

Last updated: date (09/05/2014)

1 Implementation of Tracking Systems

As electricity tracking system Austria uses electricity disclosure, which provides consumers with details about the overall fuel mix of the supplier and the respective environmental impact. This well-functioning system runs on Guarantees of Origin (GO) for electricity from all types of electricity: renewable, fossil and nuclear power (which is neither produced in nor imported to Austria) as well as high efficiency cogeneration.

1.1 Electricity Disclosure

The *österreichische Stromnachweisdatenbank* (Austrian GO database) was installed in 2003. Several adaptations have been made since then. A restricted disclosure scheme, only for small hydropower, in accordance with *Elektrizitätswirtschafts- und - organisationsgesetz 2000* (Electricity Act 2000), was created in 2000. Since the entry into force of the Electricity (Amendment) Act 2002, a full disclosure system has been in place since 2002. The Electricity Act 2010 implements the disclosure regulations of the Internal Market Directive 2009/72/EC into national law (sections 78-79a). Stipulations relevant for renewable electricity GO are also contained in the *Ökostromgesetz* (Green Electricity Act), first passed in 2002 and amended several times, in 2006, 2008, 2009 and 2012. Further regulations on the display of disclosure and GO are taken in the disclosure by law 2011, amended 2013.

GO are issued on request of the plant operators. The issuing body is the grid operator for the grid zone to which a generation facility is connected.

For Austrian market participants the only purpose of GO is their use for disclosure. Disclosure is mandatory for electricity suppliers that serve final customers in Austria.

Disclosure information has to be stated transparently on annual bills and on information and advertising materials. Other notes and indicators on electricity bills can only be displayed with a clear distinction from the disclosure information which is based on the legal obligation.

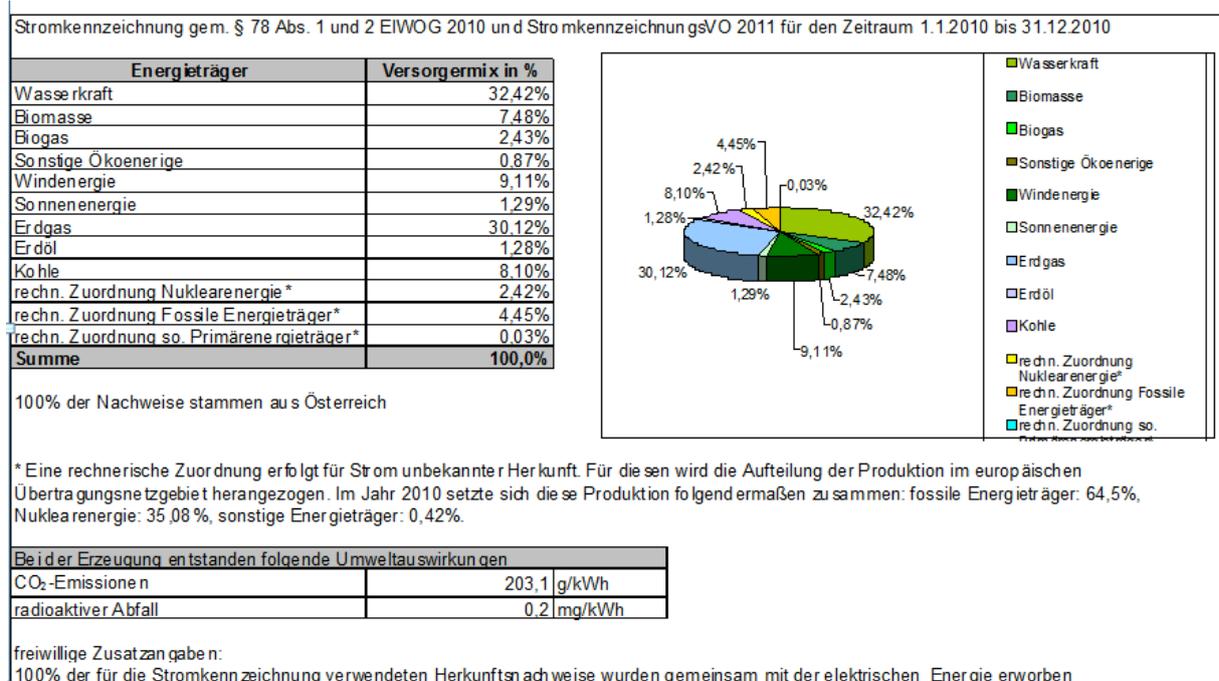
The fuel mix, which consists of known and unknown origin of electricity sources, has been calculated in Austria since 2002. Electricity of known origin is based on cancelled GO. Electricity of unknown origin must be declared as statistical value referring to ENTSO-E deducted by the renewables part (section 79 (3) Electricity Act). The suppliers have accepted the methodology included in the Austrian Electricity Act as reliable, accurate and fraud resistant.

Electricity suppliers must document the particulars their disclosure is based on. Documentation must provide conclusive information, broken down by primary energy sources, as how the quantities supplied to final customers are produced. Since the revision of the disclosure by-law in 2013, suppliers are obliged to declare all electricity consumed by final household customers with GO; the use of the ENTSO-E data as residual mix is not possible for household customers. With 2015 this regulation covers all types of customers, which means that all amounts of electricity delivered to final customers have to be declared with GO and no electricity of unknown origin in the disclosure mix is declared.

The following graph displays a best practice example of a disclosure statement by suppliers based on the disclosure by-law.



Graph 1: Best practice example of a disclosure statement by Austrian suppliers (German only)



In Austria the details that have to be disclosed are:

- Share of the energy source in the supplier's fuel mix
- Environmental information: CO₂ emissions (g/kWh) and radioactive waste (g/kWh)

In terms of energy sources, the following are distinguished in disclosure statements:

- Solid biomass
- Liquid biomass
- Biogas
- Landfill and sewage gas
- Geothermal energy
- Wind
- Solar
- Hydropower
- Natural gas
- Oil and oil products
- Coal
- Nuclear

Except in cases of electricity retailers with less than 100 GWh supply to final customers, the documentation must be audited by a chartered accountant or a publicly certified expert in electrical engineering. The outcome must be published, in an easily readable format and with the auditing body's confirmation attached, in an annex to the company annual report.

