



The voice of our sustainable built environment

REPORT 3

# RENEWABLE ENERGY PROCUREMENT

Determining the performance of your electricity strategy



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UK Green Building Council  
ukgbc.org



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# CONTENTS

SECTIONS		PAGE
3.0	INTRODUCTION	4
3.1	TOOLS FOR ENGAGING ENERGY SUPPLIERS	5
	QUANTITATIVE METRICS	5
	QUALITATIVE QUESTIONS	10
	REPORTING AND DISCLOSURE	12
3.2	RATING YOUR ELECTRICITY STRATEGY (BETA)	13
	OVERVIEW	13
	INFORMATION REQUIRED	15
	A NOTE ON 'PRIORITY RENEWABLES'	17
	SCORING METHODOLOGY	17
	DETERMINING YOUR RATING	22
	REPORTING AND DISCLOSURE	23
3.3	SUMMARY	24
3.4	GLOSSARY	25
3.5	REFERENCES	30



# REPORT 3

## DETERMINING THE PERFORMANCE OF YOUR ELECTRICITY STRATEGY

### SECTION 3.0 INTRODUCTION

This report is the third in a series of four guidance documents on the topic of renewable energy procurement. Reports 1 to 3 focus on the 'How', giving practical advice, recommendations, and tools to enable built environment stakeholders to make informed procurement decisions that support the electricity system's decarbonisation. Report 4 explores the 'Why', providing the rationale behind the guidance and summarising the role of the built environment in enabling a net zero carbon energy sector.

This report introduces tools for engaging energy suppliers to enable better assessment of the options available in the market. It also defines a methodology for scoring the performance of a building's electricity strategy, including procurement as well as onsite generation and demand management. This enables all stakeholders to benchmark their current strategy, assess prospective strategies, and understand the incremental changes they can make to secure procurement and manage their buildings in a way that accelerates our transition to a resilient, decarbonised electricity system.



## SECTION 3.1 TOOLS FOR ENGAGING ENERGY SUPPLIERS

**The vast majority of buildings and organisations procure part or all of their energy through an energy supplier, typically through an electricity tariff/supply contract. Recognising this, this guidance includes tools for engaging energy suppliers and sourcing the relevant information to compare the options available, including both quantitative metrics and qualitative questions.**

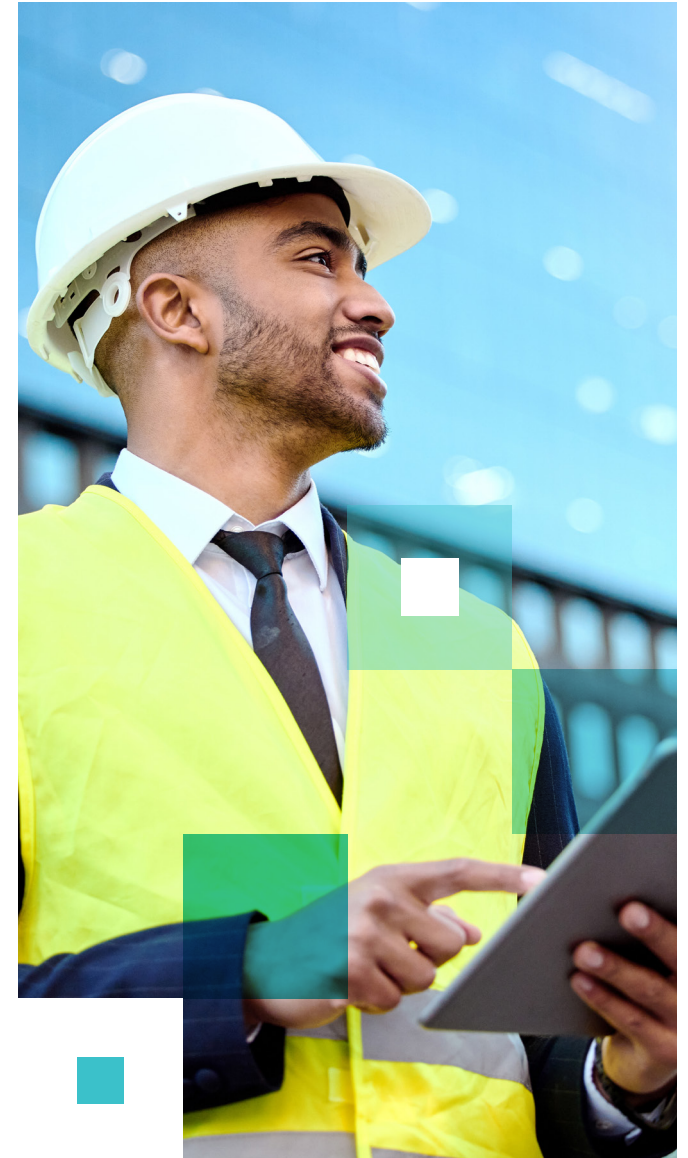
The purpose of these tools is to support more proactive engagement with energy suppliers, summarising and standardising the information that is needed from them to support built environment stakeholders in their procurement decision-making.

## QUANTITATIVE METRICS

The metrics in this section are intended to provide quantitative information that can both assist in comparing the energy products available to a customer and contribute to determining the score for a current or prospective electricity strategy, as described in Section 3.2.

The metrics have been derived from the overarching objectives of enabling stakeholders to secure power with the lowest possible carbon content whilst simultaneously driving the transition to a resilient, decarbonised electricity system. Ultimately, this means responding to the three principles for quality procurement described in reports 1 and 4. This is illustrated in Figure 1, where the metrics are summarised.

Through engagement with electricity suppliers, the information requested should be available. In cases where it is not, it is hoped that this engagement will help to create the demand signals for better information transparency and product evolution, to increase the availability of procurement options which meaningfully respond to this guidance.



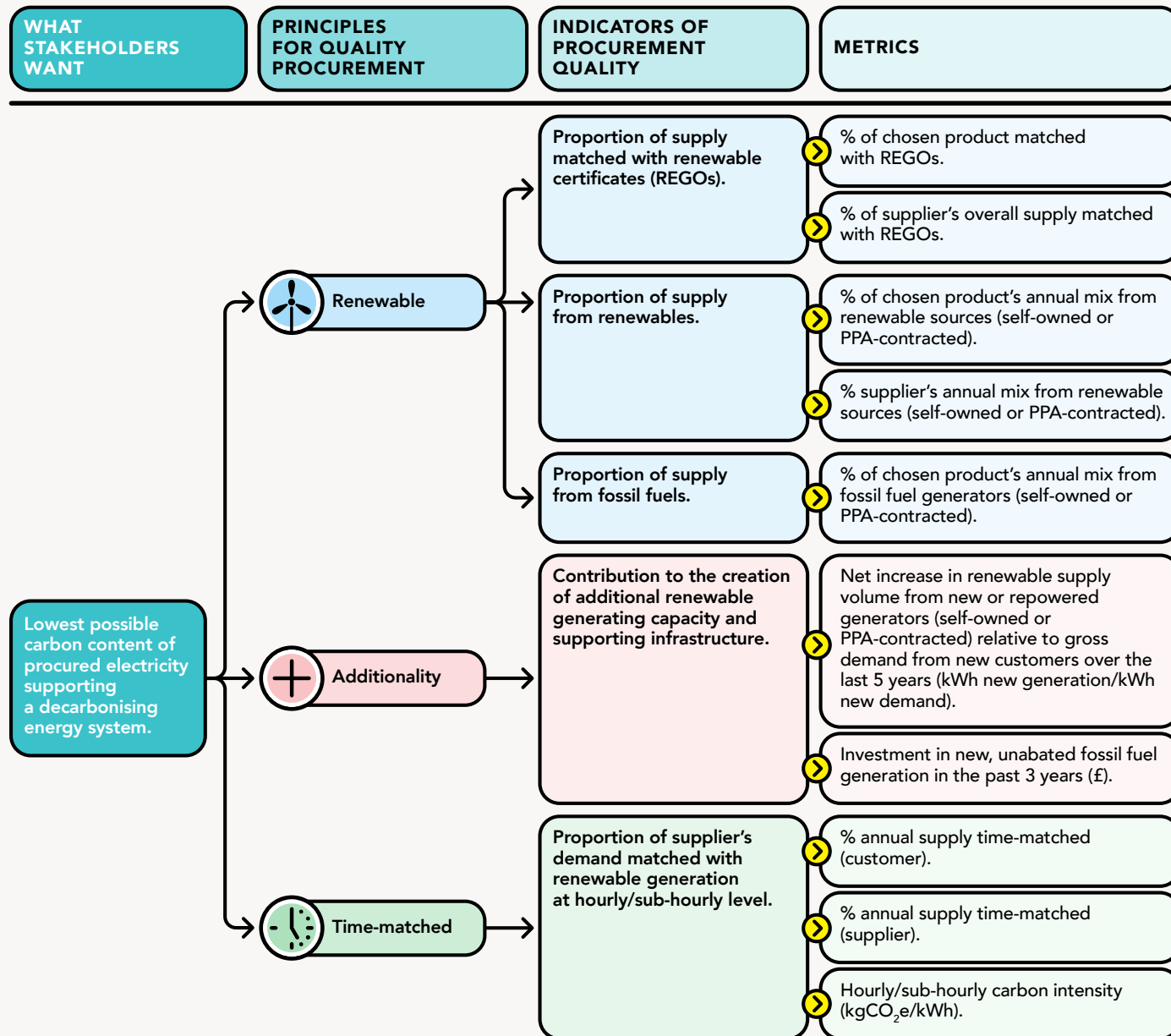
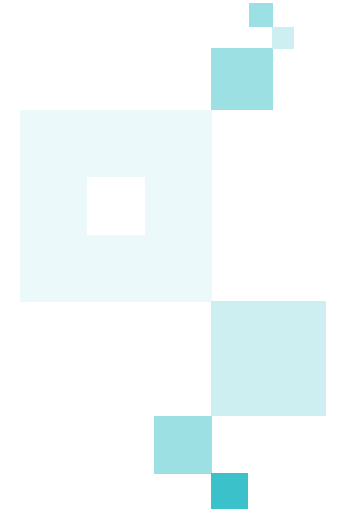


