

Unlocking local energy markets: why P441 must be implemented at pace to reduce energy costs, and improve the efficiency of the energy system

Background

The GB electricity grid is at its limit. New developments – both electricity generators and consumers – are struggling to get connections. Projects that have been built are regularly constrained (when they have to reduce output or stop producing electricity altogether), and losses are made in transporting electricity from where it is generated to where it is used. Massive infrastructure upgrades are required, the costs of which we are all paying for through our bills. Those living in the shadow of some of the biggest renewables developments in the country are in many cases paying the highest fuel bills.

One way in which some of these challenges could be addressed would be for local electricity generators to be able to sell their energy directly to local businesses and householders; community energy generators have campaigned for this for many years. This would have multiple benefits:

- Lower electricity costs for consumers
- Increased income for community energy generators
- More opportunity to match local supply and demand at a local level, which in turn could:
 - Improve the efficiency of the grid
 - Reduce or delay the need for grid reinforcements

Box 1: How does local energy use improve the efficiency and cost of the energy grid?

Imagine the energy grid as a national road network transporting energy across Britain. The distribution network is the equivalent of A and B roads, while the transmission network is like the motorways. If we extend the analogy further to compare local farmers to renewable electricity generators, if there is a financial incentive to them and to consumers to buy and sell their produce locally, then the only transport required to do this would be on the local A and B roads.

If electricity generation and demand can be matched as much as possible within the distribution network under one grid supply point (the point at which the distribution and transmission meet) or at primary substations (more local grid node), this reduces the need for electricity to be transported long distances through the transmission system. This reduces electrical losses, allowing our system to perform more efficiently, and reduces the need for expensive transmission upgrades and new transmission lines to increase capacity.

Generators can sell their own electricity by registering themselves as a supplier – but the costs and administration to do this are prohibitive to smaller generators. This leaves us in a situation where community renewable generators sell their electricity to suppliers at one price, and then people living nearby have to buy that electricity from the supplier at multiple times that price. Matching power use to local generation is not financially rewarded for either generator or consumer. There is widespread support for local energy markets, including politically – in the last parliament, a cross party group of 326 MPs supported Power for People’s campaign for community renewable energy to benefit local economies.¹

What are the mechanisms to enable local energy supply?

Currently, the options open to community generators to match local electricity supply and demand are:

- **Direct wire supply (or private wire / behind the meter)** – this is where the renewable energy generator is directly connected to nearby buildings via a physical cable and the national grid is never utilised. This reduces both grid and supplier costs. This works well when the site’s generation is well matched to the buildings’ consumption and they are physically nearby. This is the model used within the ‘solar roof model’ whereby solar is directly mounted on a building and connected behind the building’s electricity meter – a model used across the country by community organisations in partnership with public buildings, including [Bath and West Community Energy](#) and [Glasgow Community Energy](#). It can also apply where assets are nearby – for example [Dundee Renewable Energy Society](#) owns a 2.6MW solar array that is directly connected to the James Hutton Institute.

¹ [Power for People](#)

- **Energy Local model** – [Energy Local](#) developed a model whereby small-scale renewable generators and local households form an Energy Local Club. Each of the households has a smart energy meter installed to monitor their energy use. If they match their electricity use to the time when electricity is being produced locally by the generators in the club, for example by turning their washing machine on when they know it's windy and the turbine is generating, they pay a special reduced 'match tariff' price. This model is a vision of how local energy markets could work, but currently the electricity market is not set up in a way that encourages this kind of local energy matching and consumer-led flexibility. An example of this is the community owned turbine on Barra & Vatersay where the turbine cannot create an Energy Local Club with the nearby domestic consumers as it exports at a different voltage to the local households.

Box 2: Energy Security and Net Zero Committee recommendations:

Within their recent report 'Get connected: How community energy can turbocharge the transition', the committee included a chapter on Local Supply that included the following recommendations:

RECOMMENDATION

We recommend that the Government produces, within six months, a regulatory framework to allow community energy generators to sell electricity to local consumers. Modification of P441 is a good step to clarify rules and uncertainties and should be approved by Ofgem for a swift implementation in the summer 2026. It, however, does not accommodate all types of local supply and require the participation of licensed suppliers, which is currently scarce.

