

From boiler room to boardroom: optimizing the corporate energy mix

Renewables can transform
energy risk into value creation



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optimizing the corporate energy mix

Executive summary

Large corporates are now a driving force for renewable energy globally

Underpinning this development are strong converging trends: energy security concerns; a recent history in most countries of rising and volatile energy prices, coupled with a consensus that such trends will continue over the medium to long term; and the shift to a resource-efficient and low-carbon economy. These factors are creating new risks and new opportunities that few businesses can afford to ignore.

Energy and resource optimization has risen high on corporate management agendas as executives and directors seek to:

- ▶ Increase energy efficiency, improve energy-price predictability and switch to low-carbon energy sources
- ▶ Improve energy security through access to a portfolio of alternative energy sources
- ▶ Enhance reputation and brand by meeting the sustainability expectations of customers, investors and other stakeholders
- ▶ Gain a competitive edge through innovative, energy-efficient, low-carbon and smaller resource-footprint products and processes
- ▶ Avoid long-term carbon and environmental penalties by complying with current and future regulatory requirements

As a result, the role that renewable energy could play as part of a broader energy strategy is being elevated from an operational and technical exercise to a strategic and commercial priority.

Conventional renewable energy procurement instruments are rarely fit for purpose

Historically, green energy tariffs, renewable energy certificates and carbon offsets have been the preferred instruments for corporates looking to procure renewable energy, typically as part of a wider carbon reduction strategy. In most cases today, these conventional instruments are no longer suited to the purpose. Corporates are now challenged with moving beyond conventional thinking when considering how to include renewable energy as part of a more diversified energy strategy. To achieve this step change, corporates must consider significant shifts within their organizations. Specifically, the financial appraisal techniques used to assess renewable energy projects must evolve. Corporates must also evaluate longer-term power-price movements and re-examine the wider definition of investment return and shareholder value.

The complexities of delivering innovative renewable energy procurement strategies in an efficient and effective manner should not be understated

This type of activity is “non-core” for most corporates and covers a broad spectrum of challenges, from project origination to build through to operations. Strategy and delivery require careful internal stakeholder and change management. Close consideration must also be given to the various options available to a corporate looking to manage energy more strategically as the risk profiles and returns on capital can vary substantially with the chosen technologies, geographies and other company-specific factors. Adding to the complexity are the recent shale gas boom in the US and the improving economics of fuel cells, which are offering a low-carbon (but not zero-carbon) option in countries that depend heavily on coal for power generation. Low-carbon options may be a viable short-term choice in select markets, but as the carbon intensity of power grids diminishes, this path will become more difficult to defend.

Nonetheless, all low- and zero-carbon options should be considered as part of a robust strategic feasibility assessment.

The construction and acquisition of renewable energy-generating assets, both on- and off-site, and the direct contracting for renewable energy through power purchase agreements (PPAs) are at the heart of recent innovations in corporate renewable energy strategies. The implementation of innovative strategies centers around three main approaches:

- ▶ Purchasing power directly from an off-site project¹
- ▶ Investing equity in an off-site project (with or without a PPA)
- ▶ Purchasing energy from an on-site or adjacent project

All over the globe, these three approaches have been adopted by market leaders such as IKEA and Google.

Ultimately, the choice of an energy mix optimization strategy depends on the corporate's risk/reward appetite, as well as the degree to which it is comfortable investing in a long-term payback asset that is not part of its core business and/or contracting power over a much longer period than it is used to. Regardless, corporates should act now and take advantage of the different options to integrate renewables in a way that improves energy security, reduces exposure to volatile and rising energy prices and boosts brand equity while demonstrating corporate responsibility.

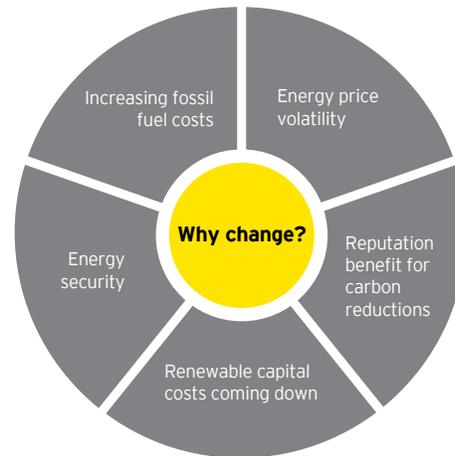
1. Includes both “sleeved” (back-to-back) PPAs and “virtual” (contract-for-difference) PPAs

Addressing risk and realizing financial, environmental and reputational value through renewable energy

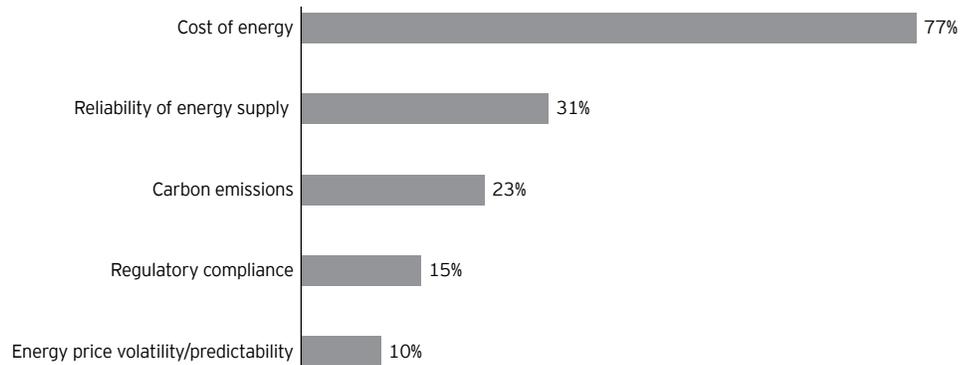


An increasing number of large corporates are taking steps to minimize their exposure to energy and carbon price rises and volatility. For many, this has already begun through a focus on energy efficiency – rolling out programs across their sites to minimize wasted energy in power, gas and other fossil fuels. For some companies, a 20% cut in energy costs has the same bottom-line effect as a 5% increase in sales² – hence the importance of energy-efficiency programs.

