

15th meeting
of ECDSO-g Coordination Platform

17 May 2023, Tbilisi

Third Energy Package – DSOs in focus

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- **third party access to the transmission and distribution system**, and LNG facilities **based on published tariffs**, applicable to **all eligible customers**, including supply undertakings, **applied objectively and without discrimination between system users**
- **Eligible customers – all customers from 1 January 2015 (2020 in Georgia)**
- Tariffs, or the methodologies underlying their calculation have to be **approved prior to their entry into force by a regulatory authority and published prior to their entry into force**
- Fixing or approving the tariffs or methodologies and the balancing services, by the regulatory authorities shall be done according to **the transparent criteria**
- **Tariffs** shall ensure that transmission and **distribution system operators are granted appropriate incentives**, over both the short and long term, to increase efficiencies, foster market integration and security of supply, and support the related research activities
- **Access to the system may be refused** on the basis of **lack of capacity** or where access to the system would **prevent** natural gas undertakings from **carrying out the public service obligations**

Public Service Obligations and Customer Protection



- **Public Service Obligation** may be imposed on undertakings operating in the gas sector, in the general economic interest, related to **security, including security of supply, regularity, quality and price of supplies, and environmental protection, including energy efficiency, energy from renewable sources and climate protection.** It has to be **clearly defined, transparent, non-discriminatory, verifiable** and shall guarantee **equality of access for natural gas undertakings** of the Energy Community to national consumers
- **Protection of final customers** shall be ensured, in particular **vulnerable customers.** It can refer to energy poverty and customers in remote areas;
- The right of customers to **switch suppliers** shall be preserved, without procedural or financial barriers, in a non-discriminatory manner
- **Supplier of Last Resort** may be appointed, as an instrument of protection of all customers connected to the system

Where the distribution system operator is part of a vertically integrated undertaking, **it shall be independent at least in terms of its legal form, organization and decision making from other activities not relating to distribution; no obligation to separate the ownership of assets of the distribution system from the vertically integrated undertaking**

Where the distribution system operator is part of a vertically integrated undertaking, the Contracting Parties shall ensure that **the activities of the distribution system operator are monitored by regulatory authorities** or other competent bodies so that **it cannot take advantage of its vertical integration to distort competition**. In particular, vertically integrated distribution system operators shall not, in their communication and branding, create confusion in respect of the separate identity of the supply branch of the vertically integrated undertaking.

Contracting Parties may decide **not to apply** <unbundling requirements> to integrated natural gas undertakings serving **less than 100 000 connected customers**; then **unbundling of accounts** for different activities should be in place

Independence in terms of its organization and decision-making / minimum criteria for persons responsible for the management of the distribution system operator:

- a) Not involvement in company structures of the integrated natural gas undertaking responsible, **directly or indirectly, for the day-to-day** operation of the production, transmission and **supply of natural gas**;
- b) **professional interests** are taken into account in a manner that **ensures that they are capable of acting independently**;
- c) **effective decision-making rights, with respect to assets necessary to operate, maintain or develop the network**
- d) **a compliance program in place**

Independence in terms of its organization and decision-making / minimum criteria [Art 26 D2009/73]

- a) those **persons responsible for the management of the distribution system operator must not participate** in company structures of the integrated natural gas undertaking responsible, **directly or indirectly, for the day-to-day** operation of the production, transmission and **supply of natural gas**;
- b) appropriate measures must be taken to ensure that the **professional interests of persons responsible for the management of the distribution system operator** are taken into account in a manner that **ensures that they are capable of acting independently**;
- c) the distribution system operator must have **effective decision-making rights**, independent from the integrated natural gas undertaking, **with respect to assets necessary to operate, maintain or develop the network**. In order to fulfill those tasks, the distribution system operator shall have at its disposal the necessary resources including human, technical, financial and physical resources. This should not prevent the existence of appropriate coordination mechanisms to ensure that the economic and management supervision rights of the parent company in respect of return on assets, regulated indirectly in accordance with Article 41(6) in a subsidiary are protected. In particular, this shall enable the parent company to approve the annual financial plan, or any equivalent instrument, of the distribution system operator and to set global limits on the levels of indebtedness of its subsidiary. It shall not permit the parent company to give instructions regarding day-to-day operations, nor with respect to individual decisions concerning the construction or upgrading of distribution lines, that do not exceed the terms of the approved financial plan, or any equivalent instrument; and
- d) the distribution system operator must establish **a compliance programme**, which sets out measures taken to ensure that discriminatory conduct is excluded, and ensure that observance of it is adequately monitored. The compliance programme shall set out the specific obligations of employees to meet that objective. An annual report, setting out the measures taken, shall be submitted by the person or body responsible for monitoring the compliance programme, the compliance officer of the distribution system operator, to the regulatory authority referred to in Article 39(1) and shall be published. The compliance officer of the distribution system operator shall be fully independent and shall have access to all the necessary information of the distribution system operator and any affiliated undertaking to fulfill his task