Disclosure is done on an annual basis. Information must be disclosed four months after the end of the calendar year or the financial year.

Energie-Control Austria (E-Control), the Austrian regulator, is responsible for monitoring whether disclosure information is correct as well as hosting the GO database. The results of this monitoring exercise are published in an annual disclosure report on E-Control's website.¹

GO issued in other countries have to fulfil certain criteria which are listed in the disclosure by-law. A list of countries in which GO are issued and can be used for disclosure purposes in Austria is published on the regulators webpage.² As part of the disclosure statement, the origin of GO has to be declared on the annual bills and information and advertising material.

A company's disclosure portfolio is determined solely based on the electricity destined for consumption in Austria. Imports are added and exports are deducted to arrive at a company's disclosure statement.

1.1.1 Disclosure Figures

In the following the disclosure data is displayed for the years 2011 and 2012 (disclosure statements 2012 and 2013). In 2013, the year where the disclosure statement for 2012 was done, the revision of the disclosure by-law came into force. Suppliers are obliged to disclose all electricity delivered to final customers with certificates in 2015 (disclosure period 2014), including the intermediate step to cancel GO for household customers based on the total amount of electricity delivered to them in 2014 (disclosure period 2013). In the following table the effect of this obligation to declare all electricity consumed by final household customers with GO is already clearly visible for 2012. Only 7.3 % of electricity is of unknown origin in 2012, after implementing the regulation in the revised disclosure by-law 2013.

Table 1: Austrian data on disclosure, CO2 emissions and radioactive waste, 2011-2012 (%) and average CO2 emissions (g/kWh) and radioactive waste (mg/kWh)

Dislosure year	2011	2012
Source		
Renewable sources	64,4%	74,5%
Hydropower	56,1%	65,3%
Solid and liquid biomass	3,9%	3,7%
Wind	3,4%	4,3%
Other renewables	1,0%	1,2%
Fossil sources	21,4%	17,9%
Natural gas	12,4%	13,2%
Oil and oil products	0,3%	0,0%
Coal	8,7%	4,7%
Nuclear	0,0%	0,0%
Other known energy sources	0,3%	0,3%
Unknown origin (ENTSO-E corr.)	13,9%	7,3%
CO2-emissions (g/kWh)	192,50	129,27
radioactive waste (mg/kWh)	0,1002	0,0500

Source: E-Control Austria, Stromkennzeichnungsbericht

1.1.2 Environmental Information

The provision of environmental information is regulated in the Electricity Act 2010. Since 2006 (Electricity Amended Act) electricity suppliers of final customers in Austria have been obliged to document the environmental impact of the energy generated as detailed by the supplier mix. The information provided must include at least CO2 emissions and radioactive waste. In the disclosure by-law the unit of the

¹ www.e-control.at/de/publikationen/oeko-energie-und-energie-effizienz/berichte/stromkennzeichnungsbericht (German only)

² http://www.e-control.at/portal/page/portal/medienbibliothek/oeko-energie/dokumente/pdfs/L%C3%A4nderliste_Feb%202014_en.pdf

environmental information has been set with g/kWh for CO₂ emissions and mg/kWh for radioactive waste. It is mandatory for final customers' electricity bills and advertising and information material.

In case generators determine power plant specific data and this data is approved (for example by the CO₂ emission trading system or other consultants), it has to be used for disclosure purposes.

Where no power plant specific data is available statistical averages should be used. These are provided by E-Control Austria and shown in the following table.

Table 2: Average data for the calculation of CO₂-Emissions and radioactive waste (disclosure period 2012, disclosure statements published in 2013 for disclosure figures 2012)

Primary Energy Source	Energie-Control Austria recommends the following data	
	CO ₂ -Emissions in g/kWh	Radioactive waste in mg/kWh
Solid or liquid biomass	0	0
Biogas	0	0
Landfill and sewage treatment plant gas	0	0
Geothermal energy	0	0
Wind	0	0
Solar power	0	0
Hydropower	0	0
Natural Gas	440	0
Oil and its products	645	0
Coal	882	0
Nuclear	0	2,7
Others	650	0
ENTSO-E-Mix, Hydropower-share	0	0
ENTSO-E-Mix, Share other renewables	0	0
ENTSO-E-Mix, fossil	840	0
ENSTO-E-Mix, nuclear	0	2,7
UCTE-Mix/ENSTO-E-Mix, Others	840	0

[Source: Energie-Control Austria]

Suppliers multiply their fuel disclosure percentage per energy source by the associated CO₂ emissions and radioactive waste factors to calculate the required information (CO₂ emissions in g/kWh by energy source and radioactive waste in mg/kWh).

This information is updated by suppliers each year and printed on customers' annual bills. Suppliers must publish fuel mix and environmental impact information no later than four month after the end of the calendar year or financial year on annual bills and information and advertising materials.

1.1.3 Suppliers Fuel-Mix Calculations

The suppliers fuel mix for a given disclosure period is calculated based on evidence of the source of energy. The corresponding amount of certificates has to be cancelled in the Austrian GO database. A supplier's cancelled certificates for a given period have to correspond to the total electricity given to its household customers during that time; therefore exact assignment to a certain energy source can be made. From 2015 onwards, the cancelled certificates have to correspond with the total electricity given to the supplier's total customers (household and industrial customers). Until 2015, the electricity which cannot be identified with certificates will be declared as 'unknown electricity (ENTSO-E mix deducted by the renewables part)' and the statistical values for electricity in the ENTSO-E grid are applied for informing consumers through annual bills, advertising and information materials.

