Briefing

Helping businesses do more to achieve clean power by 2030

June 2025

green alliance...

Summary

Taking steps to reduce and decarbonise electricity use can cut businesses' costs and their exposure to price volatility, thereby increasing their resilience and, potentially, their profits. By acting on their scope two (indirect) emissions, companies are also offering their customers a cleaner, greener proposition overall, which is popular with the public.

There is no 'one size fits all' approach to this. Businesses of all types and sizes can cut their electricity consumption and their climate impact by using a hierarchy of actions to achieve sustainable energy use.[1] The common actions, in order of priority, are:

- **Increase energy efficiency:** this reduces energy demand and typically has the fastest payback time.
- **Build onsite renewables and storage:** this creates additional energy generation and reduces electricity bills.
- **Contracting a power purchase agreement (PPA):** although only accessible to larger businesses, this arrangement generally expands the pool of renewables and reduces electricity bills.
- **Buying green electricity from an energy supplier.**

Doing more to encourage businesses to decarbonise their electricity use can help the government to deliver its clean power and growth missions. It should develop policies that:

- Help SMEs to identify energy saving opportunities and make cheap finance available to achieve them.
- Increase minimum energy efficiency standards to EPC B for new tenancies in non-domestic premises from 2028.
- Increase the accessibility of PPAs for businesses by creating a credit guarantee scheme, contract template and pooling possibilities.

Introduction

Our research examined the main ways in which businesses of all sizes and types can decarbonise and reduce their electricity use, through a hierarchy of actions: increasing energy efficiency, building onsite renewables and storage, contracting a power purchase agreement (PPA) and buying green electricity from an energy supplier. We assessed each of these options and judged their strengths and weaknesses against criteria, including additionality, scalability, suitability for large and small companies, and electricity bill impact.

Efforts made by businesses to decarbonise their electricity consumption come in the context of the government's mission to achieve 95 per cent clean power by 2030, which requires an unprecedented rate of renewables development and new energy efficiency measures. Beyond 2030, the need for new renewables and energy efficiency measures will remain high as electricity demand continues to increase. Concerted action from business to decarbonise their electricity consumption can reduce the scale of electricity system infrastructure that will be needed in the decades to come.

Small and medium sized enterprises (SMEs), in particular, could play an important and often overlooked role in helping the government to achieve this mission as they collectively use significant amounts of electricity - approximately 120TWh a year. This is equivalent to 85 per cent of all UK renewable generation in 2024. Or, 130 per cent of the output of all new renewables needed by 2030 to achieve the government's clean power mission.[2] Tapping the potential of SMEs to cut their climate impact could be a vital strategy in decarbonising the UK power system. SMEs need the tools, data, know how and finance to increase their energy efficiency and build their own renewables, which will reduce their electricity costs in the process. Great British Energy has a £3 billion community energy fund that could be used to co-invest with SMEs and help them to decarbonise their electricity supply.

Our findings, guidance for businesses and actions for government are based on interviews with businesses, energy suppliers, trade associations and academics, and on a review of relevant literature. The business guidance is designed to be widely applicable to most business types and focus on those

which still need to take substantive action to decarbonise their electricity supply.

Please refer to the glossary at the end of this briefing which explains the specialist acronyms and terms used throughout, including an explanation of the colour coding used in the table in the following section.

The impact of business electricity decarbonisation options

Our assessment of the attractiveness of the options available to businesses to decarbonise their electricity is summarised below.

Energy efficiency scores most highly across the range of criteria used.

	Additionality	Scalability	Suitability		Cost reducing
			SMEs	Large	
Energy efficiency					
Onsite renewables					
PPAs					
REGOs					

Our findings in detail

Energy efficiency and demand flexibility

Our findings

Energy efficiency and demand flexibility are the first options that business should explore. There is high potential for energy and cost saving across all

business types, particularly for SMEs and other companies without dedicated energy managers which may have easy wins available.[3,4]

Within energy efficiency measures, there are 'capital intensive' and 'capital light' options. Capital intensive options include energy efficient equipment, building insulation and heat pumps, while capital light measures include optimising heating and lighting control systems, and behaviour change.

Where energy efficiency measures have not yet been taken by a business, they generally have a shorter payback period than building onsite renewables. But, to secure the investment needed for capital intensive measures, businesses we spoke to noted that there is competition with investment in the core business.