To achieve further significant carbon reductions, leading corporates are now turning to renewable sources of power, thereby broadening their energy and carbon efforts. Renewable energy strategies are appearing out of the shadow of carbon reduction targets. This is partially because of renewable energy's direct link to financial (and, therefore, shareholder) value in a world where carbon pricing has yet to achieve widespread traction. Renewable energy can be a more impactful way of demonstrating commitment to decarbonization.



Most important drivers for composition of energy mix



Source: "Billion-dollar corporations prioritize energy mix strategy," *Cleantech matters*, EY, 2012

2. EY *Renewable Energy Country Attractiveness Indices*, Issue 36 (February 2013).

The limitations of traditional renewable energy procurement strategies pose a risk that corporates must evaluate

Traditional energy strategies		Analysis of benefits	
"Good quality" green tariff (renewable source of power backed by appropriate certificates)	}	Reputation A good quality green tariff is often acceptable, but standard green tariffs and carbon offsets have questionable reputational benefits	■
Standard green tariff		Financial No greater price stability; green tariffs typically cost more than the cheapest "non-green" tariffs. Carbon offsets or green certificates are an added expense	■
Carbon offsets		Carbon Cannot claim reduction in carbon emissions under most generally accepted carbon accounting standards	■
		Security of supply No added benefit as still sourcing from the grid	■

■ High benefit ■ Medium benefit ■ Low benefit

Source: EY

More effective alternatives: PPAs and direct investment

Innovative strategies include the procurement of renewable power through power purchase agreements and/or direct investment in renewable energy assets to secure increased energy security and scale. These procurement-and investment-led approaches can provide price security and long-term cost savings, together with reputational benefits through association with specific renewable assets.

Some corporates prefer to adopt a PPA-led strategy to secure renewable power without tying up capital in non-core assets. Google, Marks & Spencer, Sainsbury's and Tarmac are but a few of the companies diversifying their energy mix through renewable power purchase agreements. Corporates serve as attractive counterparties for renewable energy project developers, particularly when they have strong credit ratings (which may exceed those of most power utilities that provide the traditional power off-take solution to renewable projects) and an appetite to provide long-term PPAs for wholesale power.

Corporates could play a vital role in helping to address the current lack of liquidity in some traditional PPA markets, but only a few corporates have become active in this space so far.

Direct corporate investment in renewable assets is also on the rise, due in part to considerably reduced renewable energy capital costs. Providing equity for a renewable energy project can lead to various benefits for corporates, namely:

- ▶ A more rapid development or construction process
- ▶ Reputational advantages through demonstrable links with specific projects and clear additionality arguments
- ▶ A natural power-price hedge through the dividend stream
- ▶ Potential to earn a relatively low-risk return on corporate capital

Two of the highest-profile examples of direct investment, discussed in more detail later on, include:

- ▶ Google, which has committed over US\$1b to renewable energy projects, mostly in wind and solar projects across the US, such as US\$200m (€152m) in a 161MW wind farm in December 2012
- ▶ IKEA, which has recently doubled its planned spending on renewables to US\$4b (€3b) by 2020. The retailer already owns 43MW of solar photovoltaic (PV) and owns/operates 180MW of wind power

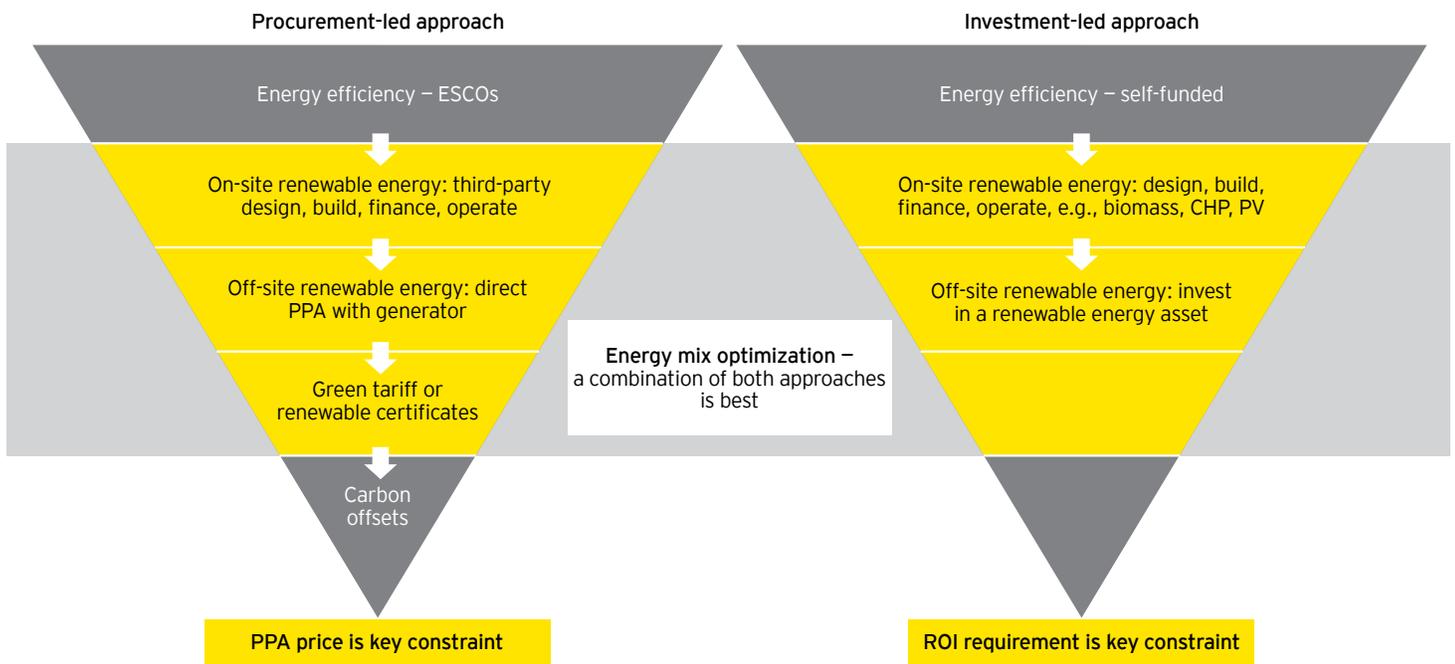
The challenges of implementing an energy mix optimization strategy

