

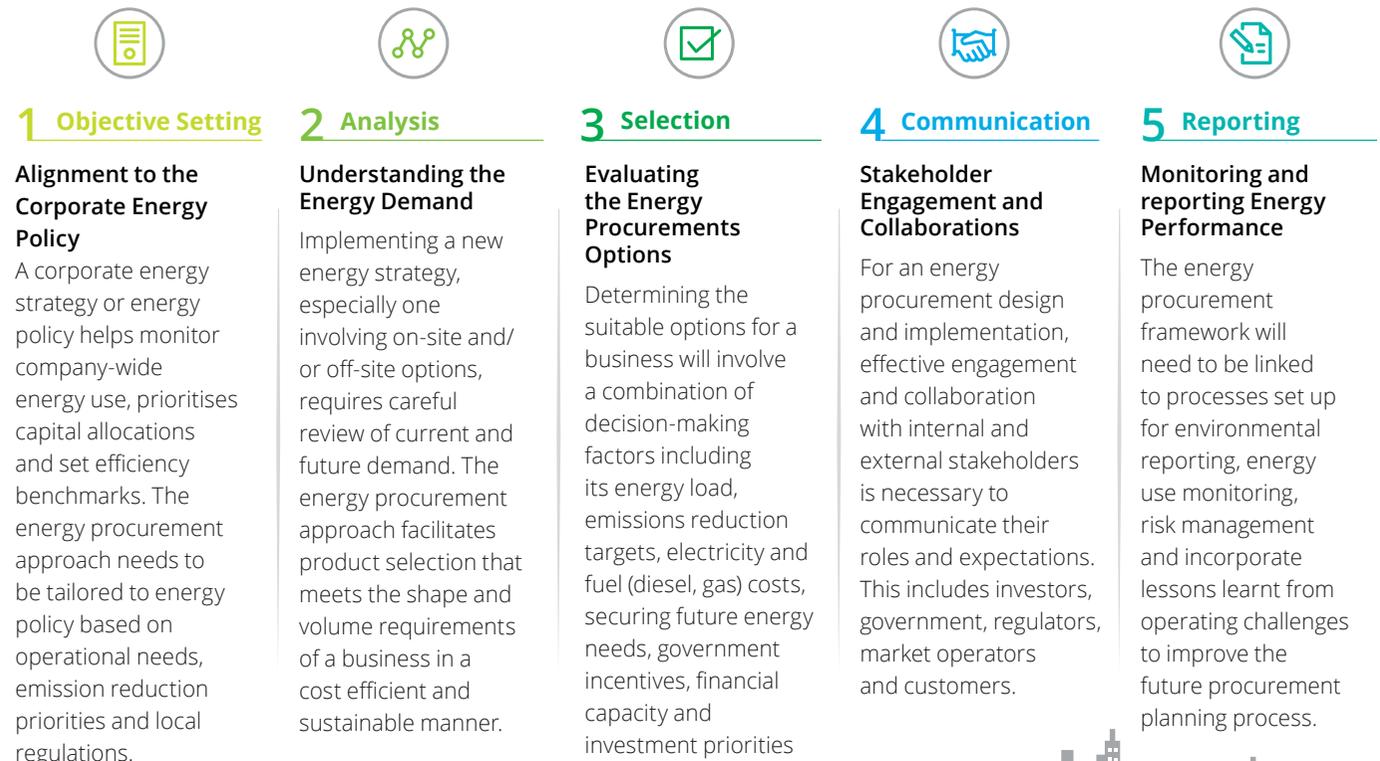
Unlocking the Renewable Energy Procurement Conundrum

Deloitte's framework for evaluating and selecting a renewable energy procurement option

Renewable energy procurement – Activities

The Renewable Energy Procurement Framework

Renewable energy procurement is increasingly becoming an essential part of a corporate's energy strategy. For energy users pursuing carbon abatement and net zero targets, it entails a comprehensive analysis of their current and future energy demand, evaluating long-term renewable energy procurement options to mitigate their exposure to wholesale market prices through retail contracts and unlocking value from renewable solutions. A summary of key activities and considerations for managing a renewable energy procurement program are shown below:

