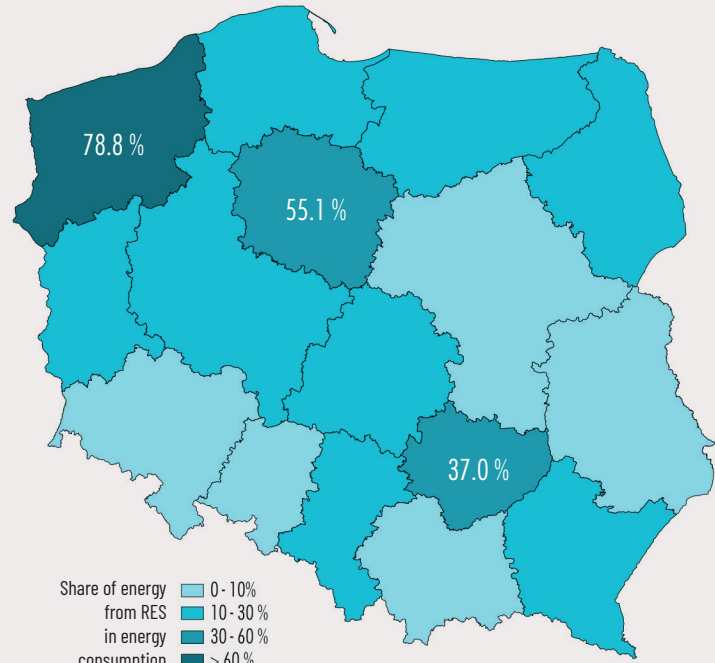


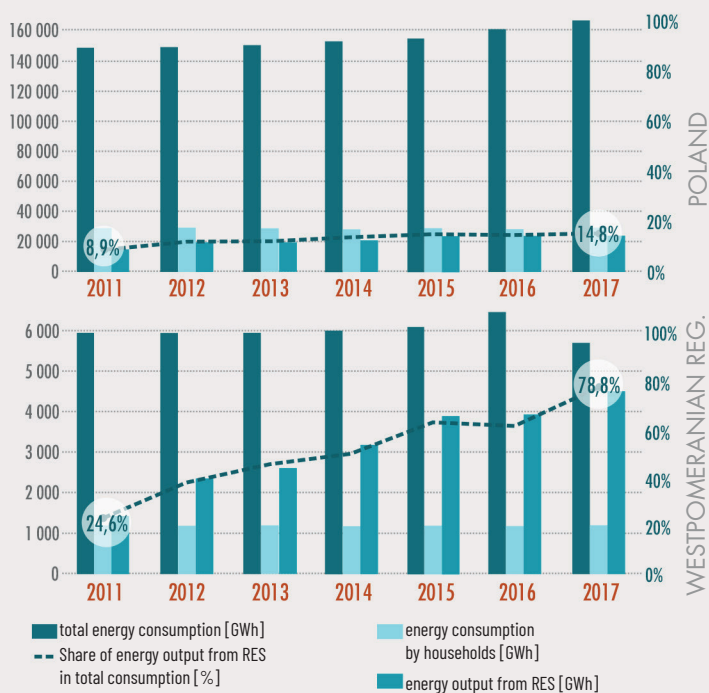
## ENERGY FROM RENEWABLE SOURCES – OUTPUT AND SHARE IN TOTAL CONSUMPTION

The Westpomeranian Region (WR) is the leader in renewable energy in Poland. In 2017 WR generated 4,459.6 GWh of energy from RES, which accounted for 18.6% of the national RES output. The energy generated from RES accounts for 78.8% of electrical energy used in the Region, while the national average is 14.8%.

The share of energy generated from RES in total consumption in the WR as compared to other regions in 2017.  
Source: RBGPWZ, based on GUS data.



