



The Next Billionaire Industry of the Decade?

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Abstract

As the world becomes increasingly shaped by rapid technological advancements and a continuously growing demand for energy, the search for the defining industry of the coming decade has become more relevant than ever. While sectors such as artificial intelligence and digital commerce continue to dominate global discourse, renewable energy presents a compelling case as a transformative force. No longer confined to environmental idealism, renewable energy has emerged as a dynamic and economically powerful sector capable of reshaping global markets and policy frameworks.

The surge in electricity demand driven by the expansion of data centres, AI technologies, urbanisation, and industrial growth has exposed the limitations of fossil fuels. In response, renewable energy sources such as solar and wind are gaining prominence, not only as sustainable alternatives but also as engines of economic growth. This transition has been accelerated by declining technology costs, advancements in energy storage, and strong policy support, which together have attracted significant investment and innovation.

This paper explores how renewable energy lies at the intersection of necessity and opportunity, offering solutions to climate challenges while unlocking substantial economic potential. Despite challenges such as infrastructural constraints and financial complexities, the sector's future remains highly promising. Ultimately, renewable energy is poised to play a defining role in shaping economic development and the trajectory of global progress.

Keywords: *Green Investments, Climate Change, Energy Transition, Renewable Energy.*

I. Introduction

As the world enters into a period where technological innovation is unparalleled, the growing needs of energy on an international scale, and the direly needed requirement of sustainability, the question of what industry will become the centre spot in the next decade has never been more timely. Although trends like Artificial Intelligence, E-commerce, Automobiles, and Telecom are more likely to get the attention in the media, perhaps a more analytical look reveals that there is another, much more transformative competitor, which is renewable energy. Renewable energy that used to be viewed as an environmental utopia has nowadays changed into a powerful economic force that can change the world's investment patterns and corporate policies, along with the national policies. The demand for traditional systems that are based on fossil fuels has been unprecedented and triggered by the growing demand for electricity, which is powered by AI, data centres, electric mobility, and digital infrastructure.

As these finite resources are diminishing, and as the climate crisis becomes more and more severe, clean, sustainable energy is becoming more and more popular in the world, and at a staggering rate. The renewable energy industry could easily emerge as the next billionaire business of the decade, not only to be able to offer the ecological problem solution that has never been witnessed before, but also to open a prospect in the economy that has never been experienced before, with the assistance of technological wonders, decreasing prices, and the active government stimulus. The first thing that comes to our mind when we ask this question is that the next greatest industries of the decade will be Artificial Intelligence (AI), Telecom, Automobile, Tech Industries, E-commerce, etc. But the above will be wrong since the coming billionaire business of the decade will be the RENEWABLE ENERGY- Yes, you heard it right. Renewable energy was considered a naive solution to combating climate change at the turn of the 21st century. It has turned out to be one of the most promising and cost-effective industries within the world economy due to a swift jump into modern days. Renewable energy is a financial giant and an environmental requirement experiencing increasing consumer consciousness, owing to the expansion in technology and favorable policies. The industry has several appealing forces, which have elevated it to the next billion-dollar industry of the decade.

II. It is the energy that is demanded in the decade:

The paramount requirement of the decade has been energy because of the rapid level of technological transformations, population growth, and the pursuit of sustainable development by the world. The digital revolution, which is characterized by the proliferation of smart appliances, electric vehicles,

and data centres, has radically raised the amount of electricity used. Meanwhile, the urbanization and industrialization of the developing economies are enhancing the energy needs. The sensitization to curb climate change has brought about the relocation of fossil fuels to renewable sources of energy like solar, wind, and hydroelectricity. The Economist estimates that the electricity demand will increase manifold between 2022 and 2026. It will need to consume at least 250 TWh to 400 TWh of conventional data centres. The electricity requirements of the cryptocurrencies will increase by 100-150 TWh.

Dedicated AI data centres, and whose number is expected to climb to around 200 TWh by 2026¹³, already consumes very low demand in 2022. Overall, the electricity consumption in these regions will grow to 750 TWh in 2026, in comparison with 350 TWh in 2022¹⁴, which will be a high growth rate, as the quantities of AI data centres and cryptocurrency are likely to grow. A lot is speculated on the amount of energy that would be needed to support the increased demand for AI. It is estimated that by the year 2026, the volume of electricity consumed by the data centres of the world will be tripled and will be consumed in the same manner as Japan.

