ELECTRICAL POWER FROM RENEWABLE ENERGY – OUTPUT AND SHARE IN TOTAL CONSUMPTION

The Westpomeranian Region (WR) is the leader in renewable energy sources (RES). In 2020, the Region once again accounted for the largest amount of electrical power produced from RES in the country (4974 GWh 17.6% of the national output). This energy output reached its highest value ever. Consumption was at the same level as that recorded in 2019, amounting to 6054 GWh, i.e. by approximately 200 GWh less than in the record years 2016-2018. The share of energy generated from RES in total consumption in the Region reached 82.2%, with the national average of 17.5%. The Westpomeranian Region was followed by the Świętokrzyskie (44.3%) and Kuyavian-Pomeranian Regions (43.9%).

Share of electrical power output from RES in total electrical power consumption in the WR as compared to other regions in 2020

Source: RBGPWZ, based on GUS-BDL data





Electrical power output from RES in relation to total electrical power consumption in 2011-2020

DISTRICT HEAT GENERATED FROM RES BY LICENSED COMPANIES - OUTPUT AND SHARE IN TOTAL CONSUMPTION

solid n

ELECTRICAL

POWER

▲ 2020

A 2019

V 2020 **S A** 2019 **36**4

Ò

2000

4000

TOTAL

2020

▲ 2019

DISTRICT HEAT

(Presented data do not include heat generated by entities other than licensed companies and by households)

In 2020, licensed district heating companies in the Westpomeranian Region generated 511.2 TJ of heat from RES and 628.7 TJ of heat from municipal solid waste. This output decreased by more than 10% compared to 2019 and accounts for only 7% of the heat output, with the national average increasing from 8.7% to 9.3%. It is worth noting a significant decrease in heat production from biomass and a slight increase in that production from municipal waste. The basic fuel was still hard coal whose share in the fuel mix increased from 80.6% to 82.8%, while the share of gas remained at a very low level - 2.4%. The growing costs of fossil fuels and regulations aimed at limiting harmful emissions will force licensed companies to change their fuel mix in the coming years. This, in turn, will force them to incur significant investment costs.



Heat output from various fuel sources in the WP, including the percentage

In 2020, the already very low share of renewable energy in the generation of district heat saw a further decrease.

In turn, a significant increase in energy generated from RES, along with a slight increase in total consumption, resulted in an increase in the total share of renewable energy in total energy consumption from 45.6% to 50.1%.



Regional Spatial Management Office of the Westpomeranian Region in Szczeci pl. im. J. Kilińskiego 3, 71-414 Szczecin, tel.: (+48) 91 432 4960, <u>www.rbgp.pl</u>





6000

8000

[Gwh]

THE ENERGY MIX OF THE WESTPOMERANIAN REGION FOR **RENEWABLE ENERGY USE IN ELECTRICAL POWER AND HEAT SOURCES**

These charts contain data on the spatial distribution within the Westpomeranian Region (WR) of plants using renewable energy sources, their capacities and energy and heat outputs, as well as present the development of renewable energy in the Region as compared to other regions and the status of renewable energy in each of the Region's communes and counties. Presentation of this information was possible thanks to cooperation with ENEA Operator Sp. z o.o., ENERGA-OPERATOR SA and URE. The charts and selected infographics can be found on the website of RBGPWZ in Szczecin: http://rbgp.pl/publikacje/

RES PLANTS IN THE REGION AND IN THE COUNTRY CAPACITY OVER 50 kW, as of 31.12.2021

Following a sharp growth in 2020, achieved mainly due to a temporary reduction of the restrictions introduced in 2016 and the admission to auctions of farms designed in accordance with the previous regulations, 40 new plants were established in the WR in 2021, including 34 photovoltaic power plants with a total capacity of 58.6 MW, 5 wind plants with a total capacity of 14.8 MW, and 1 agricultural biogas plant in Bierzwnica with a capacity of 0.5 MW. In 5 of these plants, the capacity was increased in total by 0.4 MW. As a result of the completed investments, the total capacity of the power plants over 50 kW exceeded 2046 MW, accounting for 18.2% of the total installed capacity in the country. This still gives the WR a leading position in Poland, ahead of the Greater Poland, Kuyavian-Pomeranian and Pomeranian Regions. Including the capacity of micro-power plants, the capacity RES plants in the Region has already exceeded 2252 MW.

