Understanding Renewable Energy Procurement Options for Organizations

The current electricity market offers a range of viable renewable energy procurement options.
Organizations can consider factors such as price, potential for cost savings, generation resource type, ease of access, and the location of the generating facility in their purchasing decisions. With these choices, organizations can usually find a green power product that will meet their desired goals

	Owned Onsite System	**Onsite PPA**	**vPPA (Virtual Power Purchase Agreement)**	**Green Tariffs**	**Energy Attribute Certificates (EACs)**
How popular					
What it is:	The organization develops or purchases its own renewable energy system (e.g. solar panels), operates it onsite, and takes on full responsibility for operation and maintenance.	Long-term contract with a project developer who installs and operates an onsite renewable energy system. The buyer pays for electricity generated, usually at a fixed price.	A financial contract with an offsite renewable energy project. The buyer receives renewable energy certificates (RECs/EACs), while electricity is sold into the grid at market price.	Utility program where customers opt to pay a premium to source electricity from renewable projects, with bundled EACs.	Tradable certificates that represent 1 MWh of renewable electricity. Can be purchased independently (unbundled) or alongside electricity (bundled).
Pros:	• Lowest long-term electricity cost once system is paid off • Avoids third-party financing or credit risk • Demonstrates strong, visible commitment to sustainability • Potential for tax incentives and property value uplift	• No upfront CapEx needed • Long-term electricity price stability • Clear reputational benefit from visible clean energy use • Reduces Scope 2 emissions	• Large-scale renewable energy procurement • Reduces exposure to energy market volatility • Requires no onsite infrastructure • Helps meet SBTi/RE100 targets at scale	• Simple to enroll and administer • No infrastructure or CapEx required • Supports utility-scale renewables indirectly	• Highly flexible and scalable globally • Easy to procure with no infrastructure or operational burden • Immediate way to meet sustainability goals • Cost-effective entry point into renewables

Cons:	• Requires high upfront capital investment • Ongoing operations and maintenance responsibilities • May not align with full energy demand • May trigger property tax or zoning issues	• Site restrictions and local regulations may limit feasibility • Complex contracting and operational oversight • Energy production may not fully match site demand	• Requires participation in deregulated wholesale energy markets • Financial risk if market prices diverge from fixed PPA price • Long contract terms (10–20 years) • May be complex to structure and manage	• May include price premium over grid power • Less transparency on sourcing and contract terms • Availability limited to certain utility service areas • No direct contractual link to specific projects	• Prices vary widely across regions and technologies • Some stakeholders may perceive it as less impactful • May not be available in all markets

How Energy Attribute Certificates (EACs) Work

Electricity on the grid is a mix of various sources—renewables, nuclear, and fossil fuels—making it difficult to trace its origin. Energy Attribute Certificates (EACs) solve this by allowing organizations to verify the renewable origin of their electricity and demonstrate clean energy usage.

When a renewable power plant generates electricity (typically 1 MWh) and feeds it into the grid, it receives an EAC. This certificate includes key details such as the production date, location, and generation technology. Organizations can then purchase these certificates to claim ownership of the associated environmental benefits, enabling them to reduce their carbon footprint and align with sustainability goals.

Why Companies Should Buy EACs

EACs enable businesses to credibly claim the use of renewable electricity, supporting emission reduction targets without changing their existing power supplier. They offer a practical way to meet internal climate goals while signaling environmental responsibility to stakeholders.

EACs also play a vital role in regulatory and voluntary frameworks:

- Comply with the Greenhouse Gas Protocol (Scope 2 accounting)
- Align with the **Science Based Targets initiative (SBTi)** and **RE100** commitments
- Enhance ESG scores and sustainability ratings

Renewable Energy Procurement under Reporting Guidelines

Setting science-based targets offers multiple strategic advantages—it helps reduce costs, enhances regulatory resilience, boosts investor confidence, fuels innovation and competitiveness, and demonstrates a strong sustainability commitment to increasingly environmentally conscious stakeholders.

