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1 Implementation of Tracking Systems

1.1 Electricity Disclosure

The Disclosure obligation was introduced in 2007 in an Act from 12th January (Dz. U. z 2007 r. Nr 21, poz. 124) amending the Energy Law Act of 2004.

After paragraph. 6, the following paragraphs. 6a and 6b are inserted:

"6a. An electricity seller informs its customers about the structure of fuels used or other energy carriers used to produce electricity sold in the previous calendar year as well as provide reference to existing reference sources where information on the environmental impact, at least in terms of carbon dioxide emissions and radioactive waste, is publicly available.

6b. In the case of electricity purchased from an exchange or imported from the energy system of non EUmembers, information about the structure of fuels used or other energy carriers used to produce electricity may be drawn up on the basis of aggregate data concerning the share of different types of electricity sources used for electricity generation in the previous calendar year. "

In Poland, all electricity from renewable sources which is covered by the national support scheme is attributed to the final customers on a pro-rata basis. The share of electricity produced from renewable sources in the electricity volume supplied to the final customers may be calculated, for example, as the ratio of electricity with certificates of origin issued as per the data from the President of ERO to gross final energy consumption as per the data from PSE Operator S.A. In 2009 and 2010, this share amounted to 5.9% and 6.7% respectively.

In 2013 legislative works on the updating of the Energy Law Act were finalised, introducing amendments to the regulations in the scope of energy law and implementing to the Polish law order the provisions of Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC and Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC. The Amending Act came into force on 11 September 2013. No further provisions on disclosure were found in the document.

The Ministry of economy is the Competent Authority for disclosure.

1.1.1 Disclosure Figures

No disclosure figures were available from URE. The table below describes the national production mix in terms of the share of energy sources.

Table 1: Compared composition of national mixes as calculated by RE-DISS for 2014

	Production Mix	Final Residual Mix	Total Supplier Mix
Renewables Total	11,31%	11,22%	11,58%
Unspecified	0,00%	0,00%	0,00%
Solar	0,00%	0,00%	0,00%
Wind	5,00%	4,95%	5,02%
Hydro&Marine	1,48%	1,49%	1,80%
Geothermal	0,00%	0,00%	0,00%
Biomass	4,83%	4,78%	4,76%

Nuclear	0,00%	0,47%	0,47%
Fossil Total	88,69%	88,31%	87,96%
Unspecified	5,93%	5,92%	5,89%
Lignite	34,19%	33,97%	33,84%
Hard coal	46,38%	46,17%	45,98%
Gas	2,19%	2,25%	2,24%
Oil	0,00%	0,00%	0,00%
CO2 emissions (gCO ₂ /kWh)	889,48	887,14	883,61

Source: RE-DISS 2015

1.1.2 Environmental Information

Environmental information, meaning at least CO2 emissions and radioactive waste should be supplied to the end consumers, in the form of a reference where this information can be found. It is not specified whether this should be on the bill or not.

1.1.3 Suppliers Fuel-Mix Calculations

Suppliers should disclose the results of the quota system: the electricity that is supported through this support scheme should be attributed to end consumers on a pro-rata basis. Suppliers can also use power exchange mix for electricity bought on the power exchange or statistical aggregates for electricity coming from third countries. There are no other indications of methodology. No residual mix is calculated. It is know from informal discussions that suppliers also use bilateral contract information to provide information to their end consumers.

1.1.4 Acceptance of GOs

The Energy Law Act from July 2013 states that the President of the Energy Regulatory Office, at a written request, recognises the guarantees of origin issued in other EU Member States, the Swiss Confederation or a Member State of the European Free Trade Association (EFTA) – parties to the Agreement on the European Economic Area.

The President of the Energy Regulatory Office may refuse to recognise a guarantee of origin issued in another Member State only when it has well-founded doubts about its accuracy, reliability or veracity. In this case, the President of the Energy Regulatory Office immediately notifies the Commission of such a refusal and its justification.

There are no fixed recognition criteria.

1.2 Guarantees of Origin for Electricity from Renewable Energy Sources and High-Efficient Cogeneration

1.2.1 RES-GO System

The amended Energy Law Act in Chapter 5 implemented Guarantees of origin in Poland. The New RES Law signed on 11 March 2015, which came into force on 4th May 2015, modified the provisions on GOs in articles 120 to 125. The registry is set up and run by the Polish Power Exchange (Towarowa Giełda Energii S.A., PolPX). The regulations are titled: WARRANTY REGISTRATION RULES OF ORIGIN conducted by the Polish Power Exchange approved by Resolution of the Board No. 85/20/15 of 30 April 2015. It entered into force on 4 May 2015.