The complexities inherent in delivering energy mix optimization strategies in an efficient and effective manner should not be understated. Originating, evaluating, prioritizing and structuring opportunities in a way that achieves core strategic objectives without exposing the business to unquantifiable or unmitigatable risk is not a simple task.

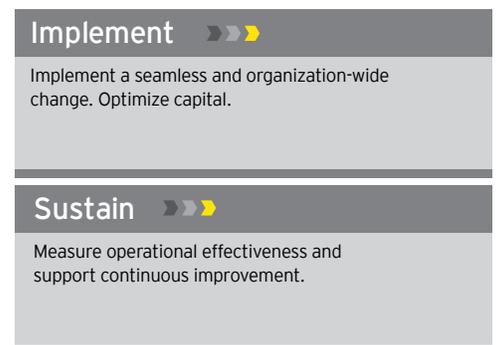
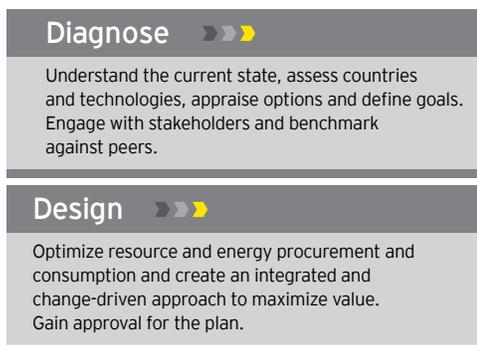
Moreover, these activities often sit across the corporate's functional lines, as well as geographies. Yet the overall energy mix optimization strategy has to be coordinated globally, with clear ownership, as well as being tailored to local markets. Careful consideration must therefore be given to the various options available to the corporate as they offer very different risk profiles and returns on capital.

To successfully overcome these complexities, the company must adopt a structured approach – one in which it first addresses key commercial considerations that subsequently inform a set of strategic choices.

Energy mix optimization – which path to follow?



Energy mix optimization life cycle



Source: EY

Commercial considerations

The questions to consider typically include:

- ▶ What are our business objectives? How can renewable energy help achieve these?
- ▶ What are our renewable energy and carbon ambitions and targets?
- ▶ How can renewables support our future energy profile?
- ▶ What is our risk appetite?
- ▶ What are our financial constraints?
- ▶ When should we act?
- ▶ For how long can we commit?
- ▶ What price would we be prepared to pay?
- ▶ If we invest capital, what level of return would we expect?
- ▶ What other challenges do we face?

Strategic choices

A successful energy mix optimization strategy then hinges on selecting the most suitable renewable energy technology type, in an appropriate location, and structuring the transaction in a

way that best fits the corporate. The corporate should therefore frame its strategy around four choices: technology, geography, implementation approach and procurement process.

Technology:

- ▶ How much heat/electricity?
- ▶ Which technology type?

Geography:

- ▶ Which country, region or state?

