Energy Regulatory Office

ENERGY REGULATORS REGIONAL ASSOCIATION

Cable pooling in Poland

Filip Marcinkowski
Attorney-at-law
Energy Regulatory Office

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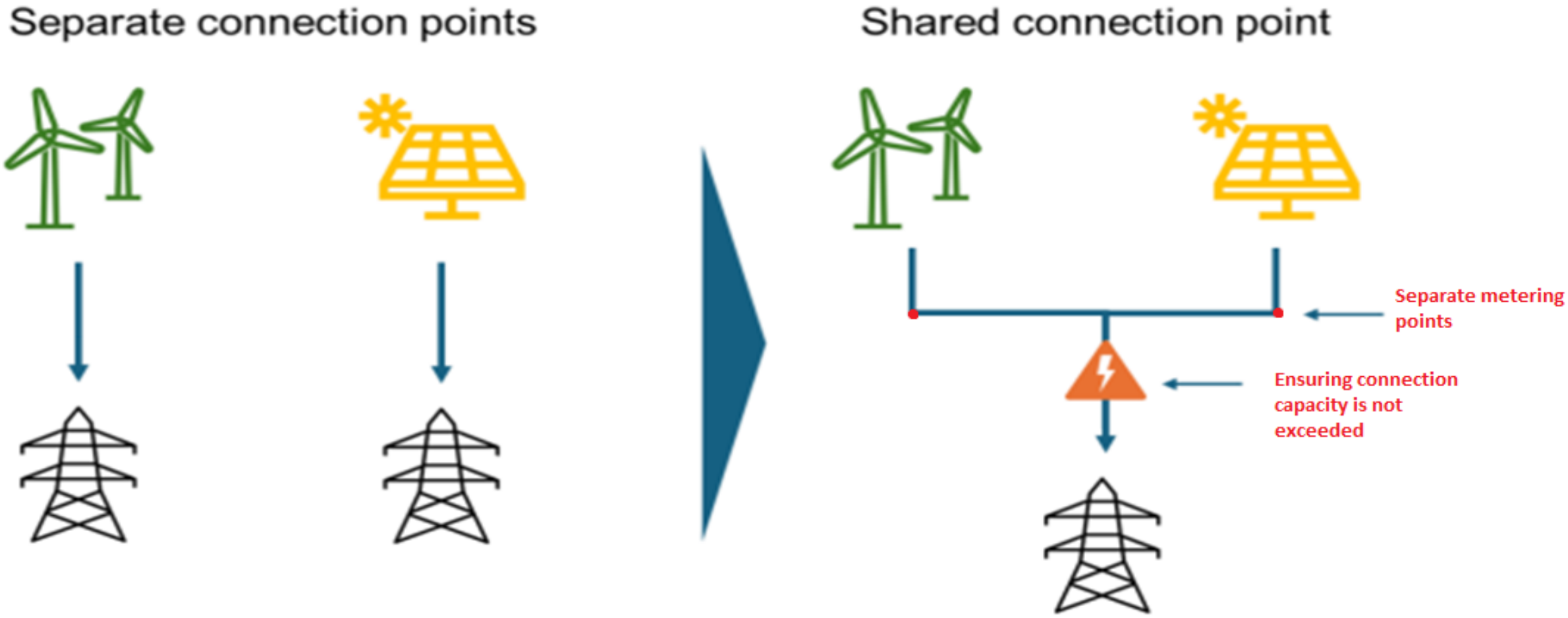
View of cable pooling in Poland

Two or more **RES installations** belonging to **one** or **more entities** may be connected to the electricity grid with a **rated voltage higher than 1 kV** at a **single connection point**. The provision of the first sentence shall not apply to renewable energy source installations for which the grid connection point is the installation of the final customer.

