



Renewable Energy Certificates (RECs)

Most RPS programs allow electric companies to create and trade RECs to achieve RPS compliance. Typically, RECs record the generation of one MWh by a “renewable” resource such as wind and solar, as defined by the specific RPS program. The use of RECs as a compliance instrument is complicated by RPS compliance rules that vary by state. Multiple tracking systems have arisen to accommodate different definitions of RPS-qualified RE in each state law. Currently, there are 10 REC tracking systems in North America.⁵

RECs often are described as being “bundled” when they are transferred in conjunction with the underlying renewable energy generated to create the REC, and “unbundled” when the RECs are separated and sold or transferred separately from the underlying renewable energy.

Voluntary REC transactions are not bound by the geographic restrictions imposed in state RPS laws, and corporate consumers can source RECs from anywhere.

Originally RECs were intended to be used as a tradable instrument solely for tracking compliance with electric company RPS procurement targets, but over time their use has expanded to include being a proxy for reducing a company’s reported Scope 2 GHG emissions.

In addition to regulated power companies, corporate sustainability and decarbonization efforts among large corporate power buyers has resulted in these market players purchasing and retiring RECs to demonstrate achievement of their sustainability goals. Appropriate emissions accounting for RE purchases and RECs is complex and depends on the context and purpose for the accounting.

Renewable Energy Procurement and GHG Accounting

Some companies seek to use RE procurement to reduce their reported Scope 2 emissions. Recently, a number of leading large technology companies (e.g., Apple, Google, Microsoft), have been actively generating RE onsite, using Power Purchase Agreements (PPAs) to procure RE and buying and retiring RECs.

C&I customers who purchase RE or RECs to reduce their carbon footprint often seek to purchase enough MWhs of RE (or RECs) to equal their total annual electric power demand (i.e., total MWhs consumed in a year). Many companies have used these RE purchases as the justification for claiming the CO₂ emissions associated with their electricity consumption is zero because all the electricity they “consume” is generated by carbon-free RE or backed by RECs.

However, there are serious limitations to using RECs and RE procurement to do this, and this has led to confusion about the efficacy of using RECs to demonstrate achievement of corporate decarbonization milestones and goals. Critics of using RE and RECs to reduce Scope 2 emissions have long pointed out there is a critical difference between the content of the power *purchased* via contract by an end-use customer and the content of the electric power *delivered* to and consumed by the same customer.

Location & Market Methods to Estimate Scope 2

Under existing corporate GHG accounting standards, companies are allowed to report their Scope 2 emissions using either a “locational” and/or a “market” approach.⁶

The *locational* method reflects the average GHG emissions intensity of the power grid in which energy consumption occurs. This type of EF is based on the physical flow of electricity in the regional power grid.

The *market method* reflects emissions from the electricity that end-use customers have *procured* by contract or similar arrangements. This approach has incentivized large C&I and other customers to buy large amounts of RE and RECs.

Using a location or market-based EF can have a profound impact on a company’s reported Scope 2 GHG emissions. For example, a company that operated in Minnesota in 2020 and bought 100% RE could have reported its 2020 Scope 2 emissions using a locational EF such as the EPA’s 2020 eGrid⁷ regional CO₂ emissions factor for the RFMC region of 1,153.1 lbs. CO₂/MWh. Alternatively, the same company could have reported its Scope 2 emissions using a market-based EF of 0 lbs. CO₂/MWh.

The use of market-based EFs is controversial and has been questioned by some expert observers. This has led some companies to begin to match their hourly load with hourly-based RECs, and others to begin procuring 100% “carbon-free energy” to meet their load on a 24/7 hourly basis (24/7 CFE).

While it is legally appropriate for load serving entities (LSEs) to use RECs and other RE arrangements to demonstrate RPS compliance, it remains controversial for end-use customers to use the market approach as the basis for reporting their Scope 2 GHG or to track progress toward achieving corporate RE commitments and decarbonization goals.

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⁵ <https://resource-solutions.org/wp-content/uploads/2018/02/Tracking-System-Map.pdf> .

⁶ For example, see [WRI/WBSCD Revised Corporate Standard \(2004\)](https://www.wri.org/publication/2004/04/wri-wbcsd-revised-corporate-standard-2004) .

⁷ <https://www.epa.gov/egrid> .