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Is merchant the new black?



PPA v merchant

What is right for your renewable energy project?

For developers of renewable energy projects, the traditional path to market has been to secure a Power Purchase Agreement (PPA) and raise non-recourse finance. The increasing scarcity of PPAs in the market and high forecast wholesale prices over the short term however, means that the economics, as well as the viability of 'business as usual' are being called into question.

This paper looks at some of the often unconsidered financial and commercial risk and return tradeoffs that exist between PPA and merchant projects.

PPA v merchant – is the internal rate of return all that it seems?

PPA projects have traditionally attracted a lower equity internal rate of return (IRR) compared to merchant projects due to the actual and perceived differences in risks. To understand whether a PPA or merchant arrangement is the right structure for your renewable energy project, it is important to explore the key differences between PPA and merchant project arrangements and the implications to the weighted average cost of capital (WACC).

PPAs shift price and other risk from the generator to the offtaker for a predetermined amount of time. This provides medium to long term certainty of revenue and risk allocation, which is important for the project to attract commercial debt financing. In contrast, a merchant project will be subject to fluctuating spot prices and the full obligation of being a participant in the National Energy Market (NEM).

In simple terms, when a project can transfer risk and secure cashflow certainty, it should attract a lower WACC. This has been seen through PPA projects that are often geared at around 70-80 per cent with a relatively sharp equity IRR. Conversely, merchant projects with greater price and operational risk exposure struggle to raise debt and will therefore attract a higher equity IRR, resulting in a higher WACC.

The table below presents some of the key financial and commercial differences between 'typical' PPA and merchant projects.

Table 1: PPA v merchant projects – key financial and commercial differences

	PPA	Merchant
Headline Revenue (MWh)	Lower	Higher, particularly short term
NPV of Future Revenue (risk weighted)	Typically lower than Merchant	Typically higher than PPA
Tenor	Traditionally to 2030; shortening with recent corporate PPA activity	n/a
Cashflow Certainty	Medium – High	Low – Medium
Equity Capital at Risk	Low – Medium	High
Risk Transfer to Offtaker	Medium-High	None
Payback Period*	12+ years	<8 years
Cash yield (First 5 years) to equity*	~4%	9-11%+
Ability to leverage	Relatively easy, and usually required to meet equity hurdle	Difficult
Investor Equity IRR	Relatively low compared to merchant	Higher due to risk and revenue uncertainty
Investor Pool	Significant	Growing, but not as deep as PPA

* The above assumes no debt in the merchant scenario.

Price disparity between PPAs and future wholesale price forecasts is common. The retail offtake market has developed over time to set PPA prices based on the future wholesale price outlook **and** on the levelised cost of energy (LCOE) of projects in a competitive environment. To obtain the lowest LCOE and be able to offer competitive PPA prices, a project must introduce debt.

