

Prosumers in Poland



**Tomasz Wiśniewski,
Department of Renewable Energy,
Energy Regulatory Office in Warsaw, Poland**

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I. Legal basis for prosumers in Poland

- The Act of February 20, 2015 on **renewable energy sources** (hereinafter: "RES Act" - entry into force on 4 May 2015).
- Amendment of October 29, 2021 to the RES Act (entry into force on 1 April 2022):
 - change of the model of the support system for prosumers: from **net-metering** to **net-billing**,
 - new types of prosumers (collective and virtual prosumers).

II. Report on RES micro-installations

- The annual report of the President of the Energy Regulatory Office on electricity generated in RES micro-installations is based on Art. 6a of the RES Act - published since 2018.
- The data contained therein is based on information provided by electricity distribution system operators (DSOs).
- Source: <https://bip.ure.gov.pl/bip/o-urzedzie/zadania-prezesa-ure/raport-oze-art-6a-ustaw/3793,Raport-dotyczacy-energii-elektrycznej-wytworzonej-z-OZE-w-mikroinstalacji-i-wpro.html>



III. Legal definitions in RES Act #1

- **Renewable energy prosumer** - **end user** producing electricity exclusively from renewable energy sources in **micro-installations**, for **own use**, provided that in the case of an end user that is not a household electricity consumer, generating electricity is not the subject of the predominant economic activity (...).
- **Micro-installation** - installation of a renewable energy source with a **total capacity installed electric power of not more than 50 kW**, connected to the network electricity with a rated voltage lower than 110 kV or with a capacity achievable thermal in combination of not more than 150 kW, in which the total power the installed electric is not more than 50 kW.
- **End user** – an **user purchasing fuels or energy for their own use** (user - a customer purchasing fuels or energy for their own use).

IV. Legal definitions in RES Act #2

- **Collective prosumer of renewable energy** - end user producing energy from RES for his own needs in a **micro-installation** or a **small installation** connected to the electricity distribution network via the internal electrical installation of a multi-unit building (...).
- **Small RES installation** – an installation of a renewable energy source with a total installed electrical capacity of **more than 50 kW and not more than 1 MW**, connected to a power grid with a rated voltage lower than 110 kV or with a combined heat output of more than 150 kW, and smaller than 3 MW, with the total installed electric capacity greater than 50 kW and not greater than 1 MW.
- **Virtual prosumer of renewable energy** - end user producing energy for his own needs in a RES installation connected to the electricity distribution network in a place other than the place where electricity is supplied to this recipient.

V. Connecting to the grid

- Connecting the micro-installations to the grid is **free of charge** (the cost of the security and metering and billing systems is covered by the DSO).
- When the capacity of the micro-installation is not greater than the capacity specified in the previously issued connection conditions, a **notification to DSO is sufficient**.
- When the capacity of the micro-installation is greater than the capacity specified in the issued connection conditions, a **connection agreement is required**.
- Provided the total installed electric power of the micro-installation is greater than 10 kW, the DSO may limit the operation of the micro-installation or disconnect it from the grid, when the overgeneration of electricity poses a threat to the operation of the grid.

VI. Net-metering – until March 31, 2022

- Prosumers producing energy in installations up to 10 kWp paid a fee of 1 to 0.8: i.e. for one unit of energy fed into the grid, a prosumer could consume 0.8 of the energy unit for free.
- For larger installations (above 10 kWp) this ratio was 1 to 0.7.
- Pay settlement was made in semi-annual periods.
- Prosumers did not pay part of the distribution fees for using the network.
- All those who became prosumers before April 1, 2022 will be charged on these principles (discount system) for the next 15 years.
- Whoever submitted a correct and complete application for connecting micro-installations to the network by March 31, 2022, was able to take advantage of the old support system.
- Whoever submitted an application for the connection of a micro-installation from April 1, 2022, would benefit from the old support system only until June 30, 2022 (i.e. settlement under new rules from July 1, 2022).