FIGURE 1: Summary of the quantitative metrics for engaging energy suppliers.



**TABLE 1:** Detailed information on the quantitative metrics for engaging energy suppliers.



NO.	METRIC	DESCRIPTION	JUSTIFICATION	PRIORITY
<b>A. RENEWABLE</b>				
A1	% of chosen product matched with REGOs	The % of a supplier's tariff that is matched with supporting REGOs from UK generators. These needn't be bundled.	A minimum qualification for a green tariff.	<b>High</b> – it is a prerequisite for any green tariff that it is 100% REGO-backed.
A2	% of supplier's overall supply matched with REGOs	The % of a supplier's overall annual supply volume that is matched with supporting REGOs from UK generators. These needn't be bundled.	Suppliers whose products are all REGO-backed as a minimum, or demonstrate a high overall proportion of REGO-backed power, are likely to be doing more to enable all customers to access greener supply, not just those on a premium tariff.	<b>Medium</b>
A3	% of chosen product's annual mix from renewable sources (self-owned or PPA-contracted)	The % of the supplier's product mix (in terms of supply volume) that is sourced from self-owned or PPA-contracted renewable UK generators. This would need to include both the supplied power and the accompanying REGOs (i.e., bundled). The supplier should also provide the generation mix.	Shows how renewable a product is, without the effect of greening a product with cheap, unbundled REGOs. It reflects the proportion of the customer's chosen product that is supplied from renewable sources, reducing their exposure to the wholesale market and directly supporting renewable generators.	<b>High</b>
A4	% of supplier's annual mix from renewable sources (self-owned or PPA-contracted)	The % of the supplier's overall energy mix (in terms of supply volume) that is supplied from self-owned or PPA-contracted renewable UK generators. This would need to include both the supplied power and the accompanying REGOs. This should be compared to the % of renewables feeding the market as a whole. The supplier should also provide the generation mix.	As this covers their entire procurement, not just the procurement to service green tariffs/customers, it demonstrates how the supplier is performing as a whole relative to the rest of the market.	<b>Medium</b>
A5	% of chosen product's annual mix from fossil fuel generators (self-owned or PPA contracted)	The % of the supplier's product (in terms of supply volume) that is sourced from self-owned or PPA-contracted fossil fuel generators.	Quality procurement should not directly support fossil fuel generation.	<b>High</b> – to score anything under 'Renewable', none of the product's mix should come from self-owned or PPA-contracted fossil fuel generators.



NO.	METRIC	DESCRIPTION	JUSTIFICATION	PRIORITY
<b>B. ADDITIONALITY</b>				
<b>B1</b>	<b>Net increase in renewable supply volume from new or repowered generators (self-owned or PPA-contracted) relative to gross demand from new customers over the last 5 years (kWh new generation/kWh new demand)</b>	The total generation from newly constructed or repowered renewable assets that are owned by the supplier or contracted via PPA netted against the generation lost from any renewable generators that are sold or whose contracts have ceased over the previous 5 years, relative to the total demand from new customers in the same time period.	To show strong contribution to additionality, a supplier should be investing in sufficient new renewable generating capacity to entirely meet the demand from any new customers they take on and replace any generation that is lost/retired.	<b>High</b> – if greater than or equal to 1, the supplier is investing in additional capacity to entirely meet the demand from new customers.
<b>B2</b>	<b>Investment in new unabated fossil fuel generation in the last 3 years (£)</b>	Recent investment in the development of new unabated fossil fuel electricity-generating capacity.	Any investment in new fossil fuel generation is counter to the principle of additionality.	<b>Medium</b>







NO.	METRIC	DESCRIPTION	JUSTIFICATION	PRIORITY
<b>C. TIME-MATCHED</b>				
<b>C1</b>	<b>% of annual supply time-matched (customer)*</b>	<p>The % of your (the customer’s) specific demand the supplier is able to match at an hourly resolution or better with renewable electricity.</p> <p>For existing contracts, this should be the actual time-matched % that was achieved for the customer. For assessing prospective options, this should be predicted by the supplier based on a historic or forecast demand profile.</p>	<p>For a given customer, this is the % of demand that has or is likely to be matched with renewable energy at an hourly/sub-hourly level.</p>	<p><b>High</b> – this is the input for the ‘Time-matched’ scoring category and relates specifically to the customer’s impact. If customer-specific matching information is not available, the time-matching achieved by the supplier as a whole (C2) can be used. This is to encourage customer-specific information to be sourced, as a supplier’s overall time-matched % is likely to be lower.</p>
<b>C2</b>	<b>% of annual supply time-matched (supplier)*</b>	<p>The % of a supplier’s total supply volume that was matched at an hourly resolution or better with renewable electricity.</p>	<p>The end goal for a fully decarbonised electricity system is to be able to meet 100% of demand with renewable supply at an hourly/sub-hourly level. This metric measures a supplier’s progress on that journey and indicates the extent to which the supplier is enabling all customers to maximise the proportion of renewable energy they are receiving.</p>	<p><b>High</b></p>
<b>C3</b>	<b>Hourly/sub-hourly carbon intensity (kgCO<sub>2</sub>e/kWh)</b>	<p>The sub-hourly carbon intensity of a generator’s/ supplier’s overall supply or specific product based on actual power supplied (i.e., excluding unbundled REGOs).</p>	<p>Necessary for higher resolution market-based carbon accounting. If provided in real time or forecast to the customer, these carbon signals can also be used to encourage and reward demand-side flexibility.</p>	<p><b>Medium</b></p>

**\*Time-matching clarifications:** Electricity from renewable generators that are owned by the supplier or contracted directly via a PPA, whose generation profile is known at an hourly resolution or better, can contribute to the time-matched %.

In the absence of Time-based Energy Attribute Certificates (T-EACs), time-matching can also be realised for any proportion of a tariff which is not supplied from self-owned or PPA-contracted generation (i.e., from the wholesale market) by using unbundled REGOs.