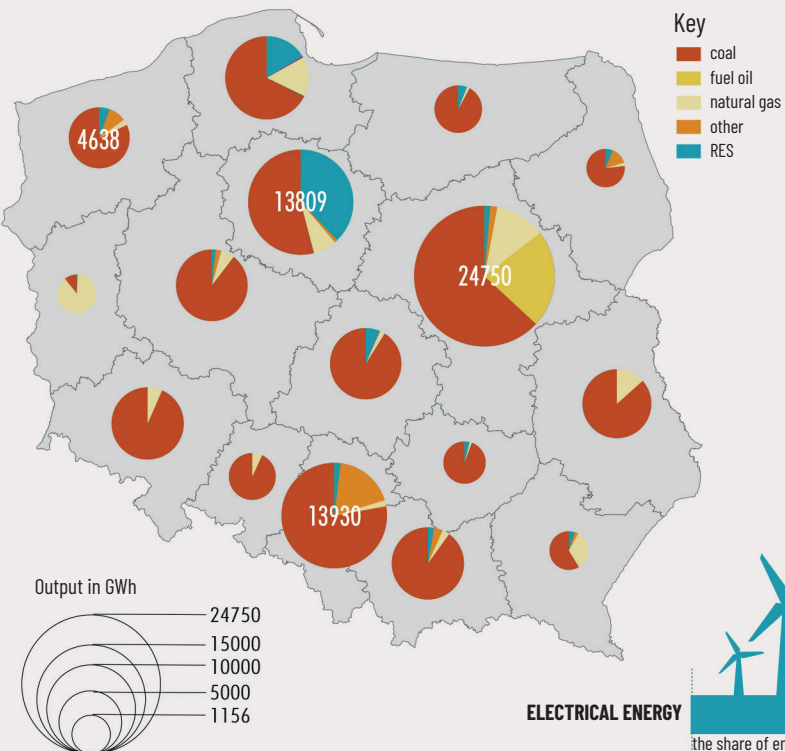
Energy output from RES and total energy consumption in 2011-2017.  
Source: RBGPWZ, based on GUS data.



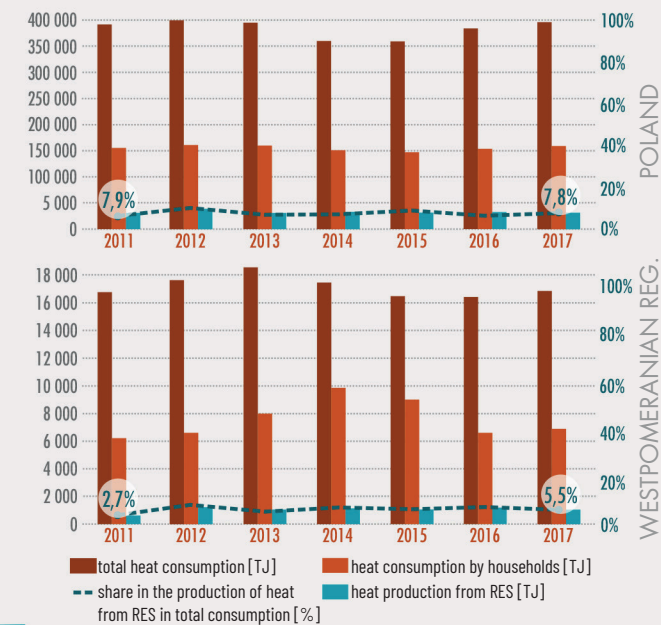
## DISTRICT HEATING FROM RES – OUTPUT AND SHARE IN TOTAL CONSUMPTION

In 2017, in the WR, licensed heating companies generated 918.3 TJ (255.1 GWh) of heat energy from RES, which accounted for 3.0% of national output from RES, giving the region 6th place in Poland. The major fuel used in the Region for generating district heating is hard coal (about 82%), while RES account for 5.5% (93% of which comes from biomass). Clearly, such a low share of RES in district heating results from the relatively high costs of heat generated from these sources. The above statistics do not take into account heat generated for own purposes by industrial power plants and households.

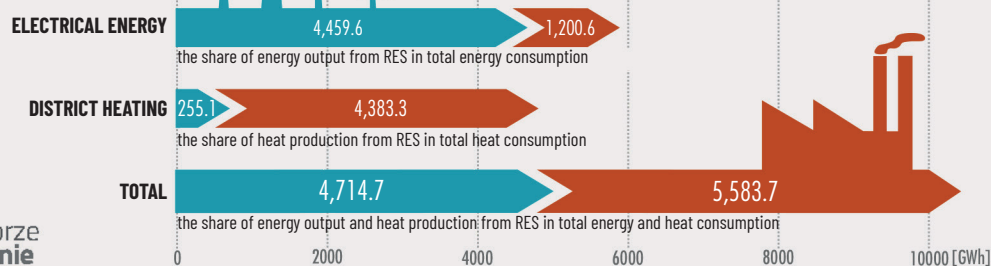
Heat production from various fuels in the WR as compared to other regions in 2017  
Source: RBGPWZ, based on URE data.



Heat production from RES and total heat consumption in 2011-2017.  
Source: RBGPWZ, based on URE data.