While many energy efficiency measures should be simple to implement, SMEs often lack the energy use data and knowledge to implement energy saving approaches. For instance, in 2023, only 42 per cent of SMEs had a smart meter.[5]

For businesses that rent premises, existing tenancy contracts for non-domestic properties are often unclear whether meeting minimum energy efficiency standards is the landlord or the tenant's responsibility, which is holding back investment.[6]

For large firms (defined as above the SME threshold on the number of employees, turnover and balance sheet total), energy auditing under the Energy Savings Opportunity Scheme (ESOS) is often viewed as a tick box exercise and, therefore, is not always fully incorporated into a business's decision making on potential measures it could take.

Regardless of business size, a high standing charge on electricity connections provides little incentive for a business to invest in energy efficiency, though we heard they are not a disincentive.

Guidance for business

Energy efficiency is at the top of the hierarchy of effective electricity decarbonisation measures. For businesses that have not yet invested time and capital into it, the following steps could be taken:

- Maximise visibility of energy use data by:
    - installing a smart meter;
    - installing sub-meters across different business areas, eg offices and warehouses;

    - using energy supplier dashboards or other energy management software.

- Use energy auditing to identify options for optimising energy use, which can reduce business costs.
- Target capital intensive options, such as more efficient equipment, building insulation and heat pumps, which typically have shorter investment payback periods than onsite renewables.
- In periods of low capital availability, focus on 'capital light' options, such as heating and lighting controls, behaviour change and optimising technology.
- In tenancy contracts:
    - make explicit whether the landlord or the tenant is responsible for meeting building minimum energy efficiency standards;
    - for existing tenancies, clarify whether the contract puts the responsibility on the tenant or the landlord for meeting any future tightening of minimum energy efficiency standards.

Actions the government can take

To make it simpler for businesses to implement energy efficiency measures, the government can do the following:

- Offer free energy audits to SMEs in England and Wales, mirroring Business Energy Scotland.[7] These assessments could directly link to a low cost loan scheme for energy saving investments, eg through the Business Climate Hub and the British Business Bank.
- Make the current temporary VAT holiday on energy saving materials permanent and zero rate VAT on building retrofit.[8]
- Work with businesses and landlords to supplement Energy Performance Certificates with an approach that uses a building's actual energy use data, such as NABERS UK, to identify energy efficiency opportunities.[9]
- Increase the availability of electricity use data by:
    - increasing the uptake and use of smart meters;
    - working towards mandatory energy data sharing between landlords and tenants, and set requirements for joint low carbon strategies, like France's Décret Tertiaire.[10]

– Consult on increasing the non-domestic private rented sector minimum energy efficiency standard to EPC B for new tenancies.

Onsite renewables and storage

Our findings

Onsite renewables and storage are the next options businesses should explore after energy efficiency. For most enterprises, this offers the potential for cost savings. Storage also enables flexible electricity demand by providing business the ability to choose when it draws power from the grid. But businesses in tenanted premises face additional hurdles to implement these measures.

As with energy efficiency, investment in onsite renewables and storage competes with investment in the core business. It also competes against energy efficiency measures.

Organisations with larger estates may opt for 'embedded PPAs', where onsite renewables, predominantly solar, are built and managed by a third party. This approach avoids the business having to finance the upfront capital investment and reduces complexity for the business.

Solar panels have a payback period of four to 12 years depending on the price of electricity and export tariffs, making them an attractive option for many businesses.[11] Larger installations tend to payback faster on the initial investment. However, anecdotal evidence suggests that the opportunity to install onsite renewables, predominantly rooftop solar, is often more limited than first envisaged.

Where a business has the capability and space to install onsite renewables, we heard that some are under sizing their installation relative to the potential onsite capacity and electricity consumption. This is due to real and perceived difficulties in obtaining a grid connection of sufficient size to export power during periods of excess generation, which would mean that the business has to curtail generation, and thus cannot maximise the return on investment. If this is happening widely, it is likely that the country is missing out on renewable capacity that could have been built.

As with energy efficiency measures, the standing charge on electricity connections is based on capacity requirements and does not incentivise building onsite renewables and storage, although it does not actively disincentivise them.