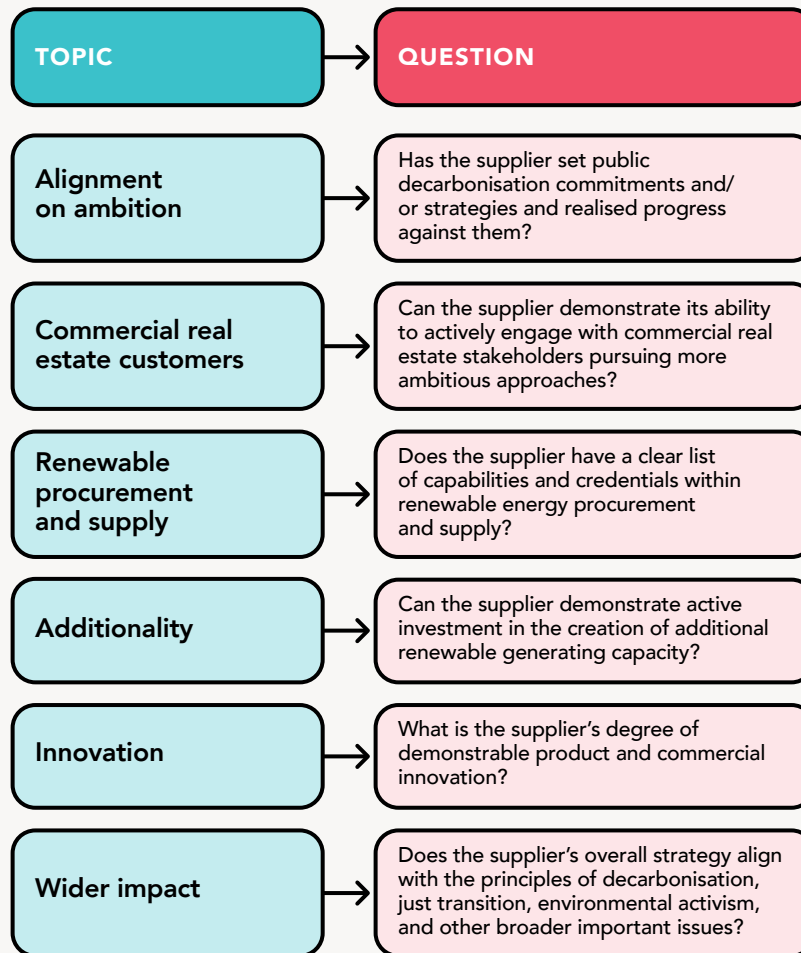
The hourly generation data for the specific generator(s) from which each REGO is produced should be sourced, and the 1MWh of electricity associated with each REGO ‘spread’ over the generation profile of the generator for the purposes of matching. This effectively breaks an annual REGO of 1MWh into 8760 separate timesteps, each with a given number of kilowatt hours of renewable energy available for matching, which reflects the output of the generator from which it came.

This process of spreading the zero-carbon electricity associated with a REGO over its generator’s output profile for the purposes of time-matching creates an artificial hourly certificate market. This will reflect the relative value of a generator in meeting the demand present and help procurement drive demand for the type of renewable generation that is most valuable to the overall system, rather than just which is cheapest to develop. See Report 4 for more information on this.

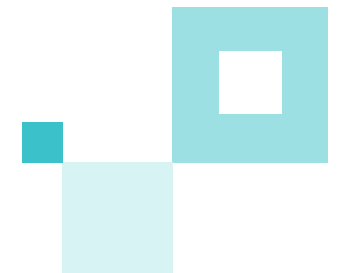
## QUALITATIVE QUESTIONS

The following questions are designed to probe an energy supplier's overall business strategy to understand how well it aligns with a customer's ambitions and ethos. It also gives suppliers an opportunity to demonstrate any ways in which they are contributing to electricity system decarbonisation that are not captured by the quantitative metrics, as well as any broader positive impacts that may be of interest to the customer.

The purpose of these questions is not to set specific criteria or thresholds, but to give customers relevant information that may help them better compare and select an energy supplier. The questions are also not exhaustive, and customers should tailor their engagement to their specific priorities. They should be considered in conjunction with the quantitative metrics.



**FIGURE 2:** Summary of the qualitative questions for engaging energy suppliers.



**TABLE 2:** Detailed information on the qualitative questions for engaging energy suppliers.

TOPIC	QUERY	EXPLANATION
<b>Alignment on ambition</b>	Has the supplier set public decarbonisation commitments and/or strategies (e.g., have they set a science-based target) and realised demonstrable progress against them?	Engaging with a supplier that has publicly declared decarbonisation commitments and is shown to be actioning change in response to these is strongly preferable.
<b>Experience supporting commercial real estate customers</b>	Can the supplier demonstrate its ability to engage actively with commercial real estate (CRE) stakeholders who are pursuing ambitious or innovative energy management and procurement approaches?	As demonstrated by this guidance, stakeholders in the commercial real estate space are exposed to a unique suite of constraints and opportunities. A supplier who can demonstrate its willingness, experience, and ability to engage with CRE stakeholders, particularly those seeking to be more ambitious, is an important indicator.
<b>Renewable procurement and supply</b>	Does the supplier have a clear list of capabilities and credentials within renewable energy procurement and supply, including engaging with the solutions needed to enable the energy system transition? Is the supplier utilising the 'supply exemption' to avoid paying charges which support renewable deployment?	A supplier who understands and has actively engaged in the renewable capacity market (either through historical investment in self-owned generation or supporting renewable generators through PPAs) is beneficial. In addition, a supplier who understands and is engaging in the technological and market evolution that is needed to decarbonise the energy system as a whole (e.g., deployment of storage and flexibility technologies and a transition to more granular procurement and supply) is a positive indicator. Finally, suppliers utilising the 'supply exemption' should be carefully considered, as this enables them to avoid paying a range of charges which support renewable deployment – such as Renewables Obligation, Feed-in-Tariff, Capacity Market, and Contracts for Difference – increasing the cost burden on other bill payers.
<b>Additionality</b>	Can the supplier demonstrate active investment in the creation of additional renewable generating capacity? If offering both standard and green products, can they demonstrate that the green premium on their renewable product is being reinvested in additional renewable capacity and supporting technologies?	Driving the development of additional renewable capacity is critical to the energy system transition. Suppliers that offer only green/renewable products are typically to be favoured, but if larger suppliers who offer both standard and green products can demonstrate they are using the premium from their green products to more rapidly deploy new capacity and supporting technologies, rather than simply increasing profits by 'reallocating' their existing renewable capacity to a premium product, this can also be an effective tool in the context of driving whole system decarbonisation.

Table continued on next page. 

TOPIC	QUERY	EXPLANATION
<b>Innovation</b>	What is the supplier's degree of demonstrable product and commercial innovation (i.e., projects beyond strict power supply, such as storage or investment in R&D, or emerging products such as sub-hourly matched tariffs including variable price/carbon signals)?	A supplier who is shown to be investing in wider innovation beyond renewable generating capacity – for example, grid-scale storage, demand side flexibility technologies, vehicle-to-grid, and general R&D in sustainable enterprises – is to be supported. Similarly, suppliers offering products that actively match supply and demand at a sub-hourly level and incentivise demand side flexibility through price or carbon signals is beneficial.
<b>Wider impact</b>	Does the supplier's overall business strategy and wider investments/initiatives align with the principles of decarbonisation, just transition, environmental activism, and any other issues which are important to the stakeholder engaging in procurement?	Many energy suppliers are involved in broader initiatives, both energy systems-related and beyond. Understanding these allows stakeholders to engage with suppliers whose wider ambitions and priorities best align with theirs. Examples could include investment in electric vehicle infrastructure, energy efficiency improvements in homes, and community energy (these are identified by the <a href="#">Uswitch Green Accreditation</a> ).

## REPORTING AND DISCLOSURE

To enable shared learnings, stakeholders utilising the above questions and metrics to successfully secure information from energy suppliers are encouraged to share this with UKGBC. This information can be anonymised, both in terms of the energy supplier and built environment stakeholder, if desired.

The scoring tool (see Section 3.2) includes a sheet to provide any supplier or product information. This information will help us to benchmark the supply sector today, understand the range of performance, and refine the questions and metrics in future.



## SECTION 3.2 RATING YOUR ELECTRICITY STRATEGY (BETA)

### OVERVIEW

This section provides a methodology for assessing the performance of a building or organisation's overall electricity strategy, including electricity procured from off site, as well as any onsite generation, demand management, and storage. It utilises the information secured using the tools provided in Section 3.1, as well as building-level data.

