Power Purchase Agreements and non-commodity relief

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Purpose of this briefing note

This briefing note provides an introduction to Power Purchase Agreements (PPAs) and their role in the trading of energy, including non-commodity relief available to generators under different PPA arrangements. It also outlines the new Electricity Supply Framework agreement signed between Scottish Government and EDF to provide electricity to Scottish public sector buildings and the viability of PPA models within this framework.

Contents

1. An introduction to Power Purchase Agreements

Power Purchase Agreements (PPAs) are a type of energy supply contract between two parties – one generating electricity (the generator) and one buying electricity (the purchaser). A PPA tends to cover details such as how much energy will be delivered by the generator to the purchaser, at what cost, for how long, what happens if a generator underdelivers energy, and payment and termination terms.[1]

PPAs can be short-term or long-term depending on the involved parties' needs. They can also include a fixed price over that timeframe or one that varies based on wider market trends. Long-term, fixed-price PPAs typically provide the most certainty and stability for both parties: for the generator, they provide a guaranteed revenue stream; for the purchaser, they provide a 'hedge' against fluctuations in the market.[2]

These agreements have been used widely by commercial, corporate and industrial users for many years, allowing them to purchase electricity directly from local generators at a set price. PPAs have become increasingly important for community energy organisations to sell their electricity.[3] This is particularly prominent in projects which include solar on schools, hospitals and public sector buildings, which are typically based on PPAs between community energy generators and local authority or public sector organisations. For community energy, long-term PPAs (10-15+ years) can provide revenue certainty, supporting a more robust business case to secure investment against.[2]

[1] Crown Commercial Service, 2020. Introduction to Power Purchase Agreements

[2] Energy Community, 2024. Renewable Power Purchase Agreements in the Energy Community.

[3] Energy Saving Trust, 2024. Barriers to community energy consultation response.

2. Non-commodity costs and exemptions

The standard electricity unit rate has several components. The wholesale cost, which will vary depending on the wider market, accounts for the largest individual portion.

The additional charges, or non-commodity costs are applied by a licenced supplier who manages the transfer of energy. This includes VAT, network costs such as Distribution Use of System (DUoS) and Transmission Network Use of System (TNUoS), policy costs to support schemes such as the Renewables Obligation (RO), Feed-in Tariff (FiT), Contracts for Difference (CfD) and the Capacity Market as well as money towards the Climate Change Levy and costs for the admin work being done by the supplier.

Table 1. Non-commodity energy charges (Source: Brownlow Utilities, Non-commodity energy costs Q1 2024).

Bill component	Cost	£/MWh 2025/26
Energy	Wholesale annual cost	67.41
Losses	Distribution losses	3.31
	Transmission losses	0.20
Distribution/Transmission	DUoS	24.75
	TNUoS	9.54
Levy Control Framework Charges	Renewable Obligation (RO)	30.51
	Feed in Tariff (FiT)	8.80
	Contracts for Difference (CfD)	6.39
Other charges	Elexon	0.12
	AAHEDC	0.45
	Capacity Market	5.00
	Climate Change Levy	7.75
	BSUoS	14.25
Total £/MWh		178.48
p/kWh		17.85

Supplier operating costs, profit and VAT are also recouped via energy bills, which should be factored in for any sleeved PPA arrangements. VAT makes up roughly 5% of the total cost, with supplier operating costs and profit accounting for approximately 15% -

although this varies between suppliers, over time, and between consumers depending on meter type etc.[4]

These costs are paid by all consumers who purchase their electricity through a licenced supplier. However, some of these costs can be exempt from the unit price under certain circumstances, which can allow community energy generators to sell their energy for a greater return:

1. **Licence-exempt supply:** set out in the The Electricity (Class Exemptions from the Requirement for a Licence) Order 2001, a generator can be exempt from some of these costs if it does not at any time supply more than 5 megawatts of electrical power to domestic consumers, of which not more than 2.5 megawatts is for domestic use.[5] If a generator qualifies as licence-exempt under this legislation, it is not required to pay environmental and social policy costs (highlighted in Table 1 above). Network costs, supplier costs, and VAT are all still applicable.
2. **Private wire PPA**: If the project has a direct PPA via private wire with a buyer, it is exempt from all non-commodity costs except VAT. This includes exemption from network costs, as the project never actually touches the distribution or transmission networks. Any top-up energy required from a licenced supplier will be subject to all costs in the price stack.

