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1 Implementation of Tracking Systems

1.1 Electricity Disclosure

In Slovenia disclosure is implemented through the Energy Act published in the Official Gazette of the Republic of Slovenia n°. 27/07 (Energetski zakon), with the amendments imposed by the Decree-Laws of 7th of July 2008, 8 of March 2010 and 11 February 2012, stated in the Official Gazette of the Republic of Slovenia n°. 70/08, 22/10 and 10/12, respectively, as well as the Act laying down the mode of determining shares of individual production sources, and the manner of their presentation, stated in the Official Gazette of the Republic of Slovenia n°. 47/05, and updated by modifications published in Official Gazette n°. 38/07. Moreover in September 2013 a completely new version of the act (published in the Official Gazette of the Republic of Slovenia, n°. 76/13) was put in force, substituting the previous version. This new act introduces the residual mix calculation to be used instead of the interconnection mix (ENTSOE-Mix).

The correct new references in respect to disclosure are:

- (primary legislation) Art. 19. of the Energy Act n.27/07 with the amendments imposed by the Decree-Law n.70/08, Decree-Law n.22/10 of 8 of March and the Decree-Law n.10/12 of 11 February;
- (secondary legislation) Act laying down the mode of determining shares of individual production sources, and the manner of their presentation, Official Gazette of the Republic of Slovenia n°. 76/13 (that replaces the previous version).

The current Energy Act determines the principles of energy policy, the rules for the energy market, the manner and form of the implementation of commercial public services in the area of energy, the principle of reliable supply and efficient use of energy, the conditions for the operation of energy facilities, the conditions for the performance of energy-related activities, the issuing of licences and permits, and the bodies performing administrative tasks under this Act. In terms of disclosure the Energy Act appoints AGEN-RS as the competent body for disclosure. The last amendment to the Energy Act modifies it, so that it directly transposes the Directive 2009/28/EC.

The principles of disclosure rely on secondary legislation enacted through the new Act laying down the mode of determining shares of individual production sources, and the manner of their presentation, Official Gazette n° 76/2013. According to the provisions of the new Act the fuel mix needs to be disclosed in a tabular form and in a pie chart in the customer's bills. Suppliers must provide links to webpages where additional information on additionality and other ecological aspects is published. The information disclosed is controlled the respective competent body for disclosure.

The regulator AGEN-RS (Energy Agency of the Republic of Slovenia) has been appointed as competent body.

In Slovenia the attributes that should be disclosed are:

- the energy source in the fuel mix (as a share);
- information on environmental consequences of electricity production, at least covering CO₂-emissions in and radioactive waste .

Within the disclosure statement the following energy sources have to be distinguished (as a %):

- renewable: hydropower; wind; solar; geothermal; biomass; landfill gas; gas from sewage treatment plants; biogas; biodiesel; undeterminable;
- fossil: coal and lignite; natural gas; petroleum products; undeterminable;
- nuclear.



The renewable sources include wind, solar, geothermal, hydro, biomass, landfill gas, sewage gas and other biogas-biodiesel. The fossil sources include: coal and lignite; natural gas and petroleum products. This distinction is mandatory in the disclosure statement.

CHP is not disclosed separately in Slovenia. The share of RES CHP is disclosed as renewable, the share of fossil under category fossil

For renewable energy, GO is now the only tracking instrument allowed. In Slovenia national and EECS-GO are used. If national GO are issued for support in the national registry, EECS GO cannot be issued for the same unit of electrical energy, and vice versa. EECS-GOs can only be issued for producers that participate in the AIB EECS-GO scheme with signed Standard Terms and Conditions when they wish to do so.

All transactions and statistics on national GO and EECS GO are registered in the Registration Database with a clear distinction between national GO and EECS GO. At the moment RECS certificates are still accepted, as there is one product in the Slovenian market that uses these certificates. RECs certificates are stored in the same registry as GO and it is not possible to issue both RECs and GO for the same amount of electricity, preventing in this way the possibility of double counting. The owner of the product that uses RECS plans to redefine it as RECs certificates are to be abandoned in the next year.

The imports, from other Member States of the European Union and third countries which are issued in accordance with the provisions of Directive 2009/28/EC, can be used in the Republic of Slovenia for the disclosure statement.

