

## Long-Term Energy Service Agreements - the innovative contracts accelerating the NSW energy transition

Compared to their fossil fuel counterparts, renewable energy projects have low ongoing operational costs, which helps contribute to making the energy they produce more affordable. The upfront costs however, remain substantial and have long payback periods making financial returns for renewable energy projects particularly sensitive to long term electricity price volatility. This can reduce investor appetite to fund projects, slowing the transition to cleaner and cheaper forms of energy generation.

In NSW, where the imperative for a rapid transition to renewable energy is compounded by the scheduled retirement of the state's coal-fired generation fleet, AEMO Services has formulated a unique new financial instrument – the Long-Term Energy Service Agreement (LTESA) which directly address electricity price risk to bring forward investment in built energy.

LTESAs are a series of option contracts, offering storage or generation project the rights to access cash flows for distinct periods, over a long contract term. In this way, they can be thought of as an insurance product, reducing price uncertainty for investors and subsequently bringing forward investment in new sources of renewable generation and storage, delivering more affordable energy for consumers.

For generation projects this insurance provides protection during times of low wholesale prices while still giving projects the capability to capture the upside of market dynamics. Legislated protection from such adverse market events increases the attractiveness of the investment decision, allowing projects to advance more quickly through to completion.

To understand the value of the LTESA to investors and electricity consumers, let's review the main factors which determine customer electricity prices.

First is the National Energy Market (NEM) wholesale electricity price, otherwise known as the **spot market** price. This reflects the balance of electricity supply and demand over five-minute periods throughout the day.

The second factor is the **wholesale contracts market**. The wholesale contracts market allows buyers (e.g., retailers) to secure the price they pay for electricity over a period of time. The seller of these contracts are producers of energy and other wholesale market participants. Buying in the Wholesale Contracts Market helps retailers offer stable prices to their customers over a period of time, typically one year.

Third, we have the **retail market**, the consumer interface of the energy market, where retailers package up all associated costs of energy production, delivery, and network charges, and sell that competitively to consumers.

LTESAs act across these main factors that drive customer electricity prices to deliver lower costs for users over the long term:

- They reduce risk for investors of projects, bringing them to market sooner, thereby increasing supply and lowering spot prices for electricity over the long term.
- Unlike traditional Contract for Difference incentives used in similar schemes, LTESAs provide projects with flexibility to utilise power purchase agreements and wholesale contract markets to opportunistically hedge their electricity price risk. The additional security of the LTESA insurance may also increase the range of counterparties with whom suppliers are willing to trade on the wholesale contracts market.
- Similarly, this may open the door to new entrants, increased competition, and product innovation in the retail market.

How much risk does the consumer have to cover to incentivise these projects? As it turns out, only at the low end of the wholesale price market. If the LTESA strike price was below \$50 for wind (2023 real) and \$35 for solar (2023 real), at a time when the average NSW time-weighted average price was \$100.51 per MWh (as it was last quarter), projects would be better off not exercising their option and

receive the market price of \$100.51. In this example, the project receives the market price and the cost of the LTESA to the consumer is zero.

If wholesale electricity prices were low i.e. below \$50 per MWh, then projects may consider exercising their options (insurance product) and receive a fixed return (the strike price for a 2-year period). The consumer bears the cost (if market prices are below the fixed price and \$0) or the consumer receives the benefit if market prices are higher.

Additionally, NSW is allowing investors full access to the upside of higher future prices whilst taking on the tail risk of insuring them against low wholesale prices. Whilst consumers might carry higher network charges in such circumstances, it is worth noting that this would only occur at times where consumers were already paying low prices on the wholesale electricity component on their bill. In return, investors are incentivised to bring forward projects to provide for the future stability and affordability of the network.

Extensive modelling has contributed to the final design of the product, and as per AEMO Services' mandate, projects will only be awarded LTESAs where the trade-off is in the long-term financial interests of NSW electricity consumers. The tender process also stipulates other non-financial criteria, such as investment in community, First Nations, and environmental considerations.

Modelling of projects selected in the first tender round demonstrated that they would successfully reduce the long-term average wholesale electricity prices paid by NSW electricity consumers.

#### *A superior alternative to the Contract for Difference model*

Traditional incentive schemes for electricity generation have often utilised a Contract for Difference (CFD) model, where the project is reimbursed for the variation between market price and an agreed CFD fixed price. LTESAs are different, in that consumers only directly pay for generation infrastructure when prices are low. This is at a time that consumers are otherwise benefiting from lower wholesale prices due to increases in the supply of cheaper firmed renewable energy. Under a contract for difference, consumers typically compensate project proponents more frequently and at higher rates.

### **Case study: Long-term Energy Service Agreement v Contract for Difference**

#### *Contract for Difference*

Suppose a CFD is struck at a levelised cost of energy of \$100 per MWh. When the price of electricity in the wholesale market falls to \$50 per MWh, consumers pay the difference \$50, to support the infrastructure owner. This charge is additional to the ordinary rate the consumer pays their retailer for electricity, meaning the consumer continues to pay \$100 per MWh, when market prices are at \$50.

#### *Long-Term Energy Service Agreement*

Suppose now that with the same levelised cost of energy of \$100 per MWh, a LTESA has been agreed with a strike price of \$50 per MWh. When the price of electricity in the wholesale market falls to \$50 per MWh consumers have no cost, whilst still benefiting from lower wholesale electricity prices due to increases in the supply of firmed renewables.

## About the author



Brad Hopkins  
General Manager, Commercial

Brad Hopkins joined AEMO Services from its establishment and currently serves as General Manager - Commercial, alongside Baharak Sahebekhtiari. The Commercial Team leads the design and implementation of our competitive tender processes.

Brad Hopkins has more than 15 years' experience financing energy projects around the world, including 12 years with Macquarie Bank. Prior to joining AEMO Services, Brad played a leading role in implementing the NSW Electricity Infrastructure Roadmap and designing the policy whilst a Partner at KPMG. Since returning to Australia from the UK in 2016, Brad has led some of the largest and most complex renewable energy transactions and energy policies.

Brad has a Masters of Science (Environmental Economics) from the London School of Economics, a Bachelor of Laws (First Class Honours) and a Bachelor of Commerce from the University of Queensland.