Table 2. Indicative exemptions for private wire PPA arrangements.

Bill component	Cost	£/MWh 2025/26
Energy	Wholesale annual cost	67.41
Losses	Distribution losses	3.31
	Transmission losses	0.20
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Levy Control Framework Charges	Renewable Obligation (RO)	30.51
		8.80
	Feed in Tariff (FiT)	6.39

[4] Ofgem, 2025. Energy price cap.

[5] The Electricity (Class Exemptions from the Requirement for a Licence) Order 2001 outlines details on what qualifies as a licence-exempt supply. This legislation is notoriously opaque, with no specific provisions for community energy.

	Contracts for Difference (CfD)	
Other charges	Elexon	0.12
	AAHEDC	0.45
	Capacity Market	5.00
	Climate Change Levy	7.75
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Total £/MWh		178.48
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How these exempt costs are shared between parties will vary depending on the model used. Under a private wire scenario, the community energy organisation and off-taker can agree how when they set a cost that shares the saving between the two parties. In a sleeved or virtual PPA arrangement, a licenced energy supplier facilitates the arrangement, and so the cost saving will generally be shared between three parties: the community energy generator, licenced supplier and the end consumer.

3. Models of Power Purchase Agreements

There are several different forms a PPA can take, each with different non-commodity relief options. The primary models used by local and community energy generation projects are outlined below, although are not fully extensive: each can also differ in e.g. duration, price indexing etc. As such, we set out the main, overarching models, with reference to how they can vary in practise.

3.1. Merchant PPA

Figure 1 A visual representation of a typical set up of a merchant PPA

A merchant PPA is one of the more traditional styles of PPA, whereby a licenced energy supplier acts as the off-taker of energy from the generator.

In a merchant PPA, the generator might be paid either a fixed price for the energy over a set period of time or a flexible price, which is indexed to the wholesale price. This flexible pricing can vary on a seasonal, monthly, daily, or real-time basis. It is also possible to have a combined fixed/flexible PPA, where some amount of energy is fixed in price while another portion of the energy supplied fluctuates with market prices.

These PPAs are straightforward to obtain, but the ability to dictate the terms of the agreement for the generator can sometimes vary since typically a licenced supplier offers a set term and price for energy sold.[6]

Non-commodity relief: Per The Electricity (Class Exemptions from the Requirement for a Licence) Order 2001, if a generator is under 5MW at which point no more than 2.5MW is sold to domestic consumers, it qualifies for an exemption from environmental and policy costs, which equates to approximately 5.07p/kWh by summer 2024 prices.

[6] Llywodraeth Cymru Gwasanaeth Ynni, 2022. Power offtaker options.