Slovenian suppliers are obliged to publish both product-related disclosure (to the buyers of a specific product) and overall company disclosure (to all consumers) figures. The timing of the current legislation is that information from the previous year is disclosed not later than the 1st of June. Suppliers calculate their own mix and their product-related mix (after AGEN-RS publishes the residual mix) and supply it to AGEN-RS; AGEN-RS has the responsibility to verify them.

Disclosure in Slovenia is now only carried out by using GO and the residual mix. The residual mix calculation procedure is stated on the Act laying down the mode of determining shares of individual production sources, and the manner of their presentation, and it follows the RE-DISS methodology and timing.

1.1.1 Environmental Information

The environmental information that should be disclosed includes information on emissions of carbon dioxide and the quantity of radioactive waste per kilowatt-hour of electricity produced in the proportions of primary sources of electricity determined. Information on the environmental parameters should be published for the last preceding calendar year. Also on the label introduced by the Act of September 2013, a list of relevant websites and other sources of information on which it is possible to obtain information on environmental impacts resulting from the composition of the published primary sources, particularly with regard to carbon dioxide and the quantity of radioactive waste, shall also be depicted.

AGEN-RS publishes the national carbon emissions and radioactive waste to be used in the supplier's mix calculation of year X by 31st May of year X+1.

1.1.2 Suppliers Fuel-Mix Calculations

With the introduction of the new act in September 2013, the calculation of the supplier's fuel shares for disclosure purposes follows a similar methodology as the one proposed by RE-DISS: GO and the residual mix are the only tracking systems used for disclosure and the disclosure timing's. The methodology adopted by Slovenia is not completely inline with the one proposed by RE-DISS because GO issued between in the first three months of year X+1 and cancelled by 31st of March of the same years, are considered for disclosure of year X.

The Slovenia national residual mix is calculated as follows:

- net generation in the calendar year minus all RES-E generation for which GOs were issued (and at the moment RECS certificates) plus GOs of which the validity expired in the period from 1 April of the year X and 31 March of the year X+1 plus all the GOs issued for the electricity receiving support in the year X.

The publication of the Slovenian residual mix figures takes place in the 1st of June of year X+1, while the suppliers have to publish their disclosure figures for the year X on 1st of July of year X+1. Slovenia

collaborates with the RE-DISS project in the calculation of the European Residual Mix by providing information on its surplus or deficit of attributes and, for the disclosure figures of 2013 (which will be published in 2014) will already use the European Residual Mix for the surplus of attributes for which it does not have information on the sources.

1.1.3 Acceptance of GOs

As already referred, Slovenia has a disclosure system that transposes the RES Directive, with an electronic register for the issuance, transfer and cancellation of issued RES-GO. Slovenia is as well an EECS Member, and uses the AIB for electronic transfers of GO; the country only imports GO via the AIB Hub (EECS GO). The imported GOs then are stored in the Slovenian national GO Registry. All GOs in the Registry are treated equally, regardless of their origin.

In Slovenia GO are only imported through the AIB-Hub, and those are directly used for disclosure. Thus Slovenia only looks at the quality of the GO and not the disclosure system in the production country.

Slovenia does not have criteria in place for the acceptance of GO through any other process.

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

1.2.1 RES-GO and CHP-GO System

The Decree on issuing guarantees of origin of electricity, published in the Official Gazette of the Republic of Slovenia No. 121/05¹ laid down the general content and manner of issuing GO produced from renewable energy sources or cogeneration, in accordance with Directive 2001/77/EC of the European Parliament and the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market (OJ L no. 283 of the 27th the 10th 2001) and Directive 2004/8/EC of the European Parliament and the Council of 11 February 2004 on the promotion of cogeneration based on useful heat demand in the internal energy market and amending Directive 92/42/EEC (OJ L no. 52 of 21 second in 2004). This Decree was in 2009 replaced by the Regulation on issuing of the Declarations for the production units and of the Guaranties of Origin, published in Official Gazette No. 8/2009. Full transposition of the RES Directive 2009/28 was provided with the modifications of the Regulation, published in Official Gazette No. 45/12. Further guidance on the issuance of certificates of origin is provided by the Act on using guarantees of origin registry and the method of the forwarding data of electricity production, published in the Official Gazette No. 33/09.