Implications of debt funding

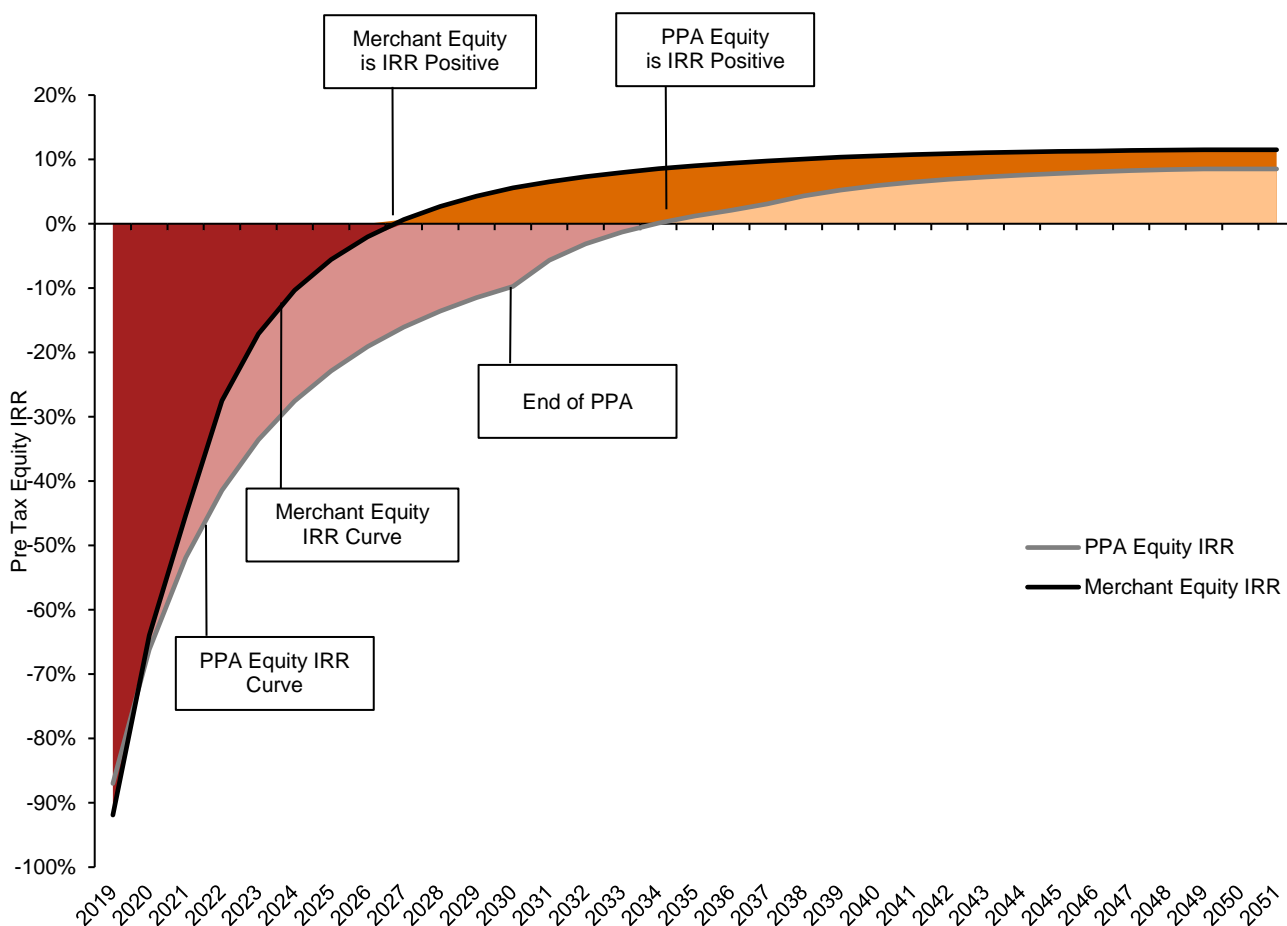
In the current renewable energy market environment, the introduction of debt into projects has interesting implications for equity investors in a PPA project relative to equity funding a merchant project.

These are:

- 1 The 'breakeven' point (e.g. 0% per cent IRR) is further out due to the impact of debt repayment;
- 2 A significant (if not all) of the 'gain' in the project occurs during merchant cashflow periods (i.e. after the end of the PPA).

Figure 1 below illustrates the IRR profile of a hypothetical merchant project against a hypothetical contracted project (PPA to 31 December 2030), with the key milestones highlighted.

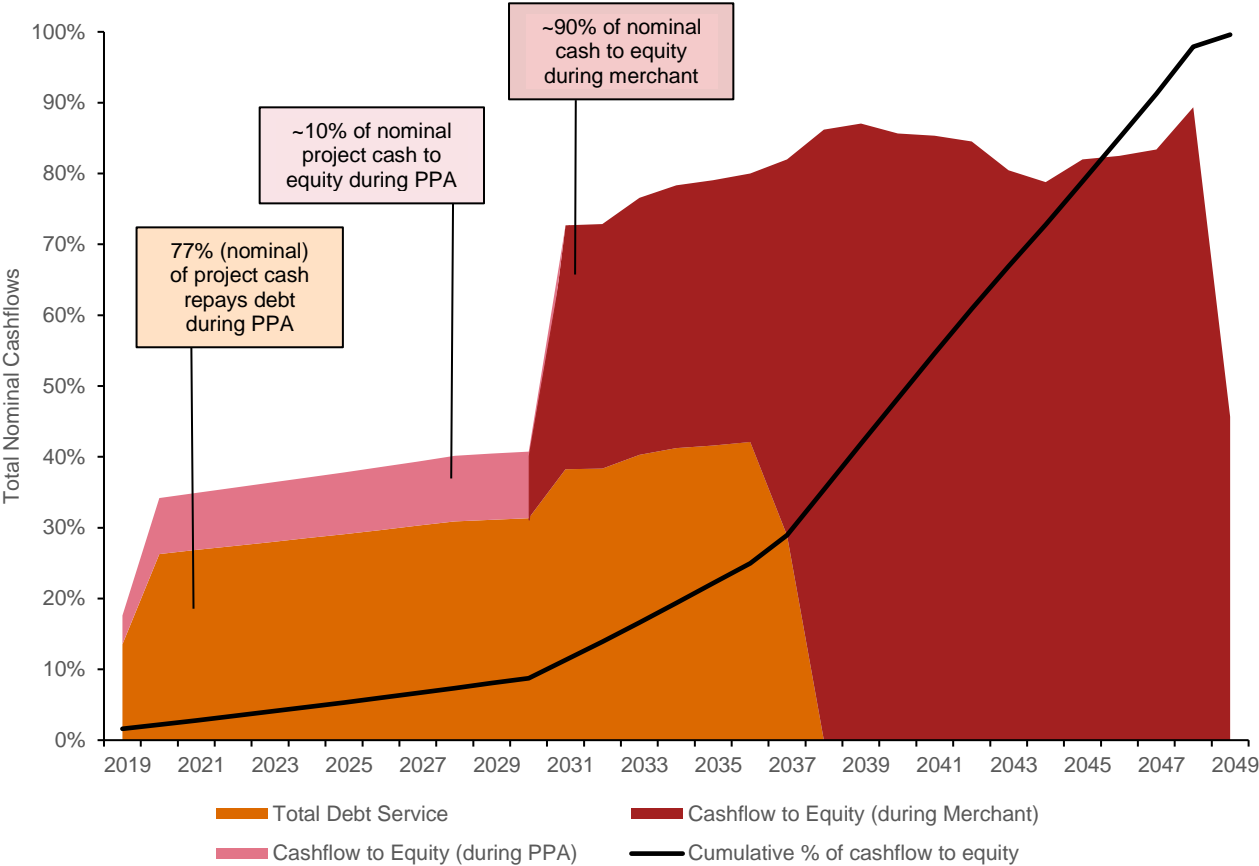
Figure 1: PPA v merchant projects – potential IRR profiles