These figures do not stand on their own, even going by the figures of Goldman Sachs analysts, who reckon that, by 2030, data centers will be consuming more energy than they are presently, and they will supply more than half of all other demand growth in the intervening period. Its energy consumption can be very high when training basic AI models.¹⁵ DeepMind's 280 billion parameter model used 1,066 MWh to train, whereas the GPT-3 175 billion parameter model of OpenAI only boasted of 1,287 MWh¹⁶. This is going to be about 100 times the energy usage of a typical US household every year. ¹⁷Semianalysis has suggested that semianalysis will utilize 3,617 HGX A100 servers to run ChatGPT. According to NVIDIA, the maximum power consumption of each server is

¹³ **Gooding, M.** 2024. "Global Data-Center Electricity Use to Double by 2026 — IEA Report." *DataCenterDynamics*, January 26, 2024. <https://www.datacenterdynamics.com/en/news/iea-data-center-energy-consumption-set-to-double-by-2030-to-945twh>.

¹⁴ **International Energy Agency (IEA).** 2024–2025. *Energy and AI – Energy Demand from AI (Summary)*. <https://www.iea.org/reports/energy-and-ai/energy-demand-from-ai>.

¹⁵ **Gartner.** 2025. "Gartner Says Electricity Demand for Data Centers to Grow 16 Percent in 2025 and Double by 2030." *Gartner Press Release*, November 17, 2025. <https://www.gartner.com/en/newsroom/press-releases/2025-11-17-gartner-says-electricity-demand-for-data-centers-to-grow-16-percent-in-2025-and-double-by-2030>

¹⁶ **de Vries, Alex.** 2023. "The Growing Energy Footprint of Artificial Intelligence." *Joule*. <https://www.sciencedirect.com/science/article/pii/S2542435123003653>

¹⁷ **SemiAnalysis.** 2023. "The Inference Cost of Search Disruption." *SemiAnalysis Newsletter*, February 2023. <https://newsletter.semianalysis.com/p/the-inference-cost-of-search-disruption>

6.5 kilowatts. According to CNBC, the electricity demand will reach 20 percent in 2030 US in due course, due to the increasing use of AI in the country.¹⁸.

We must note the fact that the AI is a billion-dollar industry, and currently, in the modern era and age, fossil fuels are going extinct, and the lack of fossil fuels has led to a shortage in the electricity supply. To counter this deficiency, existing reliance is shifting to the renewable energy sector, and within the coming two years, the renewable energy sector will experience an increase and will turn out to be a billion-dollar industry in this decade. The governments and companies are heavily investing in clean energy infrastructure, new storage options, and smart grids, so that energy supply will be secure and reliable. It is not just a change in the direction of meeting the current requirements, but also providing sustainable and ecologically friendly energy sources to the new generations.

With the country focusing on the energy transition towards reducing carbon emissions, the power ministry estimates revealed that investments in the renewable energy projects in the country will rise by more than 83 percent to a high of approximately 16.5 billion in the year 2024, according to a report by the Press Trust of India (PTI)¹⁹. Moreover, Adani Group will invest at least 2.3 trillion dollars in the biggest renewable energy project and the incorporation of solar and wind production capacity in India to date, as it repays a short-seller attack and proceeds with its typical accelerated growth plans.

Adani Green Energy Ltd, the biggest renewable energy company in India will be spending the amount of money somewhere around 1.5 trillion to expand its capacity to generate electricity by using solar energy and wind power at Khavda in the Kutch region of Gujarat to 30 gigawatts (GW) of 2 GW of the same in the state at present and other 50,000 crore of the same in other parts of the country at some point in the future.²⁰.

III. The Renewable Energy Surge:

¹⁸ **NVIDIA Corporation.** n.d. *HGX/A100 Datasheets and Product Specifications*. Accessed 2024–2025. <https://research.contrary.com/foundations-and-frontiers/ai-inference>

¹⁹ **Economic Times.** 2023. “Renewable Energy Investments to Surge 83% to USD 16.5 Billion in 2024.” *Economic Times*, December 26, 2023. <https://economictimes.indiatimes.com/industry/renewables/renewable-energy-investments-to-surge-83-pc-to-usd-16-5-billion-in-2024/articleshow/106284821.cms>

²⁰ **Business Standard.** 2024. “Adani to Invest Rs 2.3 Lakh Crore in Renewable Energy and Manufacturing Capacity.” *Business Standard*, April 7, 2024. https://www.business-standard.com/companies/news/adani-to-invest-rs-2-3-lakh-cr-in-renewable-energy-manufacturing-capacity-124040700248_1.html

Renewable energy is considered to be one of the most active and multifaceted pillars of contemporary world development. It comprises a set of technologies, the most visible one being solar, wind, hydro, geothermal, and biomass, that can transform the processes that occur naturally into clean and sustainable energy. Unlike fossil fuels, whose basis is finite resources and a considerable effect on nature, renewable energy sources provide a source of energy with a minimal ecological footprint.