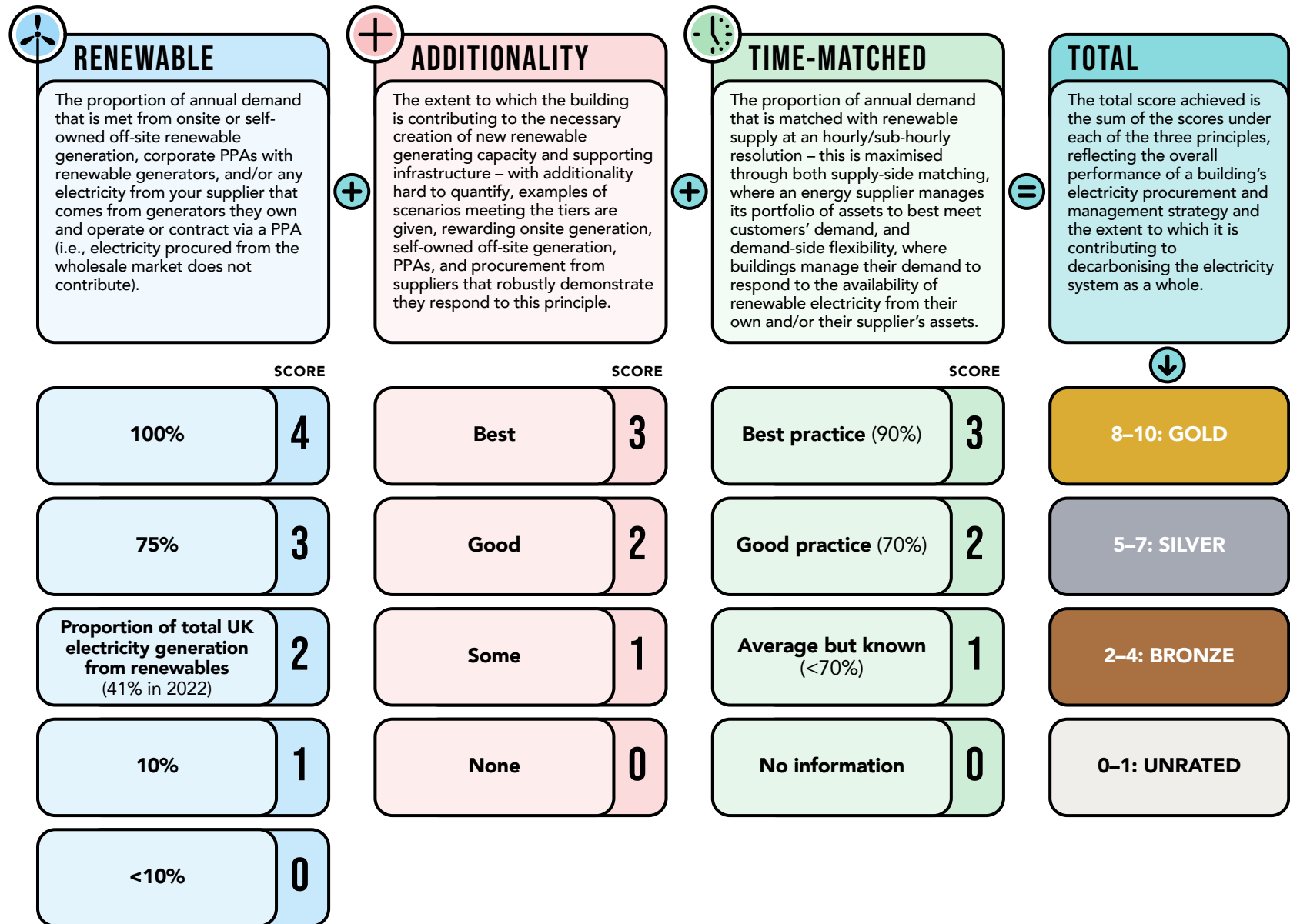
The strategy is scored under the three principles of 'renewable', 'additionality', and 'time-matched' to give an overall score from 0 to 10. This, in turn, corresponds to a Bronze, Silver, or Gold rating. This is summarised in Figure 4.

As well as enabling buildings and organisations to assess the quality of their current strategy in contributing to whole system decarbonisation, it can be used to assess the benefit of prospective procurement options or onsite solutions. It can also be used by tenants to help in leasing decisions and landlords to set requirements on tenants through a green lease or similar.

The scoring system only applies to electricity procurement and consumption. Energy from any other fuel, e.g. gas, is excluded. Other factors, including carbon accounting and net zero carbon commitments and claims, will drive the transition away from fossil fuels to electricity; the purpose of this tool is solely to assess the performance of a building or organisation's approach to procuring and managing electricity.




**PLEASE NOTE** that the rating system is currently considered to be at a 'beta' stage. We will be using feedback and data received from industry to refine the assessment methodology and scoring thresholds to ensure the approach best reflects an electricity strategy's contribution to decarbonising the electricity system.



**FIGURE 3:** Illustration of the methodology for rating a building's electricity procurement and management strategy.



## INFORMATION REQUIRED

A calculation tool is provided to support scoring using this methodology. The information required to complete this tool is summarised in the Table 3.

CATEGORY	INFORMATION	SOURCE
<b>RENEWABLE</b> 	Total electricity consumption (kWh/yr)	Building meter data, <b>or</b> Energy performance modelling
	Imported electricity (kWh/yr)	Building meter data, <b>or</b> Energy performance modelling
	Total onsite electricity generation (kWh/yr)	Building meter data, <b>or</b> Energy performance modelling
	Onsite electricity generation self-consumed (kWh/yr)	Building meter data, <b>or</b> Energy performance modelling
	% of electricity imported supplied by an energy supplier through a green tariff or supply contract	Energy contract information
	% of bundled renewables (self-owned or PPA-contracted) in supplied mix	Energy supplier
	% of fossil fuels (self-owned or PPA-contracted) in supplied mix	Energy supplier
	% of electricity imported supplied by PPA with renewable generator	Energy contract information

**TABLE 3:**  
Summary of the data required to score a building's electricity strategy.

Table continued on next page. 

CATEGORY	INFORMATION	SOURCE
<b>ADDITIONALITY</b> 	Supplier tariff or contract performance (determined through engagement with energy supplier using the tools provided)	Energy supplier
	Renewable generator information (for any PPA engaged), including generator type, age, and contract start date and length	Energy contract information
	PV array size and performance (kW, kWh/yr)	Building information, <b>and</b> Building meter data, <b>or</b> Energy performance modelling
	Overall additionality performance level (best, good, some, none)	Determined based on other information
<b>TIME-MATCHED</b> 	Onsite electricity generation self-consumed (kWh/yr)	Building meter data, <b>or</b> Energy performance modelling
	% of grid imported electricity time-matched* *If customer-specific time-matched % is not available, either because the supplier cannot offer this information or hourly electricity consumption data from the building is not available, the supplier's time-matched % for their overall supply volume can be used in lieu. However, efforts should be made to enable hourly electricity consumption data to be recorded and the supplier pushed to provide customer-specific time-matching information in future.	Building meter data (hourly resolution or better), <b>and</b> Energy supplier





## A NOTE ON 'PRIORITY RENEWABLES'

### A NOTE ON 'PRIORITY RENEWABLES'

Whilst Report 4 identifies a number of priority renewable energy sources, net zero energy system scenarios from key bodies including the [CCC](#) [1] and [National Grid ESO](#) [2] determine that a broad range of different renewable technologies are likely to be required to fully decarbonise the system.

As such, whilst the 'priority renewable' types identified in Report 4 are preferable when procuring energy, the rating system described in this section allows all renewable sources recognised by the UK Government to contribute to the score under each principle.

## SCORING METHODOLOGY

Table 4 and the supporting [tool](#) should be used to determine your score under each principle. Any relevant prerequisites or guidance are listed under each principle alongside the thresholds for each score.