The contents of articles 120 to 125 are the following: guarantees of origin are issued first by the regulator in the form of an electronic document in response to a written request from a generator of electricity from

renewable energy sources. They are then transferred to the registry of GOs, an electronic database. When issued by ERO, GOs are a multiple of MWh. They are then broken down into 1 MWh GOs in the database. ERO GOs are from this point in time expired. GOs specify:

- designation of the generator of electricity;
- location, type and capacity of the installation where the renewable energy was produced;
- · amount of energy from renewable energy sources;
- the period of one or more consecutive calendar months of the calendar year in which the electricity from renewable sources was produced, along with the start and end dates of production;
- whether the renewable energy installation specified in the application has benefited from any scheme or instrument aimed at promoting electricity generation from renewable energy sources;
- the date on which the renewable energy installation became operational.

This application is submitted to the electricity distribution system operator or the electricity transmission system operator whose area of operation covers the location where the renewable energy source has been connected, within 30 days after the end date of production of a portion of electricity covered by the application.

The electricity distribution system operator or the electricity transmission system operator is required to verify the data included in the application for issue of guarantee of origin, and, within 30 days of receipt of the application, to submit it to the President of the Energy Regulatory Office, along with the proof of the amount of electricity generated from renewable sources, determined based on the readings of metering and billing equipment.

Guarantees of origin and other documents proving the issue of such guarantees are issued by the President of the Energy Regulatory Office within 30 days of submission of the relevant application by the electricity distribution system operator or the electricity transmission system operator.

Any use of a guarantee of origin should take place within 12 months after the end of the production period. A guarantee of origin becomes invalid after the expiry of the above-mentioned period.

A guarantee of origin is labelled in MWh. Each guarantee of origin has a unique identification number.. Guarantees of origin expire on the date of transfer to the final customer.

The President of the Energy Regulatory Office has the right to refuse to issue a guarantee of origin if the application for issue of guarantee of origin has been submitted to the electricity distribution system operator or the electricity transmission system operator after the expiry of the 7-day deadline.

Any refusal to issue a guarantee is made in the form of a decision which may be appealed against.

To ensure transparency of the system of guarantees of origin, a register of guarantees of origin has been established, and is operated by the Polish Power Exchange. The PolPX is required to keep the register of guarantees of origin in a manner which ensures the identification of:

- 1) the generators who received a guarantee of origin;
- 2) the entities holding the guarantees of origin issued in other EU Member States, the Swiss Confederation or a Member State of the European Free Trade Association (EFTA) a party to the Agreement on the European Economic Area, which have been recognised by President of the Energy Regulatory Office;
- 3) available guarantees of origin and the amount of electricity corresponding to such guarantees.

The generator and the entity having an entry in the registry of guarantees of origin are obliged to notify the President of the Energy Regulatory Office and the PPE of the transfer of guarantees of origin to the final customer within 7 days of the transfer. This information must be entered in the registry of guarantees of origin. The transfer of guarantees of origin is effective as of the date of making the relevant entry in the registry of guarantees of origin.

There is no distinction between expiry and cancellation. Expiration of a guarantee of origin is due to it having been used or due to the expiry of the validity period results in it being removed from the register of guarantees of origin.

It has to be noted that certificates of origin carry what the Polish legislation describes as the "property rights", which is not the case for GOs. This means that there is a large potential for double counting of supported electricity since GOs can be issued for electricity which gets certificates of origin.

The link between GO and disclosure is made in article 124 § 4 of the new RES Law.

There is no EECS GO in place. From contacts with PoIPX, it seems that they have the intention to get in touch with the AIB and study the possibilities of cooperation.

1.2.2 CHP-GO System

There are no CHP-GOs foreseen in the Polish legislation.

1.2.3 GO statistics

There are no GO statistics publicly available.

1.3 RES-E Support Schemes

As stipulated in RES-LEGAL data base (www.res-legal.eu), in the Republic of Poland, "electricity from renewable sources is promoted through a quota system, tax relief and subsidy and loan schemes. Heat generated from renewable energy sources is supported through three subsidy schemes and a loan scheme. Renewable energy in transport is promoted through a biofuels quota obligation.