by type of technology [MW] as of 31.12.2021



RES PLANTS IN COMMUNES AND COUNTIES IN THE REGION CAPACITY OVER 50 kW, as of 31.12.2021

The clear leader is the Sławieński County (with installed capacity of 669.2 MW), followed by the Kołobrzeski (258.1 MW), Kamieński (172.8 MW) and Pyrzycki Counties (113,0 MW). Among the communes, the clear leader is the Darłowo Commune with a capacity of 258.6 MW, followed by the Malechowo (192.4 MW) and Postomino Communes (167.8 MW). The leader in terms of biomass plants is the Szczecin Commune (91.5 MW), and in terms of photovoltaic power plants the Postomino Commune (30.0 MW).



2021



MICRO-RES PLANTS IN THE WESTPOMERANIAN REGION

Despite the pandemic, the very dynamic development of photovoltaic power plants continued throughout the country in 2021. As a result, the total micro-plant capacity increased in 2021 in the WR by 91%, reaching 206.6 MW (in Poland by 94%, 5860.2 MW). The growth rate of the installed capacity was slightly lower in the WR than in the rest of the country, resulting in a slight decrease in its share compared to 2020, from 3.57% to 3.53%. In 25 communes and 3 counties, the capacity of RES plants was higher than the national average. **Szczecin (21.27 MW) continued to be the leader in the WR, followed by Policki (17.24 MW) and Koszaliński Counties (17.20 MW). Among communes, the following places were occupied Dobra Szczecińska (9.8 MW), Koszalin (9.4 MW) and Goleniów (7.4 MW).**

Capacity of micro-RES plants [MW] – a ranking of Westpomeranian Region communes and counties as of 31.12.2021 Source: RBGPWZ based on ENEA Operator Sp. z o.o., ENERGA-OPERATOR SA and ARE data



Micro installations are mainly addressed to households and small enterprises. The number of micro-plants per 1000 inhabitants can be viewed as a measure of the degree of involvement of local communities in RES development. This measure in 2021 amounted to 16.4 plants/1000 inhabitants in the WR (compared to 22.1 in Poland). Overall, 73 communes and 5 counties in the WR recorded measures higher than the national average. As of 31.12.2021, **the leader was the Koszaliński County (33.7), followed by the Policki (30.4) and Sławieński Counties (25.2). Among communes, Kobylanka was rated first (64.0), followed by Świeszyno (59.0), Dobra Szczecińska (58.9), Mielno (58.4), Siemyśl (52.4), Biesiekierz (51.8), Kołobrzeg (a rural commune) (50.5), Nowe Warpno (48.6), and Stargard (a rural commune) (44.6).**

Number of micro-RES plants (pcs.) per 100 inhabitants – a ranking of Westpomeranian Region communes and counties as of 31.12.2021 Source: RBGPWZ based on ENEA Operator Sp. z o.o., ENERGA-OPERATOR SA and ARE data



DISTRICTS

M. SZCZECIN M. ŚWINOUJŚCIE M. KOSZALIN ŁOBESKI WAŁECKI **PYRZYCKI SZCZECINECKI** GRYFICKI BIAŁOGARDZKI **STARGARDZKI** ŚWIDWIŃSKI CHOSZCZEŃSKI **MYŚLIBORSKI** GRYFIŃSKI DRAWSKI KOŁOBRZESKI KAMIEŃSKI GOLENIOWSKI SŁAWIEŃSKI POLICKI KOSZALIŃSKI