

## **‘How does Renewables differ to other, traditional Infrastructure Assets’**

Renewable infrastructure possesses several similar characteristics to traditional infrastructure, most notably the defensive nature and the diversified role it can play in portfolios owing to its lower correlation to equities and bonds. In addition, renewable infrastructure offers unique features, when compared to traditional infrastructure. The reason for the differences is driven by its distinctive drivers, both in respect to the inputs and outputs.

Infrastructure is typically broken down into two discrete buckets, volume based, and availability based. Availability based infrastructure is predicated on the fixed nature of the contracts, which are typically linked to regulated assets and typically attract quite low costing and conservative capital. Conversely, volume based, or demand based, traditionally depend on traffic flows that are tied to GDP growth. The more prominent examples of which tend to be airports and toll roads. Renewable infrastructure is distinct in that it possesses characteristics of both availability and volume-based assets placing such investments in the middle of the risk/return spectrum of infrastructure opportunities.

Under the assumption that a given renewable asset will have a component of revenue derived from a Purchase Power Agreement (PPA) and a component from merchant wholesale pricing we’ve detailed how this blend between the two asset classes works:

- A. Renewable infrastructure draws its fuel source from natural elements (wind / sun), which has two important characteristics:
  - First, (and somewhat self-evidently, but worth emphasising) sunlight and wind are not linked in any capacity to markets. Furthermore, there are globally established bankable standards for measuring and forecasting these natural resources based on decades of local weather data.
  - Second, natural resources like this are zero-marginal cost fuels, which means, all else being equal, these assets will export their energy ahead of traditional fossil fuels which still require a gross margin on the cost of extracting, processing and burning their fuel.
- B. Power Purchase Agreements (PPA)s; these are contracts that fix the price for the generation of energy (will be a percentage of the total energy produced by the site).
- C. The remainder of the energy produced by the asset will form the assets exposure to the merchant market.
  - It is worth noting that energy prices remain relatively resilient to economic downturns. For example, in the current COVID – 19 environment, Australia has witnessed a short term drop in prices due to the reduction in demand of circa 10-15% (and these circumstances have been especially unique given the social distancing measures currently implemented). This is also consistent with historic energy prices in Australia, implying that prices have scope to recover when demand returns as the economy rebounds.

When assessing these key factors, it is evident that point a + b will produce characteristics similar to availability-based infrastructure, whilst a + c will produce characteristics akin to volume based.

If an asset that has a combination of a PPA and a portion of the total energy produced subject to Merchant markets, it can display characteristics of both types of traditional infrastructure, making it highly differentiated and a unique investment proposition.



It is also worth noting that operational risk is much lower for renewable infrastructure. This is primarily due to two facts;

- a. The underlying assets are relatively easy to run on a day to day basis once operational. This is owing to the low amount of moving parts and low number of people required on site.
- b. Due to point a, this leads to long term fixed contracts and high operating margins. Typically, EBITDA margins are between 75% and 85%.

Lastly, a key reason that renewable energy differs to traditional infrastructure is that returns assume a depreciating asset. Essentially, cashflows are a return *of* as well as a return *on* capital, with no assumption for additional capital expenditure spend from capital holders (equity/debt) or customers (in contrast to airlines or toll roads for example) to fuel continued growth. The asset is self-contained with maintenance capital expenditure modelled and easily reserved from operational cash flow.

Renewable energy infrastructure offers differentiation within the infrastructure asset class. Firstly, it offers a different set of underlying risk – electricity demand and power prices in contrast to more prevalent risk exposures such as traffic activity (airports and roads). It also offers the relatively unique potential to blend availability and volume-based risks within one asset, or portfolio of renewable energy assets.