An estimated 56 per cent of commercial property by capital value is tenanted.[12] This presents businesses with an additional barrier to installing onsite renewables and storage, as it can be difficult to gain a landlord's

approval, and the investment stays with the building if the tenancy is terminated.

Guidance for business

Building onsite renewables and storage can reduce electricity bills and the payback period can be as short as four years. These measures should be explored alongside or after energy efficiency measures.

Businesses interested in exploring the potential could take the following actions:

- In a tenanted building, groups of tenants are often more successful in agreeing the building of renewables with landlords.
- If onsite renewables are desired, but capital for investment is constrained, businesses can explore an embedded PPA. This also outsources the management of the asset, reducing complexity.

Actions the government can take

To make it easier and simpler for businesses to build onsite renewables and storage, the government can:

- Zero rate VAT on building retrofit, including the addition of onsite renewables and storage and make the VAT holiday on energy savings materials permanent.[13]
- Create a low cost loan scheme to fund onsite renewable and storage deployment, eg through the British Business Bank.
- Ensure Ofgem approves anticipatory investment in the distribution network, to overcome real and perceived grid connection availability and volume issues.
- Standardise distribution grid connection processes across all distribution network operators to reduce complexity and uncertainty.
- As part of the government's solar roadmap, introduce a model for onsite solar in all tenanted buildings in which landlords can sell generated electricity to tenants at a rate that benefits both parties. The German 'tenant electricity model' for domestic buildings provides lessons, including around the regulatory issues that slowed down its uptake. Such a scheme in the UK could substantially contribute to targets for new solar capacity and the reduction of electricity bills for households and SMEs with tenancies.

Power purchase agreements (PPAs)

Our findings

PPAs are long term contracts between an electricity generator and either an energy supplier or a business that wants to directly contract their electricity, for up to 25 years. Other than building onsite renewables, PPAs are the most assured way for a business to stimulate building additional renewable capacity without government subsidy, at a larger scale than would normally be possible for onsite projects.

The PPA market has a high barrier to entry, requiring a business to have a strong credit rating and energy expertise, so it is predominantly open only to larger companies. The PPA market also lacks transparency, with energy generators and brokers possessing greater information and knowledge of PPA contracts, including pricing and fair contractual terms, than the business that wants to enter a PPA. This can hold businesses back from exploring them.

This opacity also makes it hard to assess PPAs against other options we studied, as detailed pricing information is difficult to obtain. PPAs are generally cheaper than buying electricity on a supplier tariff, but they carry a premium above the wholesale electricity market. PPAs delivered via the grid, not via a 'private wire', are subject to policy levy costs, which reduces their overall financial benefit. The PPA often stimulates new, non-subsided renewables while also contributing to the subsidy of other renewables through levies paid by the business.

In the coming years, the government-led contracts for difference (CfD) process and PPAs are likely to be in competition with each other to procure larger generation projects, which will affect PPA pricing. This situation will impact the availability and additionality of new PPA projects. The CfD auction rounds in 2025 and 2026 are expected to procure record amounts of renewable energy, with renewable developers likely to prefer a CfD over a PPA. This competition could increase the price of PPAs for businesses, if the strike price awarded for CfDs is higher than existing PPA pricing.

As an attempt to overcome the PPA market's high barriers to entry, some renewables developers are taking a 'community energy' approach, allowing SMEs to co-invest in newly built offsite renewables, but this is still at a small scale. It is an area of potential growth, particularly in partnership with Great British Energy, facilitating the early stage of new project development, which is typically the most difficult.

Overall, PPAs can provide businesses with lower electricity costs than buying via a supplier tariff. But those businesses that agree a PPA must balance a trade-off between its long term price certainty and the potential that future electricity costs outside the PPA will be lower.

Guidance for business

In general, PPAs are good for heavy electricity users and should be explored by them as an option to lower their electricity costs, diversify electricity sourcing and shield them from electricity price volatility.

High electricity use businesses could take the following actions:

- Use standardised contracts from brokers which provide a starting point for complex contract negotiation.
- Investigate contract pooling offered by some brokers if the business does not meet credit rating requirements for a contract on its own.