Suppliers calculate their fuel mix once a year, using aggregate data for the entire disclosure period. Imports and exports of the suppliers are taken into consideration. The suppliers publish their individual supplier mix on annual bills and relevant advertising material. Potential product mixes are not part of the official information on disclosure. The information can be given, but it must be clear that the product is not corresponding with the supplier mix and the legal obligation to inform customers. E-Control produces an annual review to monitor compliance with disclosure.

E-Control Austria calculates an overall fuel mix for Austria based on the individual supplier mixes. The result is a value for a given calendar year.

The following details are disclosed: share of the energy source in the supplier's fuel mix, environmental information: CO₂ emissions (g/kWh) and radioactive waste (mg/kWh).

Further, the origin of the certificates has to be disclosed, ex. 80 % GO issued in Austria, 20 % issued in Norway.

The supplier mix and the environmental information of Austrian suppliers are shown in the following tables.

Table 3: Supplier mix and environmental information of Austrian suppliers for disclosure in 2012 (evaluation period 2013)

Stromlieferant	Bekannte erneuerbare Energieträger	Bekannte fossile Energieträger	Bekannte Nuklearenergie	Bekannte sonstige	ENTSO-E Mix	Summe	Umweltauswirkungen	
							CO ₂ in g/kWh	Rad.Abfall in mg/kWh
Endverbrauch aus öffentlichen Netzen in GWh						66.026 ⁹		
Mit der Überprüfung erfasste Menge in GWh	40.717	9.786	0	169	3.961	54.634		
Mit der Überprüfung erfasste Menge in % des Endverbrauchs aus öffentlichen Netzen						82,75%		
Zusammensetzung der österreichischen Stromkennzeichnung	74,53%	17,91%	0,00%	0,31%	7,25%	100%	129,27	0,05
AAE Naturstrom Vertrieb GmbH	100%	0%	0%	0%	0%	100%	0	0,000
AAE Wasserkraft GmbH früher W.Klauss G.m.b.H.	100%	0%	0%	0%	0%	100%	0	0,000
Alfenzwerke Elektrizitätserzeugung GmbH	92%	8%	0%	0%	0%	100%	28	0,000
Anton Kittel Mühle Plaika GmbH	100%	0%	0%	0%	0%	100%	0	0,000
Bad Gleichenberger Energie GmbH	65%	35%	0%	0%	0%	100%	252	0,000
Dipl.Ing. Georg Clam-Martinic'sches Elektrizitätsw	100%	0%	0%	0%	0%	100%	0	0,000
E-Werk Ebner GesmbH	100%	0%	0%	0%	0%	100%	0	0,000
E-Werk Fernitz Ing. Franz Purkarthofer GmbH&Co KG	32%	10%	0%	0%	58%	100%	314	0,402
E-Werk Gleinstätten Kleinszig Gesellschaft m.b.H.	100%	0%	0%	0%	0%	100%	0	0,000
E-Werk Gösting Stromversorgungs GmbH	69%	31%	0%	0%	0%	100%	213	0,000
E-Werk Neudau Kottulinsky KG	32%	68%	0%	0%	0%	100%	604	0,000
E-Werk Piwetz	100%	0%	0%	0%	0%	100%	0	0,000
E-Werk Schöder GmbH	89%	11%	0%	0%	0%	100%	101	0,000
E-Werk Schwaighofer GmbH	100%	0%	0%	0%	0%	100%	0	0,000
E-Werk Sigl GmbH & Co KG	100%	0%	0%	0%	0%	100%	0	0,000
E-Werk Stadler GmbH	12%	0%	0%	0%	88%	100%	343	0,617
E-Werk Stubenberg reg. Gen.m.b.H.	100%	0%	0%	0%	0%	100%	0	0,000
E-Werk Wüster KG	100%	0%	0%	0%	0%	100%	0	0,000
E-Werksgemeinschaft Dietrichschlag	100%	0%	0%	0%	0%	100%	0	0,000
EHA Austria Energie-Handelsgesellschaft mbH	100%	0%	0%	0%	0%	100%	0	0,000
ENAMO GmbH	73%	27%	0%	0%	0%	100%	119	0,000
ENERGIE ALLIANZ Austria Vertrieb GmbH (2.Konto)	29%	71%	0%	0%	0%	100%	491	0,000
EVN Energievertrieb GmbH & Co KG	65%	33%	0%	1%	0%	100%	271	0,000
EVU der Marktgemeinde Eibswald	100%	0%	0%	0%	0%	100%	0	0,000
EVU der Marktgemeinde Niklasdorf	71%	29%	0%	0%	0%	100%	189	0,000
EVU der Stadtgemeinde Mureck	74%	26%	0%	0%	0%	100%	185	0,000
EWA St. Anton GmbH	100%	0%	0%	0%	0%	100%	0	0,000
Ebner Strom GmbH	100%	0%	0%	0%	0%	100%	0	0,000
Elektrizitätswerk Bad Hofgastein Ges.m.b.H.	100%	0%	0%	0%	0%	100%	0	0,000
Elektrizitätswerk Eisenhuber GmbH & Co KG	100%	0%	0%	0%	0%	100%	0	0,000