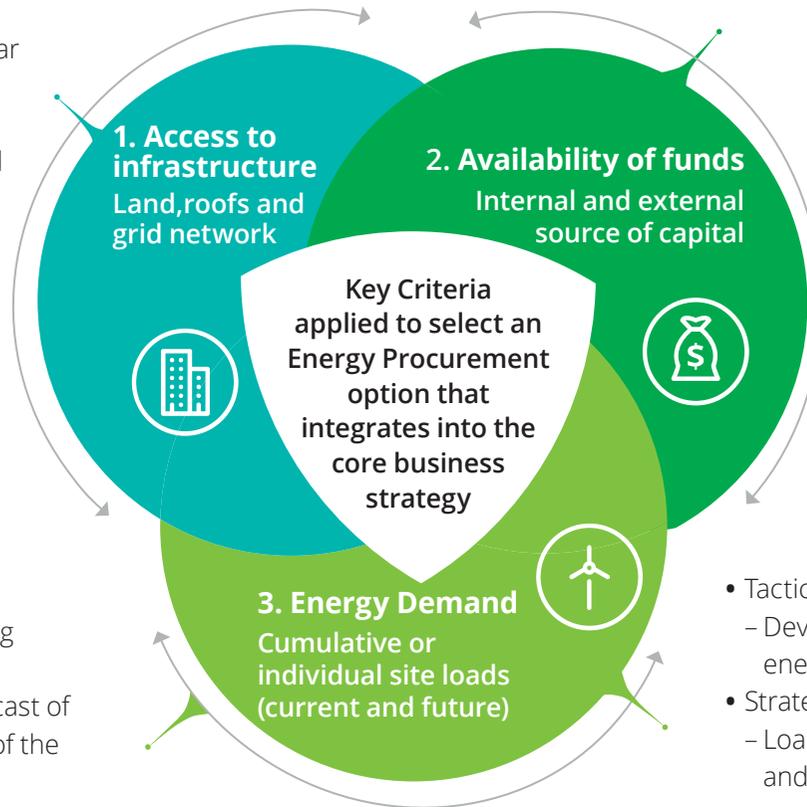


Renewable energy procurement – Criteria

Key Criteria for Energy Procurement

Deloitte is of the view that businesses will need to utilise a combination of energy procurement models in the future to accelerate emission reductions as energy markets transform and cost competitive solutions emerge. Deloitte illustrates the key criteria that can be applied for selection of energy procurement models suited to businesses in the below figure. The criteria can be broadly classified under three factors as below:

- Use of suitable land and/or roofs for large energy installations (solar PV, battery)
- Existing network infrastructure that is leveraged to establish grid connection and minimise grid connection costs



- Understand baseline and peak energy demand including seasonal variations, operational shutdowns and developing a forecast of demand for future requirements of the firm's operations

- Ability to allocate significant capital to build long-term energy assets to secure energy supply to the core business
- Tactically, capital is deployed to:
 - Build renewable assets, upgrade or replace existing energy infrastructure including fossil fuel assets to reduce emissions and mitigate risks of technology obsolescence
- Strategically, companies:
 - Reflect on energy as a business unit to generate a return on investment
 - Deliver cost competitiveness to core product

- Tactical components:
 - Developing plans for energy efficiency and energy cost savings
- Strategic Components:
 - Load shifting to avoid exposure to peak prices and making use of demand response incentives