Actions the government can take

To increase the size and depth of the PPA market, and boost its contribution to the clean power mission, the government can:

- Create a corporate PPA credit guarantee scheme to overcome the issue of credit ratings excluding businesses from PPAs, like Norway's model.[14] This risk reduction should lead to lower PPA prices.
- Work with industry to create a standardised template contract and identify opportunities to publish aggregated PPA pricing data to start increasing transparency for PPA consumers.
- Work with energy suppliers and brokers to facilitate contract pooling for multiple businesses seeking a PPA.
- Do detailed analysis of the impact that exempting PPAs from levy costs related to renewable generation would have on PPA attractiveness and other energy consumers.

REGOs and green electricity tariffs

Our findings

Renewable Energy Guarantees of Origin (REGOs) are certificates issued for every megawatt hour (MWh) of renewable electricity generated. They are used by energy suppliers and businesses as evidence of the amount of

renewable electricity in their electricity mix for their scope two (indirect) emissions reporting.

However, REGOs do not provide additionality and are not linked to when that electricity is consumed, so they provide no incentive for businesses to flex their electricity demand to periods of high renewable generation. This has led to claims that they facilitate greenwashing.[15] REGOs can be sold bundled with the electricity they correspond to or can be sold unbundled.

Some energy suppliers seek to maximise time-matching between their renewable electricity supply and business customer demand, going above and beyond REGOs. However, this does not have a positive impact on a business' reported scope two emissions, so is largely done by those who are highly motivated.

It is difficult for a business to decarbonise its electricity supply directly through an energy tariff. Hourly or half-hourly time-matched tariffs are spurring business investment in energy efficiency measures and demand flexibility but require a business to have sufficient data visibility of its electricity use.[16]

In their current form, REGOs will become increasingly irrelevant for differentiating between renewable and carbon emitting electricity, as electricity via the grid becomes nearly zero carbon around 2030.

Guidance for business

For businesses seeking to decarbonise their electricity supply through an energy supplier tariff, they can:

- Ask prospective energy suppliers questions based on, for example, the UK Green Building Council's electricity procurement guidance, to understand whether their electricity purchase is contributing to renewable supply.[17]
- Where possible, contract on a time-matched tariff and invest in energy efficiency and demand flexibility measures, such as charging electric vehicles or onsite storage during periods of high renewable generation on the grid, to maximise time-matching potential. Flexing demand and using time-matched tariffs usually offers costs savings, as well as bringing wider system benefits.

Actions the government can take

To make it easier for businesses to green their electricity consumption through energy supplier tariffs, the government can:

- Consult on reforming REGOs to align better with their current use, which include corporate scope two emissions reporting:
  - this consultation should include options for 24/7 hourly matched REGO certificates to incentivise time-matching of renewable and storage electricity supply and business demand;
  - reform should happen quickly, to aid the achievement of the 2030 clean power goal; beyond 2030, this reform could soon become obsolete in the context of a rapidly changing, renewables-dominated power system.
- Drive the uptake of smart meters to enable businesses to use time-matched tariffs for their energy supply.

Conclusion

It is not straightforward for businesses of any size to decarbonise their electricity supply, even with the best intentions. This needs to change and be made simpler for businesses to contribute to the success of the government's clean power and economic growth missions.

There is no 'one size fits all' approach, with a range of options needed for all business types to decarbonise their electricity and contribute to the creation of new renewable generation.

To ensure businesses that want to take climate action, by decarbonising and using less electricity, can contribute fully to the government's clean power mission, the government should follow all the actions we have outlined above to support them.

In our assessment, the three most effective actions would be:

- Offer free energy auditing for SMEs, by expanding the remit of the Business Climate Hub in England to match that of Business Energy Scotland. This could be linked to the provision of low cost loans for SMEs to install energy efficiency measures and onsite renewables and storage, either via the Business Climate Hub or the British Business Bank.

- Consult on increasing non-domestic private rented sector minimum energy efficiency standards to EPC B for new tenancies.
- Increase the accessibility of PPAs for businesses by creating a credit guarantee scheme, contract template and pooling possibilities.