Stromlieferant	Bekanntere erneuerbare Energieträger	Bekanntere fossile Energieträger	Bekanntere Nuklearenergie	Bekanntere sonstige	ENTSO-E Mix	Summe	Umweltauswirkungen	
							CO ₂ in g/kWh	Rad.Abfall in mg/kWh
Elektrizitätswerk Gries am Brenner	95%	5%	0%	0%	0%	100%	24	0,000
Elektrizitätswerk Gröbming KG	31%	11%	0%	0%	59%	100%	321	0,408
Elektrizitätswerk Kematen	92%	8%	0%	0%	0%	100%	37	0,000
Elektrizitätswerk Lechner August KG	100%	0%	0%	0%	0%	100%	0	0,000
Elektrizitätswerk Perg GmbH	100%	0%	0%	0%	0%	100%	0	0,000
Elektrizitätswerk Prantl Ges.m.b.H. & Co. KG	90%	10%	0%	0%	0%	100%	42	0,000
Elektrizitätswerk Reutte GmbH	34%	18%	0%	0%	49%	100%	266	0,338
Elektrizitätswerk Winkler	91%	9%	0%	0%	0%	100%	39	0,000
Elektrizitätswerk der Gemeinde Schattwald	71%	0%	0%	0%	29%	100%	112	0,201
Elektrizitätswerk der Stadtgemeinde Kindberg	64%	36%	0%	0%	0%	100%	262	0,000
Elektrizitätswerke Frastanz Gesellschaft m.b.H.	92%	8%	0%	0%	0%	100%	28	0,000
Elektrowerk Assling reg. Gen.m.b.H.	100%	0%	0%	0%	0%	100%	0	0,000
Elektrowerk Genossenschaft Hopfgarten i.D.reg.Gen.m.b.H.	100%	0%	0%	0%	0%	100%	0	0,000
Enamo Ökostrom GmbH	100%	0%	0%	0%	0%	100%	0	0,000
Energie AG Vertrieb GmbH & Co KG	81%	17%	0%	2%	0%	100%	108	0,000
Energie Burgenland Vertrieb GmbH Co KG	100%	0%	0%	0%	0%	100%	0	0,000
Energie Graz GmbH & Co KG	100%	0%	0%	0%	0%	100%	0	0,000
Energie Klagenfurt GmbH	94%	6%	0%	0%	0%	100%	31	0,000
Energie Ried GmbH	100%	0%	0%	0%	0%	100%	0	0,000
Energieversorgung Kleinwalsertal GmbH	11%	0%	0%	0%	89%	100%	346	0,621
Energieversorgungs Gm.b.H	100%	0%	0%	0%	0%	100%	0	0,000
Energieversorgungsunternehmen der Florian Lugitsch	63%	37%	0%	0%	0%	100%	263	0,000
Energy Services Handels- und Dienstleistungs GmbH	64%	36%	0%	0%	0%	100%	254	0,000
Ervesta Energie- und Dienstleistungs GmbH	69%	31%	0%	0%	0%	100%	203	0,000
Ewerk der Marktgemeinde Unzmarkt	62%	38%	0%	0%	0%	100%	272	0,000
Feistritzthaler Elektrizitätswerk	77%	23%	0%	0%	0%	100%	202	0,000
Forstverwaltung Langau	100%	0%	0%	0%	0%	100%	0	0,000
Gertraud Schafner GmbH	67%	33%	0%	0%	0%	100%	225	0,000
Getzner Mutter & Cie.	92%	8%	0%	0%	0%	100%	28	0,000
Heinrich Polsterer & Mitgesellschafter GesnBR	12%	0%	0%	0%	88%	100%	341	0,613
Iberdrola Generacion S.A.U.	100%	0%	0%	0%	0%	100%	0	0,000
Innsbrucker Kommunalbetriebe AG	90%	10%	0%	0%	0%	100%	46	0,000
Johann Dandler GmbH & Co KG	92%	8%	0%	0%	0%	100%	37	0,000
K.u.F. Drack Gesellschaft m.b.H. & Co.KG	100%	0%	0%	0%	0%	100%	0	0,000
KARLSTROM e.U.	100%	0%	0%	0%	0%	100%	0	0,000

Stromlieferant	Bekanntere erneuerbare Energieträger	Bekanntefossile Energieträger	Bekannte Nuklearenergie	Bekanntesonstige	ENTSO-E Mix	Summe	Umweltauswirkungen	
							CO ₂ in g/kWh	Rad.Abfall in mg/kWh
Kelag – Kärntner Elektrizitäts-AG	100%	0%	0%	0%	0%	100%	0	0,000
Kiendler GmbH	66%	34%	0%	0%	0%	100%	235	0,000
Kneidinger Liegenschaftsverwaltungsges. mbH.	100%	0%	0%	0%	0%	100%	0	0,000
Kommunalbetriebe Hopfgarten GmbH	11%	0%	0%	0%	89%	100%	345	0,621
Kommunalbetriebe Rinn GmbH	90%	10%	0%	0%	0%	100%	43	0,000
Kraftwerk Glatzing-Rüstorf reg.Gen.m.BH.	100%	0%	0%	0%	0%	100%	0	0,000
Licht- u. Kraftstromvertrieb der Marktgemeinde Göstling/Ybbs	100%	0%	0%	0%	0%	100%	0	0,000
Licht- und Kraftvertrieb der Gemeinde Hollenstein	100%	0%	0%	0%	0%	100%	0	0,000
Lichtgenossenschaft Neukirchen, reg.Gen.m.BH	100%	0%	0%	0%	0%	100%	0	0,000
Linz Strom Vertrieb GmbH & Co KG	56%	44%	0%	0%	0%	100%	194	0,000
Ludwig Polsterer	100%	0%	0%	0%	0%	100%	0	0,000
Marktgemeinde Neumarkt Versorgungsbetriebsges.m.BH	54%	7%	0%	0%	39%	100%	212	0,271
Montafonerbahn AG	92%	8%	0%	0%	0%	100%	28	0,000
Murauer Stadtwerke GmbH	100%	0%	0%	0%	0%	100%	0	0,000
MyElectric Energievertriebs- und -dienstl. GmbH	74%	26%	0%	0%	0%	100%	113	0,000
Naturkraft Energievertriebsgesellschaft m.B.H.	100%	0%	0%	0%	0%	100%	0	0,000
ÖBB Infrastruktur AG, GB Kraftwerke (extern)	11%	0%	0%	0%	89%	100%	344	0,618
Ökoenergie Tirol GmbH	100%	0%	0%	0%	0%	100%	0	0,000
PW Stromversorgungsgesellschaft m.B.H.	84%	16%	0%	0%	0%	100%	106	0,000
Revertera'sches Elektrizitätswerk	100%	0%	0%	0%	0%	100%	0	0,000
Salzburg AG für Energie Verkehr und Telekommunikation	94%	6%	0%	0%	0%	100%	25	0,000
Salzburg Ökoenergie GmbH	100%	0%	0%	0%	0%	100%	0	0,000
Schwarz Wagendorfer & Co. Elektrizitätswerk GmbH	100%	0%	0%	0%	0%	100%	0	0,000
Solar Graz GmbH	100%	0%	0%	0%	0%	100%	0	0,000
Stadtbetriebe Mariazell Gesellschaft m.B.H.	11%	0%	0%	0%	89%	100%	346	0,622
Stadtwerke Amstetten	100%	0%	0%	0%	0%	100%	0	0,000
Stadtwerke Bad Radkersburg	100%	0%	0%	0%	0%	100%	0	0,000
Stadtwerke Bruck an der Mur GmbH	62%	38%	0%	0%	0%	100%	272	0,000
Stadtwerke Feldkirch	93%	7%	0%	0%	0%	100%	25	0,000
Stadtwerke Hall in Tirol GmbH	92%	8%	0%	0%	0%	100%	35	0,000
Stadtwerke Hartberg Energieversorgungs-Ges.m.B.H.	100%	0%	0%	0%	0%	100%	0	0,000
Stadtwerke Imst	91%	9%	0%	0%	0%	100%	41	0,000
Stadtwerke Judenburg AG	66%	34%	0%	0%	0%	100%	231	0,000
Stadtwerke Kapfenberg GmbH (1)	100%	0%	0%	0%	0%	100%	0	0,000
Stadtwerke Kitzbühel	90%	10%	0%	0%	0%	100%	43	0,000

