

## European Solar Energy Storage

# Latvia solar wind power system



## Overview

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From 1 January 2023 Latvia banned the import of natural gas from Russia. The replacement comes from connections to LNG terminals, the LNG terminal in Lithuania, and from 2024 the recently-opened Inkoo LNG terminal in Finland. JSC Conexus Baltic Grid is the natural gas transmission system operator in Latvia. International transmission pipelines are 577 km long, consisting of the Riga-Pahneva, Pleskava-Riga, Izbors.

Is Latvia planning to use wind and solar energy?

Skeptical of Latvia's ambitions to use wind and solar energy is the Chairman of the Board of the Latvian Renewable Energy Federation Janis Irbe. He pointed out that Latvia has no strategic plan in energy for the next ten years. The interest of foreign investors is high, projects are examined in a number of ways, but not leading to real jobs.

Which energy sources are used in Latvia?

Latvia has underground gas storage facilities at the Inčukalns UGS, with a capacity of 4.47 billion m<sup>3</sup>. Natural gas companies include Latvijas Gāze. Renewable energy includes wind, solar, biomass and geothermal energy sources. Almost half of the electricity used in the country is provided by renewable energy sources.

What is the main renewable resource in Latvia?

The main renewable resource is hydroelectric power. Latvia has laws that regulate the building of power plants and plans to sell electricity at higher prices. This is a stimulus for investment, especially taking into consideration the fact that Latvia cannot offer big subsidies in order to attract investment.

How much electricity will Latvia produce by 2050?

Latvian Radio spoke to energy experts May 13. By 2050, nearly 100% of electricity is planned to be produced using renewable energy sources in the Baltic States. How much of that has Latvia achieved now, and how is it going for neighboring Lithuania and Estonia?

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Which solar parks will be completed in Latvia in 2023?

2023 will see the first two solar parks being completed in Latvia. Biomass provides over 10% of Latvia's electricity production capacity. Hydro is an important power source in Latvia, Ķegums Hydroelectric Power Station is the oldest hydro power station in the country, built in 1940.

What are the new energy saving measures in Latvia?

In line with the Save Energy Communication, Latvia launched new energy saving measures, such as: Behavioural measures in public sector

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### Wind energy

According to a Danish study, the number of birds that are killed per gigawatt hour of electricity generation is: 5.18 for fossil power plants and 0.27 for wind turbines. The deaths of birds and bats by collision with wind turbines is much less than those produced by other human-led activities such as roads, railways, buildings or domestic cats

### Hybrid Systems: Wind & Solar Combined

Hybrid systems encompass various technological approaches to integrate wind and solar power. One approach is the integrated wind and solar system, where wind turbines and solar panels are interconnected within a single power generation system. This configuration enables streamlined operation, shared infrastructure, and efficient utilization of



### [Latvia Wind Power Market](#)

Blackridge Research's Latvia Wind Power Market Outlook report provides comprehensive market analysis on the historical development, the current state of wind turbine installation scenario, its outlook along with the implications of COVID 19 on the wind power capacity additions.

### [Solar/Wind Energy Training](#)

## System

The Solar/Wind Energy Training System, Model 46120, is the main variant of the program. It forms a complete hybrid-energy training system that teaches students how solar panels and wind turbines are used in today's consumer and industrial markets. During the course of their training, students learn how to install the system components, operate the system, and measure the ...



## Development of the Baltic Power System for the utilisation of ...

development of the transmission grid's capacity are: a) the third 330 kV power connection (500-600 MW) with Latvia; b) synchronisation of the Estonian, Latvian and Lithuanian grids with Central European Power System, and c) the Hydro Pump Station in Muuga near Tallinn. In Latvia BEMIP foresees atop of a 3rd interconnection between

## Development of a wind turbine for a hybrid solar-wind power system

The fabricated wind turbine was connected to a hybrid power system with the second energy source consisting of a 40 W solar tracking system to give a more stable power supply. The system was used for soil monitoring irrigation purposes.



## Wind power plants projects in Latvia

Download scientific diagram , Wind power plants projects in Latvia from publication: Potential and



Analysis of Grid Integrated Renewables in Latvia  
 , In the last ten years a 10% increase in the

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## **Solar energy and wind power supply supported by battery ...**

The nature of solar energy and wind power, and also of varying electrical generation by these intermittent sources, demands the use of energy storage devices. In this study, the integrated power system consists of Solar Photovoltaic (PV), wind power, battery storage, and Vehicle to Grid (V2G) operations to make a small-scale power grid.

## Energy infrastructure in Latvia

In 2022, wind power capacity nearly doubled to 136 MW with the launch of a new wind farm. Solar energy capacity also saw a sharp increase, driven by heightened interest in energy independence and supported by state ...



## **(PDF) Will Aggregator Reduce Renewable Power Surpluses? A System ...**

This amount is almost doubled in Scenario 3 with additional support policies for wind and solar plants, with total accumulated solar power of 148 MWh and 2008 MWh of wind power. Finally, the increase of solar power production rates is simulated in Scenario 4 when installed solar power capacity reaches 964 MW and produces 948 MWh per year, but

## Targale Windpark

A cleaner future TArgale Courtesy of Vestas Wind Systems A/S wind park On September 15, 2022, the largest wind park in Latvia was inaugurated. The T?rgale Wind Park generates about 155 GWh of electricity annually, enough to power more than 50 000 households.



## **Executive summary - Latvia 2024 - Analysis**

Bringing wind and solar power projects online will also help reduce Latvia's dependence on natural gas imports and can contribute to lower electricity prices; current efforts to develop



offshore wind will support this outcome.