Electricity suppliers are obliged to acquire a certain number of so-called "certificates of origin", which are issued to the producers of electricity from renewable sources. Furthermore, electricity from renewable sources is supported through a tax relief as well as loan and subsidy schemes from the National Fund for Environmental Protection and Water Management (NFOSiGW).

- Quota system. In Poland, the main incentive for renewable energy use is a quota system in terms of a
 quota obligation, which is combined with a certificate trading scheme. The Energy Law obliges
 electricity generators and suppliers that provide electricity to customers in Poland to fulfil a
 specified quota of certificates of origin/ green certificates. These certificates are awarded to the
 producers of electricity from renewable sources and CHP.
- **Tax incentives.** Producers of electricity from renewable sources are exempt from the tax on the sale and consumption of electricity.
- **Loan.** The National Fund for Environmental Protection and Water Management grants low interest loans to support the purchase and installation of RES installations.
- **Subsidy.** The National Fund for Environmental Protection and Water Management (NFOSiGW) grants low interests loans together with subsidies to support the purchase and installation of small and micro-RES installations for the needs of residential single-family or multi-family houses".

Access of electricity from renewable energy sources to the grid shall be granted according to the principle of non-discrimination. Furthermore, grid operators must give electricity from renewable sources priority of transmission.

All RES technologies are eligible for support.

The new RES law has changed the support scheme: all new RES capacity over 500 kW (after 1st January 2016) will have to participate in auctions, while existing installations will have a choice of moving on to the auctions or staying with certificates of origin systems. But once they switch, they will not be entitled to go back to the green certificate system. RES installations equal or over 500 kW will sell their electricity on the market. But they will be entitled to be reimbursed the difference between the market price and the price they secured during the auction. Likewise if they sell at a higher price than the market price, they will then not receive the compensation in the case of negative balances until the over compensation is made up for. This auction price will be given during 15 years.

2 Proposals for Improvement of the Tracking System

2.1 Proposals regarding general regulation on tracking systems

To improve the tracking system in place the following BPRs should be applied:

- BPR [23]: Other Reliable Tracking Systems (RTS) should be defined where appropriate based on criteria of added value, reliability and transparency
- BPR [24]: RTS can comprise, where applicable:
 - Homogeneous disclosure mixes for regulated market segments where no choice of supplier of different products exists,
 - Support systems whose interaction with disclosure requires a certain allocation of the attributes of supported generation (e.g. a pro-rata allocation to all consumers in a country where RES electricity is supported by a feed-in tariff),
 - Contract based tracking

2.2 Proposals regarding Disclosure

Disclosure should be regulated more precisely and in the drafting of the regulation, the following BPRs should be implemented:

- BPR [25]: All countries should provide a Residual Mix (RM) as a default set of data for disclosure of energy volumes for which no attributes are available based on cancelled GO or based on other Reliable Tracking Systems. The use of uncorrected generation statistics (e.g. on national or UCTE, Nordel etc. levels) should be avoided.
- BPR [26a]: The calculation of the Residual Mix should follow the methodology developed in the RE-DISS project.
- BPR [26b]: As part of this methodology, competent bodies from all countries in Europe should cooperate in order to adjust their Residual Mixes in reflection of cross-border transfers of physical energy. GO and RTS.
- BPR [27]: For purposes of this cross-border adjustment, competent bodies should use data provided by RE-DISS. They should also support the collection of input data for the related calculations by the RE-DISS project team.
- BPR [28]: As a default, the Residual Mix should be calculated on a national level. However, in case that electricity markets of several countries are closely integrated (e.g. in the Nordic region), a regional approach to the Residual Mix may be taken. This should only be done after an agreement has been concluded amongst all countries in this region which ensures a coordinated usage of the regional Residual Mix.
- BPR [29]: If contract based tracking is allowed in a country, it should be regulated clearly.
- BPR [30]: Such regulations should ensure that:
 - 5- The rules of the tracking system are transparent and comprehensive and are clearly understood by all participants in the system.
 - 5- Double counting of attributes and loss of disclosure information is minimised within the contract based tracking scheme and also in the interaction of the contract based tracking scheme to GO and other RTS (if applicable). As a precondition for this, the contract based tracking scheme should be able to provide comprehensive statistics about the volumes and types of electricity attributes which are tracked through it.
 - The relevant information for disclosure purposes should be available in time to meet the timing requirement
- BPR [31]: In cases that suppliers of electricity intend to use contract based tracking in order to fulfil claims made towards consumers regarding the origin of a certain electricity product