Stromlieferant	Bekannte erneuerbare Energieträger	Bekannte fossile Energieträger	Bekannte Nuklear- energie	Bekannte sonstige	ENTSO-E Mix	Summe	Umweltauswirkungen	
							CO ₂ in g/kWh	Rad.Abfall in mg/kWh
Stadtwerke Köflach	66%	34%	0%	0%	0%	100%	242	0,000
Stadtwerke Schwaz	91%	9%	0%	0%	0%	100%	40	0,000
Stadtwerke Trofaiach Ges.m.b.H.	68%	32%	0%	0%	0%	100%	227	0,000
Stadtwerke Voitsberg	66%	34%	0%	0%	0%	100%	236	0,000
Stadtwerke Wörgl Ges.m.b.H.	96%	4%	0%	0%	0%	100%	16	0,000
Städtische Betriebe Rottenmann GmbH	11%	0%	0%	0%	89%	100%	346	0,621
Stewe ag-Steg GmbH	84%	16%	0%	0%	0%	100%	106	0,000
TIWAG-Tiroler Wasserkraft AG	90%	10%	0%	0%	0%	100%	46	0,000
Unsere Wasserkraft GmbH & Co KG	100%	0%	0%	0%	0%	100%	0	0,000
VERBUNDAG (Haushalt)	100%	0%	0%	0%	0%	100%	0	0,000
VKW-Ökostrom GmbH	100%	0%	0%	0%	0%	100%	0	0,000
Verbund Sales GmbH (Industrie)	18%	0%	0%	0%	82%	100%	317	0,571
Vorarlberger Kraftwerke AG	92%	8%	0%	0%	0%	100%	28	0,000
WIEN ENERGIE Vertrieb GmbH & Co KG	57%	43%	0%	0%	0%	100%	189	0,000
Wasserkraft Sölden eGen	100%	0%	0%	0%	0%	100%	0	0,000
Weizer Naturenergie GmbH	100%	0%	0%	0%	0%	100%	0	0,000
Wels Strom GmbH	88%	12%	0%	0%	0%	100%	52	0,000
Wels Strom Öko GmbH	100%	0%	0%	0%	0%	100%	0	0,000
oekostrom GmbH für Vertrieb, Planung und Energiedienstleistungen	100%	0%	0%	0%	0%	100%	0	0,000
switch Energievertriebsgesellschaft m.b.H.	10%	90%	0%	0%	0%	100%	394	0,000
Gesamtabgabe Landesenergieversorger	33.324	8.415	0	169	3.478	45.385		
Gesamtabgabe Landesenergieversorger in % der Gesamtabgabe aus öffentlichen Netzen						68,73%		

Stromlieferant						Umweltauswirkungen		
	Bekannte erneuerbare Energieträger	Bekannte fossile Energieträger	Bekannte Nuklear-energie	Bekannte sonstige	ENTSO-E Mix	Summe	CO ₂ in g/kWh	Rad.Abfall in mg/kWh
AAE Naturstrom Vertrieb GmbH	100%		0%			100%	0	
AAE Wasserkraft GmbH früher W.Klauss G.m.b.H.	100%		0%			100%	0	
Anton Kitzel Mühle Flaika GmbH	100%		0%			100%	0	
Dipl.Ing. Georg Clam-Martinic'sches Elektrizitätsw	100%		0%			100%	0	
E-Werk Ebner GesmbH	100%		0%			100%	0	
E-Werk Gleinstätten Kleinszig Gesellschaft m.b.H.	100%		0%			100%	0	
E-Werk Piwetz	100%		0%			100%	0	
E-Werk Schwaighofer GmbH	100%		0%			100%	0	
E-Werk Sigl GmbH & Co KG	100%		0%			100%	0	
E-Werk Stubenberg reg. Gen.m.b.H.	100%		0%			100%	0	
E-Werk Wüster KG	100%		0%			100%	0	
E-Werksgemeinschaft Dietrichschlag	100%		0%			100%	0	
EHA Austria Energie-Handelsgesellschaft mbH	100%		0%			100%	0	
EVU der Marktgemeinde Elbiswald	100%		0%			100%	0	
EWA St. Anton GmbH	100%		0%			100%	0	
Ebner Strom GmbH	100%		0%			100%	0	
Elektrizitätswerk Bad Hofgastein Ges.m.b.H.	100%		0%			100%	0	
Elektrizitätswerk Eisenhuber GmbH & Co KG	100%		0%			100%	0	
Elektrizitätswerk Lechner August KG	100%		0%			100%	0	
Elektrizitätswerk Perg GmbH	100%		0%			100%	0	
Elektrowerk Assling reg. Gen.m.b.H.	100%		0%			100%	0	
Elektrowerkgenossenschaft Hopfgarten i.D.reg.Gen.m.b.H.	100%		0%			100%	0	
Enamo Ökostrom GmbH	100%		0%			100%	0	
Energie Burgenland Vertrieb GmbH Co KG	100%		0%			100%	0	
Energie Graz GmbH & Co KG	100%		0%			100%	0	
Energie Ried GmbH	100%		0%			100%	0	
Energieversorgungs Gm.b.H	100%		0%			100%	0	
Forstverwaltung Langau	100%		0%			100%	0	
Iberdrola Generacion S.A.U.	100%		0%			100%	0	
K.u.F. Drack Gesellschaft m.b.H. & Co.KG	100%		0%			100%	0	
KARLSTROM e.U.	100%		0%			100%	0	
Kelag - Kärntner Elektrizitäts-AG	100%		0%			100%	0	
Kneidinger Liegenschaftsverwaltungs-ges. mbH.	100%		0%			100%	0	
Kraftwerk Glatzing-Rüstorf reg.Gen.m.b.H.	100%		0%			100%	0	
Licht- u. Kraftstromvertrieb der Marktgemeinde Göstling/Ybbs	100%		0%			100%	0	
Licht- und Kraftvertrieb der Gemeinde Hollenstein	100%		0%			100%	0	