A **single connection condition shall be issued** for all renewable energy source installations connected to the grid and a **single grid connection agreement shall be concluded**

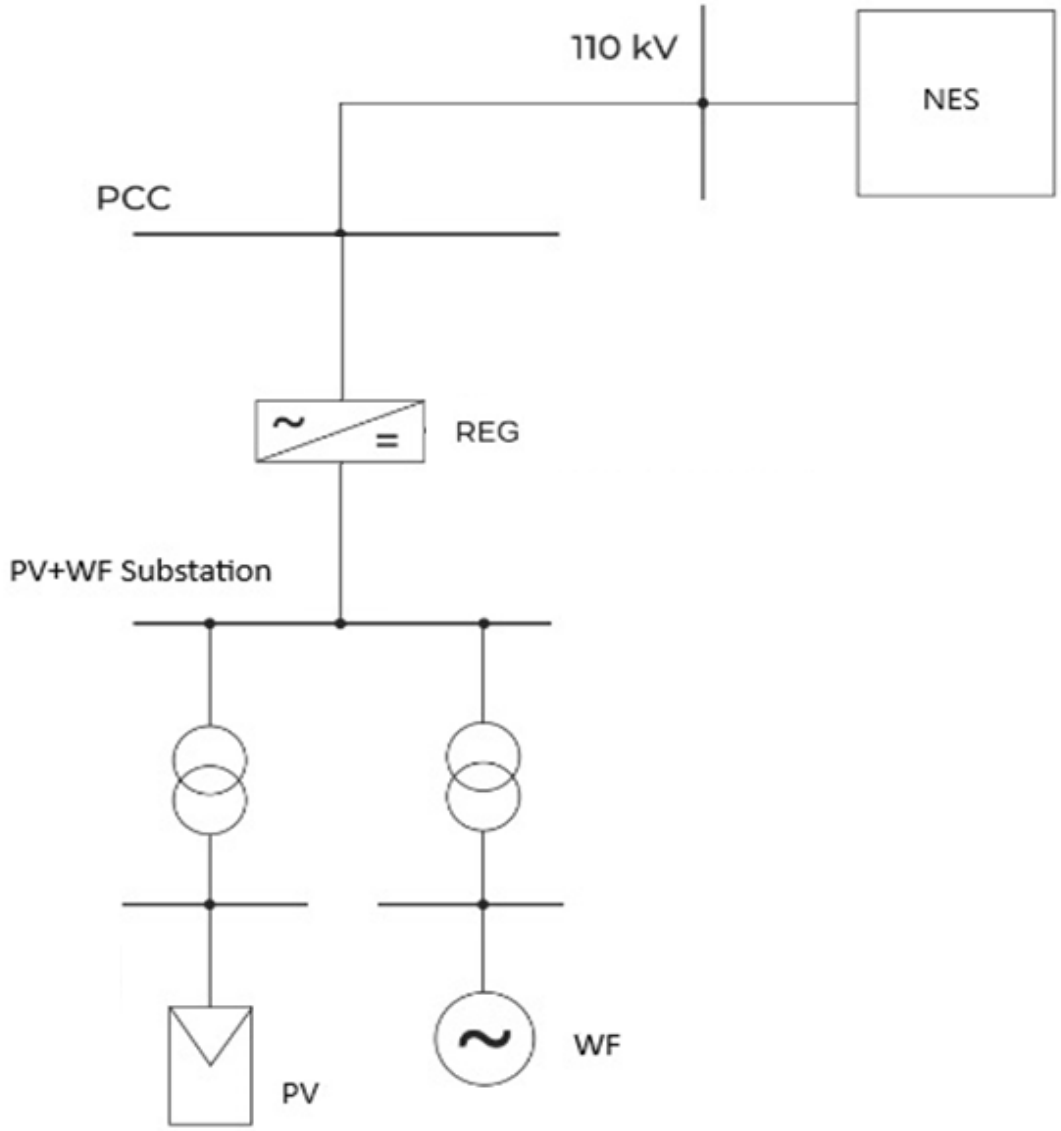
The effective date of the legislation does not prevent the application of cable pooling to installations that existed before the legislation came into force.