RECOMMENDATION

If P441 is not approved and implemented by the end of summer 2026, the Government should bring forward legislation equivalent to the Local Electricity Bill to establish a proportionate local supply licence.

In June 2026, the UK Parliament's cross party Energy Security and Net Zero Committee published a report in which they called for the Government to produce, within six months, a regulatory framework to allow community energy generators to sell electricity to local consumers (see box 2).²

The first step towards this is the proposed **P441 modification** to the Balancing and Settlement Code.³ The proposed modification, first raised in 2022, creates the definition of different types of 'complex sites' (or local energy markets) where renewable energy generation can be matched on a half hourly basis with local demand, as long as they are both connected to the distribution grid under the same primary substation, regardless of connection voltage.⁴

Not only is this a form of 'license exempt supply' (see box 3), it also provides an additional saving because the electricity that is matched locally does not reach the transmission network, so for some categories of project it may be that some or all Transmission Use of System (TNUOUS) or Balancing Services Use of System (BSUoS) charges are avoided.

The P441 modification was submitted to Ofgem in March 2026 with their final decision expected later in 2026.

P441 vs P442

It is worth noting the distinction between the P441 modification, mentioned above, and the P442 modification, which is already in place. P442 is also a form of license exempt supply where non-commodity costs can be avoided. Renewable energy generators can sign a power purchase agreement (PPA) with an energy consumer, and the benefits can be split so that both the generator earns more and the consumer pays less (see box 3). P442 mechanisms are already being utilised by community energy generators to maximise income streams that can be used to have a positive impact in their communities. For example, Point and Sandwick Trust in the Isle of Lewis have signed agreements with Nationwide and Navantia through which electricity used by these firms (up to 2.5MWh per

² <https://committees.parliament.uk/publications/53602/documents/299308/default/>

³ The Balancing and Settlement Code contains the rules and governance arrangement for electricity balancing and settlement in the UK. It is administered by ELEXON. <https://www.elexon.co.uk/bsc-and-codes/balancing-settlement-code/>

⁴ A primary substation steps down the voltage within the distribution system. Within the analogy in box 1, this would be the junction between A and a B road.

half-hour period) that is matched to the community's wind farm generation (on a half hourly basis) is license exempt, which creates additional income for the Trust.

Whilst P442 is already having a positive impact on communities, there is a need to go further by implementing P441. Within P442, the generator and consumer can be anywhere on the GB energy network. This means that in practice, **the benefits of P441 arrangements go beyond other forms of license exempt supply by providing positive impacts for the electricity grid, in most cases avoiding use of the transmission system.** The existing benefits of reducing non-commodity charges through P442 can be combined with potential reductions in network charges leveraged by generation and demand matching through the P441 proposals. This funnels more revenue into community owned projects, alongside the wider benefits to the grid network and encouraging local behaviour change as consumers shift usage to match demand when local generation is available.

Because the local relationship between generator and consumer is currently decoupled, **P441 creates a unique opportunity to influence energy usage behaviour.** One of the key potential benefits of P441 is to incentivise behavioural change in how electricity is consumed – evidence from existing models like Energy Local show that the link with local generators has encouraged people to shift their energy usage to times when the electricity is being generated and therefore cheaper.⁵ This form of local balancing helps to use energy most efficiently. The behavioural change link is particularly strong between domestic consumers and community generators – a poll by Common Wealth in 2025 found that 53% of those surveyed would be likely to reduce their energy consumption in support of a community owned project.⁶ This is why **priority for license exempt supply mechanisms should be given to community energy generation rather than any small scale generators**, in order to enable community-led energy markets in every community across the country.

Box 3: What is license exempt supply?

The total cost that we all pay for electricity is made up of a number of different elements including:

- The **wholesale electricity cost**
- Transmission and distribution **losses**
- **Charges for using the electricity system.** These are separately calculated for the distribution network (Distribution use of system (DUoS)) and the transmission network (Transmission use of system (TNUoS)).
- **Non-commodity / policy costs** – these cover the costs of different support schemes such as the subsidies paid to renewable energy generators (Renewables Obligation, Feed in Tariffs and Contracts for Difference)
- **VAT**

Under the Electricity (Class Exemptions from the Requirement for a License) Order 2001, renewable energy generators that don't supply more than 5MW of electrical power (of which no more than 2.5MW is for domestic/household use), don't have to pay for the non-commodity costs. As at July 2026 this is a saving of around £60-£80 /MWh, the savings of which may be divided between the generator, consumer and the broker, though there are no rules about who gets how much.

