



SolarGrid Energy Solutions

Latvian solar wind power generation system



Overview

What is Latvia's energy system?

Latvia's energy system is largely based on renewable resources, primarily hydropower from the Daugava River, supplemented by wind, solar, and biomass. While natural gas imports cover energy shortages, the country aims to increase wind and solar energy capacity, with significant progress already made in 2022.

Is Latvia ready for a green energy transition?

Solar and wind energy production alone experienced an impressive 92% surge in 2023 compared to 2022, and this momentum shows no signs of slowing down. Building on these achievements, Latvia has set ambitious targets for its green energy transition.

Will the 'elwind' boost Latvia's energy independence?

This joint Latvian-Estonian offshore wind farm, set for completion by 2030, will strengthen both countries' energy independence while advancing the goals of the European Green Deal. "Latvia's push for renewable energy, highlighted by projects like the 'Elwind,' is bringing in fresh investment and boosting our energy independence.

Who manages the electricity grid in Latvia?

The electricity grid in Latvia, however, is primarily managed by Sadales tīkls, the largest distribution system operator that serves 99% of the country's territory. Both public and private energy companies, such as AST and Latvenergo, participate in the sector.

Does Latvia need a thermal power plant?

Until now, Latvia has relied on electricity generated by hydroelectric power plants (HPPs), and the country's overall policy also included the development of thermal power plants (TPPs), as natural gas was a relatively cheap

resource.

How much electricity is produced in Latvia in 2022?

In 2022, 4 997 GWh of electricity were generated in Latvia (14.5 % fewer than in 2021), of which 3 783 GWh were produced from renewables (up by 1.7 % or 65 GWh compared to 2021). Last year also the volume of primary electricity produced by wind power plants increased – 190 GWh, which is 34.8 % (49 GWh) more than in 2021.

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Electricity generated from solar and wind power up by 92

Jun 9, 2024 · Moreover, wind power and solar power plants generated 92.5 % electricity more. Driven by the active installation of solar panels and development of solar parks, the amount of ...

EUROPE LATIVA

Jun 7, 2024 · The most common renewable energy sources in Latvia are biomass and hydropower. There is a considerable potential to further develop wind power and solar energy, ...



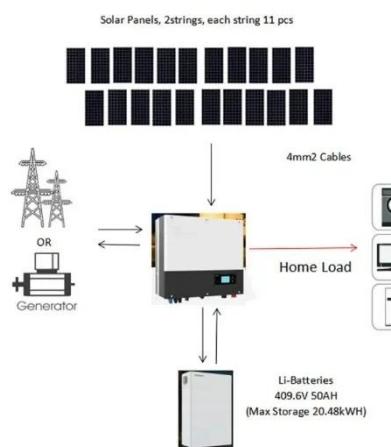
Latvia's Booming Renewable Energy Sector

Solar and wind energy production alone experienced an impressive 92% surge in 2023 compared to 2022, and this momentum shows no signs of slowing down. Building on these ...

RECENT DEVELOPMENTS IN THE

WIND ENERGY ...

RECENT DEVELOPMENTS IN THE WIND ENERGY INDUSTRY IN LATVIA Ministry of Climate and Energy Riga , 21.11.2024.
RES IN FINAL ELECTRICITY CONSUMPTION To achieve ...



Green Energy in Latvia: The Rise of Solar and Wind Power

Aug 5, 2025 · The Latvian government actively encourages solar energy adoption through grants and incentives. Homeowners and small businesses can now install solar panels with reduced ...

Latvia

Ignitis Group to build largest solar portfolio in Baltic states, powering 100,000 households annually with possibility of wind power hybridisation. Aiming for 4-5 GW green generation by 2030.



Latvia - the best location to invest in smart ...

Latvia is Europe's 3rd largest manufacturer of renewable energy (Eurostat, 2019), thanks to harnessing its strong rivers in the form of clean,

hydroelectric power.



Solar-Wind Based Hybrid Energy System: Modeling and ...

Oct 8, 2021 · In this article, a non-conventional hybrid energy system including solar, and wind is studied using MATLAB software. As optimum resource usage is noticed, efficiency is improved

...



Green Energy in Latvia: The Rise of Solar and Wind Power

Aug 5, 2025 · Latvia's natural resources make it uniquely suited for green solutions, especially solar and wind. The government, local communities, and private investors are aligning around ...

In 2023 hydropower, wind power and solar power plants ...

Feb 7, 2024 · Central Statistical Bureau provisional data show that in 2023 gross energy consumption¹ in Latvia totalled

185 petajoules (PJ), which is 1 % fewer than in 2022. ...



Integration of renewable energy in the Latvian grid

Sep 5, 2024 · Variable Renewable Energy Sources (vRES, solar PV and wind)1 capacity in Latvia has grown from 100 MW in 2022 to over 420 MW in 2024 (Figure 1). The huge interest from ...