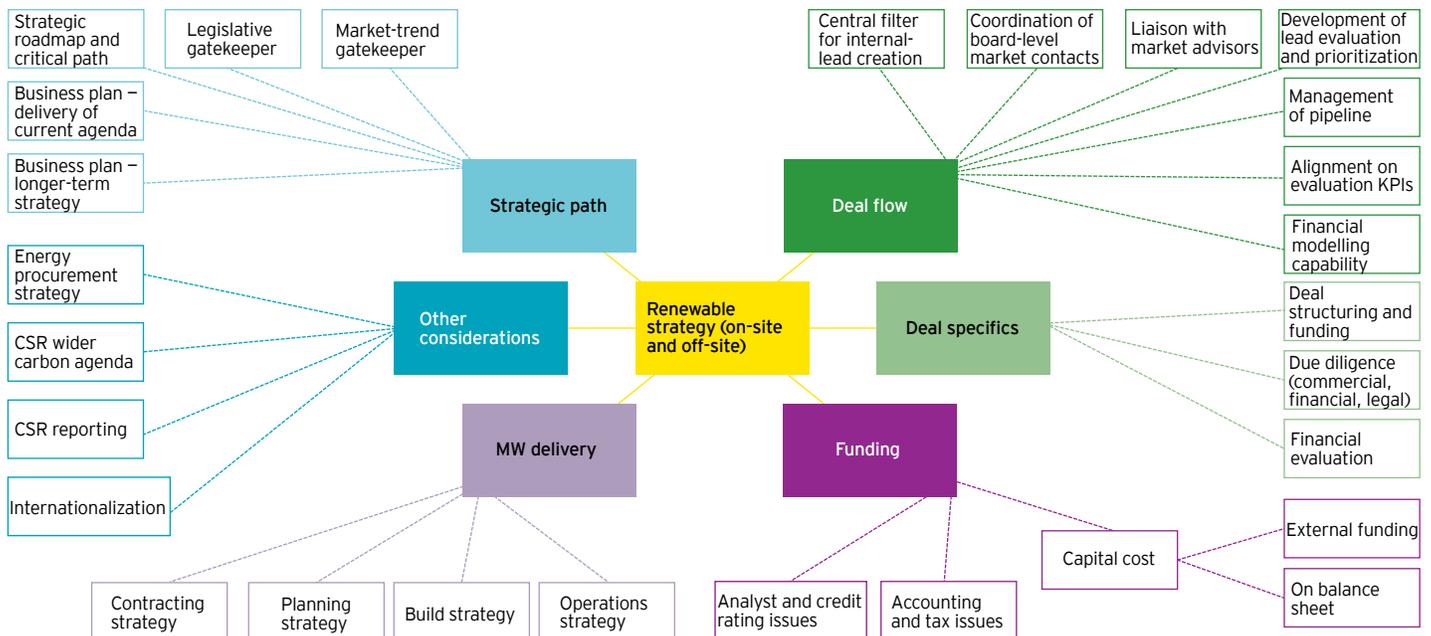
Implementation approach:

- ▶ Off-site or on-site?
- ▶ Investing capital (investment-led approach) or not (procurement-led approach)? Which financing structure?
- ▶ Purchase power from the developer or sell it to the market?

Procurement process:

- ▶ Which developer?
- ▶ Which asset, specifically?

Adopting the most suitable approach is a complex undertaking



Source: EY

Shaping a successful and innovative energy mix optimization strategy

The remainder of this report provides more detail on the corporate strategy assessment and the four choices, supported by case studies. These considerations are relevant to the design and implementation phases of the energy mix optimization life cycle.

Technology

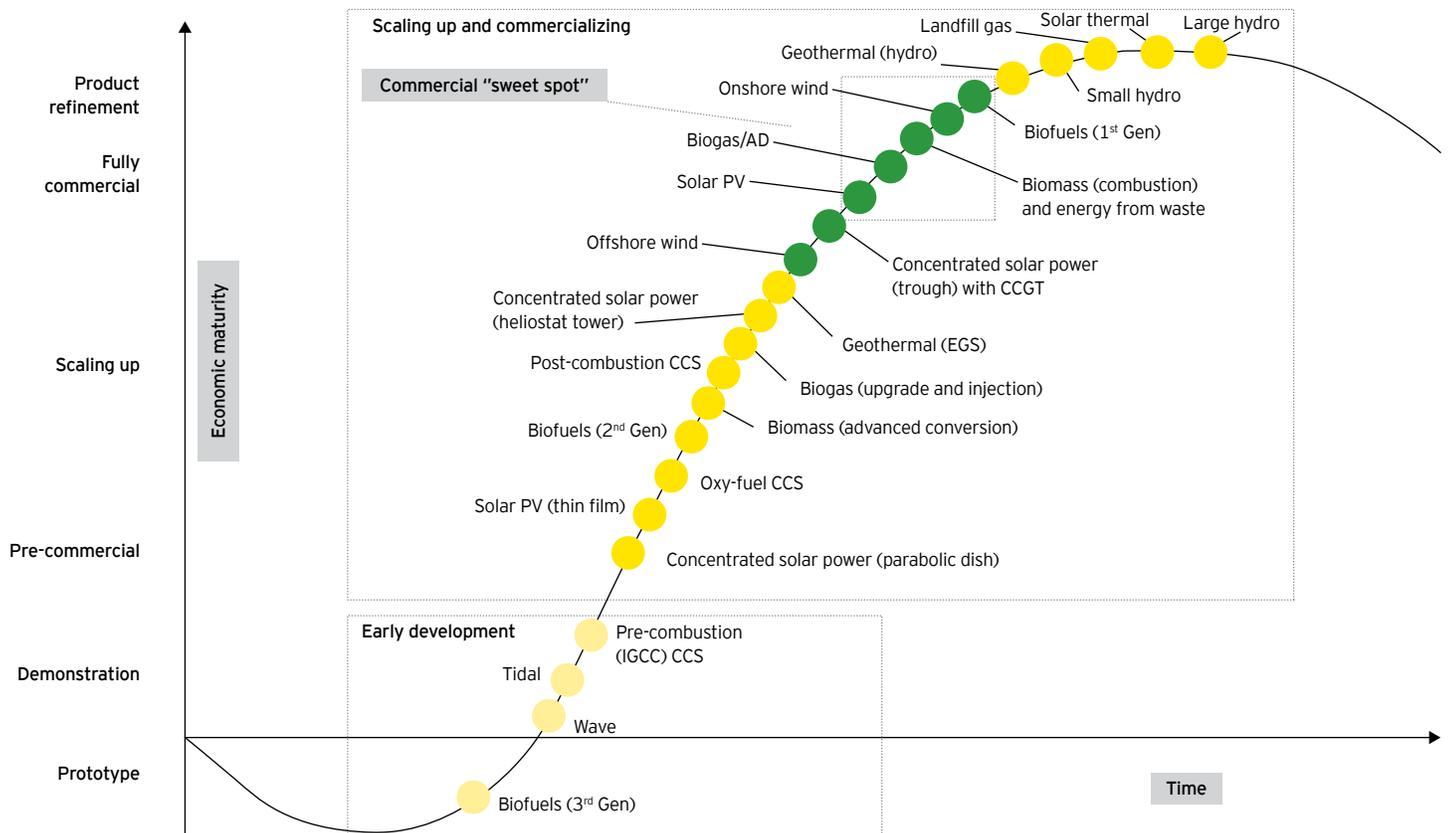
The chosen renewable energy technology must be appropriate for the scale of the corporate's requirements. The degree of technology maturity must also be aligned with the desired risk appetite and value expectations (return on equity or PPA price). Where proven, "bankable" technology is required, off-site onshore wind and on-site PV are among the most commonly short-listed. However, some