SBTi Renewable Energy Minimum Requirements

The Science Based Targets initiative (SBTi) outlines that organizations must procure at least **80% renewable electricity by 2025** and **100% by 2030**. These thresholds are based on the proportion of renewable electricity used relative to total electricity consumption and align with RE100 recommendations.

RE100 Updated Sourcing Criteria

RE100 is a global corporate initiative led by **Climate Group** in partnership with **CDP**, uniting the world's most influential businesses committed to 100% renewable electricity. By joining RE100, companies pledge to source 100% of their electricity from renewable sources—often by a specified target year.

As of 2024, several updates impact how companies source renewable electricity under RE100:

- **End of Grandfathering**: Companies can no longer rely on outdated RE100 sourcing criteria.
- **Market Boundary Updates**: New definitions affect the scope of the single European market.
- **Stricter Standards**: New sourcing rules apply to technology types and commercial operation dates (COD), enhancing environmental integrity.

Types of Energy Attribute Certificates

Depending on region and regulatory frameworks, EACs come in various forms:

- **Europe – Guarantees of Origin (GOs):**
  Used under the EU Renewable Energy Directive (RED II), GOs are the main EAC instrument across European markets. In 2024, Europe saw record-breaking PPA volumes as the market shifted toward buyer-favorable dynamics, making it the most attractive region for renewable energy sourcing.
- **North America – Renewable Energy Certificates (RECs):**
  Widely used for both compliance and voluntary claims in the U.S. and Canada. Despite current political uncertainty, RECs remain a central mechanism for renewable energy investment, especially under federal programs like the Inflation Reduction Act.
- **Global – International RECs (I-RECs):**
  Designed for use in markets across Asia, Africa, the Middle East, and Latin America. I-RECs follow international best practices and offer a standardized way to verify renewable electricity usage in countries lacking national EAC frameworks.
- **National Systems:**
  Countries such as the UK, China, Poland, Australia, Japan, and New Zealand operate their own national EAC schemes, with some offering cross-border recognition for claims.

Common Misconceptions About RECs and EACs

1. Myth: RECs are just greenwashing
Reality: When certified and properly sourced, RECs represent legitimate renewable energy use and investment. Certification frameworks ensure their credibility and environmental impact.

2. Myth: RECs cannot be verified
Reality: Robust tracking systems, third-party certifications (e.g., Green-e), and government oversight ensure transparency and authenticity in REC issuance, ownership, and retirement.

3. Myth: RECs offer no additionality
Reality: While RECs don't provide physical electricity, their financial value supports the development and expansion of renewable generation. This signals market demand and can drive further investment and policy changes.

5. Myth: All RECs are the same
Reality: RECs vary by technology, vintage, certification, and geography. Tailoring procurement based on these attributes ensures alignment with sustainability objectives.

6. Myth: RECs are expensive and only for large companies
Reality: RECs are available at different price points, including affordable options for SMEs. Market timing and advisory solutions. GreenPowerHub helps companies of different sizes with cost effective procurement solutions.

7. Myth: RECs and carbon credits are the same
Reality: RECs certify renewable electricity generation; carbon credits offset emissions through separate projects. Both play complementary roles in achieving net-zero goals—RECs for clean energy use, carbon credits for residual emissions.

Market Trends and EAC Pricing

- To be developed link to Green Calculator?

Procurement Strategies – Best Practices for Sourcing EACs

SPOT	FORWARD	PPA OR A FULL-OFFTAKE FROM NAMED ASSET
Short-term – 1 year	Mid-term – 3–5 years	Long-term – 10–15 years
Spot procurement involves the purchase of EACs from an unspecified renewable energy supply, outside of any long-term contractual agreement.	Forward procurement entails securing EACs through medium-term contracts, ensuring future delivery at predetermined conditions.	Long-term agreements that bundle EACs with electricity from a specific renewable project, offering fixed pricing over an extended period.