3.2. Private wire PPA

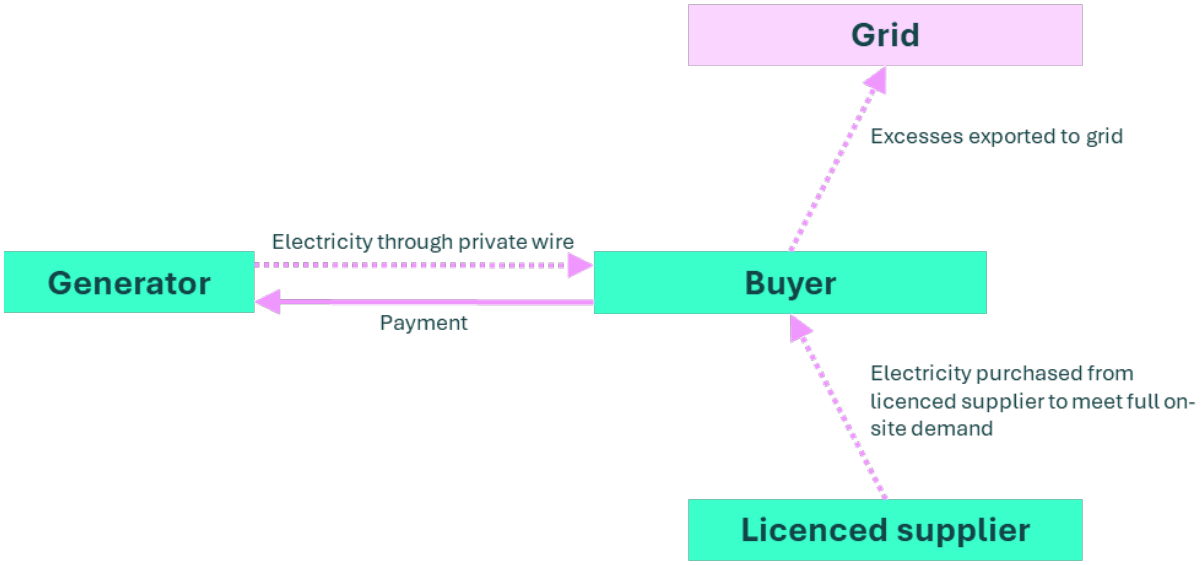

Figure 2 A visual representation of a typical private wire PPA

A private wire PPA tends to be agreed where the buyer's site is close enough to the generation site that they can be connected through a physical wire. For instance, a community solar installation on a school lends itself well to a private wire arrangement where the school is the main off-taker of the electricity generated. Private wires can serve multiple buildings, although this becomes more complex in both regulation and in terms of cost and legal issues.[7]

In a private wire arrangement, the buyer will typically still require additional electricity from a licenced supplier to meet their full demand (assuming that the generator will not cover 100% of their demand 100% of the time), which will require renegotiating their supply contract with their licenced supplier.

A buyer will also typically be required to secure a grid connection agreement to export any excess energy not used from the generator at times where the electricity generated exceeds the needs of the premises (e.g. during the school holidays for solar on school projects). Exceptions to this include where there is substantial on-site storage.

[7] Llywodraeth Cymru Gwasanaeth Ynni, 2022. Power offtaker options.

It can also be the case that an agreement might need to be met between the parties on the shared maintenance of the infrastructure installed. This was a noted challenge for the Dundee Renewable Energy Society[8] project, who had to agree that the off-taker – in this case the James Hutton Institute – would own the private wire in order for the project to progress.

Establishing a private wire PPA first means establishing a relationship with a prospective off-taker within a reasonable distance of the generation site. From there, the PPA can be agreed between the two parties directly and shaped to meet their needs.

Non-commodity relief: Under a private wire arrangement, if the generator is under 5MW and does not at any time supply more than 2.5MW to domestic consumers, it is exempt from all environmental and policy costs, and network costs. This equates to approximately 11.15p/kWh by summer 2024 prices.

[8] Dundee Renewable Energy Society. 2025.