- (e.g. a green energy product), GO should be used instead of contract based tracking (see also BPR [36]).
- BPR [32]: If a country implements a system where generation attributes are allocated to suppliers and consumers of electricity "ex post" based on the contracts concluded in the electricity market, then such a system should fulfil the requirements mentioned above in order to qualify as a Reliable Tracking System (see item [21])
- BPR [34]: The deadline for cancelling GO for purposes of disclosure in a given year X should be 31 March of year X+1 (see BPR 5b).
- BPR [35]: The timing of the calculation of the Residual Mix should be coordinated across Europe:
 - By 30 April X+1 all countries should determine their preliminary domestic Residual Mix and whether they have a surplus or deficit of attributes.
 - By 15 May X+1, the European Attribute Mix should be determined.
 - By 31 May X+1, the final national Residual Mixes should be published.
 - As of 1 July X+1 the disclosure figures relating to year X can be published by suppliers.

2.3 Proposals regarding GO

The following BPRs apply to the implementation of GOs in Poland:

- BPR [1a]: Metered production periods for issuing GOs should not be longer than a calendar month
- BPR [2]: If possible, issuing of GOs should be done directly after the end of each production period.
- BPR [3b]: GOs that have reached this lifetime should be collected into the Residual Mix.
- BPR [4]: An extension to this lifetime can be granted if a GO could not be issued for more than [six] months after the end of the production period for reasons which were not fully under the control of the plant operator. In this case, the lifetime of the GO might be extended to [six] months after issuing of the GO.
- BPR [5a, 5b]: Cancellations of GO relating to production periods in a given year X which take
 place until a given deadline in year X+1 should count for disclosure in year X. Later
 cancellations should count for disclosure in year X+1. (In case that disclosure periods differ
 from the calendar year (see item [31]), the deadline should be defined accordingly.) Deadline
 is set on 31 March X+1 (BPR [5a, 5b]).
- BPR [6]: The same allocation rule should apply for expired GO (see item [3]): The date of
 expiry thus determines the disclosure period for which information from expired GO will be
 used.
- BPR [7a, 7b, 8]: The implementation of GO in all countries in Europe should be based on the European Energy Certificate System (EECS) operated by the Association of Issuing Bodies (AIB). In case that national GO systems are established outside of EECS, then EECS should at least be used for transfers between registries. (BPR [7a &b]). Reliable linkages should be established with countries which are not EECS members. (BPR [8]).
- BPR [9a]: Market participants of the respective domain should be provided the possibility to export their GOs and thus participate in the European internal market for electricity.
- BPR [9b]: So-called ex-domain cancellations of GO, where a GO is cancelled in one registry
 and a proof of cancellation is then transferred to another country in order to be used there for
 disclosure purposes, should only be used if there is no possibility for a secure electronic
 transfer and if there is an agreement on such ex-domain cancellations between the
 competent bodies involved. Statistical information on all ex-domain cancellations should be
 made available in order to support Residual Mix calculations.
- BPR [10.2]: Verification mechanisms should be implemented for ongoing control of registered data (e.g. reaudits, random checks, etc...)

- BPR [10.3]: Correct accounting of RES share of combustion plants should be assured by adequate measures such as those recommended by the EECS Rules (cf part N5.3.2).
- BPR [10.4]: The competent body can correct errors in GOs it has issued before they are exported, and this is the only one with this competence.
- BPR [11a]: The GO system should be extended beyond RES & cogeneration to all types of electricity generation, which should all be handled in one registry.
- BPR [11b]: GOs should be issued for all electricity production, unless an RTS applies for that production, e.g. for the disclosure of supported electricity
- BPR [11c]: Competent bodies should consider to make the use of GOs mandatory for all electricity supplied to final consumers.
- BPR [13.2]: A GO should be considered as having been used only once it has been electronically cancelled.
- BPR [13.7]: Registries should be audited on a regular basis.
- BPR [14a]: There should be no issuing of more than one GO for the same unit of electricity.
- BPR [15a, 15b]: This also applies to CHP plants which are using RES as the energy source:
 Only one GO should be issued per unit of electricity. This GO should combine the
 functionalities of a RES-GO and a cogeneration GO.
- BPR [16]: In the medium to longer term, GO should be the only "tracking certificate" used.
 Any other tracking systems of a similar purpose and function as GO should be closely
 coordinated with GO and eventually converted to GO.
- BPR [17]: Besides GO, only Reliable Tracking Systems (which may include contract based tracking) and the Residual Mix should be available for usage for disclosure. No other tracking mechanisms should be accepted.
- BPR [18]: Green power quality labels should use GO as the unique tracking mechanism.
- BPR [19]: European countries should clarify whether and under which conditions the use of GOs by end consumers is allowed. Such GO use should not be based on ex-domain cancellations performed in other countries. If consumers are allowed to use GOs themselves, a correction should be implemented in the disclosure scheme which compensates for any "double disclosure" of energy consumed...