### ENERGY STATISTICS OF THE WESTPOMERANIAN REGION IN GWh (1GWh = 3.6 TJ):



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

2018

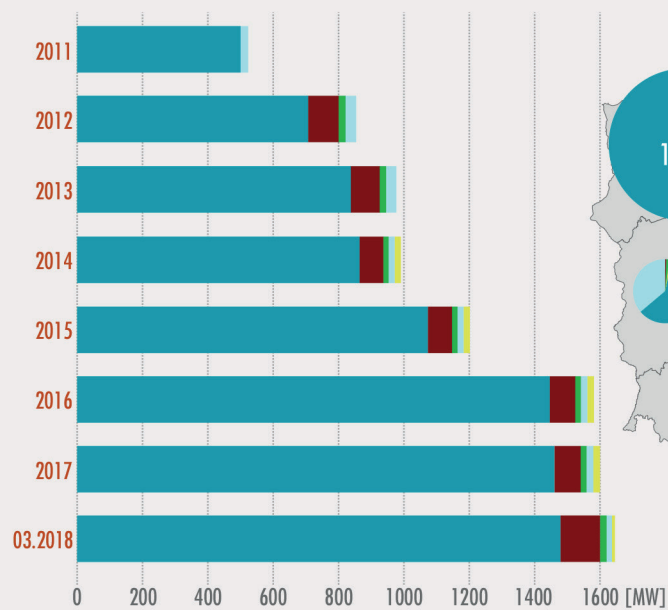
These charts contain data on the spatial distribution within the Westpomeranian Region (WR) of plants using renewable energy sources, their capacities and energy and heat outputs, as well as present the development of renewable energy in the Region as compared to other regions and the whole of Poland and the status of renewable energy in each of the Region's counties.

\* The data presented below illustrate the installed capacity and output of energy from RES in the WR, excluding the pumped storage power plant in Żydowo, which was erroneously included as a power plant using RES in the data published by URE in March 2018.

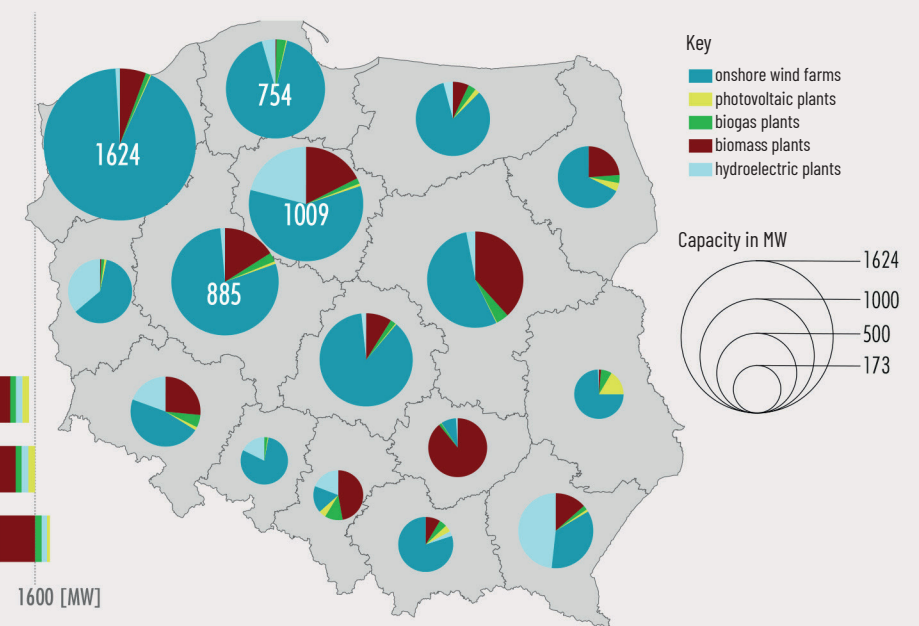
### ENERGY FROM RES - INSTALLED CAPACITY:

There are 208 power plants producing energy from RES in the WR, with the total installed capacity of 1,623.7 MW, which is about 20% of Poland's installed capacity. This makes the Region the leader in Poland, before the Kujawsko-Pomorskie, Wielkopolskie and Pomorskie regions. The field is dominated by wind energy, which has an installed capacity of 1,489.6 MW.