Stromlieferant						Umweltauswirkungen		
	Bekannte erneuerbare Energieträger	Bekannte fossile Energieträger	Bekannte Nuklear-energie	Bekannte sonstige	ENTSO-E Mix	Summe	CO ₂ in g/kWh	Rad.Abfall in mg/kWh
Lichtgenossenschaft Neukirchen, reg.Gen.mbH	100%		0%			100%	0	
Ludwig Polsterer	100%		0%			100%	0	
Murauer Stadtwerke GmbH	100%		0%			100%	0	
Naturkraft Energievertriebsgesellschaft m.b.H.	100%		0%			100%	0	
Ökoenergie Tirol GmbH	100%		0%			100%	0	
Revertera'sches Elektrizitätswerk	100%		0%			100%	0	
Salzburg Ökoenergie GmbH	100%		0%			100%	0	
Schwarz Wagendorfer & Co. Elektrizitätswerk GmbH	100%		0%			100%	0	
Solar Graz GmbH	100%		0%			100%	0	
Stadtwerke Amstetten	100%		0%			100%	0	
Stadtwerke Bad Radkersburg	100%		0%			100%	0	
Stadtwerke Hartberg Energieversorgungs-Ges.m.b.H.	100%		0%			100%	0	
Stadtwerke Kapfenberg GmbH (1)	100%		0%			100%	0	
Unsere Wasserkraft GmbH & Co KG	100%		0%			100%	0	
VERBUND- AG (Haushalt)	100%		0%			100%	0	
VKW-Ökostrom GmbH	100%		0%			100%	0	
Wasserkraft Söden eGen	100%		0%			100%	0	
Weizer Naturenergie GmbH	100%		0%			100%	0	
Wels Strom Öko GmbH	100%		0%			100%	0	
oekostrom GmbH für Vertrieb, Planung und Energiedienstleistungen	100%		0%			100%	0	
Gesamtabgabe Grünstromanbieter in GWh (exkl. Landesenergieversorger als Grünstromanbieter)	2.947	0	0	0	0	2.947		
Gesamtabgabe Grünstromanbieter (exkl. Landesenergieversorger als Grünstromanbieter) in % der Gesamtabgabe aus öffentlichen Netzen						4,46%		
Gesamtabgabe Grünstromanbieter in GWh (inkl. Landesenergieversorger als Grünstromanbieter)	9.184	0	0	0	0	9.184		
Gesamtabgabemenge Grünstromanbieter in % der Gesamtabgabemenge aus öffentlichen Netzen (inkl. Landesenergieversorger als Grünstromanbieter und Grünstromanbieter)						13,91%		
SUMME Gesamtabgabe Landesenergieversorger und Grünstromanbieter	36.271	8.415	0	169	3.478	48.333		
Gesamtabgabemenge Landesenergieversorger und Grünstromanbieter in % der Gesamtabgabemenge aus öffentlichen Netzen						73,20%		

1.1.4 Acceptance of GO

With the disclosure by-law, Austria has implemented criteria for accepting GO issued in foreign countries for national disclosure purposes. The criteria which have to be fulfilled are:

- GO issued have to be in line with Art. 15 of 2009/28/EC
- A disclosure system has to be implemented which excludes double counting of certificates

These criteria have to be checked before using the certificates for disclosure purposes in Austria. A list of countries from which issued GO fulfil the criteria is published on the website of the Regulatory Authority. This list is adapted regularly.³

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

Austria was one of the first countries in Europe to introduce a mandatory scheme for disclosure of generation attributes in 2001. Electricity suppliers in Austria were required to disclose the shares of the

³http://www.e-control.at/portal/page/portal/medienbibliothek/oeko-energie/dokumente/pdfs/L%C3%A4nderliste_Feb%202014_en.pdf

different primary energy sources in their overall output, and to print this information on customers' electricity bills. Legally, the disclosure system was originally based in the legislation of the federal provinces, and so, the schemes differed across Austria.⁴ A harmonisation was achieved in July 2002 with the Green Electricity Act and the Electricity (Amendment) Act 2000, which introduced a nationwide disclosure scheme. Since 1 July 2004, all electricity suppliers have been obliged to identify the primary energy sources their electricity is generated from, meaning that the portfolio mix must be included on electricity bills.

E-Control Austria, the competent body by virtue of the Electricity Act, is in charge of supervising disclosure and is entitled to publish a by-law on disclosure.