Glossary

- **Additionality:** this occurs when an action by a business leads to renewables being built that would otherwise not have been built. It includes those that no longer need to be built due to energy use reduction. While this is often complex to prove in absolute terms, our assessment on page three is based on strong evidence 'against' (red), 'mixed' (orange) or 'for' (green) additionality.
- **Scalability:** this is the potential for an action to account for the entirety of a business's electricity demand, from a meaningful but minor share (amber) to cover all demand (green).
- **Suitability:** this is how appropriate and available the action is for either SMEs or large businesses, from 'not appropriate or available' (red) to 'appropriate or available', for some (orange) or all (green).
- **Cost reducing:** in general, this is an action that reduces electricity costs for the business, scaling from 'increasing costs' (red), to 'some' (orange) or 'good' (green) money saving opportunities.
- **PPAs:** power purchase agreements are long term contracts between an electricity generator and either an energy supplier or a business that wants to directly contract their electricity, for up to 25 years.
- **Energy efficiency:** this is achieved via actions or technology that reduce electricity consumption.
- **Demand flexibility:** this is the ability of a business to change its electricity consumption patterns through shifting the time of consumption (time-shifting) or using onsite storage.
- **REGOs:** Renewable Energy Guarantees of Origin is a scheme to show how much of an energy suppliers' electricity is generated by renewables. REGO certificates are issued for each megawatt hour (MWh) of renewable generation.[18]
- **SME:** A small or medium sized enterprise is a business that has fewer than 250 employees, an annual turnover less or equal to £44 million and a balance sheet total less than or equal to £38 million.[19] In the context of this report, we assume that most electricity will be consumed within an SME's own buildings.
- **Scope two emissions:** these are indirect greenhouse gas emissions associated with the generation of purchased or acquired electricity, steam, heating or cooling consumed by the reporting company.[20]

Acknowledgements

With thanks to all those we interviewed for this work who contributed their views anonymously so they could share insights freely. Thanks also to Andrew Weston and Bryan Bell of The Co-op and to Victoria Murphy, Michael Broughton, Alexis King and Dominic Lynch of Grayling.

This work is supported by The Co-op.

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Endnotes

[1] Institute of Mechanical Engineers, May 2020, *The energy hierarchy: supporting policy making for 'net zero'*
[2] Own calculation using data from Department for Energy Security and Net Zero, March 2025, *Energy trends UK, October to December 2024 and 2024*
[3] Carbon Trust, no date, *SMEs and energy efficiency*
[4] Environment Agency, 29 August 2024, 'Guidance: Comply with the Energy Savings Opportunity Scheme (ESOS): phase 3', www.gov.uk, (last accessed 15 April 2025)
[5] Ofgem, 'Non-domestic consumer research 2023 interim findings', www.ofgem.gov.uk, (last accessed 15 April 2025)
[6] L Williams et al, November 2022, *Research into the allocation of heat and energy efficiency related costs in rented non-domestic buildings,* Department for Energy Security and Net Zero
[7] Business Energy Scotland, 'Get support', www.businessenergyscotland.org, (last accessed 15 April 2025)
[8] L Peake, H Plumpton and J Dhaliwal, March 2023, *Circular construction: building for a greener UK economy*, Green Alliance
[9] British Property Federation, June 2024, *Energy data, buildings and net zero: closing the data deficit*
[10] Op cit
[11] Good Energy, November 2024, 'What financial factors influence solar panel installation?', www.goodenergy.co.uk, (last accessed 15 April 2025)
[12] British Property Federation, June 2024, op cit
[13] L Peake, H Plumpton and J Dhaliwal, March 2023, op cit
[14] Energy UK, January 2025, *Review of policies to drive commercial and industrial decarbonisation*

[15] A Moss, T Andrews and H Iqbal, October 2024, *Reviewing the future of REGOs for corporates*, Cornwall Insight
[16] Energy UK, November 2024, *Maximising the Corporate Power Purchase Agreement (CPPA) market to meet Clean Power 2030 and support businesses*
[17] T Wigg and E Dodkin, August 2023, *Renewable energy procurement,* UK Green Building Council
[18] Ofgem, 'Renewable Energy Guarantees of Origin (REGO)', www.ofgem.gov.uk, (last accessed 15 April 2025)
[19] Government Commercial Function, 11 April 2025, 'Procurement Act 2023 short guides: supplementary information: small and medium-sized enterprises definition', www.gov.uk, (last accessed 15 April 2025)
[20] Science Based Targets Initiative, July 2024, *SBTi glossary*