RES power plant capacities in the WR by technology in 2011-2018  
Source: RBGPWZ, based on URE data, 03/2018.\*

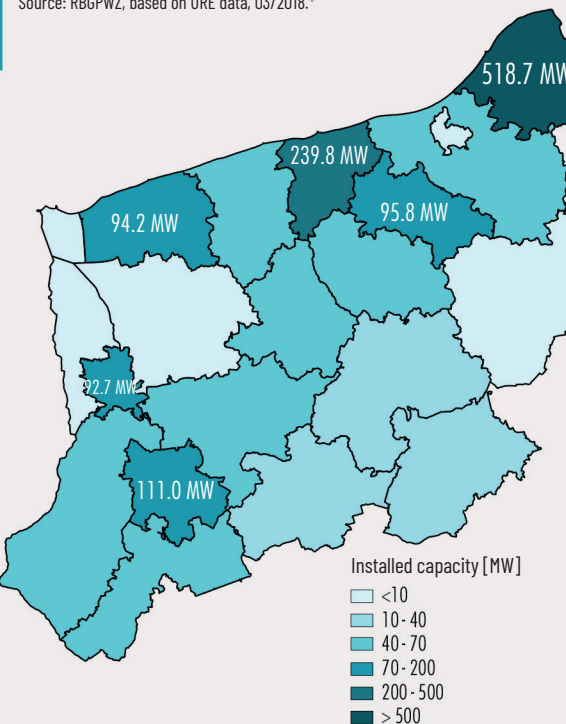


RES power plant capacities in the WR by technology as compared to other regions.  
Source: RBGPWZ, based on URE data, 03/2018.\*

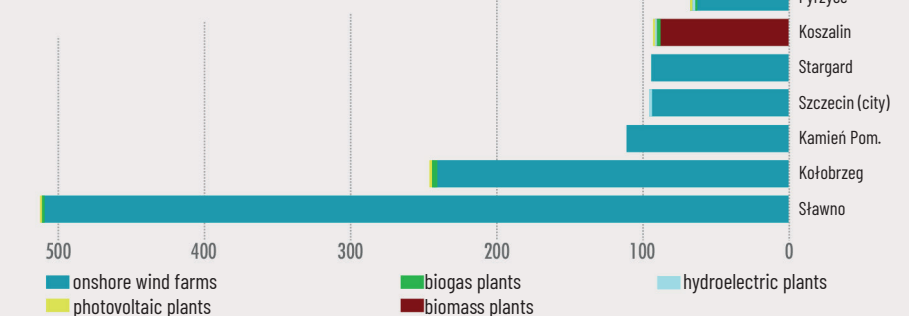


### ELECTRICAL POWER FROM RES - INSTALLED CAPACITY BY COUNTY IN THE WESTPOMERANIAN REGION

RES power plant capacities in the WR's counties by technology.  
Source: RBGPWZ, based on URE data, 03/2018.\*



