

APPENDIX B: SYNTHETIC POWER PURCHASE AGREEMENTS

A Synthetic Power Purchase Agreement (PPA) is a leading option for the Council to offset carbon emissions from electricity consumption. It is a financial mechanism which bears similarity to the Contracts for Difference mechanism used to support the development of new and “Additional” largescale renewable energy projects.

Through entering into a Synthetic PPA with a renewable energy developer, the Council could make a direct and measurable contribution towards supporting additional renewable energy capacity in Devon and in return, will have a credible means of offsetting electricity carbon emissions. The mechanism would run in parallel and separately to any energy supply framework and as such, will not impact on current or future energy supply framework decisions.

Renewable energy projects are capital intensive and rely on access to finance. Energy price volatility is a significant barrier to renewable energy developers gaining access to affordable finance since generators cannot be sure about how much revenue they can generate in the energy market. Synthetic PPAs overcome this barrier and as a result, are increasing in popularity as an instrument for eliminating the risk of energy price volatility to renewable energy generators and energy consumers.

Mechanism Overview The most common form of a Synthetic PPA is a two-way agreement between a renewable energy generator and an energy consumer (e.g. the Council). The following bullet points and flow diagram (shown in Figure 2 overleaf) provide an overview of how the mechanism works:

- The energy generator and energy consumer (The Council) agree on a strike price (in £/MWh) which represents the minimum amount a generator will receive for energy generation.
- When the market price for energy is less than the strike price, the energy consumer (The Council) will pay the generator the difference between the market price and the strike price.
- When the market price for energy exceeds the strike price, the generator pays the difference between the strike price and the market price to the energy consumer (The Council).
- The generator supplies REGO certificates directly to the energy consumer (The Council), which can be used to offset carbon emissions.

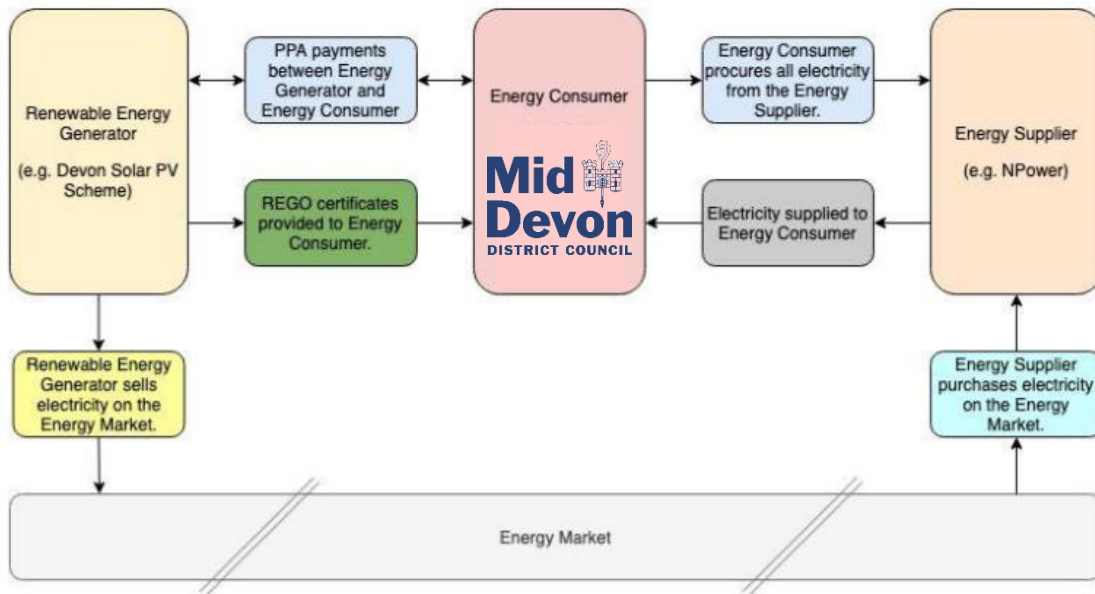


Figure 2: Synthetic PPA energy supply mechanism

To demonstrate the operation of a synthetic PPA over the course of one year, the following bullet points and Figure 3 below show three possible scenarios based on the market price of electricity:

- Scenario 1 is based on a low energy market price and results in the Council paying a top-up price to the generator.
- Scenario 2 is a cost-neutral scenario, where the energy market price matches the strike price and hence, no payments are made between the generator and the Council.
- Scenario 3 is based on a high energy market price and results in the generator paying the difference between the market price and the strike price to the Council.

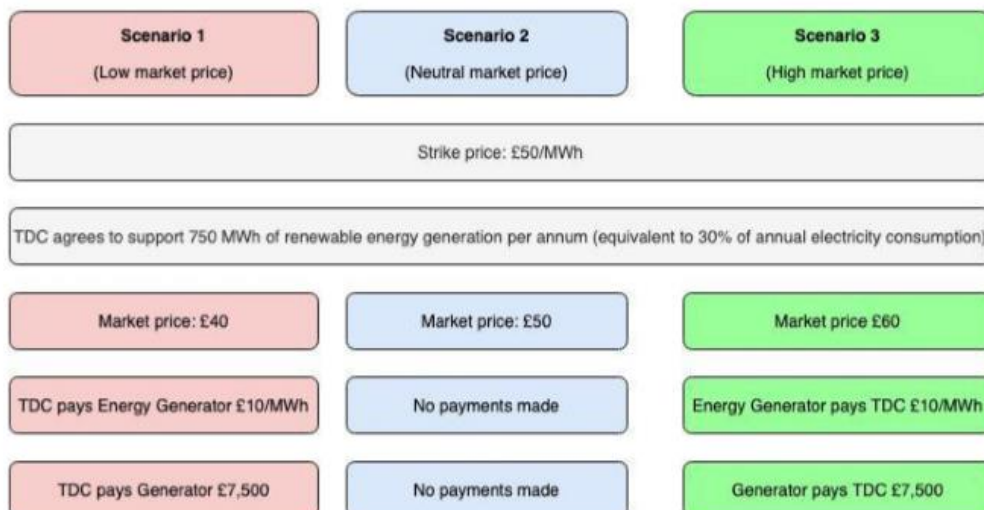


Figure 3: Payment scenarios under a Synthetic PPA

Due to escalating energy costs, a likely scenario would involve the Council making payments to the generator for the first few years (e.g. zero to five years) of operation until the market price exceeds the strike price, from which point the generator will make payments to the Council for the remainder of the contract duration (e.g. 15 years or more). There is, therefore, some risk that the Council will be exposed to making payments to the generator if the market price remains less than the strike price for extended periods. However, under the likely scenario, by entering into a Synthetic PPA, the Council will gain credible carbon emissions offsets, become insulated from increasing energy prices and develop an income from PPA payments. Further work will be required to determine the level of risk associated with entering into a PPA.