This shift to cleaner things has been more urgently demanded by the fact that the countries are grappling with the twin ills of global warming, as well as the enormous growth in energy consumption. Over the past decade, blistering innovation, favourable policies, and rising environmental awareness have seen the renewable energy shake off its niche label and emerge as a mainstream and economically viable industry.

Solar power has demonstrated the most improved growth among renewable technologies. Photovoltaic (PV) panel prices also dropped over 80 percent since 2010²¹, and this is due in large part to economies of scale, manufacturing improvements, and continued growth in panel performance. Solar was an expensive and experimental technology, but at this point, the residents of both the city and the countryside can barely imagine their worlds without it. Solar farms are also employed to produce large volumes of electricity, which serve national grids. Rooftop solar systems allow households and businesses to produce their own electricity. This decentralization has not only led to increased access to energy but also reduced dependence on pre-existing sources of electricity and fossil-powered systems. Because solar technology is a constantly evolving and advancing technology, i.e., as far as the introduction of bifacial panels and the use of perovskite cells and solar tracking is concerned, it is probable that the cost of an energy source will drop further, which makes solar technology one of the most promising energy sources in the future. This has also been observed with wind energy.

The design has been improved in the turbine, the aero-dynamics of the blades, and the material employed in constructing the turbine, which has led to the development of a lot larger, durable, and highly efficient turbine. Onshore wind farms in most areas exist due to the relatively low cost and simple installation. Meanwhile, offshore wind power, which has long been an exclusive domain of some countries, is now emerging as a new frontier in power production in the global arena.²² The

²¹ **National Renewable Energy Laboratory (NREL)**. 2021. "Documenting a Decade of Cost Declines for PV Systems." February 10, 2021. <https://www.nrel.gov/news/detail/program/2021/documenting-a-decade-of-cost-declines-for-pv-systems>

²² **International Energy Agency (IEA)**. 2024. "AI Is Set to Drive Surging Electricity Demand from Data Centres While Offering the Potential to Transform How the Energy Sector Works." *IEA News*, 2024. <https://www.iea.org/news/ai-is-set->

turbines offshore have more favourable and consistent wind patterns and thus have higher capacity factors, hence giving them higher power output as compared to their onshore counterparts.

As the engineering capacity increases and the cost of installations reduces, offshore wind may become a larger component in the world energy mix. Energy storage is another significant component that enables mass penetration of renewable energy, and in particular, through the application of advanced battery technology. The unpredictability of the renewable energy sources has been a significant objection to renewable power, whereby, at night, solar panels cannot generate power, and at other times when the wind is calm, wind turbines cannot run.

The invention of new technologies of batteries, however, created a revolution in the sector, with the lithium-ion batteries being used in the storage of excess energy²³. This stored energy can then be passed into the grid at the times when the production is low or the demand is high, which gives a stable supply of energy. Electric vehicles and smart grids, a stronger and more interconnected energy ecosystem, have also come into existence as a result of these developments. In essence, renewable energy had a turning point in the past decade. It began as an environmental response, yet it has evolved and has become a viable, economically efficient, and rapidly expanding industry. Renewable energy does not exist as a choice any longer, but as a part of energy in the future of the world, as new inventions and global dedication towards being sustainable are being developed continuously.