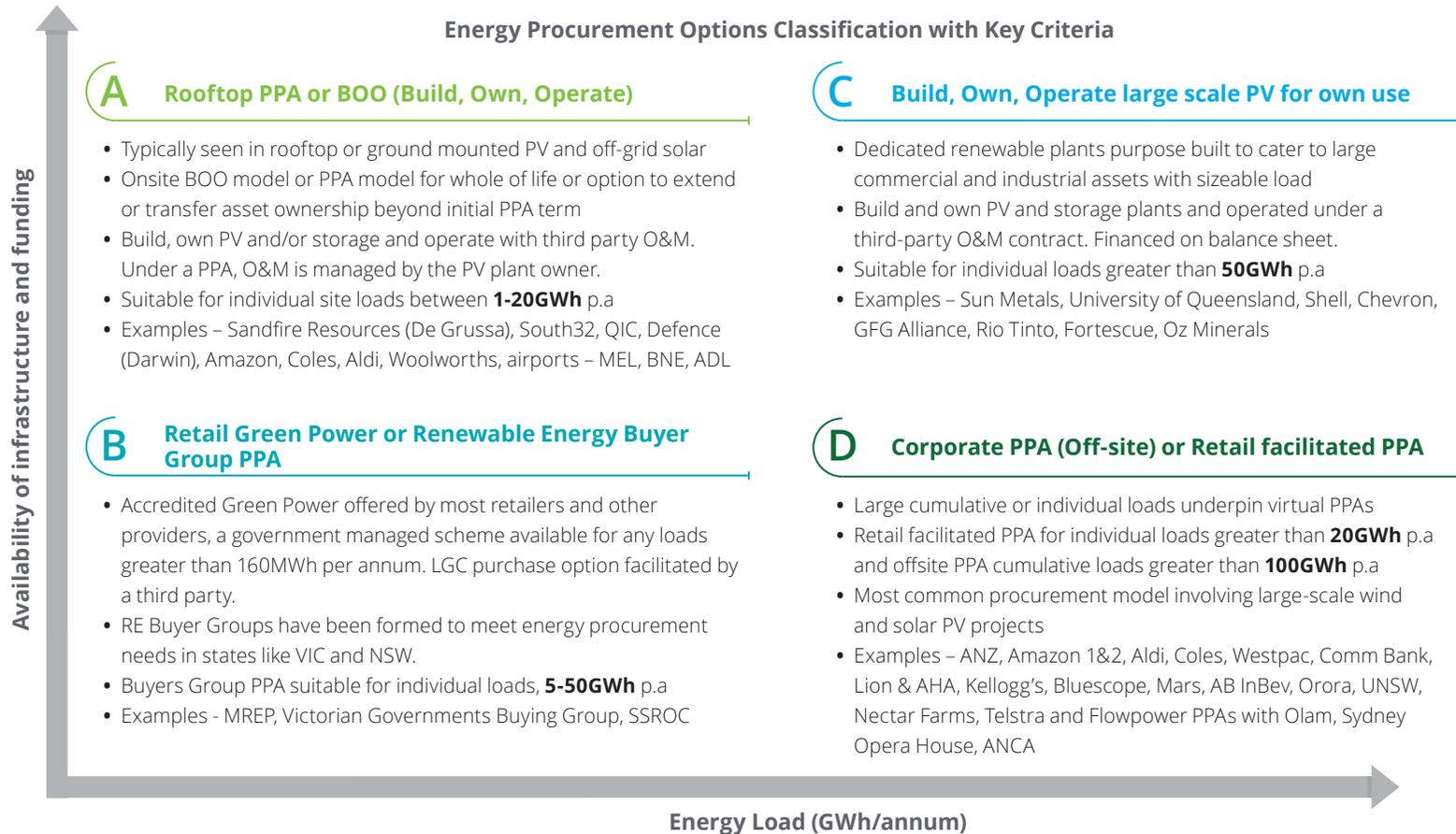
Renewable energy procurement – Options

Applying Key Criteria to Energy Procurement Options

The energy procurement models that we see increasingly being utilised across numerous industries, universities and government entities in relation to the key criteria are:

- A. Rooftop (on-site) PPA or Build, Own, Operate
 - B. Retail Green Power or Renewable Energy Buyers Group PPA
 - C. Build, own, operate large scale on-site PV
 - D. Corporate PPA (Off-site) and Retail facilitated PPA
- Key criteria 1 and 2 have been grouped together for ease of representation. It is assumed that emissions intensity is directly proportional to the energy load.

Energy Procurement Options Classification with Key Criteria



'Value' beats 'Price'

To proceed with an energy procurement option, we recommend an early market sounding to compare the possible options for commercial viability and test assumptions with market driven insights. This includes comparison between onsite and off-site PPAs for benefits and risks.

Consider flexible options within existing retail contracts to meet balance of power requirements and as a risk mitigation option for consistency and reliability of supply.

Align with corporate procurement and risk management policies, regulatory norms and benchmark against peer practices in the industry.

Renewable energy procurement – Power purchase agreements

Deloitte's Evaluation Framework for Renewable Energy PPAs

Extensive preparation is required to undertake a renewable procurement process and involves substantial data provisioning to proponents to facilitate preparation of offers. Further, detailed assessment of technical and commercial inputs from the proponents is needed to analyse, compare and select suitable PPA offers.