SOLAR PANEL BATTERIES LATVIA

The solar sites are expected to be operational by 2025; The electricity generated will be enough to power around 100,000 households annually; There is a possibility of adding wind power to ...



A review of hybrid renewable energy systems: Solar and wind ...

Dec 1, 2023 · However, such systems mitigate the intermittency issues inherent to individual renewable sources, enhancing the overall reliability and

stability of energy generation. Solar ...



SUNOTEC seals Latvian hybrid solar investment in landmark ...

Jul 8, 2025 · SUNOTEC acquires 400 MWp solar-plus-600 MWh storage project in Latvia, targeting grid connection by 2027 and bolstering the country's expanding clean-energy ambitions.



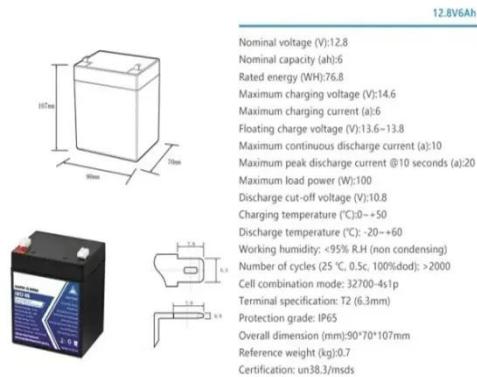
ENERGY PROFILE Latvia

Distribution of solar potential
Distribution of wind potential Annual
generation per unit of installed PV
capacity (MWh/kWp) Wind power density
at 100m height (W/m2)

Latvia solar power renewable energy

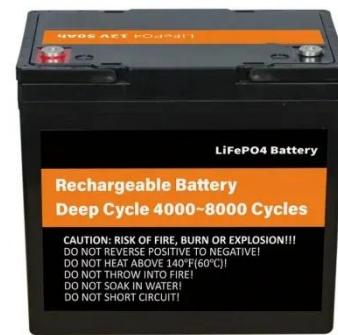
Executive summary - Latvia 2024 -
Analysis Latvia has already made
inroads on the share of renewable
energy in its fuel mix, with sizeable

shares of bioenergy and hydropower. ...



Latvia solar wind hybrid power plant

This summer SIA ACCEDO concluded a long-term development services cooperation agreement with one of the world's largest wind power plant manufacturers for the development of hybrid ...



Hybrid power generation system Latvia

Jan 25, 2025 · Executive summary - Latvia 2024 - Analysis Latvia's hydro-dominated electricity system provides a

favourable starting point to use clean electricity to decarbonise other ...



Small-Scale Hybrid Solar and Wind Power Generation System

Apr 9, 2022 · The importance of renewable power generation is taking a major role in present research work. The consumption of energy has spiked and significant changes in technology ...



Hybrid power generation system Latvia

Electricity will be the cornerstone of Latvia's energy transition. Latvia's hydro-dominated electricity system provides a favourable starting point to use clean electricity to decarbonise other ...

Energy infrastructure in Latvia

Oct 26, 2024 · Latvia's energy system is largely based on renewable resources, primarily hydropower from the Daugava River, supplemented by wind, solar, and biomass. While ...



Hybrid power generation system Latvia

Executive summary - Latvia 2024 - Analysis Latvia's hydro-dominated electricity system provides a favourable starting point to use clean electricity to decarbonise other economic sectors and

...

Wind power growing Latvia's renewable energy ...

Sep 6, 2023 · In 2022, 4 997 GWh of electricity were generated in Latvia (14.5 % fewer than in 2021), of which 3 783 GWh were produced from renewables (up ...



Latvia Energy Grants 2025: Solar, Wind, and Efficiency ...

May 13, 2025 · Discover Latvia's 2025 energy grants and subsidies for solar panels, wind turbines, heat pumps, and

energy efficiency improvements. Freen helps homeowners and ...



Latvian AST inks contracts for connecting over ...

Sep 25, 2024 · Latvia's transmission system operator (TSO), Augstsrieguma T?kls (AST), has signed contracts with 12 wind and solar power plant ...



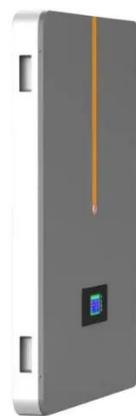
Latvian Solar Project Secures Financing

Mar 9, 2025 · The financing will increase the overall solar generation capacity in Latvia, which currently stands at 600MW. "The desynchronisation from the Russian and Belarusian power ...

From Wind to Power: Unlocking Latvia's Renewable Energy ...

May 12, 2025 · In Latvia, according to 2024 data, the largest share of electricity is generated by hydropower plants (53 %), followed by thermal

generation (29 %), with natural gas accounting ...



Maximizing Green Energy: Wind-Solar Hybrid ...

May 30, 2023 · Discover the power of wind-solar hybrid systems for sustainable energy. Learn how combining forces maximizes efficiency. Dive in now for a ...

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