corporates may choose to invest in less proven technology in order to achieve higher levels of return. In both cases, a wide range of factors must be taken into consideration when selecting a renewable energy technology. These are likely to include:

- ▶ The expected life cycle cost of the asset (i.e., affordability)
- ▶ Operating risk (maintenance, technology performance, renewable resources)
- ▶ Deliverability risk (planning risk, counterparty risk, speed of installation, risk of failure)
- ▶ Feedstock supply (availability, quality, price)
- ▶ Stakeholder acceptability (customers, investors, general public)
- ▶ Power-balancing issues (continuous vs. intermittent, match for demand profile)

Only a handful of renewable technologies typically lend themselves to corporate energy procurement strategies

Maturity of different low-carbon power generation technologies



Source: EY



Large-scale, higher-risk technologies include offshore wind power, concentrated solar power and geothermal power. Wave, tidal and marine technologies have not yet reached commercial maturity and entail greater technology risk. Hydropower projects yield low financial returns and include the added drawback of site scarcity.

As for biomass/energy from waste, biofuels and anaerobic digestion, the reputational benefits are sometimes questionable because the general public does not always understand the environmental advantages. The carbon benefits are also often less clear, with sustainability issues and “embedded carbon” in processing and transportation. On-site biomass combined heat and power (CHP) plants may well address energy security concerns through controllable baseload power and provide a valuable heat supply, but there are feedstock supply risks – namely uncertain availability, price and specification.

Because all renewable technologies have detractors, in addition to selecting the most appropriate technology, the corporate must also ensure that communication with key internal and external stakeholders is adequately managed as part of the pre-implementation work.

Geography

There are also complexities inherent in short-listing countries and locations that lend themselves to a specific energy mix optimization strategy. Typically, a number of quantitative and qualitative criteria must be considered in order to ensure a successful implementation. These then feed into the wider environmental, financial, reputational and risk due diligence process.

Geography: country-specific factors

- ▶ **Macroeconomic factors**
 - ▶ Ease of doing business
 - ▶ Political stability
 - ▶ Sovereign credit rating
 - ▶ GDP growth forecast
 - ▶ Grid reliability
- ▶ **Targets, incentives and legislation**
 - ▶ National renewable energy targets
 - ▶ National incentives for renewables
- ▶ **Carbon intensity of grid power**
- ▶ **Infrastructure factors**
 - ▶ Power market regulatory risk
 - ▶ Planning issues
 - ▶ Grid connection availability
 - ▶ Access to finance
- ▶ **Natural resource availability**
- ▶ **Availability of major developers, suppliers and quality projects**
- ▶ **Availability of various procurement options**

Implementation approaches

An innovative renewable energy mix strategy centers around three main implementation approaches:

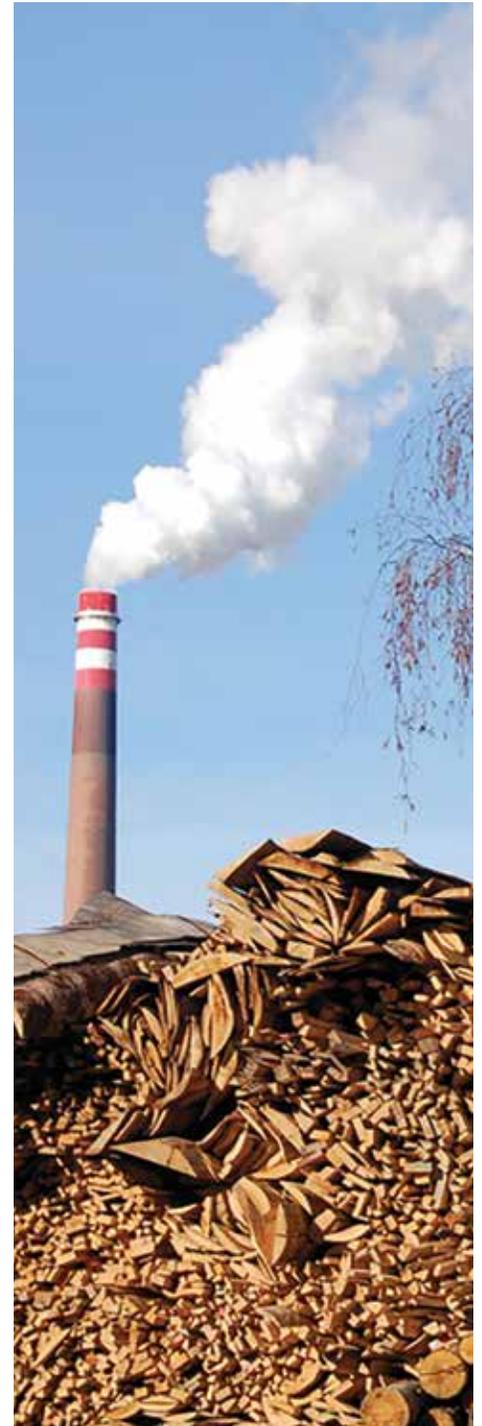
1. Purchasing power directly from an off-site project⁴
2. Investing equity in an off-site project (with or without a power purchase agreement)
3. Purchasing energy from an on-site or adjacent project