PRICING AND TERM

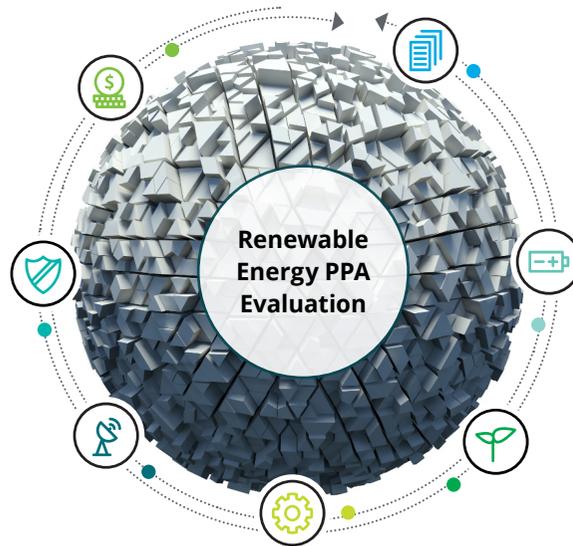
Renewable PPA prices are linked to the scale of contracted volume, PPA term, location and capacity factors of the project. Corporate PPAs are seen to be ranging in tenures between 7 to 15 years and even longer terms are more common in on-site PPAs.

RISK MANAGEMENT

PPA is a long-term contract, a thorough risk assessment is needed to identify key risks pertaining to the project, the counterparty and develop appropriate mitigation strategies.

NETWORK CONSIDERATIONS

For an off-site PPA, there are risks attached to the network strength in the region and has significant impacts on the development, construction and operation of a renewable project.



DESIGN CONDITIONS

Minimum performance standards incorporated in the PPA contract and the allocation of operating performance risks to the renewable plant owner.

CONTRACTED VOLUMES

Onsite and off-site PPA vary significantly in terms of contracted volumes as on-site PPAs are assets are built to dedicated loads while off-site PPA are usually not purpose built to a specific customer or load.

RETAIL DEPENDENCY

Existing retail service arrangements for supply of reliable power continue to exist for the whole of customer demand for off-site and retail facilitated PPAs. For on-site PPAs, retail provides firming or balance of power outside of renewable supply.

ENVIRONMENTAL OBLIGATIONS

Renewable PPA offer environmental credits that can be bundled into the PPAs as green certificates in the form of STC or LGC's at an additional price.

SELECT CASE STUDIES

Large Global Mining Company

Deloitte acted as the lead commercial and financial advisor to a large Australian mining company in assessing over 40 PPA tender responses for supplying up to 300MW of **on grid mine site loads** across NSW, QLD and South Australia.

Leading Real Estate Investment Fund

Deloitte undertook a comprehensive commercial and financial review of the client's PPA proposal and identified critical gaps, risks and value adding opportunities. We utilised our patented **Deloitte's Electricity Market Model (DEMM)** to analyse the all-in cost of energy supply

Victorian Renewable Energy Auction Scheme (VREAS)

We provided commercial, financial and economic advice on the **final design and implementation** of the Victorian renewable energy auction scheme. This included advising on the treatment of LGCs, auction schedule and length of contracts with proponents

Contacts

Srinivas Rao

Associate Director
Energy Transition & Decarbonisation
Financial Advisory
Tel: +61 7 3308 7402
Email: sbejjipalli@deloitte.com.au

Will Rayward-Smith

Director
Energy Transition & Decarbonisation
Tel: +61 2 9322 3398
Email: wrayward-smith@deloitte.com.au

John O'Brien

Partner
Energy Transition & Decarbonisation
Tel: +61 8 8407 7168
Email: johnobrien@deloitte.com.au

Kumar Padiseti

Partner
Energy Transition & Decarbonisation
Tel: +61 412 199 064
Email: kpadisetti@deloitte.com.au

Deloitte.

About Deloitte Asia Pacific

Deloitte Asia Pacific Limited is a company limited by guarantee and a member firm of DTTL. Members of Deloitte Asia Pacific Limited and their related entities provide services in Australia, Brunei Darussalam, Cambodia, East Timor, Federated States of Micronesia, Guam, Indonesia, Japan, Laos, Malaysia, Mongolia, Myanmar, New Zealand, Palau, Papua New Guinea, Singapore, Thailand, The Marshall Islands, The Northern Mariana Islands, The People's Republic of China (incl. Hong Kong SAR and Macau SAR), The Philippines and Vietnam, in each of which operations are conducted by separate and independent legal entities.

© 2020 Deloitte Touche Tohmatsu. Deloitte Financial Advisory Pty Ltd.

Designed by CoRe Creative Services. RITM0578022