3.3. Sleeved PPA

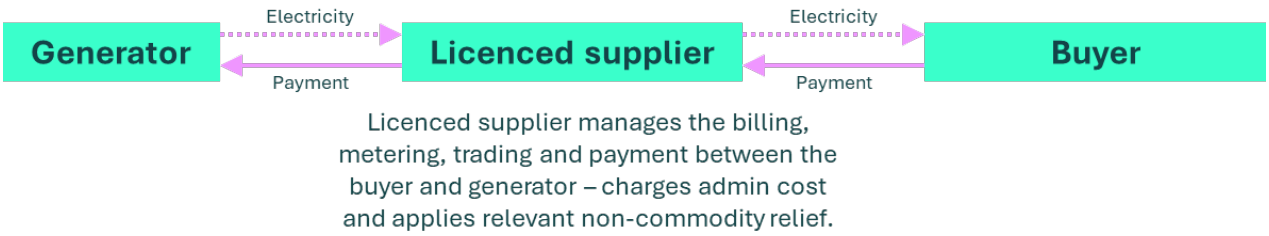

Figure 3. A visual representation of a 'typical' sleeved PPA

A sleeved PPA is an arrangement whereby a licenced energy supplier is involved to manage the sale of electricity between a generator and an end user or several end users. This can include domestic households, commercial premises or industrial users. This is typically not a physical transfer of energy via private wires or the local distribution network. Rather, the licenced supplier agrees to purchase electricity from the generator, sell it to buyers in the market, and manage the transaction.

Licenced suppliers are involved generally to manage metering and billing functions, and to ensure robust consumer protections where domestic households are involved, enabling community generators to reach domestic consumers directly. The most rudimentary form of a sleeved PPA is a local tariff, where a supplier will agree to purchase electricity from the local generator and sell it to consumers who are signed up to that tariff, generally at a discounted price. However, there is no inherent local element to this: under a sleeved PPA, a generator can sell to anyone in the country, provided they have agreed to buy (either under a specific tariff or a designated single off-taker e.g. commercial premises).

The price of a sleeved PPA will typically be set to ensure certainty for the organisation developing the generation (i.e. on a long-term, fixed-price basis) and to reduce the end users' exposure to the wholesale market price. The agreed price can also be adjusted to account for the additional local social and economic value that a project might bring if it contains elements of community or local ownership.

Non-commodity relief: Per The Electricity (Class Exemptions from the Requirement for a Licence) Order 2001, under a sleeved PPA arrangement, generators below 5MW which do not at any time supply more than 2.5MW can be exempt from environmental and policy costs, equating to approximately 5.07p/kWh by summer 2024 prices.

3.4. Virtual PPA

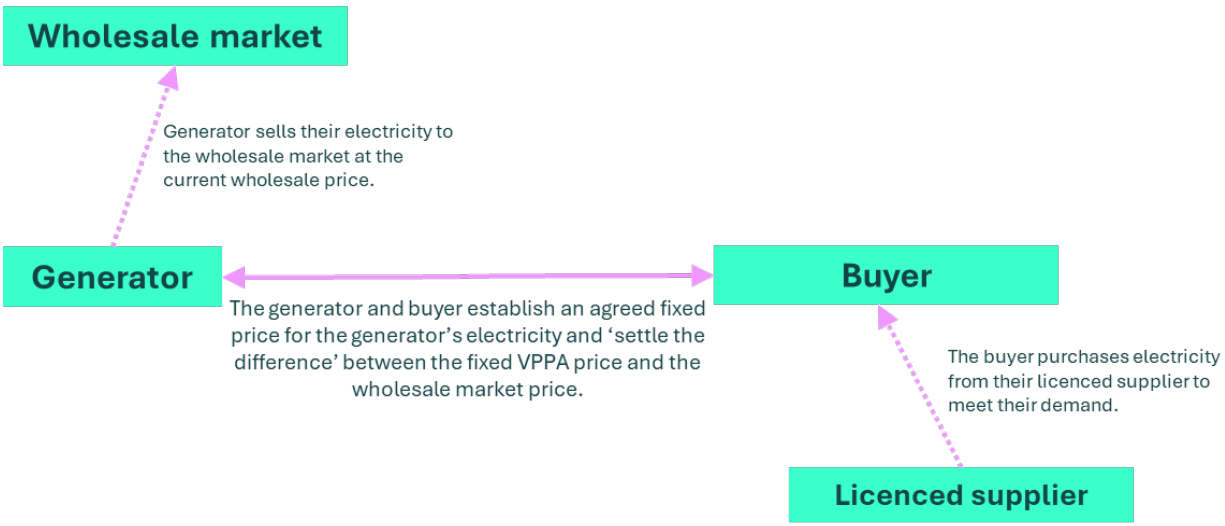

Figure 4. A visual representation of a 'typical' virtual PPA

Used often by industrial and corporate organisations, a virtual PPA (sometimes known as a 'synthetic' PPA) is a purely financial instrument which guarantees a stable price for generators over a fixed period of time. It involves no actual sale of electricity but instead acts as a 'hedge' for generators against volatile wholesale market prices.