VII. Net-billing – from April 1, 2022

- Prosumers sell the surplus of energy produced and fed into the grid, however they pay for the consumed energy in the same way as other electricity consumers.
- Settlement in the net billing system takes place within 12 months.
- Prosumers have deposits from which they are able to pay for the energy they use. The energy value in the deposit is calculated according to the market monthly average price.
- After 12 months any unused funds are returned, but only up to 20% of the value of electricity fed into the grid in the calendar month to which the overpayment is reimbursed. The remaining accumulated savings are cancelled.
- Prosumers do not pay VAT on the energy fed into the grid or PIT. However, when drawing energy from the grid, they partially pay distribution fees, RES fees and cogeneration fees, as well as excise duty and VAT.

VIII. Electricity prices for prosumers

- PSE S.A.* calculates and publishes the electricity price for prosumers on the 11th day of each month and it applies to the previous month. On June 11, 2023, the price for May was published. This is the lowest price among all published so far.

RCEm - Market monthly price of electricity j	Price [PLN/MWh]
April 2022	656.04
May 2022	656.04
June 2022	656.04
July 2022	796.27
August 2022	1019.06
September 2022	710.03
October 2022	575.48
November 2022	701.67
December 2022	723.49
January 2023	594.59
February 2023	668.51
March 2023	509.72
April 2023	505.44
May 2023	381.44

1 EUR = 4,45 PLN
1 USD = 4,07 PLN

(as of 16.06.2023)

* - PSE S.A. - Polskie Sieci Elektroenergetyczne S.A. (National Transmission Grid Operator)

IX. „My electricity” program

- A public support program for prosumers organized yearly by the *National Fund for Environmental Protection and Water Management* since 2019.
- The 5th edition of the program is currently underway (since April 2023).
- In addition to photovoltaic micro-installations, support is also provided for energy storage facilities, heat pumps, heat collectors and energy management systems connected to them.
- The support program takes the form of non-repayable grants of up to PLN 58,000. PLN.
- The current edition is addressed to prosumers who, on the day of submitting the application, have a connected photovoltaic micro-installation with a capacity of 2 kW to 10 kW and settle for the electricity produced in the net-billing system.
- Throughout the duration of My Electricity, over 400,000 subsidies for photovoltaics for individual recipients were paid out, for a total amount of over PLN 1.7 billion.
- Since the launch of the My Electricity 5.0, almost 14,000 applications for subsidies have been submitted, for the amount of almost PLN 115 million. This means that the entire budget for this year's edition was used in a month. The huge interest in the program made the Ministry of Climate and Environment, announce an increase in the budget by another PLN 400 million. Thus, the funds should be enough for another 48,000. applicants.

X. Prosumers - statistical data #1

- **60.9 GW** – installed capacity of **conventional and RES sources** in Poland.
- **23.4 GW** – installed capacity of **RES sources** in Poland.
- **13 GW** – installed capacity of photovoltaic RES sources in Poland.
- **9.3 GW** – installed capacity of all micro-installtions.
- **1,213,571** – total number of micro-installations in Poland.
- **1,200,755** – number of micro-installations used by prosumers.

X. Prosumers - statistical data #2

RES micro-installations by type of renewable energy source (as at the end of 2022).

