functioning normally for a while, that's what we call an offtaker directed curtailment. A big talking point is what level of risk a production tax credit investor takes in that situation?"

On the other side of the equation, voluntary curtailment may represent economic value. "In many jurisdictions the power to scale back at will and decisively react to demand fluctuations represents a significant economic value," noted Weero Koster, Partner at Baker & McKenzie. "Corporate PPA parties are quickly starting to appreciate this opportunity to enhance their overall value proposition."

Which of the following do you seek to insert into loan documentation for renewable energy projects underpinned by virtual/synthetic PPAs to reduce risk? (Bank survey respondents)

First lien on specific collateral of the project



Ensuring events of default in the loan documentation match termination rights and events of default in the PPA



A cure period after default under the PPA to give lenders a chance to 'cure' the default, therefore preserving the value of the hedge



More voting rights than the hedging counterparty (the corporate)



Which of the following should corporates seek to insert into virtual/synthetic PPA documentation to reduce risk? (Corporate and service provider survey respondents)

First lien on specific collateral of the project



More voting rights than the debt provider



Other



Conclusion

As this report confirms, corporate renewable PPAs are on the rise. They bring economic and sustainability-related advantages to the contracting parties. But they also bring a number of risks and a higher level of complexity to the negotiation, financing and documentation process compared to standard utility PPAs.

Having recently advised a host of corporate clients, Baker & McKenzie is helping to write the rules for the corporate renewable PPA market. This complements its years of experience advising clients on standard utility PPAs, particularly those in the renewables sector.

As the corporate renewable PPA structure takes hold in jurisdictions beyond the US, Baker & McKenzie is well-placed to help identify and navigate the risks. Baker & McKenzie offers a broad understanding of the policy drivers and country-specific factors impacting renewables projects and how to best mitigate risks in the 47 countries where its 77 offices are located. Baker & McKenzie combines that knowledge with its decades of global power experience and thereby provides its clients with globally-developed solutions and structures adapted to local needs and

Baker & McKenzie's advisers on *The rise of corporate PPAs* include the following:



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About the research

This report provides market intelligence into the corporate renewable PPA market worldwide. The report was written in collaboration with Clean Energy Pipeline, a specialist provider of research, news and data on the clean energy sector globally. Clean Energy Pipeline is a division of Centaur Media plc.

The findings in this report are based on a survey of over 100 senior business executives across the world. The survey was conducted in September and October 2015 and was completed by corporates, developers, investors, banks and services providers.

The report also includes comments from interviews conducted with the following individuals:

Rollie Armstrong, Managing Director, CRONIMET Mining Power Solutions

Mark Clover, Director, Power & Utilities Australia, Project & Export Finance, ANZ

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