In this arrangement, the generator and the buyer will agree a fixed 'strike price' over a set period of time. The generator will then sell their electricity to the wholesale market (via the grid) and the buyer will purchase their electricity from their utility as usual.

At times when the price received by the generator from the wholesale market is lower than the agreed strike price, the buyer will pay the generator to top up the difference. At times where the wholesale market price is higher, the generator will pay the money it makes beyond the agreed strike price back to the buyer.

For the generator, this provides certainty in revenues over a long period of time, strengthening their business case and ability to gain investment. For the buyer, the benefit is typically a Renewable Energy Guarantee of Origin certificate, which can contribute to their overall carbon reduction or sustainability credentials. For community energy, a buyer may be a corporate or industrial user which supports the project, or a local authority such as in the case of Plymouth Energy Community.[9]

[9] South West Net Zero Hub, 2023. Virtual power purchase agreement.

Non-commodity relief: Under a virtual PPA, non-commodity relief is based on the typical licence-exemption (under 5MW, not selling more than 2.5MW to domestic consumers), equating to approximately 5.07p/kWh by summer 2024 prices.

4. Local supply for community generators

While instinctively many community energy generators are interested in selling their electricity to local households, this is challenging under current regulatory and market arrangements. It is expensive, complex and legally difficult to become a fully licenced supplier, which means that most community generators will rely on a licenced supplier to facilitate this under a sleeved or 'white label' arrangement. This could be done via a sleeved PPA, where the supplier then offers a local tariff for local households to sign up to as outlined above.

In this model, the licenced supplier is responsible for establishing a local tariff and making this available to domestic consumers, based on agreement between the licenced supplier and the community generator. However, we are not aware of any community energy groups successfully establishing such a model.

Under a sleeved PPA, there is also no inherent 'local' element; that is, the electricity generated by the community energy generator is not the same electricity that is physically sold to the end buyer, whether a household or otherwise. This means that a supplier can technically offer any community tariff to any consumer who approaches them regardless of where they are in the country.

We understand that UK government and Ofgem are reconsidering current market arrangements to enable local supply for community generators, with consultation expected later this year.

4.1. Relevant code modifications

While local supply is currently challenging and the licence exemptions regime is complex, some code modifications are underway which may enable new models to progress.

Balancing and Settlements code modification P441 seeks to enable local supply of energy using the distribution network. If enacted, this could, in theory, reduce the non-commodity costs for community generators further (as such models would only use the distribution network and so could be exempt from transmission network charges). However, the details of this are yet to be confirmed.

P441: what is it for?
"Creation of complex site classes" is a code modification which enables renewable generation to be matched with local demand, providing both are connected to the same primary substation. Complex sites were initially conceived as a method for universities

or sites with campuses to maximise on-site consumption. By operating the local supply model as a complex site under a single primary substation, generators pay lower network costs than they would have if they were treated as individuals, because they do not touch the transmission network. These savings are then shared across generators and demand customers. This modification is looking to clarify the treatment of 'complex sites' to allow for such models to be rolled out more widely.

Balancing and Settlements code modification P442 also came into force in February 2025. This provides a technical fix to ensure that suppliers who facilitate local supply through sleeving arrangements (in a sleeved PPA, for instance) can accurately meter and apply cost exemptions for licence-exempt supply.[10]

P442: what is it for?

Prior to the introduction of P442, licenced suppliers who facilitated licence-exempt arrangements were struggling to accurately meter and apply exemptions to licence-exempt supply. In some cases, where a licenced supplier was facilitating a licence-exempt arrangement, licence-exempt supply was still being included within supplier calculations of their overall policy costs. To fix this, P442 enables a new technical methodology which allows licenced suppliers to 'net off' licence-exempt supply before any network or policy costs are applied, ensuring exemptions are applied accurately.