CRITERIA	DESCRIPTION	SCORE
<b>A. RENEWABLE</b>		
Prerequisites/guidance	<p><b>REGO-backed:</b> 100% of grid consumption must be matched through REGOs from renewable generators. This can be done at supply-side or by post-purchasing REGOs, but the latter should only be done where the stakeholder has no access to procuring a REGO-backed green tariff/supply contract. All REGOs must be retired by the consumer or on the consumer's behalf (e.g., by their energy supplier).</p> <p><b>Green tariffs/supply contracts:</b> Any of the supplier's mix that is provided by self-owned or PPA-contracted renewables can contribute to the calculated % of renewables in the consumed mix. Suppliers should demonstrate that all renewable procurement is backed with the REGOs from the generation. No PPAs with fossil fuel generators should be included in the supplied mix.</p> <p><b>Power Purchase Agreements (PPAs):</b> PPAs can contribute to the calculated % of renewables in the consumed mix. Contracts should be bundled with the associated REGOs and generators of priority renewable types are preferable.</p> <p><b>Onsite generation:</b> Renewable electricity generated onsite can contribute to the calculated % of renewables in the consumed mix. Both self-consumed and exported power can contribute.</p> <p><b>Self-owned offsite generation:</b> Electricity from self-owned renewable generators offsite should be bundled with the associated REGOs and can contribute to the calculated % of renewables in the consumed mix.</p>	–
100%+	<p><b>100%+ of electricity demand is met by renewable sources</b></p> <p>Greater than 100% can be achieved due to exported electricity from onsite generation contributing to the overall %.</p>	4
Above 75%	<p><b>Above 75% of electricity demand is met by renewable sources</b></p> <p>This corresponds to the proportion of domestic generation from solar and wind in 2030 from the National Grid FES 2022 Consumer Transformation scenario.</p>	3
Equivalent to or above the proportion of total UK electricity generation from renewables	<p><b>% of energy demand met by renewable sources is at or above the proportion of the UK's total annual electricity generation which comes from renewables for the year of assessment (or the most recent year for which data is available)</b></p> <p>41.4% of domestic generation came from renewable sources in 2022 according to <a href="#">UK Government's Energy Trends March 2023 report</a> [3]. This broadly aligns with the threshold set for a 'Silver' rating under <a href="#">Uswitch's Green Accreditation</a>.</p>	2
Lower than the proportion of total UK electricity generation from renewables	<p><b>% of electricity demand from renewable sources is below the proportion of the UK's total annual electricity generation which comes from renewables but greater than 10%</b></p>	1
Below 10%	<p><b>&lt;10% of electricity demand is from renewable sources</b></p>	0

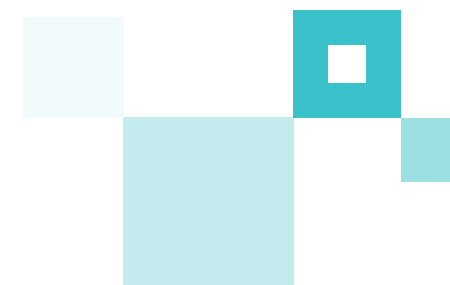
**TABLE 4:**  
Methodology for scoring a building or organisation's electricity strategy.



CRITERIA	DESCRIPTION	SCORE
<b>B. ADDITIONALITY</b>		
Prerequisites/guidance	<p><b>General:</b> Additionality is typically hard to determine robustly, and whilst this section seeks to assess a given procurement strategy’s alignment with the principle of additionality, it is likely that there will be scenarios which are not well addressed. In such cases, a level of pragmatism when scoring the strategy should be applied, engaging a suitably-qualified consultant to advise, if necessary.</p> <p><b>Power Purchase Agreements (PPAs):</b> For PPAs directly between consumers and generators, only those with recently constructed generators (&lt;3 years old when the contract was signed) can contribute to this section. The generator(s) should demonstrate they are investing in the construction of new renewable assets (i.e., contributing to additional capacity). The PPA should be assessed based on its characteristics at the point the current contract was engaged – e.g., if a PPA is signed with a new unsubsidised generator for 15 years, its performance under ‘additionality’ would be considered constant for the duration of the initial contract. A ‘new’ or ‘newly repowered’ generator is one whose construction/repowering is delivered as a direct result of the PPA. The ‘maximum viable proportion’ of annual demand that can be met via a PPA should be determined by an experienced and independent third-party consultant, with a minimum threshold of 25%.</p> <p><b>Onsite generation:</b> Buildings that deliver a provision of onsite generation at or above the target levels defined in the UK Net Zero Carbon Buildings Standard for their asset class can claim a minimum score of 2 of under this section. It is anticipated that the Standard will be published in early 2024.</p> <p><b>Self-owned offsite generation:</b> Self-owned renewable generators that are located offsite should be treated the same as PPAs. The only variation being that the performance of any self-owned offsite generation should be assessed based on the point at which it was purchased, for the lifetime of the generator, irrelevant of any subsequent contracts into which the owner enters to supply the power from that generator. The ‘maximum viable percentage’ should similarly be determined by an appropriate consultant. This should be separate from any assessment of the maximum viable percentage for any conventional PPAs.</p>	–
Best additionality	<p><b>The procurement strategy can demonstrate it is strongly contributing to additional renewable capacity</b></p> <p>Examples could include:</p> <ul style="list-style-type: none"> <li>■ A ‘deep green’ tariff, as defined in Report 1</li> <li>■ PPA with a new or newly repowered unsubsidised renewable generator meeting the maximum viable proportion of annual demand with a standard green tariff meeting the remaining demand</li> <li>■ PPA with new or newly repowered unsubsidised renewable generator meeting less than the maximum viable proportion of annual demand with a ‘deep green’ tariff meeting the remaining demand</li> <li>■ PPA with an existing generator built within the last 3 years meeting the maximum viable proportion of annual demand with a ‘deep green’ tariff meeting the remaining demand</li> <li>■ Onsite generation meeting 100%+ of the annual electricity demand of the building (i.e., net electricity demand of the building is &lt;0kWh/yr) with any imported electricity delivered via a standard green tariff as a minimum</li> </ul>	3



CRITERIA	DESCRIPTION	SCORE
<b>B. ADDITIONALITY</b>		
<b>Good additionality</b>	<p><b>The procurement strategy can demonstrate it is supporting or contributing to good levels of additional renewable capacity</b></p> <p>Examples could include:</p> <ul style="list-style-type: none"> <li>■ PPA with an existing generator built within the last 3 years meeting less than the maximum viable proportion of annual demand with a 'deep green' tariff meeting the remaining demand</li> <li>■ PPA with new or newly repowered unsubsidised renewable generator meeting less than the maximum viable proportion of annual demand with a standard green tariff meeting the remaining demand</li> <li>■ Actively time-matched tariff achieving best practice performance (&gt;90%)</li> <li>■ Onsite generation at or above the target level specified in the UK Net Zero Carbon Buildings Standard (expected early 2024), with any imported electricity delivered via a standard green tariff as a minimum</li> </ul>	<b>2</b>
<b>Some additionality</b>	<p><b>The procurement strategy can demonstrate it is supporting or contributing to some additional renewable capacity</b></p> <p>Examples could include:</p> <ul style="list-style-type: none"> <li>■ PPA with an existing generator built within the last 3 years meeting less than the maximum viable proportion of annual demand with a standard green tariff meeting the remaining demand</li> <li>■ Actively time-matched tariff achieving good practice performance (&gt;70%)</li> <li>■ Onsite generation meeting at least 5% of annual demand, with any imported electricity delivered via a standard green tariff as a minimum</li> </ul>	<b>1</b>
<b>No additionality</b>	<p><b>The procurement strategy cannot robustly demonstrate it is contributing to additional renewable capacity</b></p> <p>Examples could include:</p> <ul style="list-style-type: none"> <li>■ Standard green tariff</li> </ul>	<b>0</b>