The regulator AGEN-RG has been appointed as competent body for both systems (RES-E and CHP-GO) as well.

Before the amendments to the secondary legislation on the issuance of GOs in 2012, the legislation on GOs was outdated and not fully in line with the RES directive 2009/28 (GOs were issued for kWh instead of MWh and had 5 years lifetime instead of 1 year). With the amendments introduced by the modifications of Regulation on issuing of the Declarations for the production units and of the Guaranties of Origin in 2012 the legislation is in-line with the RES Directive and GOs are now issued for each MWh of electricity produced and have 12 months of lifetime.

The system has been fully operational since January 2006; it is coupled to a support system, since GOs have to be issued for all supported electricity.

Three types of certificate systems are in place in Slovenia:

- National GOs - used by all green producers. They are required for support, for both RES and CHP
- EECS GO – are used for foreign markets
- EECS RECS for the voluntary market (which is currently used only for a specific product in the Slovenia market and that will be banned next year)

¹ Ordinance No. 121/05 of the Official Gazette of the Republic of Slovenia extracted at: <http://www.uradni-list.si/1/objava.jsp?urlid=2005121&objava=5543>

When the producer applies for a certificate he shall specify what type of certificate he is applying for.

For RES and CHP producers to be able to ask for the certificates they need to apply first for a Producer Declaration (and for that need to enter all necessary information for the application according to the Regulation on issuing of the Declarations for the production units and of the Guaranties of Origin, Official Gazette of the Republic of Slovenia, No. 8/09 and 45/12) and AGEN-RS checks the information (necessary data and meter configuration). One registration goes for all 3 types of certificates. After the data has been checked and validated, AGEN-RS issues the producer a declaration providing them the right to ask for GOs.

National GOs are issued for net production except for CHP. For PV they neglect consumption of auxiliary equipment while for other technologies metering this consumption is deducted.

The GO Registry is administered by the market operator Borzen (<http://poi.brozen.si>), who is also responsible for providing the support to AGEN-RS regarding the Registry.

The National GOs can be used for: (1) support; (2) green products (3) disclosure

- (1) National GOs in the support scheme: the GOs are issued for the producer and delivered to the Centre for RES/CHP Support (Borzen) which pays them in return the feed-in tariff or premium on top of the market price. These GOs are included in the national residual mix (8-10% of Slovenia production ~ 1TWh).

In the current legislation only facilities below 1 MW are able to receive support, if they belong to large production companies (definition based on individual market share of the producer and the value of the HHI index of concentration in the market).

GOs issues for electricity receiving support in the form of premium must also be transferred to Borzen. Only GO for unsupported electricity can be transferred on the market base.

- (2) Green products: there are no rules, but green products are rare; they should be reliable based products. The most important green offer is Blue energy by HSE and is based on RECS (30 GWh/year). They are thinking on moving from RECS to GO and will do it until the end of 2014.
- (3) Disclosure: obligatory since 2006; covers fuel mix of the preceding year and is displayed on bills and on the supplier web pages.

The RES-GO system is EECS-compliant. AGEN-RS is involved in the European Energy Certification System (EECS), in the Renewable Energy Certification System and the Renewable Energy Certification System - Guarantees of the Origin.

There is a central record for RES-GO available at: <https://poi.brozen.si/>.

GO can be freely transferred, including imports and exports; cancellation is done according to EECS rules.

With the transposition of the Directive 2009/28/EC there were some minor changes to the GO system: the lifetime of a GO was shortened to 1 year instead of 5 years and the information on the GO should be complete as described in the Directive. These changes were adopted by AGEN-RS when they issued GO in 2011.

1.2.2 EECS

For the purpose of proving the origin of electricity, the Energy Agency was issuing guarantees of the origin of electricity in line with the valid legislation. In 2012, a total for almost 819.7 GWh of national guarantees of origin were issued.

The Energy Agency is involved in the European Energy Certification System (EECS). It issues EECS - GOs and EECS RECS. In 2011 the Energy Agency issued for a total amount of 425 thousand² RECS certificates, however in 2012 no RECS were issued. Table 1 provides an overview of EECS-GO activities in Slovenia in the period 2004-2012*.