While exemptions from certain policy and network costs are positive for community energy generators supplying their electricity locally, it is worth noting what this means for other consumers. Because network and policy costs are recovered by suppliers via all consumer bills, the costs avoided by exempt generators will fall on other consumers not part of the exempt supply arrangement. This is potentially a fairness issue, although Ofgem notes that they have discussed this internally and do not foresee licence-exempt local supply arrangements happening at a big enough scale to cause a noticeable increase in consumer bills.[11]

[10] Ofgem, 2024. Approval of BSC Modification P442.

[11] Ofgem, 2024. Approval of BSC Modification P442.

5. Scottish Government's electricity framework agreement 2024 to 2029

Scottish Government recently signed-off an electricity framework agreement, which sets out a framework for the supply of electricity to public sector estates.[12] Under this framework agreement, energy suppliers EDF are the main supplier for public sector buildings.

As public sector buildings are often natural off-takers for community energy generators, this will have implications for the future of PPAs. In a parliamentary question raised by Sarah Boyack MSP, Scottish Government minister Fergus Ewing confirmed that a total of six different PPA models for local generators will be facilitated under this framework, although details on these models are not currently clear from published communications.[13,14]

However, from available communications, it appears that PPAs can still be agreed outside of the Framework i.e. community organisations could approach public sector bodies directly to discuss a PPA without having to involve the main Framework supplier, EDF.

[12] Scottish Government, 2024. Procurement: electricity framework agreement: 2024 to 2029.

[13] Scottish Parliament, 2024. Question reference: S6W-29941.

[14] We have approached Scottish Government's local energy team, Procurement Scotland and EDF for more details on PPA models and processes although have yet to receive a formal response.

The terms and conditions state that for the Supply of Electricity from a self-generating source the Supplier shall enter into a Power Purchase Agreement with such Scottish Public Sector Body on normal commercial terms. Such purchase shall stand entirely separate to the arrangements under the Framework and the Supplier shall not be under any obligation to sleeve the electrical output of such Public Body's facility into the supply of electricity under the framework.

The Supply of Electricity agreement has also included the options of 6 different Power Purchase Agreement variations as part of the Statement of Requirements and the Terms and Conditions.

Response to Scottish Parliament question from Sarah Boyack MSP, 2024.

6. Glossary

Term	Definition
Wholesale market	The wholesale electricity market is where electricity is bought and sold before being delivered to consumers. Its two main participants are generators and suppliers. The NESO webpage has more information on markets.
Non-commodity charges	Charges related to delivery, administration, policy and infrastructure costs, excluding the cost of energy itself.
Strike price	The agreed price at which energy is bought or sold in a contract or financial agreement.
Net off (in locally supply context)	The process of subtracting the energy generated within an area from the energy demand, reducing the amount exported.
Hedge	A strategy used to protect against price fluctuations by locking in future energy prices
Distribution Use of System (DUoS)	DUoS charges are applied to all electricity bills. They cover the cost of maintaining the distribution network.
Transmission Network Use of System (TNUoS)	TNUoS charges are applied to all electricity bills, and are also applicable to generators.
Contracts for Difference (CfD)	A CfD is a contract between a low carbon electricity generator and the Low Carbon Contracts Company (LCCC), a government-owned company. A strike price is agreed between the two companies, and if the wholesale price the developer receives from the energy their site produces goes above this strike price, they pay the excess to the LCCC. If the wholesale price received by the developer goes below the agreed strike price, the LCCC pays the difference.
Capacity Market	The Capacity Market (CM) is designed to ensure the security of electricity supply. It is a competitive process where energy providers can be paid for being available when required.
Climate Change Levy (CCL)	An environmental tax charged on the energy that businesses use, intended to encourage businesses to be more energy efficient in how they operate