Innovative renewable energy procurement strategies can provide price security and long-term cost savings, together with environmental and reputational benefits

Innovative renewable energy procurement strategies	Analysis of benefits		
Direct power purchase from an off-site project		Reputation Market-leading action with specific projects, boosted by additionality argument for carbon reductions (see below)	
Direct equity investment in an off-site project		Financial Potential positive financial returns vs. traditional energy procurement, the key to which is astute country and technology selection	
Energy purchase from an on-site project		Carbon Strong argument for reducing emissions, especially for top two options, where there is a clear additionality argument	
		Security of supply Potential benefits for on-site or near-site renewables	

High benefit
 Medium benefit
 Low benefit

Source: EY



4. Includes both "sleeved" (back-to-back) PPAs and "virtual" (contract-for-difference) PPAs

1. Direct power purchase from an off-site project

Direct PPAs are a recent development in the market. They have evolved as a way for corporates to contract directly with power generators for the power produced from one or more specific facilities. The renewable power (i.e., electrons) produced by the generation site is not delivered directly to the corporate's demand or consumption location. Instead, it is channeled through a third party (typically a utility company) through the existing power grid, as we explain below.

“Sleeved” power purchase agreement

One of the challenges of purchasing green power directly from off-site generators is how to handle the physical power produced. For renewable generators, especially wind and solar, the challenge is that they cannot guarantee output as it fluctuates with weather conditions. Therefore, unless the business customers wish to purchase balancing power themselves, they require a “sleeving” arrangement with an energy utility company whereby the supply from the renewable generator is topped up with other energy to provide a stable energy supply to the consumer.

The least risky option for corporates to manage the physical energy exposure of the PPA is to have an energy utility company provide the balancing services around the PPA, known as a direct “sleeved” PPA. This component is wrapped within an existing standard tariff supply agreement. The supplier is obliged to provide continuous (balanced) power – even when the generator is not producing. In this scenario, the corporate controls the power-pricing relationship with the renewable generation asset rather than paying a retail-grid tariff for all the electricity consumed from the licensed supplier.

“Virtual” power purchase agreement

An increasingly popular PPA structure that is valid in some power markets is essentially a financial fixed-for-floating swap contract that simulates a power purchase but does not involve delivery of power. This contract-for-difference (or price guarantee agreement) provides a fixed “strike” price enabling certain revenues for the generator (which is selling onto the open market) and a hedge against exposure to volatile power prices for the customer. That is, if market prices are higher than the agreed fixed price, then there is a delta payment to the customer (which offsets higher retail rates), and if market prices are lower than the fixed price, then there is a delta payment to the generator (paid from the customer's lower retail rates). This “virtual” structure is still seen as “additional” in terms of bringing new capacity on-line as it can enable a new project to raise third-party finance for construction. Also if Renewable Energy Certificates are transferred to the customer as part of the transaction, then zero-carbon power can be reported by the customer. The virtual PPA structure has less direct association with the asset, which still needs to sell power elsewhere, but it is generally less complex to set up and more flexible in terms of regional coverage.

Purchase from generator (via PPA) and sell onto the market

The other, less common option is one in which no sleeving arrangement exists, and the corporate therefore contracts directly with the generator with no arrangement for alternative/balancing supply. The corporate is thus responsible for managing the balancing, transmission and other risks of the physical power.

This will typically require the corporate to have a large and sophisticated energy trading function – in effect, operating as a mini-utility company. This option is more commonly adopted by major energy-intensive consumers, such as aluminum smelters, whose effective management of energy costs is critical to their operations and profitability.

Overview of benefits and drawbacks of direct power purchase from an off-site project

Benefits

Because the generation and balancing are outsourced, reliability of supply is ensured. This option has no upfront capex requirement and confers some positive reputational benefits to the corporate.

Drawbacks

This option is likely to have lower financial benefits compared with the direct ownership option as less risk is taken. It involves a more complicated contracting structure (than simply buying green tariffs) and is thus likely to require legal and financial advice. Moreover, the requirement to contract long term (e.g., 10-15 years) is often well beyond many corporates' planning horizon.

Direct power purchase from an off-site project

Marks & Spencer

Speaking about the company's arrangements to procure renewable electricity, Richard Gillies, Director of Plan A at Marks & Spencer (M&S), said: "Securing this contract (...) is a major achievement for M&S. Not only does it significantly move us towards our goal of using 100% renewable electricity across our stores and offices, it also strengthens our market-leading commitment to encouraging small third-party generators, including some of our own suppliers, to develop renewable electricity."⁵

Overview

- ▶ Under a six-year deal, M&S procures 2.6TWh of renewable electricity from utility supplier npower – enough to power all of its stores and offices in England and Wales. M&S is supplied (indirectly) by electricity from renewable sources. The contract allows for a significant amount of the supply to be purchased directly from independent small-scale generators of renewables.
- ▶ M&S has a target of sourcing or generating 100% green (renewable) electricity for its stores, offices and distribution centers in the UK and Republic of Ireland.