IV. The Economic Boom:

Renewable energy has huge potential in the economic front. The International Renewable Energy Agency (IRENA) predicts that the business would be capable of attracting over 10 trillion dollars in investments by 2050²⁴. Capital inflow of this nature is bound to give millions of jobs, economic growth, and innovation in most areas. Investors are finding themselves getting monetary benefits through renewable energy. It is becoming popular to use green bonds, sustainable investment funds, and direct investments in renewable projects. The maturity of these technologies and the positive

[to-drive-surging-electricity-demand-from-data-centres-while-offering-the-potential-to-transform-how-the-energy-sector-works](https://www.iea.org/news/ai-is-set-to-drive-surging-electricity-demand-from-data-centres-while-offering-the-potential-to-transform-how-the-energy-sector-works)

²³ International Energy Agency (IEA). 2024–2025. *Energy and AI, Grid Integration, and Storage Reports*. <https://www.iea.org/news/ai-is-set-to-drive-surging-electricity-demand-from-data-centres-while-offering-the-potential-to-transform-how-the-energy-sector-works>

²⁴ International Renewable Energy Agency (IRENA). 2018. *Global Energy Transformation: A Roadmap to 2050*. https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2018/Apr/IRENA_Report_GET_2018.pdf

regulatory systems are also making the risk of these investments better. The green industry can create a significant number of job opportunities. The industry creates many opportunities in the sectors of manufacturing and installation, and research. As an example, in 2020, over 3.8 million people were employed in the solar industry alone all over the planet, and this number is bound to grow considerably in the next several years.²⁵

V. Regulatory Support and Policy Support:

Government policies and international agreements play a significant role in the development of renewable energy. The Paris Agreement, which was signed by nearly 200 countries, is aimed at cutting global warming to less than 2 degrees Celsius, and all countries collaborated towards the effort of reaching a net-zero by the second half of the century. These goals would involve an enormous shift to renewable energy.²⁶ Different governments have subsidies, tax credits, and other financial incentives to encourage the use of renewable energy. These measures are applied to minimize the entry costs and to make the renewable projects less costly. It has also been required, such as the Renewable Portfolio Standards (RPS) in the United States, which require utilities to purchase a certain percentage of their energy supplies from renewable energy.²⁷ Such kinds of regulations ensure the stable demand for renewable energy and contribute to the market development.

VI. Wrestling and the Way out:

The renewable energy business is having a number of challenges, but the future is bright. The grid integration, the ability to finance the big-scale projects, and the necessity of constant technological innovation are the most significant factors that may be considered. The use of renewable energy within the current power systems is also technically difficult, especially due to the fluctuation of the sources

²⁵ **International Renewable Energy Agency (IRENA)**. 2020. *Renewable Energy and Jobs – Annual Review 2020*. September 29, 2020.

https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2020/Sep/IRENA_RE_Jobs_2020.pdf

²⁶ **United Nations Framework Convention on Climate Change (UNFCCC)**. n.d. *The Paris Agreement and UN Resources on Renewable Energy*. Accessed 2024–2025. <https://www.un.org/en/climatechange/raising-ambition/renewable-energy>

²⁷ **National Renewable Energy Laboratory (NREL)**. 2021. “Documenting a Decade of Cost Declines for PV Systems.” February 10, 2021. <https://www.nrel.gov/grid/news/program/2021/documenting-a-decade-of-cost-declines-for-pv-systems>

of power, such as wind and solar. In order to overcome these problems, inventions of smart grids and energy management systems should be developed. Renewable projects on a large scale are capital-intensive. Creative sources of funding and collaboration with the state (public-private) will be very helpful regarding gathering the necessary finances. Investment in research and development will only increase to become more efficient, less expensive, and come up with new solutions to energy storage and grid management.

VII. Conclusion:

The energy situation in the world is experiencing a historic change, and renewable energy is leading the change. What was, earlier on, perceived as a romantic environmental initiative has turned into a financial issue for countries and corporations across the globe. The old fossil fuel sources can no longer sustain the energy requirements of the world, as the electricity consumption keeps growing as a result of the existence of AI, digitalization, urbanization, and industrialization. In this respect, renewable energy has not only become a possible alternative to sustainability but also a good source of economic growth, employment, and technological growth. The colossal spending of the governments, the technology magnates, the decreasing cost of technology, the creation of better storage infrastructure, and the favourable regulation are the signs of a new dawn when clean energy will dominate the world markets. The larger discovery that power generation must be sustainable and scalable is, however, in the solar development, the wind development, and the emergence of a new generation of more sophisticated battery technologies. In spite of grid integration, financing, and technology advancement issues, the future of the renewable business is visible, and it is definitely bright. Renewable energy will be the billion-dollar sector of this decade that the world works towards achieving net-neutrality and becoming more sustainable in terms of energy resources. Not only will it not stop growing according to the needs of the climate, but it is a proclamation of its economic feasibility, its redefining effect. Renewable energy will mark the next several years, defining the further development of the world society, thus making it cleaner, stronger, and more prosperous.

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