CRITERIA	DESCRIPTION	SCORE
<b>A. TIME-MATCHING</b>		
Prerequisites/guidance	<p><b>Onsite generation:</b> Onsite generation that is self-consumed can be considered time-matched and contribute to the score for this section. Exported electricity is not considered.</p> <p><b>Supplier matching vs. customer-specific matching:</b> In the absence of customer-specific matching, a supplier's overall matching information can be used in lieu.</p> <p><b>Wholesale market:</b> Self-owned or PPA-contracted generation can contribute to the time-matched %. Time-matching can also be achieved for any proportion of a tariff that is not supplied from self-owned or PPA-contracted generation (i.e., from the wholesale market) by 'spreading' the 1MWh of zero-carbon power from an unbundled REGO over the generation profile of its source generator. See 'Time-matching clarifications' in Section 3.1). If and when Time-based Energy Attribute Certificates (T-EACs) are available, these can also be used.</p> <p><b>Historic vs prospective procurement/operation:</b> If this rating system is being used to assess a building or organisation's operational strategy based on historic operation, the time-matched % should be based on actual electricity consumption over the past 12 months. If assessing prospective procurement options, the demand profile for the previous 12 months or a forecast demand based on a predictive energy model (design stage or in use) should be provided to the energy supplier to estimate the % of time-matched supply that they will be able to deliver to you as a customer.</p>	–
Best practice (>90%)	<p><b>Best practice levels of time-matching achieved – greater than 90% of demand matched with renewable supply at an hourly resolution or better</b></p> <p>If self-consumption of onsite generation achieves the 90% threshold, supply-side time-matching information is not required to score 3 under this principle. This is to acknowledge high levels of onsite generation and its utilisation.</p>	3
Good practice (~70-90%)	<p><b>Good practice levels of time-matching achieved – greater than 70% of demand matched with renewable supply at an hourly resolution or better</b></p> <p>If self-consumption of onsite generation achieves the 70% threshold, supply-side information is not required to score 2 under this principle. This is to reward high levels of onsite generation and its utilisation.</p>	2
Average <70%	<p><b>Time-matched % is known, but less than 70% of demand is matched with renewable supply at an hourly resolution or better</b></p> <p>To score 1, this must include the proportion of demand matched at the supply side (i.e., a score calculated using onsite generation alone cannot achieve this level). This is to encourage supply-side engagement and transparency.</p>	1
No information	<p><b>No information available (time-matched % cannot be calculated)</b></p>	0

## DETERMINING YOUR RATING

Based on the overall score, a Bronze, Silver, Gold, or 'Unrated' rating is achieved – see Figure 4. This can be used to understand the relative performance of a building or organisation's energy procurement and any onsite measures implemented to support broader flexibility.

If and how this rating corresponds to when net zero carbon emissions for electricity consumed can be claimed will be defined by the UK Net Zero Carbon Buildings Standard when published. However, the primary value of this approach is not to define when net zero carbon claims can be made, but to support stakeholders in the built environment in establishing their strategy's contribution to decarbonising the electricity system and inform actions they can take to improve the quality of their procurement and building management.

Achieving a high score is likely to be challenging in the short- to medium-term, as substantial technological and market evolution is needed. The purpose of such a scale-based rating system and the supporting tools for engaging energy suppliers is to create a standardised methodology, which facilitates consistent assessment of the procurement options available and drives the decarbonisation of the electricity system.

It will empower stakeholders in the built environment to make more informed decisions about how they source their energy and how they operate real assets to best support the electricity system to decarbonise. In turn, this will create coordinated demand signals for greater transparency and better products, as well as enabling shared learnings allowing both the built environment and energy supply sectors to progress towards the shared goal of a resilient, zero carbon, and low-cost electricity system.

The pace at which achieving 'Gold' is widely achievable can be accelerated with clear and effective demand signals, which can be created through widespread engagement from and implementation by UKGBC members and other built environment stakeholders.

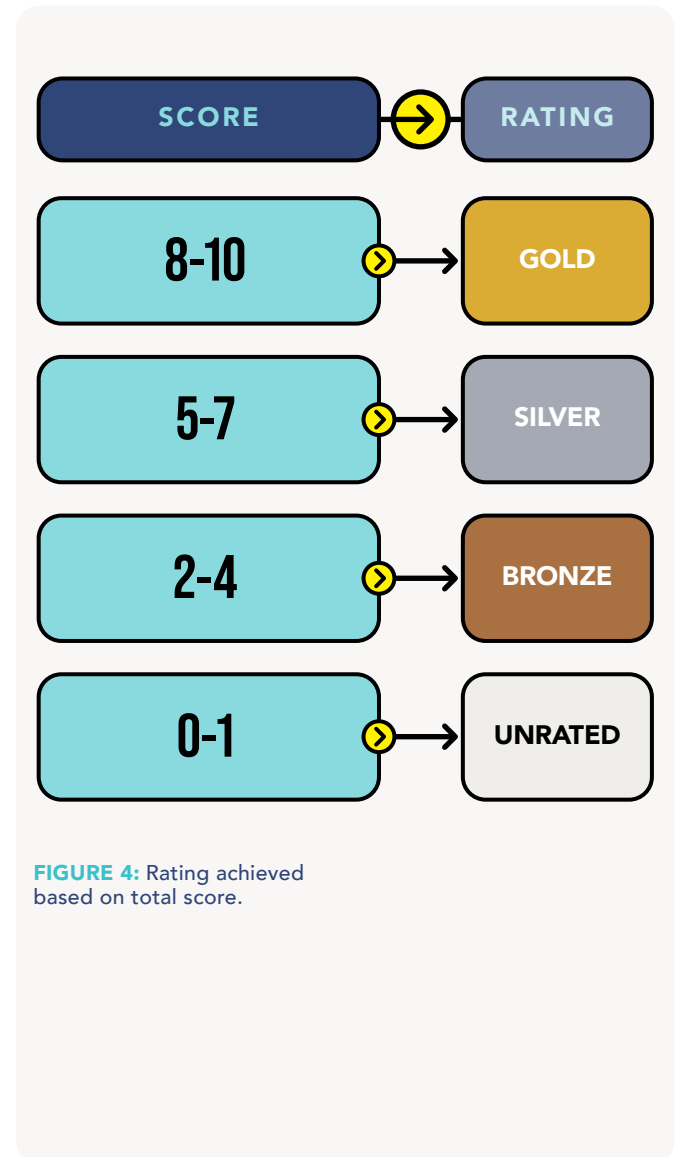


FIGURE 4: Rating achieved based on total score.

## REPORTING AND DISCLOSURE

The first priority of this standardised approach is to benchmark the current state of play. Then, using this information, the approach can be refined, to enable it to most effectively drive positive change.

To realise this, UKGBC requests that any stakeholder using this rating system to assess their current electricity strategy shares the assessment information with us. The calculation tool has been created to also act as a proforma to support this, and the information can be anonymised if desired.

We intend to review this information to refine the scoring methodology (which is currently considered to be in a 'beta' stage). Depending on the volume of information received, we will also consider publishing a review paper of aggregated data, including any key learnings, for information.

No public disclosure is required, but we would encourage open sharing of information between peers in the industry to support better decision making.

Please send any completed proformas (i.e., completed calculation tool) to [ANZ@ukgbc.org](mailto:ANZ@ukgbc.org).