Direct power purchase from an off-site project

Google

"We found an opportunity in Power Purchase Agreements (PPAs) – long-term contracts (typically 20 years) to buy clean energy from a particular producer. When we enter into a PPA, we choose projects that add new renewable energy sources to the market. By providing developers with a solid commitment, we help them get the money they need to finance new clean energy facilities. In exchange, we get clean energy at competitive prices as well as the renewable energy certificates to help reduce our carbon footprint."⁶

Overview

- ▶ Google enters into sleeved PPAs in which renewable projects are on the same power grid as one of their data center facilities.
- ▶ For example, Google's first PPA was with NextEra. Under the contract, it agreed to buy 114MW of wind power for 20 years from a project in Ames, Iowa, which is used (indirectly) to power the Google data center in Council Bluffs, Iowa.

5. "M&S & npower sign UK retail's biggest renewable energy contract," *GreenBuying website*, <http://www.greenbuying.co.uk>, 16 February 2009.

6. "Renewable energy – Data Centers – Google," *Google website*, <http://www.google.com/about/datacenters/renewable>, accessed 13 June 2013.

2. Direct equity investment in an off-site project (with or without PPA)

As well as agreeing to take some or all of the power (and green certificates) from an off-site generator, there are cases in which companies invest directly in the generator before construction of the renewable energy asset. The corporate invests in an off-site renewable power asset and has the option to take some or all of the power produced via a PPA. The level of investment usually provides a degree of control over the terms of the PPA. Conversely, in an

off-site equity investment without a PPA option, the corporate invests in a renewable asset, but the PPA contracting takes place between the project and a third party. This option is typically adopted where PPA sleeving is not achievable through local or regional electricity transmission networks. In this scenario, price security is achieved via a “natural hedge” between market power-price changes and project-level equity dividends. If power prices rise, the corporate will pay more for the power it buys from the market. But this extra cost will be offset by higher dividends from the project, which is receiving greater revenues from selling power into the market. It is important, however, to consider the tax efficiency of the hedge as well as the commercial efficiency.

Overview of benefits and drawbacks of equity investment in an off-site project

Benefits

This option has the potential for greater financial return than a PPA alone as the corporate takes on more risk. The option to influence PPA terms is also greater than in the previously discussed “PPA only” option, depending on the level of equity investment. Finally, this option attracts strong reputational benefits, provided a suitable, non-controversial site is located.

Drawbacks

This option involves high initial capital costs and a long payback period. The corporate also takes on some exposure to development, build and operational risk. Overall, it is a more complex and potentially challenging option, with the corporate moving toward being a power/energy producer and away from fully outsourced solutions.

Direct equity investment in an off-site project (with or without PPA)

IKEA

“It’s highly likely that our energy demand will increase, and more countries around the world are heading to carbon pricing. If you have your own energy production, you cut off that risk completely. ... We want to take a stand for renewable energy, and we can do that most effectively by investing directly in it. Then we can meet our energy needs from our own renewable energy assets.”⁷

Overview

- ▶ IKEA owns/operates 126 wind turbines in six countries to cover 34% of its global energy consumption.
- ▶ It plans to invest US\$4b in renewable energy by 2020 as part of a drive to reduce costs.
- ▶ It makes major investments in renewable energy projects to meet the expectation of sourcing 100% of the energy consumed at its stores and by subcontractors by 2020.
- ▶ It derives a significant proportion of renewable energy from directly financed generation capacity, with €470m (US\$615m) invested in 2011 alone.

Google

“We’re striving to power our company with 100% renewable energy. In addition to the environmental benefits, we see renewable energy as a business opportunity and continue to invest in accelerating its development. We believe that by powering the web with renewable energy, we’re creating a better future for everyone.”⁸

Overview

- ▶ Google has committed over US\$1b in renewable projects, mostly in US solar PV and onshore wind assets.
- ▶ It invested US\$168m in the first utility-scale solar project, Ivanpah, in California’s Mojave Desert, and a further US\$94m in 88MW solar PV in a portfolio of four solar PV projects in Sacramento, California.
- ▶ It also invested US\$100m in the 845MW Shepherd’s Flat, in Oregon, anticipated to be the world’s largest onshore wind farm.

7. “How IKEA plans to take its buildings energy-neutral,” *BusinessGreen website*, www.businessgreen.com/bg/feature/2222117/how-ikea-plans-to-take-its-buildings-energyneutral, accessed 13 June 2013.

8. “Renewable Energy – Google Green,” *Google Website*, www.google.co.uk/green/energy, accessed 13 June 2013.

3. Energy purchase from an on-site or adjacent project (third-party design, build, finance, operate)

A third option is for the corporate to commission the construction of a renewable energy generation plant (for power and possibly heat as well) on or near one or more of its sites. The recent trend of rising power prices and forward curves is boosting the economics of such schemes. Corporates with significant land areas at or adjacent to their facilities – when these lend themselves to being re-engineered to incorporate renewable generation – are entering into agreements with developers to build renewable energy plants. This option sees

the corporate undertake the project facilitation work and procure a developer through a competitive process, bidding back the power/heat price. The developer remains responsible for the design, build, financing and operation of the facility. This option outsources key risks to parties with core competence, and a special project vehicle structure uses third-party debt to reduce the weighted average cost of capital and third-party equity to reduce the sponsor's financial burden.

