

Renewable Energy Certificate (REC) Market by Energy Type (Solar Power, Wind Power, Hydropower, Biomass), Capacity (Up to 1000 KWH, 1001-5000 KWH, Above 5000 KWH), End Use (Compliance, Voluntary), and Region - Global Forecast & Trends to 2030

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Abstracts

The Renewable energy certificate market is estimated to reach USD 45.45 billion by 2030 from an estimated value of USD 27.99 billion in 2025, at a CAGR of 10.2% during the forecast period. Supporting government policies and mandates for renewable energy targets, Corporates strategies and initiatives towards sustainability, energy transition and shift to renewables, and increasing awareness towards Climate change are the major driving factors for the Renewable Energy Certificate market.

“Solar: The largest segment of the Renewable energy certificate market, by energy type.”

By energy type, the Renewable energy certificate market was segmented into five categories: wind, solar, hydro, biomass and others. The segment, solar energy, is expected to capture the largest share of the market by energy type. Due to rapid growth, cost-effectiveness, and widespread adoption across the world. Solar energy has experienced a substantial decline in costs over the last decade due to advancements in technology, economies of scale, and government incentives. This has made it the most affordable and viable source of renewable energy for both industrial-scale and domestic installations, leading to its superiority in the REC market. Consequently, many solar energy generators are producing renewable energy certificates from their solar facilities, and thus a large quantity of certificates is being issued, traded, and bought in the market.

“Above 5,000 KWh segment is expected to remain the largest segment by capacity.”

Based on capacity, the Renewable energy certificate market has been segmented into upto 1,000 KWh, 1,001 to 5,000 KWh, and above 5,000 KWh. The Above 5,000 KWh segment is expected to hold the largest market share during the forecast period because of the size and economic efficiencies of large-scale renewable energy projects, especially in solar and wind energy. Larger installations, like commercial-scale solar farms or wind turbines, can generate large quantities of renewable energy. Large-scale renewable energy projects benefit from economies of scale where the cost per unit of energy generated decreases as the system size gets larger making them generally more financially compelling and more competitive in the RECs market.

“Voluntary segment is expected to emerge as the second largest segment based on end user”

By end use, the Renewable energy certificate market has been segmented into compliance and voluntary segment. Voluntary is expected to be the second largest during the forecast period driven by the rising demand from corporations, business units, and individuals seeking to meet their sustainability targets and environmental goals.

“North America is expected to be the second fastest region in the Renewable energy certificate market.”

North America is expected to be the second-fastest region in the Renewable energy certificate market between 2025-2030. The North American market consists of the US, Canada, and Mexico. Demand for Renewable energy certificate in North America is driven by the combination of regulatory obligation, company sustainability objectives, and rising public awareness of climate change. In the US, much of the demand stems from state Renewable Portfolio Standards (RPS) and Clean Energy Standards (CES), which require utilities and energy companies to get a specific percentage of their energy from renewable sources. This regulatory structure generates ongoing demand for RECs as a vehicle through which utilities and firms can prove compliance with renewable energy requirements.

Breakdown of Primaries:

In-depth interviews have been conducted with various key industry participants, subject-

matter experts, C-level executives of key market players, and industry consultants, among other experts, to obtain and verify critical qualitative and quantitative information, as well as to assess future market prospects. The distribution of primary interviews is as follows:

By Company Type: Tier 1- 65%, Tier 2- 24%, and Tier 3- 11%

By Designation: C-Level Executives - 30%, Managers- 25%, and Others- 45%

By Region: North America- 30%, Europe- 20%, Asia Pacific- 25%, South America- 10%, Middle East & Africa- 15%

Note: Others include product engineers, product specialists, and engineering leads.

Note: The tiers of the companies are defined based on their total revenues as of 2023.

Tier 1: > USD 1 billion, Tier 2: From USD 500 million to USD 1 billion, and Tier 3:

The Renewable energy certificate market is dominated by a few major players that have a wide regional presence. The leading players in the Renewable energy certificate market are 3Degrees, Inc. (US), Ecohz (Norway), Shell Energy (UK), Statkraft (Norway), EDF Trading Limited (UK), ENGIE (France), The Green Certificate Company (France), Enel Spa (Italy), STX Group (Netherlands).

Research Coverage:

The report defines, describes, and forecasts the Renewable Energy Certificate market, by energy type, by capacity, by end user for various regions. It also offers a detailed qualitative and quantitative analysis of the market. The report provides a comprehensive review of the major market drivers, restraints, opportunities, and challenges. It also covers various important aspects of the market. These include an analysis of the competitive landscape, market dynamics, market estimates in terms of value, and future trends in the Renewable Energy Certificate market.

Key Benefits of Buying the Report

The Renewable Energy Certificate market is driven by factors such as supporting government policies and mandates for renewable energy targets, corporates strategies and initiatives towards sustainability, energy transition and shift to renewables, and increasing awareness towards climate change. Fluctuating prices of REC and high transaction costs restrain growth in the

Renewable Energy Certificate market. Opportunities include a increasing investment in clean energy projects and Increasing government incentives and financial support programs. Few challenges this market faces are lack of standardization and double counting

Product Development/ Innovation: Other such developments is RECO, RECO is a platform launched by Shell Energy that enables businesses to progressively purchase renewable energy by allowing Shell Energy customers to buy Large-scale Generation Certificates (LGCs) from accredited renewable generators. These LGCs are then surrendered on behalf of the customer, effectively matching their electricity consumption with renewable energy sources.

Market Development: Incorporation of blockchain and digital ledger technology in renewable energy certificates is emerging as a prominent trend. Digital Ledger enable the real-time and distributed recording of transactions, which eliminates the need for centralized intermediaries. This system ensures that every transaction involving a REC (such as the issuance, sale, or certificate transfer) is recorded transparently and can be tracked by all stakeholders involved.

Market Diversification: EDF, REDEX and Rekursive Labs have successfully collaborated on a Proof-of-Concept for automating Renewable Energy Certificates transactions using Hedera. The project enables end consumers to retire small quantities of RECs in real time.

Competitive Assessment: Assessment of rankings some of the key players including of 3Degrees, Inc. (US), Ecohz (Norway), Shell Energy (UK), Statkraft, EDF Trading Limited (UK), ENGIE (France), The Green Certificate Company (France), Enel Spa (Italy), STX Group (Netherlands).

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