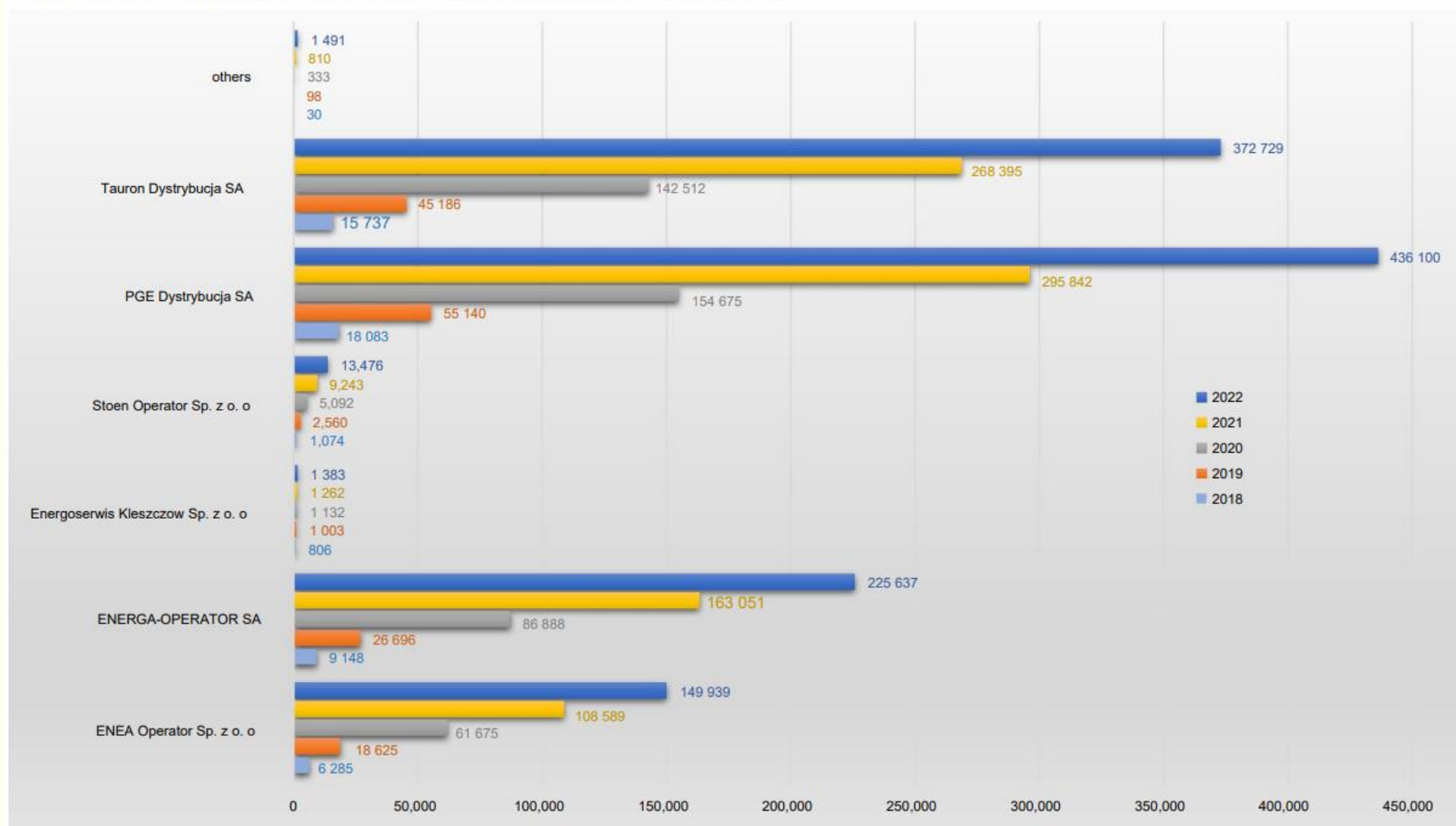
Type of RES micro-installation	Number of microinstallations [pcs]	Total installed capacity [MW]
biogas other than agricultural biogas	31	0.262
agricultural biogas	42	1.403
biomass	51	0.439
solar radiation	1 212 963	9,307,179
solar radiation/biogas other than agricultural biogas	2	0.051
solar radiation/agricultural biogas	1	0.020
solar radiation/wind	73	1.006
solar radiation/water	5	0.118
solar radiation/geothermal energy	1	0.003
wind	82	0.636
water	320	8,089
SUM	1 213 571	9,319,206

Source: ERO own study based on DSO data.

- Number and installed capacity of micro-installations in Poland in 2018 - 2021:
 - **2018** - 55,502 micro-installations - 353 MW
 - **2019** - 155,626 micro-installations - 1000 MW
 - **2020** – 459,168 micro-installations - 3025 MW
 - **2021** – 856,216 micro-installations – 6100 MW
- The dynamics of the increase in the number of micro-installations in 2018-2022 was as follows:
 - in 2019, compared to 2018 - increase by approx. **191%**,
 - in 2020, compared to 2019 - increase by approx. **202%**,
 - in 2021, compared to 2020 - increase by approx. **87%**,
 - in 2022, compared to 2021 - increase by approx. **41%**.