<u>Data*</u> indicates that enabling the cable pooling will allow the development of a further 25GW of renewable capacity, without incurring additional costs in the development of grid infrastructure. This is a saving of around PLN 40 billion, which would otherwise have to be spent on new connection capacity.

<u>Energy Forum. Pooling of RES sources. Potential of cable pooling in Poland. Tobiasz Adamczewski – Energy Forum prof. Józef Paska, PhD Grzegorz Plewa, Tomasz Chmiel – Enercode, 18th of May 2023, https://www.forum-energii.eu/cable-pooling</u>

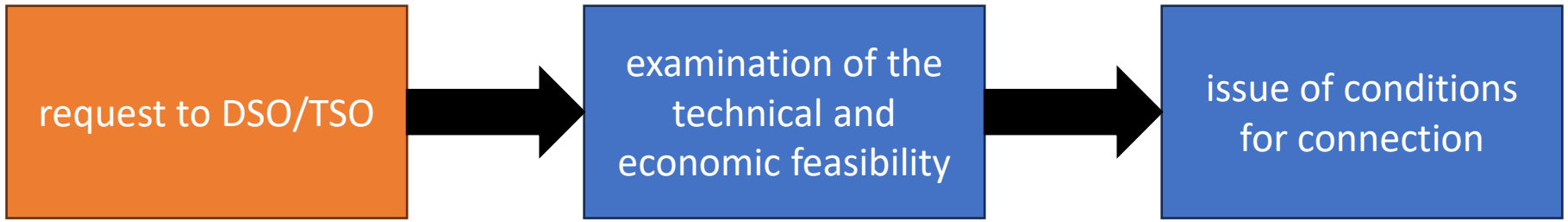
Schematic diagram of Photovoltaics and Wind Farm connected via cable pooling*



**Report „More RES in the grid. Methods for increasing the connectivity of the Polish electricity system.", PWEA, Lublin University of Technology, 2023, modified in the aspect of REG placement*

Cable pooling procedure

- The procedure of cable pooling basis does not differ significantly from the ordinary procedure of grid connection.



- Common issue with cable pooling, but also with ordinary procedure, is that DSOs/TSO can refuse to issue connection conditions due to lack of economic or technical feasibility
- The Polish legislator has not introduced yet definitions of technical and economic connection conditions, thus leaving to define these concepts to the practice of law application.

Technical and economic connection feasibility

Lack of economic feasibility

It must be considered in terms of the expenditure that the undertaking must incur in order to connect the installation to the grid and the directions of the funds that can be raised for this purpose. (i.e. development plans)

Lack of technical feasibility

An obstacle of a permanent nature that cannot be removed, despite attempts to do so. Therefore, there must be an irremovable impediment preventing the implementation of the investment.

Possible scenarios for cable pooling

Request can cover:

1. **First grid connection of two or more RES installations – principle**
2. **Connection conditions have previously been issued** for the '*first*' energy installation and a connection agreement has been concluded, and the entity applies for the connection of a second or subsequent RES installation
3. **RES installation is connected** with the grid (*existing installation and connection built*) and the connected entity is applying for the connection of a second or subsequent RES installation

Subjective and objective structure

- No subject restrictions. The owner of two RES sources, as well as two separate owners, may apply for connection under cable pooling

- Everything in the scope of „***RES installation***" defined by the RES act can be connected via cable pooling, this includes: PV, Wind Farms, Biogas plant, Hydro

- Standalone energy storages cannot be connected via cable pooling but*

General rules regarding cable pooling

- The request shall contain the connection capacity specified by the entity applying for connection **in total** for all RES installations planned to be connected to a single connection point and the indication of the connection point.
- The request shall be submitted for **two or more renewable energy source** installations which, after being connected to the grid, shall have a **common supply point** and **separate metering points dedicated to each of those installations.**
- In case where the connection capacity is lower than the sum of the *Pmax* RES installation, the grid connection agreement must contain detailed description of the manner of securing the technical capacity not to exceed the connection capacity. The cost shall be borne by the entities connected to the grid. The supervision shall be carried out by operators, who shall be responsible in particular for securing these devices in such a way that their settings cannot be changed.
- TSO/DSO's shall specify in the connection terms and conditions the manner of securing the technical capacity to not exceed the connection capacity.