In the example featured in the figure above, the merchant project (shown by the red line) 'breaks-even' with a 0 per cent Equity IRR in FY27, where the PPA project (blue line) achieves the same outcome six years later, in FY33. This lag in the PPA project achieving a 0 per cent Equity IRR is driven by the lower price paid per MWh (compared to merchant), and the deferral of equity distributions through the introduction of debt. To reiterate, this introduction of debt is often required to lower the overall WACC to meet the PPA price and investor equity hurdles.

The deferral of cashflows as a result of debt funding is further illustrated in Figure 2 below. Critically, Figure 2 shows that the majority of equity distributions occurs while the project is merchant (i.e. post the PPA). This brings into focus the relative IRR spread between contracted and merchant projects and the other upsides (current or future) from contracting.

Figure 2: PPA v merchant projects – the impact of debt funding



So the answer is don't contract?

Not necessarily. When considering whether a PPA or merchant project is right for you, it is important to understand that there is a risk/reward trade off. This trade off cannot be assessed in isolation of a view on future wholesale prices. Running assumptions on the future can be particularly challenging with policy reform ongoing, and the outcome is likely to be material to future price directions. Despite this, the three main advantages PPA projects have over merchant projects are:

- 1 **Price risk transfer.** A PPA will guarantee a project a price for a fixed period of time. Conversely, a merchant forecast by definition is a 'best guess' based on the information available at the time. This information is being shaped by regulatory/policy reform (and uncertainty) at various levels of government. The forecast is often made at a time when there are large numbers of announced projects (noting it is likely that many will never achieve financial close), and the changing implications of new and improved technology on these projects is still to be fully understood (including implications for storage). Many of these factors interrelate in their impact on pricing. Consequently, the price path (even in the short term) may result in an outcome significantly different than anticipated.
- 2 **Commercial and technical risk transfer.** PPAs typically transfer a number of non price risks and obligations from the generator to the offtaker. These include certain approvals and authorisations, change in law risk, volume risk for turn-down or curtailment (e.g. during low or negative pool pricing), payment for early termination and corporate/technical responsibilities (including requirement to obtain an Australian financial services licence (AFSL) and act as the intermediary). Buyers may charge a premium for assuming these risks (through a lower PPA price). A diversified retailer with generation capacity will generally be in the best position to assume these risks.
- 3 **Reduced re-contracting risk.** A project with existing offtake may be in the best position to renegotiate and rollover their PPA at the end of the term. The offtaker may be comfortable with the project as they understand the operational history and fit in their portfolio. Further re-contracting will significantly de-risk the project and will allow it to re-gear, releasing cash to equity.



Conclusion

The above analysis demonstrates that, at least in the near term, price certainty alone is a difficult justification for pursuing a PPA strategy compared to a merchant arrangement. It is the addition of risk transfer and longer term views on re-contracting that will support a lower equity IRR. However, if commercial banks start to move into the merchant market, and with ongoing policy uncertainty leading to more risk being borne by generators, the relative differential in equity IRRs will undoubtedly come into focus, and even more sharply if wholesale prices remain elevated in the medium term.

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