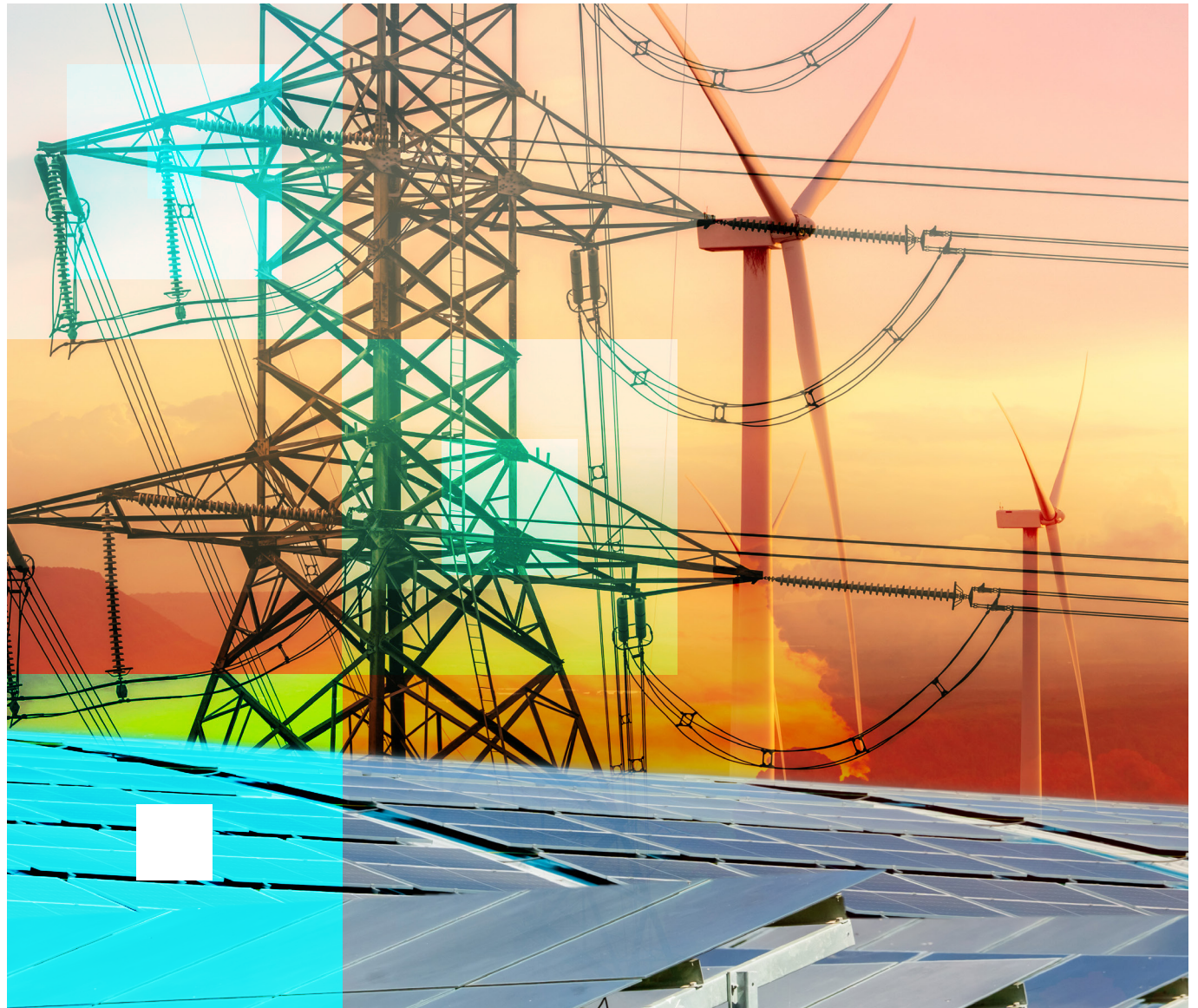
## SECTION 3.3 SUMMARY

**Green electricity products are not all created equal – some are genuinely low carbon and meaningfully contribute to decarbonising the electricity system as a whole, whilst others are nothing but greenwash.**

This report gives the tools to proactively engage with energy suppliers to better compare the options available in the market and provides a methodology for assessing the performance of a building or organisation's overall electricity strategy that cuts through that greenwash.

Whilst currently in 'beta', we intend to capture and listen to feedback from industry, refine this methodology, and ensure that the system most robustly drives the change needed in the energy sector.

This is a novel approach – in some ways radical – but in the absence of more rigorous standards for green energy products, it fulfils an essential role in enabling those procuring electricity for buildings to understand the reality of what they are buying and make decisions with greater confidence.





## SECTION 3.4 GLOSSARY

TERM	DESCRIPTION
<b>24/7 CARBON-FREE ENERGY (24/7 CFE)</b>	Describes energy consumption where 100% of demand is matched with carbon-free supply at an hourly resolution or better.
<b>ADDITIONALITY</b>	Additionality describes the situation where an action results in an activity or intervention that otherwise would not have occurred had the action not taken place (i.e., additional relative to business-as-usual). In the context of procuring renewable electricity, additionality is achieved where greenhouse gas emissions reductions/removals occur as a result of new or repowered generating capacity that would not have happened in the absence of engaging in a given procurement route.
<b>ANNUAL-MATCHING</b>	The process by which electricity supply or consumption is matched with renewable power on an annual basis. This can be done by procuring Energy Attribute Certificates (EACs) only or by procuring the renewable power directly from a generator.
<b>BEHIND THE METER</b>	Describes anything that happens on the energy user's side of the meter (i.e., directly within the control of the asset).
<b>BIOENERGY CARBON CAPTURE AND STORAGE (BECCS)</b>	Electricity generation that is produced using biofuels where the resultant CO <sub>2</sub> is captured and stored long term, resulting in net negative carbon emissions.
<b>BIOFUELS/BIOMASS</b>	A fuel that is derived from biological/organic matter.
<b>BLUE HYDROGEN</b>	Hydrogen that is created by reforming natural gas and capturing the resultant CO <sub>2</sub> .
<b>BUNDLED POWER/ BUNDLED REGOS</b>	Renewable electricity where the power is sold/procured together with its associated Energy Attribute Certificates (EACs).
<b>CARBON CAPTURE, UTILISATION, AND STORAGE (CCUS)</b>	A technology via which CO <sub>2</sub> resulting from a process is captured and used for other process or stored long term.

TERM	DESCRIPTION
<b>CARBON FACTOR</b>	A measure of the emissions intensity of a process or fuel.
<b>CARBON-FREE ENERGY/ ELECTRICITY</b>	A term used to describe zero emissions sources of energy/ electricity generation. This includes renewables and nuclear power.
<b>CARBON-FREE ENERGY/ ELECTRICITY (CFE) SCORE</b>	A score between 1 and 100 reflecting the percentage of an energy consumer's demand that is matched with carbon-free supply at an hourly resolution or better, over the course of a year.
<b>CLEAN ENERGY SOURCES</b>	Energy sources that are zero carbon but not renewable.
<b>CARBON DIOXIDE EQUIVALENT (CO<sub>2</sub>E)</b>	CO <sub>2</sub> e or Carbon Dioxide Equivalent is a unit used to equate the emissions of other greenhouse gases (GHGs) to emissions of carbon dioxide (see Global Warming Potential). It also allows the impact of activities that result in the emissions of a variety of different GHGs to be described by a single number.
<b>CARBON EMISSIONS</b>	In the context of sustainability, Carbon Emissions is used as a collective term to describe the emissions of any GHGs.
<b>CARBON SEQUESTRATION</b>	Carbon Sequestration is the process by which carbon dioxide is removed from the atmosphere and stored within a material.
<b>CLIMATE CHANGE</b>	Climate Change refers to long-term shifts in temperatures and weather patterns. These shifts may be natural, such as through variations in the solar cycle. But since the 1800s, human activities have been the main driver of climate change, primarily due to burning fossil fuels like coal, oil and gas.
<b>CONTRACTS FOR DIFFERENCE (CFD)</b>	A long-term contractual agreement between a low carbon electricity generator and the UK Government which guarantees a "Strike Price" for all electricity generated, where the difference between the market price and strike price is either paid to the generator by the government or paid back to the government by the generator.
<b>CURTAILED/ CURTAILMENT</b>	Describes a situation where the output from variable renewable generators (such as wind turbines) is reduced in times where supply exceeds demand or the transmission infrastructure has insufficient capacity to accommodate the energy flows.

TERM	DESCRIPTION
<b>DECARBONISATION</b>	Decarbonisation is the process of reducing the net amount of Greenhouse Gas (GHG) emissions released to the atmosphere.
<b>DISTRIBUTION NETWORKS</b>	The electricity networks that manage the flow of electricity from the national transmission network to end customers.
<b>DISTRIBUTION NETWORK OPERATOR (DNO)</b>	A licenced company that manages the operation of a distribution network.
<b>DISTRIBUTION SYSTEM OPERATOR (DSO)</b>	An evolution of a Distribution Network Operator (DNO) which is necessitated by the more complex flows and management of electricity within the distribution networks.
<b>EMBODIED CARBON</b>	Embodied Carbon or Life Cycle Embodied Carbon emissions of a product are the total GHG emissions and removals associated with its manufacture, transport, installation, maintenance, and end of life treatment.
<b>ENERGY ATTRIBUTE CERTIFICATE (EAC)</b>	A certificate that provides information about the environmental attributes of one megawatt hour (MWh) of electricity. REGOs are the EACs used in the UK.
<b>FLEXIBILITY PROVIDER/ FLEXIBILITY SERVICES PROVIDER (FSP)</b>	An owner of assets, or an aggregator managing multiple assets, that can provide flexibility services by making temporary changes to the way they consume, generate, or store electricity when requested, to ensure continuity of supply.
<b>GENERATOR</b>	The operator of an asset that can generate electricity.
<b>GREENHOUSE GAS (GHG)</b>	Greenhouse Gases (GHG) are constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere, and clouds.
<b>GHG PROTOCOL</b>	GHG Protocol establishes comprehensive global standardized frameworks to measure and manage greenhouse gas (GHG) emissions from private and public sector operations, value chains and mitigation actions.