However, the corporate may also choose not to outsource project ownership to a developer, deciding instead to carry out some or all of the project elements in-house (with third-party contracting) or in a joint venture.

Overview of benefits and drawbacks of energy purchase from an on-site project

Benefits

In this option, there is little doubt as to the additionality or verification of the renewable energy sourced. Hence, this option tends to carry the highest reputational benefit, externally and internally. In countries where the grid is unreliable, it also provides greater security of supply for the corporate.

Drawbacks

Such projects often take a considerable length of time to develop. While the design, build and operation of the plant can be subcontracted to specialist firms with the necessary skills, the risk of cost overruns and sub-design performance ultimately remain with the corporate.

Energy purchase from an on-site or adjacent project (third-party design, build, finance, operate)

INEOS ChlorVinyls

"The manufacturing processes operated at our largest UK site at Runcorn, Cheshire, are highly energy intensive, consuming the same amount of electricity as a city the size of Liverpool. It is therefore vital to the long-term future of our business to utilize ways of producing energy that are not dependent on conventional fossil fuels, which are increasingly expensive and limited in supply."⁹

Overview

- ▶ INEOS Chlor is the third-largest petrochemicals company in the world.
- ▶ There is a 250MW energy demand at its key UK site, with a large heat component, and high exposure to energy price volatility.

- ▶ Its solution is a £400m, 750ktpa waste-to-energy on-site facility (70MW power + 50MW heat) producing about 20% of the firm's total energy needs from renewable sources.
- ▶ To deliver this major investment at the Runcorn site, the company has formed a special purpose vehicle (joint venture) with Viridor and Laing to design, build, finance and operate the new energy-from-waste CHP facility.
- ▶ The development is being funded through a mixture of public and private finance. Working with construction partners Keppel Seghers, INEOS Chlor expects the plant will be operational in 2013.
- ▶ There is a 25-year fixed power/heat price with an equity upside, at or around the brown power price.
- ▶ The arrangement is underpinned by a gate-fee fuel supply contract to balance economics, in turn underpinned by waste-sector economics.

⁹ "INEOS ChlorVinyls," *Ineos Chlor website*, www.ineoschlor.com/efw/energyfromwaste.shtml, accessed 13 June 2013.

Procurement process

An implementation option could be chosen through responding reactively to approaches from project developers or approaching selected developers to negotiate a series of bilateral deals. However, there is a risk that this would result in limited market choice and sub-optimal contractual terms. For those corporates that need scale and wish to foster competition between alternative opportunities in a controlled way, a structured competitive procurement process is often more appropriate. It enables the corporate to run a competitive process to procure multiple projects concurrently (possibly in several different countries). The company may set high-level commercial parameters, define a ceiling bid price or give freedom to the market to set the price. Developers then bid back the power price and are awarded the PPA based on this price, as well as on the financial, commercial and technical deliverability of the underlying project.

Under this option, developers also provide the site and remain responsible for the design, build, financing and operation of the facility. This approach is best suited to large-scale capacity procurement, and a multitude of regulatory environments would necessitate multiple procurements. Successful implementation of this option rests on a robust project feasibility study, quality documentation and a creditworthy counterparty.

Procurement processes are not used only by corporates to buy renewable power but can also serve as valuable tools for governments. A government may wish to procure renewable power for its own use or, alternatively, use a procurement process as a mechanism to deliver policy support to the renewables industry – such as in the example from South Africa. Here, procurement processes offer an alternative incentive mechanism to feed-in tariffs or renewable portfolio standards.

Delivering a successful procurement process for renewable power

South Africa Renewable Energy Procurement Program

“A PPA competitive procurement framework can provide a large corporate with a global energy footprint the option to procure renewable power in a competitive and transparent manner at a local level across its different sites, provided the scale of the opportunity is big enough to attract market investors.”

– Robert Winchester, Partner, EY LLP, UK

Overview

- ▶ The program's aim is to procure 3.7GW of renewable energy across a variety of technologies.
- ▶ To date, 2.4GW of capacity has reached financial close across wind, solar and mini-hydro projects.
- ▶ The contract award is for a 20-year fixed power price based on a competitive process.

Risks, rewards and “telling the story”

Ultimately, the choice of energy mix optimization strategy depends on the corporate's risk/reward appetite and the degree to which it is comfortable investing in a long-term payback asset that is not part of its core business, and/or contracting power over a longer period than it is used to.

In many countries, there are permitted sites standing by to be built, with engineering, procurement and construction contracts ready. In these circumstances, capital investment and/or PPAs from corporates are often welcomed.

Today, corporates can play a material role in bringing additional new renewable energy capacity on-line, and in so doing, give rise to a compelling “story” of value creation and corporate responsibility through innovation in the corporate energy strategy.

Next steps

- ▶ Consider whether your business's current renewable energy procurement practice is suited to your energy and sustainability agenda and overarching business strategy
- ▶ Move beyond conventional thinking
 - ▶ Change investment time horizons and payback requirements
 - ▶ Take a position on longer-term power price movements
 - ▶ Re-examine the wider definition of investment return and shareholder value
- ▶ Understand what your competitors are doing and why
- ▶ Develop a strategy that is calibrated to your business
- ▶ Don't miss the opportunity to reduce exposure to volatile and rising energy prices
- ▶ Capitalize on falling renewable energy capital costs
- ▶ Boost brand equity and demonstrate corporate responsibility
- ▶ Act now!



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