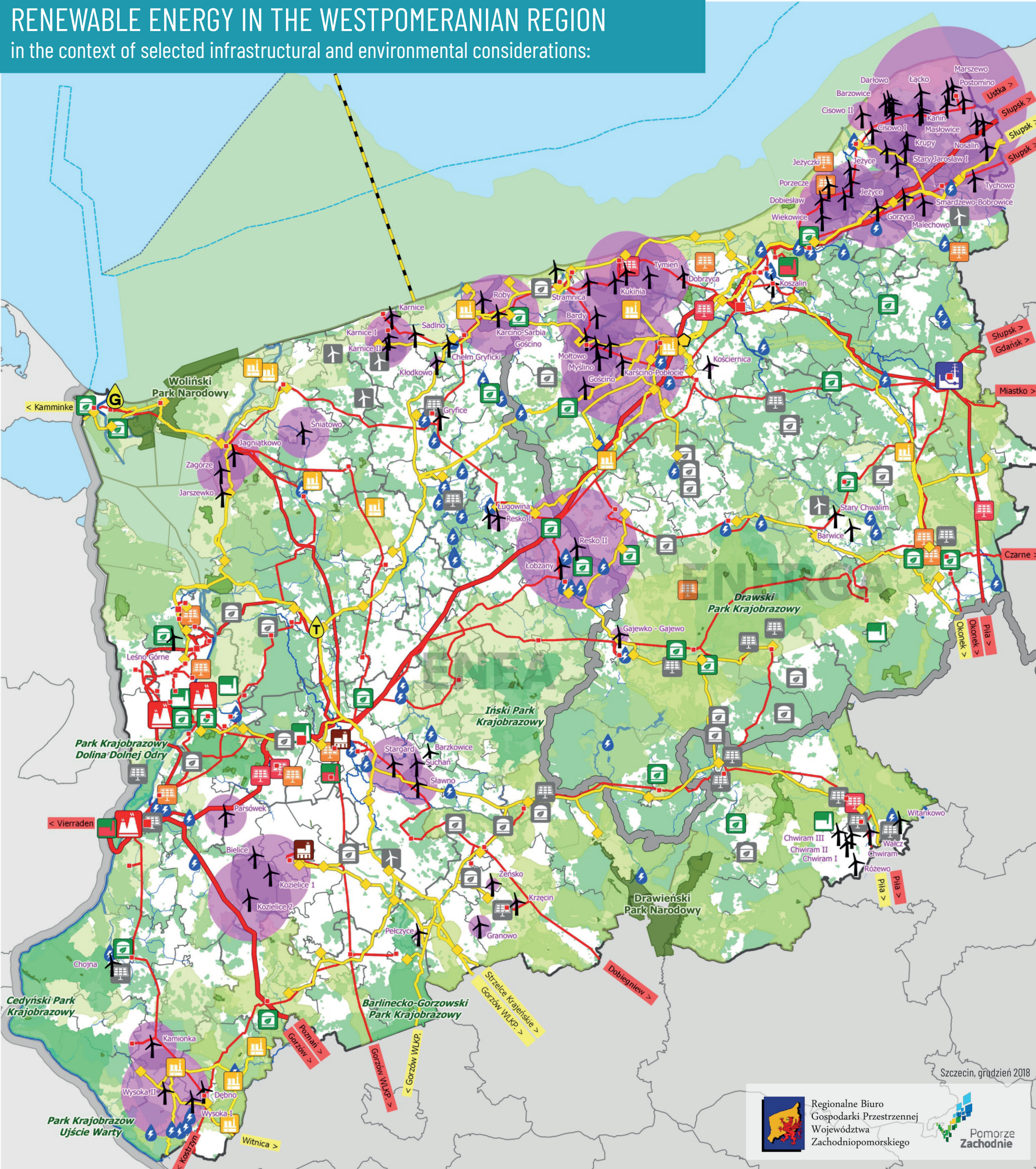
The leader in renewable energy development in terms of electrical energy output is the Sławno County, which has wind farms, small hydroelectric plants and photovoltaic plants with a total capacity of 518.7 MW, accounting for 32% of the Region's total installed capacity. The second place belongs to the Kołobrzeg County with an installed capacity of 239.8 MW (15%) in wind farms, biogas plants and photovoltaic plants. The third place, with a capacity of 111 MW (7%) is occupied by the Pyrzyce County, which is followed by Białogard, Kamień Pomorski and Szczecin (city) counties – 6% Szczecin has the region's largest biomass power plant, i.e. Elektrownia Szczecin belonging to PGE GiEK S.A. with an installed capacity of 76 MW.



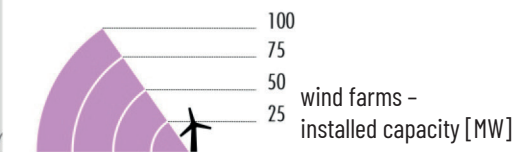









# RENEWABLE ENERGY IN THE WESTPOMERANIAN REGION

in the context of selected infrastructural and environmental considerations:



**RES power plants**  
**Current plants**





-  photovoltaic plants up to 0.75 MW
-  photovoltaic plants over 0.75 MW
-  geothermal plants
-  biogas plants
-  biomass co-firing plants
-  biomass firing plants
-  small hydroelectric plants

### Plants under construction/design

- wind farms (total capacity 320.62 MW)
- photovoltaic farms
- biogas plants


## Energy infrastructure

-  combined heat and power plants (including facilities using co-firing systems)
-  pumped storage power plant








power stations

- 400/220/110 kV
- 220/110 kV
- 400/220 kV
- 110/SN kV

electric power transmission lines

-  220 kV / 400 kV  
electric power distribution lines

## Gas infrastructure

-  facilities operating at gas deposits, oil deposits and gas-and-oil deposits
-  underground gas storage facility
-  gas stations
-  LNG terminal
-  gas compressor station
-  high-pressure gas pipelines
-  the planned Baltic Pipe

### Forms of environmental protection

- national parks
- nature reserves
- landscape parks
- protected landscape area
- Natura 2000 (SPAs & SACs)
- forests

## Other tags

- range limit of the distribution network operators (ENEA Operator Sp. z o.o., ENERGA-OPERATOR S.A.)
- Polish sea border
- Polish economic zone border

### Local zoning plan areas (MPZP) for locating wind farms

