

Iran's energy portfolio waiting for

Renewables

Although oil and gas are still important fuel resources in the energy basket of European countries, reports indicate that the share of renewable energy in the European Union is increasing daily. Increasing renewable energy is very important for containing carbon emissions to achieve climate goals, and in the last two years, the world has reached a milestone in renewable energy, setting a new record. The positive news is that investment in clean energy has been increasing 12 percent annually since 2020.

Today's hot weather and unprecedented records show the worst effects of climate change, and work must be

done in this field, which requires effective action in the energy sector to reduce greenhouse gas emissions in the world by 2030, and to improve technologies related to renewable energy, including solar energy.

Wind farms and solar power stations provided 80 percent of growth in global electricity demand last year. As announced by the International Energy Agency, it is expected that solar and wind energy will grow by 17 percent and 16 percent, respectively, in 2023, and renewable energy will make up more than a third of the world's electricity supply in 2024.

More than half of the electricity consumed in Portugal

now comes from solar energy, while Spain, Finland and Belgium have also set new records in this field.

According to data from the Ember energy think tank, for the first time this year, more than half of Portugal's electricity consumption has been provided by wind and solar energy. Portugal has long been working on its solar infrastructure and is now reaping its benefits. Last year, the country increased its solar energy collection capacity by 50 percent throughout the country with the extensive installation of photovoltaic systems. The move was enough to supply electricity to about one million homes.

Breaking records in Europe

This spring, in many other European countries, the use of wind and solar energy broke records. In April, Spain saw an unprecedented record in the production of solar energy, amounting to 22 percent of the country's total electricity production. The combined use of wind and solar energy also set a new record in the country and accounted for 46 percent of the electricity produced in the country. This year, Sweden provided more than a quarter (27 percent) of its electricity through wind and solar energy. The figure reached 29 percent in Finland, and 29 percent in Belgium, for total electricity production.

Germany, Europe's first industrial country, also prefers to focus on its goal of meeting 80 percent of its electricity needs by 2030 through renewable energy. As part of a long-term plan to end the process of generating electricity through atomic energy, Germany has shut down its three remaining nuclear reactors. The share of renewable energies in the basket of energy production methods in Germany reached 46 percent in 2022, while 10 years ago this share was less than 25 percent. At the same time, the country has decided to close its coal power plants by 2038.

In Switzerland, based on a plan offered by a startup, the panels are spread between the rails like a carpet so that the electricity generated from it can be used to move trains. Since 2020, high-speed trains in France have used 100 percent green energy when

they pass through Germany.

Europeans have also built a fully solar-powered mobile home that could generate enough energy to travel 730 kilometers on a sunny day.

Another report states that Iceland, Denmark, the Netherlands, England, Norway, Finland, and France are the most prepared for a future with low carbon emissions. Some countries that make up the top 10 of the 2022 Green Future Index include the United States, Australia, France, Germany, Sweden, and South Korea.

In 2020, the production of electricity based on renewable energy in the European Union, for the first time, exceeded the electricity from total consumption of fossil fuels and nuclear energy.

Electricity produced from fossil fuels in the European Union fell by 17 percent in the first half of 2023, reaching a record low. In total, 17 EU countries had high electricity generation using renewable energy in the first half of 2023, and Greece and Romania for the first time crossed the 50 percent ceiling for power generation using renewables. Also, the share of renewable energy in electricity production in Denmark and Portugal reached over 75 percent.

The US solar industry installed 6.1 gigawatts of solar panels in the first quarter of this year, enough to power more than four million homes.

Japan was the first country in the world to formulate Basic Hydrogen Strategy in De-

cember 2017, which aims to reduce greenhouse gas emissions by 46 percent by 2030, and achieve zero-carbon status by 2050. From 2000 by 2030, the Japanese government plans to reduce greenhouse gas emissions by half. According to new regulations passed by the Japanese capital's local assembly, from 2025, all new houses in Tokyo built by mass builders must be equipped with solar energy panels. This law was passed to reduce domestic carbon emissions.

Two 175-meter chimneys, as well as a boiler room of a decommissioned coal-fired power plant in New South Wales, Australia, were recently destroyed with explosives

so that it would soon become a renewable energy center. In the Middle East, King Salman's renewable energy initiative, under Saudi Arabia's Horizon 2030 plan, has set renewable targets of 27.3 GW (20 GW of solar photovoltaics and 7.3 GW of wind power) by

2023. The next goal is focused on 58.7 GW by 2030.

The United Arab Emirates, in an ambitious strategy, plans to invest \$54 billion over seven years to develop renewable energy in the country.

Below one percent share for Iran

Currently, around 30 percent of the energy produced in the world is provided by renewable methods, while in Iran, the share of renewable and clean energy production in the country's total electricity production has been 0.6 percent since the beginning of the year.

A researcher of a new technology-based firm said, "Today, more than 10,000 megawatts of renewable power plants have been installed in Turkey, while in Iran, the total of renewable and wind resources is nearly 900 megawatts. Less than one percent of the

country's electricity is supplied from renewable sources, which is 15 percent in Turkey.

Mohammadreza Navazani noted, "Due to the fact that the price of energy carriers is low, renewable energies, including solar energy, are ignored in Iran.

On the other hand, fossil resources are provided to power plants for free to produce electricity. If fossil resources are fed into refineries and petrochemicals, it will be possible to earn foreign exchange for the country, but we just burn it and generate electricity from it."