The current legislation in place for disclosure and GO consists of:

- Section 10 Green Electricity Act (BGBl. 75/2012) on GO for renewables (RES-GO)
- Sections 78-79a Electricity Act (BGBl. 174/2013) on disclosure
- Disclosure by-law 2013
- Section 6 CHP Act (111/2008) on GO for CHP (CHP-GO)

1.2.1 RES-GO System

The Austrian system has been fully implemented since 2003.

The system in place is handled via the Austrian GO database, an electronic registry hosted by E-Control Austria. It is maintained by E-Control Austria with special technical support provided by ATOS.

As a first step together with market participants, accrediting bodies and NGOs, E-Control developed guidelines on disclosure in 2004 and these have been revised in 2007 and 2009. The guidelines were not binding but most suppliers fulfilled the recommendations in displaying their disclosure figures to final customers. In 2011, based on an adaptation of the Electricity Act 2010, E-Control published a disclosure by-law which is binding for suppliers with customers in Austria.

Austrian GO issued in the database are in line with Art. 15 of the Directive 2009/28/EC. Austria has implemented a full disclosure system where GO from all types of sources are issued. Austria issues GO for supported and non-supported plants, but only GO from non-supported plants can be traded internationally. Supported GO have to be used for Austrian disclosure purposes.

Austria is connected to the AIB Hub which is the only mechanism used by Austria for international trade. Austrian suppliers who trade internationally have to sign the AIB-Standard Terms and Conditions. Ex-domain cancellations are not possible within the Austrian system as well as such GO are not accepted from other countries.

For disclosure in Austria it is irrelevant if the electricity produced in a certain power plant is supported or not. Supported and non-supported certificates are accepted for disclosure purposes.

The tracking systems for CHP-GO, RES-GO, fossil (and nuclear) GO are based on the same registry. Responsibilities would be the same for all types of GO.

1.2.2 CHP-GO System

So far, CHP-GO have been issued only in small amounts in the Austrian system because currently there is no need from market participant side. The tracking system for CHP-GO is based on the same registry and responsibilities are the same as for RES-GO.

⁴ In some provinces suppliers could choose whether to use portfolio disclosure or product disclosure, while in others they had to use portfolio disclosure

1.2.3 EECS

Austria is one of the 19 member countries of EECS. In Austria EECS is used for the issuing, transfer (import and export) and cancellation (use) of EECS certificates. 38 Austrian market participants have currently signed the Standard Terms and Conditions (STC) which allow them to transfer EECS certificates internationally.

1.2.4 GO Statistics

The following table shows the disclosed electricity in GWh for 2011 and 2012.

Table 4: Disclosed electricity in GWh in 2011 and 2012

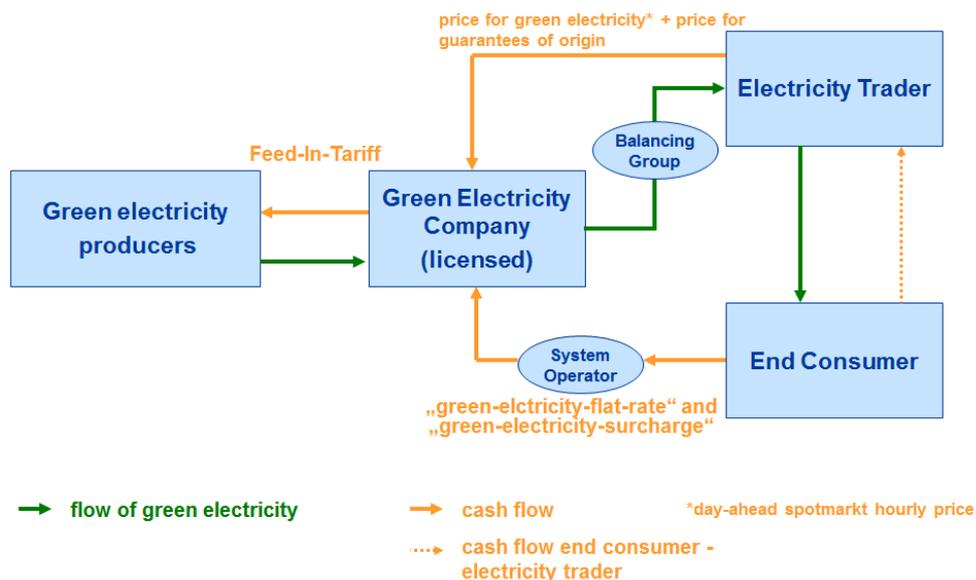
Dislosure year	2011	2012
Source in GWh		
Renewable sources	34.440	40.717
Fossil sources	11.446	9.786
Nuclear	0	0
Other known energy sources	143	169
Unknown origin (ENTSO-E corr.)	7.423	3.961
CO2-emissions (g/kWh)	193	129
radioactive waste (mg/kWh)	0,1002	0,0500

1.3 RES-E Support Schemes

Austria has been supporting renewable generation since the entry into force of the Green Electricity Act 2002 (Federal Law Gazette (FLG) I 149/2002 as amended latest by FLG I 11/2012).

The diagram below shows the current supporting scheme in Austria:

Graph 2: Supporting scheme in Austria (Source E-Control Austria)