X. Prosumers - statistical data #4

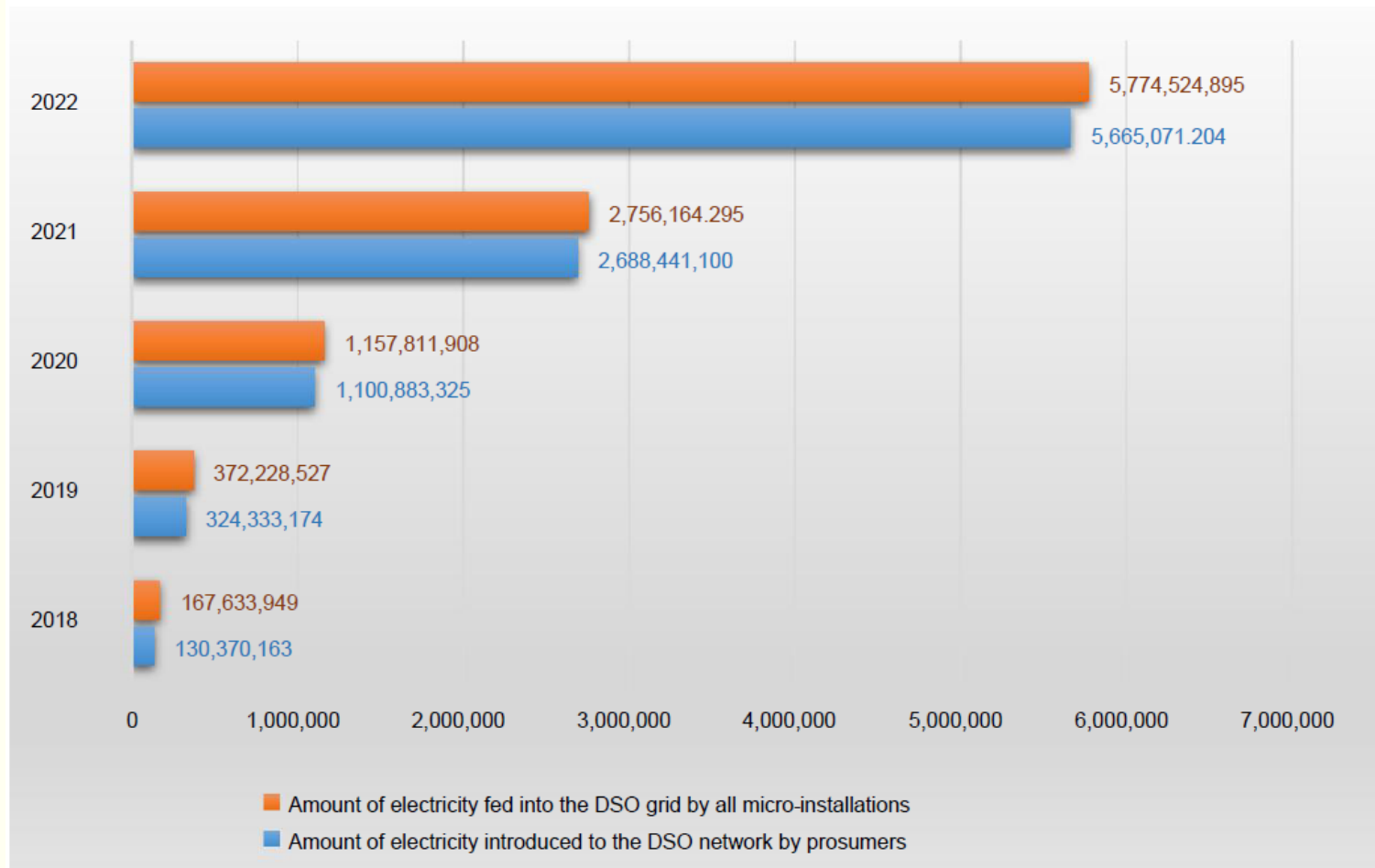
Figure 1. Number of prosumers connected to the grid of individual DSOs in 2018-2022



Source: ERO own study based on DSO data.