Documents to be produced

- Documents confirming the legal titles to the use of the property on which on RES installations will be allocated as specified in the application
- An obligation on each of the parties to the agreement to install equipment to prevent the connection capacity from being exceeded
- Authorisation to represent all parties to the agreement before the DSO/TSO or the President of ERO in matters arising from the content of the agreement
- An obligation on each of the parties to the agreement to comply with any legal and contractual requirements
- Statement by each of the parties that they agree to verify by the DSO/TSO of the technical parameters of the RES installation and the content of the agreement

Agreement of individual owners

In the case of **two separate owners**, an **agreement has to be concluded.**

Such agreement shall specify:

1. Allocation of RES installations
2. The party to the agreement who concludes grid connection agreement and transmission/distribution service contract for all connected and planned installations
3. Principles of joint exercise of rights and obligations resulting from the terms and conditions for connection, the grid connection agreement and the agreement for the provision of electricity transmission or distribution services
4. Location of measurement points specific to individual installations
5. The rules on the sharing of sets of facilities for the derivation of to the point of demarcation of the ownership of the network of the electricity undertaking and the installations of the entities to be connected
6. Rules of cooperation with an entity which is a party to a contract for the provision of electricity transmission or distribution services in the performance of its obligations
7. The rules for the distribution of the funds received as financial compensation in case the operator applies redistribution, referred to in Article 13(7) of Regulation 2019/943, between the parties to the agreement

assignment is possible

DSR/Redispatching

For each RES connected to the grid in accordance, the owners shall perform obligations relating to participation in system balancing and system congestion management.

The obligations shall not affect the right of each party to the agreement to conclude an agreement for the sale of electricity, as well as to conclude transactions for each renewable energy source installation connected to the grid in accordance.

The conclusion of a transmission or distribution service agreement shall be deemed to be the basis for the supply of electricity from those renewable energy source installations.

NC RfG (allowance provided directly in NC RfG)

In the case where, at the grid connection point where a renewable energy source installation referred to in Article 4(2) of Commission Regulation 2016/631 of 14 April 2016, a further RES installation is connected, the requirements set out in that Regulation shall apply only to the **newly connected installation**, unless existing installation has been subject to the modernisation referred to in that regulation.

Within the framework of connection sharing in the event that the previously connected installation has not been subject to modernisation, the requirements of the regulation apply only to the '**new**', including subsequent RES installations.

Article 4(2) of NC RfG

„A Member State may provide that, in certain circumstances, the regulatory authority may determine whether a generation unit is to be considered an existing generation unit or a new generation unit."

