

North America Energy Transition Market By Type (Renewable Energy, Energy Efficiency, Electrification, Hydrogen, Others), By Application (Residential, Commercial, Utility Scale), By Country, By Competition, Forecast and Opportunities 2020-2030F

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Abstracts

The North America Energy Transition Market was valued at USD 744.21 Billion in 2024 and is expected to reach USD 1177.76 Billion by 2030 with a CAGR of 7.95% during the forecast period. The North America Energy Transition refers to the ongoing shift from traditional fossil fuel-based energy systems to renewable, cleaner sources such as solar, wind, hydro, and geothermal energy. This transition is driven by a combination of environmental concerns, technological advancements, and regulatory pressures aimed at reducing carbon emissions and combating climate change. In the United States and Canada, governments have implemented policies and incentives to accelerate the adoption of renewable energy technologies, including subsidies, tax credits, and clean energy mandates.

The market is also seeing significant investments in energy storage systems, grid modernization, and electric vehicles, further supporting the transition. As a result, there is a growing emphasis on decarbonizing the energy sector, enhancing energy efficiency, and ensuring a more sustainable energy future. The North America Energy Transition Market is expected to rise significantly over the next decade. The market growth will be fueled by the increasing demand for renewable energy, driven by both commercial and residential sectors.

In addition, large corporations are committing to net-zero emissions and adopting sustainable energy solutions to meet their environmental, social, and governance (ESG) goals. Advancements in energy storage technologies, such as battery storage, are also

essential for ensuring the stability of renewable energy supply and enabling more widespread adoption. The growth of the electric vehicle market and the electrification of various industries will further drive the demand for clean energy.

Energy transition is supported by the growing interest in energy independence and the decreasing cost of renewable technologies, making them more accessible to businesses and consumers alike. The combination of regulatory support, technological innovations, and market demand will drive the continued growth of the North America Energy Transition Market in the coming years.

Key Market Drivers

Technological Advancements and Cost Reduction in Renewable Energy Technologies

Technological advancements in renewable energy systems, particularly in solar, wind, and battery storage technologies, are a key driver for the North America Energy Transition Market. Over the last decade, significant progress in the efficiency and performance of renewable technologies has led to a considerable reduction in their costs, making them more accessible to both consumers and businesses. The cost of solar panels has dropped by more than 80% over the past decade, while wind turbine technology has also seen substantial improvements in efficiency, lowering the cost of energy generation.

In addition, advancements in energy storage systems, particularly lithium-ion batteries, have improved grid reliability and allowed for a more consistent energy supply from intermittent renewable sources such as solar and wind. The widespread adoption of electric vehicles, which also rely on battery technology, is further pushing innovation and reducing costs. These technological breakthroughs are making renewable energy not only more cost-competitive with traditional fossil fuels but also more viable as a mainstream energy source. As the costs continue to fall and technological performance improves, the North America Energy Transition Market is expected to expand. Solar energy costs have dropped by 89% over the past 10 years, while battery storage costs have reduced by 70% in the same period.

Corporate Sustainability and Commitment to Net-Zero Emissions

Another significant driver for the North America Energy Transition Market is the increasing commitment of corporations to sustainability and achieving net-zero emissions. As part of their Environmental, Social, and Governance (ESG) goals, major

corporations across various sectors, including technology, manufacturing, and energy, are shifting toward cleaner energy sources to power their operations. This trend has accelerated as investors and consumers increasingly demand responsible, sustainable practices from businesses. Companies such as Amazon, Microsoft, and Google have committed to achieving net-zero carbon emissions in the coming decades, with many focusing on the adoption of renewable energy for their data centers and operations.

These large-scale commitments are driving substantial investments in renewable energy infrastructure, not only for corporate power needs but also for the development of clean energy technologies. As businesses increasingly seek to decarbonize their operations, the demand for renewable energy solutions, including solar, wind, and green hydrogen, will significantly contribute to the growth of the North America Energy Transition Market. Over 80% of Fortune 500 companies have pledged to achieve net-zero emissions by 2050, with nearly 40% of them already investing in renewable energy projects as part of their strategy.

Key Market Challenges

High Initial Investment and Capital Costs

One of the most significant challenges facing the North America Energy Transition Market is the high initial capital investment required for renewable energy infrastructure. Although the long-term benefits of renewable energy technologies, such as solar and wind power, are clear in terms of cost savings and environmental impact, the upfront costs remain a barrier for many businesses, governments, and consumers. The installation of renewable energy systems—whether it be large-scale wind farms, solar panel installations, or energy storage systems—requires substantial financial outlay. This includes costs for purchasing and installing equipment, as well as expenses related to grid integration and ongoing maintenance.

For small and medium-sized enterprises, as well as individual consumers, these high initial costs can deter adoption, especially when there is a perceived lack of immediate financial return. While government incentives and tax credits help reduce the burden, they are often insufficient to cover the full cost of transition, particularly for smaller players. This challenge is compounded by the complexity and the long payback period associated with renewable energy investments, which may discourage companies and individuals from making the switch, particularly in volatile economic conditions. The financing of energy transition projects often involves securing large-scale investments or loans, which can present challenges in markets with fluctuating interest rates and

capital shortages. Until the capital cost of renewable energy systems becomes more accessible, this issue will continue to present a hurdle for widespread adoption and slow down the growth of the North America Energy Transition Market.

Key Market Trends

Increased Adoption of Energy Storage Solutions

One of the most significant trends driving the North America Energy Transition Market is the growing adoption of energy storage solutions, particularly advanced battery technologies. As renewable energy sources, such as solar and wind, become more prominent in the energy mix, the intermittent nature of these sources—dependent on sunlight and wind availability—has highlighted the need for effective energy storage systems. Energy storage solutions allow surplus energy generated during peak production times to be stored for use when renewable sources are not generating power. This trend is largely driven by the growing capabilities and decreasing costs of energy storage systems, such as lithium-ion batteries, which are now being adopted on both residential and commercial scales. The expansion of battery storage technologies is essential for ensuring the stability of the grid as it increasingly incorporates renewable energy.

The integration of energy storage with electric vehicles and distributed energy resources is creating new opportunities for energy resilience and flexibility. Consumers are increasingly interested in energy storage as a means to store solar power for use during off-peak hours, thereby reducing energy costs and enhancing energy independence. Governments, utilities, and private companies are investing heavily in the development of large-scale storage projects, such as grid-scale battery systems and pumped hydro storage, which further supports the growth of energy storage as a critical component of the energy transition. With advancements in technology, including innovations in solid-state batteries and long-duration storage solutions, energy storage will continue to play a crucial role in the successful transition to renewable energy in North America.

Key Market Players

NextEra Energy, Inc.

Tesla, Inc.

General Electric Company

Siemens AG

Ørsted A/S

Exelon Corporation

First Solar, Inc.

Dominion Energy, Inc.

Report Scope:

In this report, the North America Energy Transition Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

North America Energy Transition Market, By Type:

Renewable Energy

Energy Efficiency

Electrification

Hydrogen

Others

North America Energy Transition Market, By Application:

Residential

Commercial

Utility Scale

North America Energy Transition Market, By Country:

United States

Canada

Mexico

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the North America Energy Transition Market.

Available Customizations:

North America Energy Transition Market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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