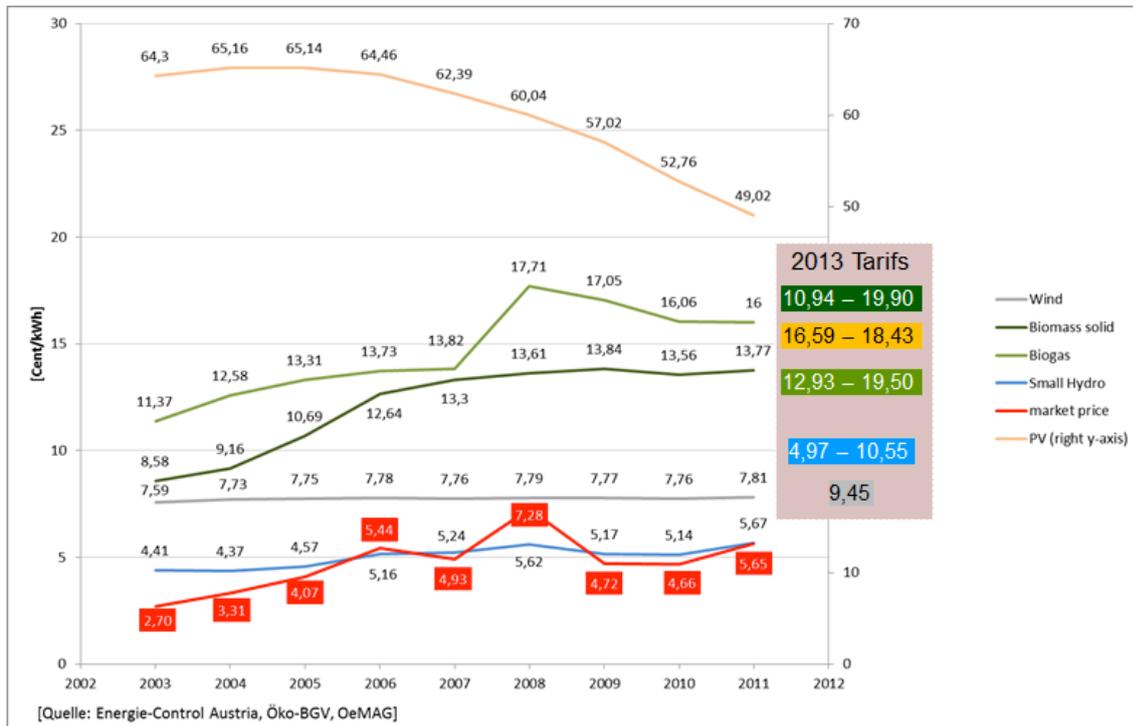


Renewable electricity injected into the grid by supported generation plants attracts subsidies in the form of the feed-in tariffs paid by Abwicklungsstelle für Ökostrom AG (the licenced Green Electricity Company,

OeMAG) at the rates in force when the contracts with it were concluded. This electricity is allocated to electricity retailers via the balancing groups in accordance with their shares of final consumption.

The annual Ökostromeinspeisetarifverordnung determines the feed-in tariffs for new renewable generation plants where a contract is made with the licenced Green Electricity Company within the budget. The table below shows the development of the feed-in tariffs since 2003.

Graph 3: Development of the feed-in tariffs in Austria since 2003 (Source E-Control Austria)



2 Proposals for Improvement of the Tracking System

2.1 Proposals regarding general regulation on tracking systems

The tracking system of electricity is based on GO and under control of the regulator. Austria has a full system in place which allows the issuing, transfer and cancellation of certificates from all types of electricity sources, including renewables, fossil and nuclear resources. The system in Austria is accurate, reliable and transparent. The one-year lifetime after the production period has been implemented, the size of a RES-GO is 1 MWh and all information required by Art. 15 RES-directive 2009/28/EC is given on the certificate. Only electronically transferred GO are accepted for disclosure. In Austria no other reliable tracking system is in place and no contract based tracking is done.

2.2 Proposals regarding Disclosure

Austria has a fully developed GO system in place, including CO2 emissions and radioactive waste. The system is in line with EU-directive 2009/72/EC and most of the requirements of RE-DISS BPR.

Supported and non-supported GO can be used for disclosure. Only non-supported GO can be transferred internationally. There is awareness and traceability of supported GO, as recommended by RE-DISS.

The Austrian government changed the option to base the annual disclosure on calendar or financial year. There is an obligation now to base the annual disclosure statements on the calendar year (BPR 31).

The following points are deviations from RE-DISS BPR:

- BPR [17, 25, 26]: There is no concept of residual mix in the sense of RE-DISS. In Austria, ENTSO-E figures deduced by renewables are used.
- BPR [32]: The timing of the publication of the disclosure figures is not in line with RE-DISS BPR, as the proposed deadline for cancelling GO for the purpose of disclosure is 30 April, instead of 31 March as proposed by RE-DISS.
- BPR [37]: Austria does not support the display of products under the section “disclosure” on the annual bills and advertising materials as the Austrian experience shows that this only leads to confusion on customer’s level. Therefore Austria proposes to concentrate on the disclosure requirements given by the Directive 2009/72/EC.
- BPR [31]: Disclosure statements can be based on the calendar or the financial year. This is not in line with BPR [31] which states that the basis should be a calendar year
- BPR [40, 41]: Clear rules should be established for claims made by suppliers.

2.3 Proposals regarding RES-GO and CHP-GO

The Austrian RES-GO system and the CHP-GO system are advanced. The only big deviation from RE-DISS BPR is the fact that the residual mix calculated by RE-DISS can’t be used as the Austrian Electricity Act stipulates the application of the ENTSO-E mix corrected by the renewables share to electricity of unknown origin. Thus BPR [25, 26, 28] should be implemented.

2.4 Proposals regarding Acceptance of GO

Austria’s procedure regarding acceptance of GO is transparent and well-functioning. The proposal is to implement and publish criteria which are the basis for accepting GO from foreign countries for national disclosure purposes. A common European approach would be the easiest way forward, but most likely difficult to achieve as national interests may diverge. But also national approaches, as long as they are transparent and understandable are a good way forward for the acceptance of GO.

2.5 Further proposals regarding Disclosure

The implementation of a full disclosure system, including renewables, fossil and nuclear GO should be the target for the upcoming years.

2.6 Matrix of disclosure related problems and country-specific proposals

Problem	Country-specific proposal
Possible double counting in different explicit tracking instruments	BPRs: [17], [31], [32], [37]
Double counting of attributes in implicit tracking mechanisms	BPRs: [25], [26a,b], [28], [32]
Double counting within individual supplier's portfolio	
Loss of disclosure information	
Intransparency for consumers	BPRs: [40], [41]
Leakage of attributes and/or arbitrage	BPR: [28]
Unintended market barriers	

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