The European Union will Launch the Grid Action Plan to Promote the Grid Upgrade

The EU will launch a grid Action Plan to invest €584 billion to upgrade and expand grid facilities.

Eu energy transition

wind and solar

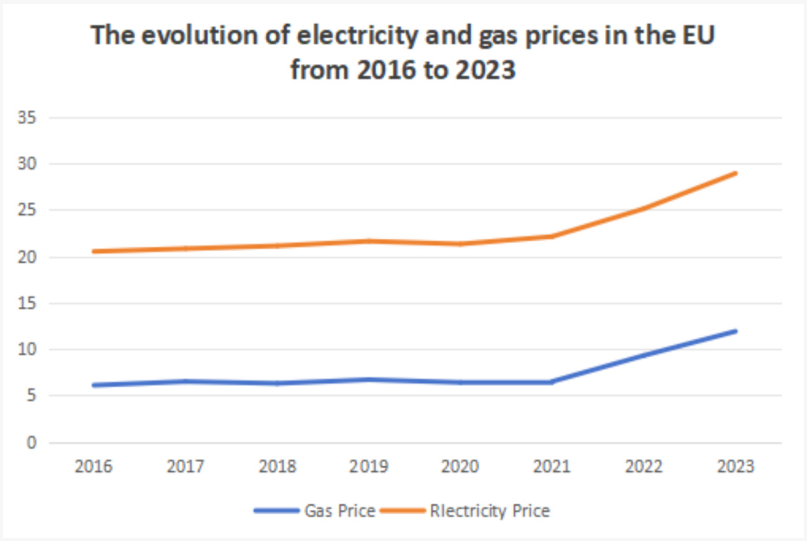
DETROIT, MICHIGAN, AMERICA, January 11, 2024 /EINPresswire.com/ -- In order to accelerate the transformation of traditional fossil fuel power generation to clean energy power generation, the European Commission launched the power grid plan, by 2030, the EU intends to invest 584 billion euros to upgrade the European power grid lines, improve the flexibility of the grid, and accelerate the access of clean energy to the grid.

The Impact of the Grid on Energy Transition

The grid connects power plants, wind farms, solar panels, and substations to form regional networks that control the transmission of electricity. One of the major problems of the European power grid is the aging of the grid lines and equipment, the early construction of the European power grid was small, too concentrated, and lacked correlation, resulting in high power transmission losses, low transmission efficiency, and there is no new energy line planning in the early stage, hindering clean energy into the network, about 40% of the current power grid lines more than 40 years, is about to reach the service life. The EU energy commissioner said that the upgrading of the grid is urgent and failure to upgrade the grid infrastructure will affect the 2030 target. (Source:https://ecfr.eu/article/gridlock-why-europes-electricity-infrastructure-is-holding-

back-the-green-transition/)

The EU attaches great importance to the upgrading of power facilities, spending 23 billion euros a year on the upgrading of grid-supporting facilities, increasing the length of the grid, tightening the direct connection of the grid, and speeding up the transmission of solar panels and wind power. Wind and solar currently account for 22% of the EU's electricity generation, hydropower and nuclear 32%, and coal and gas generation has declined 18.2% and 9.3% respectively since 2015, and with subsequent grid upgrades, subsequent clean energy will account for an increasing share. (Source:https://ember-climate.org/press-releases/wind-and-solar-overtake-fossil-gas-to-produce-record-fifth-of-eu-electricity/)



Eu electricity price trend


Charging stations in Europe


Eu cross-border grid

Europe's Energy Transition
In the process of the development of renewable functional energy, wind power is growing and is another path for Europe's energy transition, In 2022, wind power has already accounted for 17% of Europe's electricity generation. According to the European Wind Energy Organization data show that nine countries wind power accounted for more than 15%, and Denmark wind power accounted for 55%. The European Commission has proposed a series of measures to promote the development of the wind energy industry in Europe. It is expected that the installed capacity of wind power will reach 500GW by 2030.

An industry association in Frankfurt said that the installed solar capacity in Europe reached

56GW in 2023, a 40 percent increase from 2022, but due to the volatility of photovoltaic power generation and some problems in grid connectivity, the growth of solar power installations in the EU could slow by 24 percent in 2024 and 23 percent in 2025. Walburga Hemetsberger, CEO of Eurosolar, said that solar energy is the focus of Europe's energy transition, and Europe must contribute to the development of solar energy, which is expected to reach 70GW per year by 2030. This requires a significant acceleration of grid line upgrades and photovoltaic equipment deployment to achieve the target of 600GW of solar installed capacity by 2030.
(Source:https://renewablesnow.com/news/eu-installs-record-56-gw-of-solar-in-2023-growth-to-slow-down-in-2024-842919/)

Wind and solar energy are green energy sources vigorously developed in Europe, and many countries are divided over the development of nuclear energy due to some nuclear power plant accidents in history. Italy has completely phased out nuclear power generation, while France sees nuclear power as a low-carbon energy source and supports the development of nuclear power plants. Nuclear energy is already widely used in Europe, with 163 nuclear power plants on the continent, providing a quarter of Europe's total electricity generation.