² AGEN-RS, Report on the Energy Sector in Slovenia 2010, extracted at: http://www.agen-rs.si/dokumenti/36/2/2012/Letno_porocilo_JARSE_ENERGETIKA_ANG_za_2011_1762.pdf

Table 1: EECS RES-GO statistics³

	TOTAL				
	Issued	Transferred			Cancelled
		Internal	Export	Import	
2004	3,600,714		468,003		
2005	167,396			17,016	1,769,182
2006	31,653				23,462
2007	31,570				31,653
2008	135,681				31,570
2009	35,652				35,681
2010			100,000		35,652
2011*			100,000	100,001	
2012	-	-	-	-	-
Total	4,002,666		668,003	117,017	1,927,200

*AIB Quarterly statistics January 2014

1.3 RES-E Support Schemes

The support system implemented in Slovenia for producers of energy from renewable energy sources (RES) and high-efficiency combined heat and power (CHP) is a feed-in tariff with premium. The government annually defines both the price for electricity from eligible power plants and the premium. The producer in production device with nominal capacity of less than 5 MW can sign the contract with the Centre for RES/CHP Support operating within Market Operator Borzen (Power Purchase Agreement) for the unified price, in which the premium is already calculated. The producer can choose or has to choose, if the nominal capacity of his production device equals to or is higher than 5 MW, to sell his electricity on the open market. In that case he, if eligible, still receives the premium. The premium is by the definition of the Energy Act named "financial aid for current operation".

With the Energy Act in place now in Slovenia, RES under 125 MW and high-efficiency CHP under 200 MW and younger than 15 years (RES) or 10 years (CHP) are eligible for the support. The producers can get the support when their electricity production costs, including normal profit, are higher than the electricity market price.

The support is carried out in two forms:

1. As a power purchase guarantee for RES and CHP power plants under 5 MW, where price is defined by the government (feed-in) and
2. Financial aid for current operation for other producers.

The Feed-in-tariff system is designed as follows: (i). The Centre for RES/CHP Support (Borzen d.o.o) has to purchase all energy produced by RES-CHP producers by the price defined by the government; (ii). if RES-CHP producer sells his electricity on the market, the Centre for RES/CHP Support pays him only the support (premium), otherwise already included in government's price.

As already referred the RES/CHP producer has to be eligible for the support by obtaining guaranties of origin (GO's) for his electricity on the base of "Declaration for the production unit". The declaration is an order, issued by the Energy Agency that confirms that the RES or CHP power plant is complying with the rules, prescribed for such power plants. In any case of selling produced electricity, either to the Centre for RES/CHP Support or individually, GO's have to be transferred to the Centre for RES/CHP Support in order to get the support (premium).

³ AIB Statistic, consulted at: http://www.aib-net.org/portal/page/portal/AIB_HOME/AIB_OPE/MARKET_INFORMATION/MARKET_ACTIVITY

Eligibility is also checked by the principle of production costs. If the production costs, including normal market profitability, are higher than the market price, RES-CHP producer is eligible for the support.

In the current legislation only facilities below 1 MW are able to receive support, if they belong to large production companies (definition based on individual market share of the producer and the value of the HHI index of concentration in the market).

2 Proposals for Improvement of the Tracking System

2.1 Proposals regarding general regulation on tracking systems

As from the opening of the market the tracking of green electricity has been based on the use of the GO, and is under the control of the AGEN-RS. With the introduction of the Act of September 2013 the already reliable disclosure system implemented in Slovenia was further improved and with that harmonised with other competent bodies across Europe. Suggestions for further improvements of the tracking system in place are depicted below. Now the new system in place uses only GO and the residual mix as the tracking instruments for RES electricity.

2.2 Proposals regarding Disclosure

The disclosure system, as set forth in the Energy Act and in secondary legislation, is in line with the RES Directive. With the introduction of the new Act laying down the mode of determining shares of individual production sources, and the manner of their presentation in 2013 which introduce the use of a residual mix for disclosure of suppliers mix, the Slovenian disclosure system became more reliable and harmonised with other competent bodies within Europe.