TERM	DESCRIPTION
<b>GLOBAL WARMING POTENTIAL (GWP)</b>	Some GHGs have a substantially higher GWP than carbon dioxide, meaning the same quantity of emissions has a greater impact to global heating. For example, methane's GWP is 25, meaning 1 tonne of methane trap 25x more heat than 1 tonne of carbon dioxide.
<b>GREEN GAS</b>	A gaseous fuel created by processing organic matter by bacteria.
<b>GREEN HYDROGEN</b>	Hydrogen that is created by electrolysing water using renewable electricity.
<b>GREEN TARIFF</b>	A term used to describe a range of energy products offered by suppliers that, as a minimum, have been fully matched with Energy Attribute Certificates (EACs).
<b>GUARANTEES OF ORIGIN (GOS)</b>	The Energy Attribute Certificate (EAC) scheme used in central Europe, closely related to the UK REGO scheme.
<b>HYDROGEN</b>	A gaseous fuel that combusts to produce water.
<b>IN FRONT OF THE METER</b>	Describes anything that happens on the energy system side of the consumer's meter (i.e., not in directly control of an asset).
<b>INTERMITTENT RENEWABLE GENERATION</b>	Renewable electricity generators that depend on variable renewable energy sources, such as wind and solar.
<b>IPCC</b>	The Intergovernmental Panel on Climate Change (IPCC) is the United Nations body for assessing the science related to climate change.
<b>LIQUID AIR ENERGY STORAGE</b>	A form of energy storage where air is compressed into a liquid form and stored in insulated containers. When needed, the liquid air is evaporated and this energy is used to generate electricity, typically through a turbine.
<b>LITHIUM-ION BATTERY</b>	A form of electrical energy storage which uses the reversible reduction of lithium ions in the material to store electricity.
<b>LOCATIONAL MARGINAL PRICING</b>	A way for wholesale electricity prices to reflect the value of the energy at different locations, accounting for the patterns of load, generation, and the physical limits of the transmission system.

TERM	DESCRIPTION
<b>LOCATION-BASED CARBON ACCOUNTING</b>	A methodology for calculating carbon emissions based on the carbon intensity of the local grid area where the electricity usage takes place.
<b>MARGINAL EMISSIONS FACTOR</b>	A measure of the emissions caused by a small change in demand on the system, reflecting the fact such changes in demand do not increase or decrease the demand for all generation types equally.
<b>MARGINAL PRICING</b>	In the context of electricity procurement, marginal pricing is an approach to pricing electricity that sets the price of all electricity based on the cost of meeting the marginal demand (i.e., the final bit of demand on the system).
<b>MARKET-BASED ACCOUNTING</b>	A methodology for calculating carbon emissions based on the specific procurement decisions made by an electricity customer (e.g., claiming the benefit of Energy Attribute Certificates).
<b>NATIONAL GRID ELECTRICITY SYSTEM OPERATOR (ESO)</b>	The licenced company responsible for the management of the GB electricity system's transmission network.
<b>NET ZERO</b>	Net Zero is where all related Greenhouse Gas (GHG) emissions have been reduced in line with a science-based target which aligns with what has been determined to be necessary to stand a reasonable chance of limiting the global temperature increase to 1.5°C above pre-industrial levels as a minimum. These residual emissions are subsequently responsibly offset to achieve a sum total of zero emissions.
<b>OPERATIONAL CARBON</b>	Operational Carbon are the GHG emissions arising from all energy consumed by a product in-use, over the product's whole life cycle.
<b>PEAK DEMAND</b>	The time of greatest overall energy demand. This can be measured at an asset-level or a system-level.
<b>POWER PURCHASE AGREEMENT (PPA)</b>	A contractual arrangement for power between a generator and a supplier or consumer.
<b>RENEWABLE CERTIFICATES</b>	A general term for Energy Attribute Certificates (EACs).

TERM	DESCRIPTION
<b>RENEWABLE ELECTRICITY GUARANTEE OF ORIGIN CERTIFICATES (REGOS)</b>	The Energy Attribute Certificate (EAC) scheme used in the UK.
<b>RENEWABLE ENERGY CERTIFICATES (RECS)</b>	The Energy Attribute Certificate (EAC) scheme used in the USA and Canada.
<b>RENEWABLE ENERGY</b>	Energy derived from natural sources that are replenished at a higher rate than they are consumed.
<b>RENEWABLE GENERATION</b>	A general term for any electricity generated using renewable sources of energy.
<b>RESIDUAL EMISSIONS FACTOR</b>	A measure of the emissions intensity of electricity from a given system after all electricity 'claimed' via Energy Attribute Certificates (EACs) has been removed from the mix (i.e., the emissions intensity of the residual grid mix).
<b>RESIDUAL GRID MIX</b>	The mix of generation supplying the system after all electricity 'claimed' via Energy Attribute Certificates (EACs) has been removed from the mix.
<b>RETAIL MARKET</b>	The market through which energy customers procure energy from a supplier.
<b>SCOPE 1</b>	Direct emissions from sources that are controlled or owned by an organisation. This includes any onsite combustion (e.g., from gas boilers for heating, and from company vehicles).
<b>SCOPE 2</b>	Indirect emissions that result from the purchase of electricity, heat, or steam that is generated offsite.
<b>SCOPE 3</b>	Indirect emissions from sources that aren't owned or controlled by an organisation, but that they indirectly affect in their value chain.
<b>SELF-OWNED GENERATION</b>	Electricity generating capacity that is owned and operated directly by the referenced party. This could be energy suppliers or building owners.
<b>SUB-HOURLY</b>	At a resolution of less than one hour.
<b>SUBSIDISED GENERATION</b>	Electricity generation that is financially supported by government or other schemes, such as the Contracts for Difference (CfDs).

TERM	DESCRIPTION
<b>SUPPLIERS</b>	Companies that procure energy and supply energy to customers on the retail market.
<b>TARIFFS</b>	The price at which energy is sold by a supplier to a customer.
<b>TIME-BASED ENERGY ATTRIBUTE CERTIFICATES (T-EACS)</b>	Energy Attribute Certificates (EACs) that include the time of generation at an hourly resolution or better.
<b>TIME-MATCHED</b>	Electricity demand that is matched with renewable supply at an hourly resolution or better.
<b>TOTAL GENERATION MIX</b>	The mix of all generation types supplying the system over a given time period.
<b>TRANSMISSION NETWORK</b>	The high voltage system for the transmission of power from large-scale generators to the distribution networks.
<b>UNBUNDLED POWER</b>	Renewable electricity that is sold without the associated Energy Attribute Certificates (EACs).
<b>UNBUNDLED REGOS</b>	Energy Attribute Certificates (EACs) that are sold separately to their associated power.
<b>UNSUBSIDISED GENERATION</b>	Generation that is not financially supported by government or other schemes, such as the Contracts for Difference (CfDs).
<b>WASTE INCINERATION</b>	A process where household waste is incinerated to boil water which is subsequently passed through a turbine to generate electricity.
<b>WHOLE LIFE CARBON</b>	Whole Life Carbon emissions are the sum total of all the associated GHG emissions and removals, for the embodied, operational and disposal of a product through its whole life cycle.
<b>WHOLESALE MARKET</b>	The general term for the market on which electricity is traded by generators and suppliers.
<b>ZERO CARBON</b>	Zero Carbon is where there are no related Greenhouse Gas (GHG) emissions.



## SECTION 3.5 REFERENCES

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