## Energy in Latvia

From 1 January 2023 Latvia banned the import of natural gas from Russia. The replacement comes from connections to LNG terminals, the Klaipėda LNG terminal in Lithuania, and from 2024 the recently-opened Inkoo LNG terminal in Finland. JSC Conexus Baltic Grid is the natural gas transmission system operator in Latvia. International transmission pipelines are 577 km long, consisting of the Riga-Pahneva, Pleskava-Riga, Izbors...



## **Why does Latvia use so little wind and solar energy?**

This means that the greatest contribution to this growth will be in the form of wind and solar energy. It is a positive future," said ?bolti??. This means that it is planned to increase wind power capacity to 800 or up to 1000 megawatts in Latvia in the coming years. Wind development plans are also ambitious in Lithuania and Estonia.

## **About us**

Our work facilitates Latvia's transition to a sustainable energy system and contributes to the country's economic growth. LWEA is the voice of the wind industry in Latvia since 1998, actively promoting wind power as the answer to

today's energy challenges, providing substantial environmental and economic benefits.



## Solar could be crowned 'king' of Latvia's energy market

The authors of the paper later described the deployment of wind and solar projects as "very low" up until 2022. for the 155 MW solar power plant, but in general, Latvia needed "more

## Latvia has a lot of wind energy potential

The expansion of onshore and offshore wind would benefit the Latvian economy. Each new wind turbine generates on average EUR10m of economic activity. And by building wind farms in their neighbourhood local ...



## Power plant profile: Latvia Solar PV Project, Latvia

For more details on Latvia Solar PV Project, buy the profile here. About Evecon SIA Evecon SIA is a renewable energy company that focuses on renewable energy sources, solar parks, storage systems to provide electricity, wind farms and sustainable energy production services. The company is headquartered in Balozi, Latvia.

## Fast track to creating 1 gigawatt in wind and solar ...

Of the three Baltic countries, the team has made the most progress in Latvia. They have many projects underway - Ventspils, Rzekne, etc., and are one track to contribute 1 GW of wind and solar energy to the ...



## Power plant profile: Targale Wind Farm, Latvia

Vestas Wind Systems will be the turbine supplier for the wind power project. The company is expected to provide 14 units of V136-4.2 MW turbines, each with 4.2MW nameplate capacity. Vestas Wind Systems is expected to perform operations and maintenance for the wind power project for a period of 20 years.

## (PDF) Will Aggregator Reduce Renewable Power Surpluses? A System ...

Power demand-side management has been identified as one of the possible elements towards a more flexible power system in case of increased capacities of variable renewable energy sources--solar



## Impact of Electric Vehicle Charging Infrastructure on the Electric ...

Impact of Electric Vehicle Charging Infrastructure on the Electric Load Profile of Power System: The



Case of Latvia CONECT 2023: XVI International Scientific Conference of Environmental and Climate Technologies: Book of Abstracts 2023 Gunārs Valdmāns, Rūdolfs Vītols, Gatis Bažbajers. The number of electric vehicles (EVs) is increasing rapidly, and charging ...

## Data sources

Such data are often used in power system modelling to create input data, such as wind and solar power generation patterns. Reanalysis and NCAR provide a helpful overview of re-analysis models. Data are usually provided in GRIB or NetCDF format ...



## Solar could be crowned 'king' of Latvia's energy market

According to a European Parliament briefing document of Latvia, there is "untapped" potential for solar to power "large-capacity" electricity generation in the Member State.

## REPOWEREU: ONE YEAR LATER LATVIA 35% 34% 34% 34%

Graph 5: Installed solar and wind power capacity (in megawatt) (1) The renewable power capacity data reflects the capacity installed and connected at the end of the calendar year. (2) In 2022, Latvia installed 0.05 GW of wind power capacity (vs. 0 GW in 2021) (3) In 2022, Latvia installed 0.04 GW of solar power capacity (vs. 0



GW in 2021).

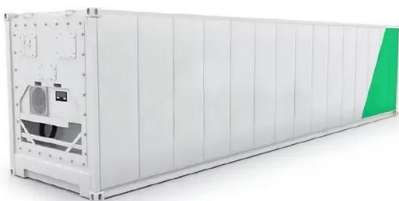


## In it together: the road to a cleaner, cheaper CEE power system

Additional wind and solar capacity will lower CEE power prices by 29%. 2022 also saw Croatia, Latvia, Poland and Romania reach record wind generation share, with Croatia the highest of any CEE country at 17%. Incentivize storage and power system flexibility to allow for the better integration of wind and solar with transmission and

## [Wind and Solar Hybrid Systems Kits](#)

Click the Tab Above ? Planning Design & Installation Tips along with the Video Tab to Learn More. "Do I have a good home for solar energy and wind power system?" Consult Wind Resource Maps: Click on the planning, design and ...



## Hybrid Wind and Solar Electric Systems , Department of Energy

The wind is strong in the winter when less sunlight is available. Because the peak operating times for wind and solar systems occur at different times of the day and year, hybrid systems are more likely to produce power when you need it. Many hybrid systems are stand-alone systems, which operate "off-grid" -- that is, not connected to an

## Why does Latvia use so little wind and solar energy?

Latvia's potential for renewable energy resources - wind and solar - is currently being exploited to a negligible extent. Why is it that Latvia is using renewable resources so little? Latvian Radio spoke to energy experts ...



## Niam, Evecon to partner on 84 MWp solar-storage projects in Latvia

The first batch of solar projects -- six sites with a combined capacity of 40 MWp -- is already under construction. These facilities are expected to be switched on at the end of March 2025. The second phase will see the installation of 44 MWp of solar power capacity across five additional sites.

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