The Impact of Grid Upgrades on Electricity Prices
With the outbreak of the war between Russia and Ukraine, Russia reduced natural gas exports, natural gas prices rose sharply, and electricity prices were also affected, in the first half of 2023, 22 EU countries increased electricity prices, and the average EU household electricity price rose from 25.3 euros / 100 KWH to 28.9 euros / 100 KWH.
(Source:https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20231026-1)

According to the International Energy Agency, without the huge increase in solar and wind capacity installed in Europe, energy costs in Europe would have been €100bn higher as a result of higher energy prices caused by the Russian-Ukrainian war. With the rapid development of green energy and the upgrading of the power grid, Europe's energy self-sufficiency has been greatly improved, reducing the risk of energy crisis and bringing greater benefits in energy costs.

European New Energy Power Market
The large-scale upgrading of power facilities in the European grid has driven the increase in demand for power facilities and cables, bringing a large amount of stable and reliable capital to the power equipment market, and promoting the production and sales of cables and related power components.

The EU's target for solar installed capacity in 2030 is 600GW, and the European solar installed capacity reach 263GW in 2023, which is still a lot of room for the EU's target of 600GW installed capacity in 2030. With the growing demand for electricity in the European region and the consensus on low-carbon environmental protection, the European solar PV market is expected to grow at a growth rate of 12%. In addition, governments have adopted different policy measures to promote the increase of solar installed capacity, which is expected to create more

space for the market. Moreover, the photovoltaic industry such as agricultural photovoltaic and rooftop photovoltaic is immature and has great potential. Eurostat data shows that there are 98 million hectares of arable land in Europe, and the scale of agricultural solar development currently accounts for only 1% of the EU's agricultural available area, and it is expected that 50% of the agricultural area will be installed photovoltaic systems in the future to support agricultural production and electricity production. According to the European Commission's Joint Centre, agricultural solar will make a significant contribution to the EU's 2030 photovoltaic power generation targets.

The automotive industry has also upgraded with the development of green energy, and more and more enterprises have begun to produce new energy vehicles, which has promoted the market share of charging stations, charging infrastructure, and charging lines to increase significantly. The number of charging stations in Europe reached 180,000, 320,000, and 470,000 in the years 2020, 2021, and 2022 respectively, and will continue to grow in the future. The European Council said it would build charging stations every 60 kilometers on major high-speed lines, starting in 2025.
(Source:https://www.euronews.com/next/2023/09/18/access-to-ev-charging-stations-in-europe-is-a-significant-concern-how-do-countries-compare
https://www.convenience.org/Media/Daily/2023/July/26/5-European-Union-Mandates_EV)

Green Power Grid Development Needs
The European Association of Electricity Transmission System Operators (ENTSO-E) has identified four requirements for achieving energy transition and a green grid.
1. Suitable market design
2. Make up for the energy gap caused by weather
3. Coordinated technical solutions
4. Upgrade the power grid infrastructure

The European Commission will invest 584 billion euros in upgrading and expanding the grid lines in the future and plans to increase the grid lines by 20% by 2030. In addition, it is necessary to establish grid interconnection among member states and strengthen cross-border power exchange to ensure that each country can meet energy demand, currently, there are five cross-border projects under construction, and it is expected that cross-border power exchange will reach 136GW by 2030.
(Source:https://ecfr.eu/article/gridlock-why-europes-electricity-infrastructure-is-holding-back-the-green-transition/)

Digitalization is part of the innovation of the grid, increasing the flexibility and compatibility of the grid system, effectively coordinating the additional energy input of consumers, according to the EU plan, about 170 billion euros for the digital upgrade of the grid. For the development of the green grid, there is an action plan and a clear understanding of the goal to achieve the energy transition.

Conclusion

The upgrade and transformation of power grid infrastructure in Europe is crucial for the development of clean energy. The increased capacity and flexibility of the grid are beneficial for the integration of clean energy sources, increasing their market share, and reducing the risks associated with insufficient fossil fuel supply. Clean energy effectively promotes the energy transition in Europe, ensuring a stable energy supply and reducing the need for energy imports. From an environmental perspective, the development of clean energy significantly reduces greenhouse gas emissions and promotes the protection of ecosystems. In summary, the upgrade of the European power grid plays an important role in the integration of renewable energy, enhancing energy security, and facilitating the development of green energy.

ZMS Cable
ZMS Cable
+ +86-371-6782-9333
sales@zmscable.com
Visit us on social media:
Facebook
Twitter
LinkedIn
Instagram
YouTube