2.3 Proposals regarding RE-GO and CHP-GO

Thus the following RE-DISS BPR could be taken for further improving the GO system already in place:

- BPR [7a]: The implementation of the GO system in Slovenia should be based exclusively on EECS operated by AIB. Slovenia is one of the 14 EECS members and has been issuing EECS-GO, national GOs and RECS (this last one will be abolished in the next here). Thus both national GOs and EECS-GO coexist in the same register.
- Although EU directives require member states to establish GO for electricity from renewable energy sources and from high-efficiency cogeneration, in order to support differentiation also between other forms of electricity generation it is advisable to implement:

BRP [11]: to extend the system of GO to other forms of electricity generation;

- BPR [21]: Although thus far only EECS GO have been imported to Slovenia, Slovenia should consider to reject the recognition of GO from other countries (that do not use EECS) for disclosure in case that these countries have not implemented certain minimum standards which avoid double counting, e.g. a proper determination of a residual mix, etc. This is contemplated by the Directive 2009/28/EC and Directive 2004/7/EC.

According to AGEN-RS BPR [7a] may be difficult to implement since becoming an EECS Scheme participant implies some costs to the participants. Since according to the Slovenian legislation GOs have to be issued also for small producers receiving support, such a proposal would face a very strong opposition.

Moreover, in relation to BPR [11] during the public consultation for the new Energy Act that will be published in the end of March 2013 there were proposals to make such extension possible, but were rejected by the line ministry. So in the near future it will not be possible to implement due to lack of legal background.

2.4 Proposals regarding Acceptance of GO

Regarding acceptance of GO the following should be considered:

- Within the rules set by the respective Directives, Slovenia should consider establishing their criteria for the acceptance of imported GO for purposes of disclosure (especially for imports of GOs from Domains that are not EECS Members) :
 - These criteria should address imports at least from all EU member states, other members of the European Economic Area (EEA) and Switzerland. The parties to the Energy Community Treaty should be considered as well, as soon as GO imports from these countries become relevant.
 - The criteria should specify the electronic interfaces, specifying data format and contents of GO to be imported, which the respective country accepts for imports of GO (such as the EECS Hub and any other interfaces accepted).
- Conditions for the recognition of GO from other countries should be that they were issued based on Art. 15 of Directive 2009/28/EC or compatible national legislation, and that they meet the explicit requirements set in Art. 15, e.g. regarding the information content of the GO. Although this condition is not foreseen in any legal document, AGEN-RS always check whether the GOs to be imported to Slovenia are fully in line with the requirements of the Directive.
- The recognition of GO from other countries should be rejected in case that these countries have not implemented an electricity disclosure system.
- The recognition of GO from other countries should be rejected in case that the country which has issued the GO or the country which is exporting the GO have not implemented adequate measures which effectively avoid double counting of the attributes represented by the GO. Such adequate measures should ensure the exclusivity of the GO for representing the attributes of the underlying electricity generation, implement clear rules for disclosure, establish a proper Residual Mix or equivalent measures, and ensure their actual use. Furthermore, the adequate measures should ensure that attributes of exported GO are subtracted from the Residual Mix of the exporting country and cannot be used for disclosure at any time in the issuing or the exporting country by explicit mechanisms, unless the GO is re-imported and cancelled there.

Regarding acceptance of GO the following BPR should be implemented:

- BPR [21] Slovenia should cooperate with other European countries in order to establish a register of their decisions taken regarding the acceptance of imported GO, which gives guidance to other competent bodies and also provides transparency for market actors.

2.5 Further proposals regarding Disclosure

The following BPRs should be implemented to improve further the disclosure system in place in Slovenia:

- BPR [38] – All products with claims regarding the origin of electricity should be based exclusively on cancelled GO.
- BPR [39] – Suppliers offering more than one product should be required to give product-related disclosure information to all their customers
- BPR [40] – Additionality and carbon claims of green power should be regulated on national / EU / global level.
- 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.

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], [38]
Double counting of attributes in implicit tracking mechanisms	BPRs: [21]
Double counting within individual supplier's portfolio	BPRs: [39]
Loss of disclosure information	BPRs: [11]
Intransparency for consumers	BPRs: [39], [40], [41]
Leakage of attributes and/or arbitrage	BPRs: [7a]
Unintended market barriers	BPRs: [7a]

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