X. Prosumers - statistical data #5

Figure 2. Amount of electricity fed into the DSO grid by prosumers and all electricity producers in micro-installations in 2018-2022 [MWh]



Source: ERO own study based on DSO data.

X. Prosumers - statistical data #6

Table 6.1. Structure of electricity production in domestic power plants, volumes of electricity exchange with foreign countries and domestic electricity consumption in 2020÷2022 [GWh].

no.	Itemization	2020	2021	Dynamics [(ba)/a*100] [%]	2022	Dynamics [(db)/b*100] [%]
		[and]	[b]	[c]	[d]	[e]
1.	Total production (1.1+1.2+1.3+1.4)	152 308	173 583	13.97	175 157	0.91
1.1	Professional power plants	126 137	154 599	22.56	147 555	-4.56
1.1.1	El. professional aquatic	2 698	2 830	4.88	2 815	-0.53
1.1.2	El. professional thermal	123 439	151 769	22.95	144 740	-4.63
1.1.2.1	on hard coal	71 546	93 037	30.04	87 761	-5.67
1.1.2.2	on brown coal	37 969	45 367	19.48	46 978	3.55
1.1.2.3	gas	13 924	13 366	-4.01	10 002	-25.17
1.2	El. wind and other renewables	16 372	18 984	15.95	27 602	45.4
1.3	Industrial power plants	9 799	---	-	---	-
2.	Foreign exchange balance	13 224	820	-93.8	-1 679	-
3.	Domestic electricity consumption	165 532	174 402	5.36	173 479	-0.53

Source: 2022 Annual Report by PSE S.A. (Polskie Sieci Elektroenergetyczne S.A. (National Transmission Grid Operator)).

XI. Impact on the grid #1

*„The effect of the rapid development of prosumer energy observed in recent years is occurrence of a number **difficulties in the area of micro-installation capacity integration in the national power system.***

The current situation is due to insufficient symmetry in assessing the development potential of prosumer installations in relation to the solutions introduced to the national legal order, which in consequence gave rise to the need to amend the provisions concerning prosumer energy, significantly modifying the nature of this instrument.

The issue is the possibility of increasing the flexibility of the power system and improvement of functionality in the field of control, network management, as well as process automation related to the operation of power grids.”

Source:

National Report of the President of the Energy Regulatory Office for 2022

XI. Impact on the grid #2

*„In order to balance the supply and demand for electricity, PSE uses the available measures, in particular underestimation of production by power plants. Due to the scale of **oversupply of electricity on 23 April 2023, exceeding 3,000 MW**, it will also be necessary to reduce the generation of RES sources, including RES sources connected to the medium voltage grid, and probably also connected to the low voltage grid.*

The actions taken by PSE are aimed at ensuring the safe operation of the national power system. PSE does not anticipate any significant disruptions in the supply of electricity to customers.”

Source:

Announcement of PSE S.A. (Polskie Sieci Elektroenergetyczne S.A. (National Transmission Grid Operator)) of April 23, 2023.

XII. Further development #1

„The development of distributed energy, including prosumer energy, completely changes the character of the sector distribution.

So far, the activity of distribution system operators has been concentrated mainly on ensuring the reliability of energy supplies, i.e. primarily on technical aspects .

However, EU law creates a new regulatory environment that positions DSOs in a role market maker and its further functioning will largely depend on their efficiency.”

President of ERO

Source: National Report of the President of the Energy Regulatory Office for 2022

XII. Further development #2

On November 7, 2022, an agreement was concluded between the President of ERO and the DSOs. The effect of the signed agreement will be investments related to:

- increasing the installed capacity of RES (with the participation of prosumers) to approx. 50 GW, i.e. by approx. 230 percent, (planned share of RES in the electricity mix at 50% by 2030. after taking into account the power connected to the PSE S.A. network),
- digitization and automation of networks and services, which will result in increased network flexibility,
- support for the transformation of the energy market (activity of market participants, development of new products and services),
- installation of approx. 18 million Remote Reading Meters (smart metering) by the end of 2030,
- connecting approx. 2 million new customers by 2030.

Source: Report on the activities of the President of the Energy Regulatory Office for 2022

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