Public aid/support schemes

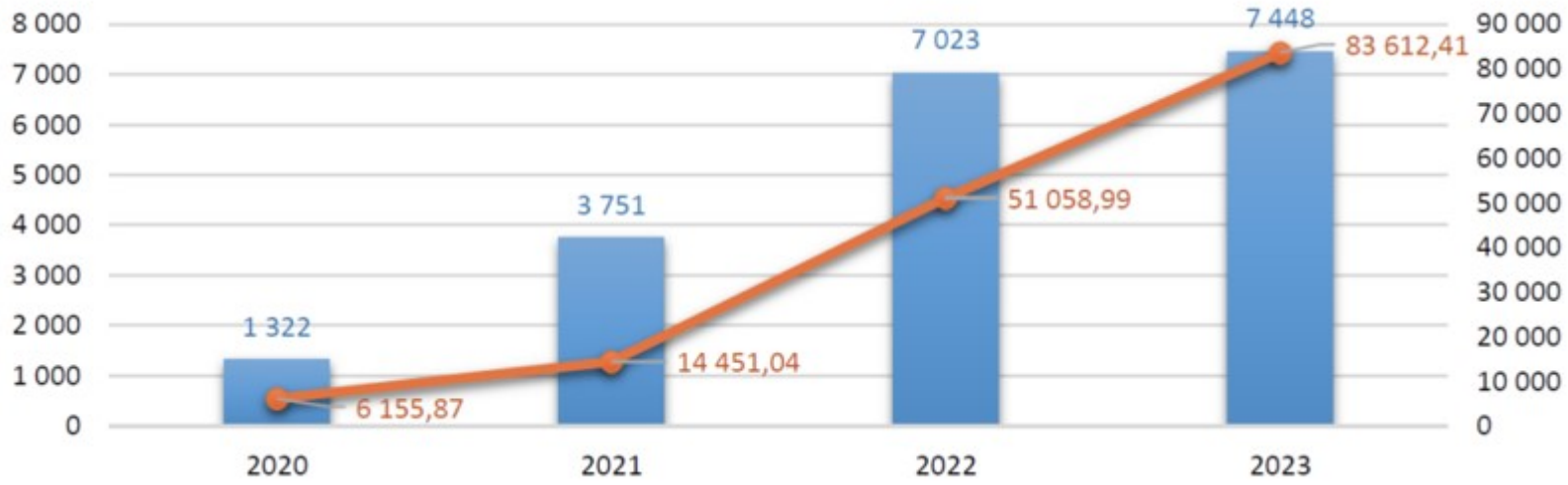
Possibility for beneficiaries of the auction support scheme and the FIT/FIP schemes to share connection infrastructure, with the provision that the electricity generator in the '***planned installation***' (in the case of connecting two new installations it will be necessary to indicate which of these installations is the '***first planned***' installation) to be connected does not benefit, nor will it benefit, from any support mechanism for the production of energy from renewable sources provided for in the RES Act.

Role of ERO (URE) in cable pooling

Legal instruments:

Monitoring of the amount and grounds for refusal of requests:

In 2023 total of 7488 refusals equal to 83,6 GW were recorded



Settlement of disputes between requesting entities and network operators.

Other instruments:

Issuing informations to resolve market participants' concerns

Initiating events and setting up working groups

Examples of ERO initiative

Information of the President of ERO no.15/2024

Issued in connection with the increasing number of refusals.

- Addressed to all market participants and published publicly
- Concerned cases where technical and economic feasibility could be grounds for refusal
- Clarified the application of the cable pooling provisions

Examples of ERO initiative

Charter for the Efficient Transformation of the Distribution Networks of the Polish Power Sector

Main goals:

1. Diagnosis of the key needs related to grid, resulting from the formal and legal requirements applicable to DSOs in the perspective up to 2030 and related to the increasing number of renewable sources connected to the DSO grid,
2. Identification of tools to meet these needs,
3. Identification of financing methods and sources and assessment of their impact on the tariff (social aspect),
4. Modification of the DSO regulatory model to support investment activity of DSOs, in particular investments related to the widely understood flexibility of grid operation (including optimisation of connections of RES sources and maximisation of energy off-take from these sources).

Parties to the Charter:

Currently 27 entities, including DSOs, CDSs and industry associations

Pros/cons of cable pooling

+ reduction of investment costs in the grid
+ increase the share of RES
+ development of further models to facilitate

- regulatory complexity
- technical constraints (EMS)
- complexity of cooperation in the case of separate owners

+/- new business partnerships and opportunities
+/- implementation of optimal scenarios

Barriers

- Current regulations do not allow the connection of energy storage in cable pooling
- New regulations and the need to continuously adapt them to emerging challenges
- Lack of adequate financial incentives, support schemes
- Grid operators' practice of treating cable pooling as a standard method when connecting a second source to an existing installation

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THANK YOU FOR YOUR ATTENTION!

Filip Marcinkowski
filip.marcinkowski@ure.gov.pl