P442 is primarily a financial mechanism which is a real opportunity for community energy projects to improve income streams but **there is a real concern that with continued delays in implementing P441, P442 will become the 'de facto' model of license exemption. This provides neither the same levels of benefits for the generator and consumer and more importantly does not bring the additional benefits to the overall electricity system.**

Sharing the savings

A concern around implementation of both P441 and P442 models is how the savings are distributed – in current practice we have seen the mediators of the PPA agreement taking up to a third of the savings from the non-commodity costs, with the remainder divided between the generator and the consumer. There are some concerns that **this was not the original intention of the modification and that limits should be applied (e.g. that the broker can take no more than 10% of the savings) so that the majority of the benefits should be distributed to the generator and the consumers.** This is particularly important where the generator is community owned and reinvests the profits/savings back into the community, and/or where the end users are householders, especially

⁵ <https://committees.parliament.uk/oralevidence/15717/html/>

⁶ [Poll shows public support for community renewables - elemental](#)

those facing high fuel bills and fuel poverty and who could most benefit from cost savings. For this reason, the fairness of the exact proportion of division of benefits between the generator and consumers might depend on whether the generator is community owned or a privately owned small scale generator, and whether the end consumer is a business or households.

Comparison of benefits of different mechanisms

Key	Highest	High	Moderate	Lowest

	Private wire	P441 (Community generator)	P441 (Other generator)	P442 arrangement (Community generator)	P442 arrangement (Other generator)
Cost savings from avoiding system use					
Motivation for shifting energy use					
Ease of arrangement					
Benefits to local community					
Benefit to overall energy grid					

Complexity and risk

There are a number of challenges and potential risks for community energy generators who enter into P441 or P442 arrangements. This is particularly the case when the end users are households, even though the prospect of lowering bills for local people will often be one of the primary motivators to enter into such an arrangement. These include:

- **Complexity of savings calculations** – because non-commodity costs vary depending on the overall energy mix during any half-hourly settlement period, and because the savings are based on half hourly energy matching which is calculated retrospectively, it is very difficult to estimate what the overall savings will be either to the generator or consumer. This provides further complexities in the understanding of billing and relies on the trust of energy suppliers.
- **Reputational risk of association with consumers** – depending on the mediation service/PPA offtaker used, there is a risk that a community organisation's electricity is matched with a business consumer that does not align with the community energy enterprise's values.
- **Risks of providing financial/energy advice** – both financial advice and energy advice are regulated areas and community energy groups should consider any unintended consequences as well as the reputational risk to them if consumers – particularly households – are unhappy with a scheme they are signed up to. This is particularly the case for programmes where community energy groups are encouraged to supply householders and businesses in their local area but a prerequisite for doing so is that the consumers sign up to specific tariffs like Octopus Energy's Electric Match Club (for SMEs) or Community Power Club (for households). Depending on the base rates of any tariff, the savings from price matching and the extent to which the consumers are actually able to adapt their lifestyle and electricity use to the generation, there is a risk that their bills could go up rather than down.

Conclusion

As the UK and devolved governments simultaneously try to work towards both renewable energy targets and tackling fuel poverty, the current energy system provides a significant challenge. If both are to be achieved then a new approach must be taken whereby genuine local flexibility and matching of generation and demand are recognised and financially rewarded.

The existing P442 code modification is already being used and promoted by a number of agencies and will be part of the answer but the reality is that it is primarily a financial mechanism and is unlikely to help to address the rising costs of the system arising from grid reinforcement costs, constraint costs and system inefficiencies and losses. In contrast, **successful delivery of P441, thereby financially incentivising local energy markets, demand-led flexibility and balancing, could have a transformational impact on the efficiency of, and cost to run, our energy system**

Calls to action:

Priority should be given to ensuring that the majority of savings from licence exempt supply lead to household fuel bill reduction and increase in income for community energy suppliers, rather than to 'middle men'.

Ofgem and the UK Government must work together to implement code modification P441 as soon as possible, with a particular focus on supporting community energy generators and financially incentivising behavioural change and consumer-led flexibility.

August 2026