2.4 Proposals regarding Acceptance of GO

The following BPRs should lead to further reflexion on the criteria on the basis of which to refuse GOs from other Member States or EFTA countries.

- BPR [20b]: The choice of one or the other option should be transparent for all market parties and clearly communicated.
- BPR [21]: Within the rules set by the respective Directives, Member States should consider to reject the recognition of GO from other countries for disclosure in case that these countries have not implement adequate measures which avoid double counting, e.g. a proper determination of a Residual Mix for disclosure.

2.5 Further proposals regarding Disclosure

Disclosure could further be improved by the implementation of the following BPRs:

BPR [38]: All electricity products offered by suppliers with claims regarding the origin of the
energy (e.g. green or low-carbon power) should be based exclusively on cancelled GO. No
other tracking systems should be allowed, with the exception of mechanisms defined by law,

- e.g. a pro-rata allocation of generation attributes to all consumers which is related to a support scheme (see BPR [22]).
- BPR [39a]: Suppliers offering two or more products which are differentiated regarding the origin of the energy should be required to give product-related disclosure information to all their customers, including those which are buying the "default" product of the supplier.
- BPR [40]: There should be clear rules for the claims which suppliers of e.g. green power can
 make to- wards their consumers. There should be rules how the "additionality" of such
 products can be measured (the effect which the product has on actually reducing the
 environmental impact of power generation), and suppliers should be required to provide to
 consumers the rating of each product based on these rules.
- BPR [41]: Claims made by suppliers and consumers of green or other low-carbon energy relating to carbon emissions or carbon reductions should also be regulated clearly. These regulations should avoid double counting of low-carbon energy in such claims. A decision needs to be taken whether such claims should adequately reflect whether the energy purchased was "additional" or not.
- BPR [42]: In case that suppliers are serving final consumers in several countries rules must be developed and implemented consistently in the countries involved on whether the company disclosure mix of these suppliers should relate to all consumers or only to those in a single country.
- BPR [43]: The following recommendations should be followed with respect to the relation of disclosure to cooperation mechanisms (Art 6 - 11 of Directive 1009/28/EC):
 - a. If EU MS or MS or any other country agree on Joint Projects, such agreements should also clarify the allocation of attributes (via GO, RTS or Residual Mix) issued from the respective power plants.
 - b. If EU MS agree on Joint Support Schemes, such agreements should also clarify the allocation of attributes (via GO, RTS or Residual Mix) issued from the power plants supported under these schemes.
- BPR [44]: Suppliers should follow the RE-DISS methodology for the calculations of their disclosure figures.

2.6 Matrix of disclosure related problems and country-specific proposals

Problem	Country-specific proposal
Possible double counting in different explicit tracking instruments	BPRs: [7a], [7b], [8] [9b], [10.2], [10.3], [10.4], [11a], [13.2], [13.7], [14a], [15a], [16], [17], [18], [21], [23], [24], [29], [30], [31], [32], [38],
Double counting of attributes in implicit tracking mechanisms	BPRs: [5a], [5b], [6], [9b], [11a], [13.2], [21], [23], [24], [25], [26a], [26b], [27], [28], [32], [38]
Double counting within individual supplier's portfolio	BPRs: [39b], [42]
Loss of disclosure information	BPRs: [3b], [11a], [15b], [19]
Intransparency for consumers	BPRs: : [10.2], [11a], [11b], [11c], [13.2], [23], [39b], [40], [41], [42],
Leakage of attributes and/or arbitrage	BPRs: [1a], [1b], [2], [3a], [5a], [5b], [6], [9], [19], [28], [34], [35],

Problem	Country-specific proposal
Unintended market barriers	BPRs: [4], [7a], [7b], [8], [9b], [11b], [11c], [20b], [21]

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