Tasks of distribution system operators

- Ensuring the long-term ability of the system to meet reasonable demands for the distribution of gas
- Operation, maintenance and development, under economic conditions a secure, reliable and efficient system in its area, with due regard for the environment and energy efficiency
- In providing distribution system operation, not discriminate between system users or classes of system users, particularly in favour of its related undertakings
- Providing any other distribution, transmission, LNG, and/ or storage system operator with sufficient information to ensure that the transport and storage of natural gas takes place in a manner compatible with the secure and efficient operation of the interconnected system
- Providing system users with the information they need for efficient access to, including use of, the system
- Where a distribution system operator is responsible for balancing the distribution system, rules adopted by it for that purpose shall be objective, transparent and non-discriminatory, including rules for the charging of system users for energy imbalance

Directive 2009/73/EC concerning common rules for the internal market in natural gas stipulates the role of DSOs with respect to metering responsibility, without more details

Directive 2012/27/EU on energy efficiency

Article 9 stipulates that the “Contracting Parties shall ensure that, in so far as it is technically possible, financially reasonable and proportionate in relation to the potential energy savings, final customers for electricity, **natural gas**, district heating, district cooling and domestic hot water are provided with competitively priced individual meters that accurately reflect the final customer’s actual energy consumption and that provide information on actual time of use.”

Neither Directive 2009/73/EC nor Directive 2012/27/EU prescribe explicitly the measurement and billing units to be used at the distribution level. The concrete mandatory requirements are prescribed only for transmission system operators.

Annex I of **Regulation (EC) 715/2009** on conditions for access to the natural gas transmission networks⁴ prescribes that transmission system operators shall provide all information about their systems and services and for all relevant points, including **exit points to the distribution systems**, in consistent units, namely:

in **kWh** (with a combustion reference temperature of 298,15 K, i.e. 25 °C)

as the unit for **energy content**

and in **m³** (at 273,15 K i.e. 0 °C and 1,01325 bar)

as the **unit for volume**.

A constant conversion factor to energy content shall be provided.

Regulation (EC) 703/2015 establishing a **Network Code on interoperability and data exchange rules**⁵ prescribes that the transmission system operators shall use the following units:

- (a) pressure: bar
- (b) temperature: °C (degree Celsius)
- (c) volume: m³
- (d) gross calorific value (GCV): kWh/m³
- (e) energy: kWh (based on GCV)
- (f) Wobbe-index: kWh/m³ (based on GCV)

For pressure, the transmission system operators shall indicate whether it refers to absolute pressure (bar (a)) or gauge pressure (bar (g)).

The reference conditions for volume shall be 0 °C and 1,01325 bar(a). For GCV, energy and Wobbe-index, the default combustion reference temperature shall be 25 °C.

Conversion due to pressure
 Conversion due to temperature
 Conversion due to altitude

$$p_1 V_1 / T_1 = p_2 V_2 / T_2$$

$$\frac{1013.25 + (M - A)}{1013.25} \quad A \sim 0,3 \text{ mbar} / 2,5 \text{ m}$$

Conversion to energy units (based on composition of gas)

National standards of quality / not (yet) harmonized at the EU/EnC level

Acceptance by the gas system prescribed in the rules (network codes, supply rules) / depends on traditional sources

Chemical Name	Chemical Formula	Percentage (%)
Methane	CH ₄	70-90%
Ethane	C ₂ H ₆	0-20%
Propane	C ₃ H ₈	
Butane	C ₄ H ₁₀	
Carbon Dioxide	CO ₂	0-8%
Oxygen	O ₂	0-0.2%
Nitrogen	N ₂	0-5%
Hydrogen sulphide	H ₂ S	0-5%
Rare gases	A, He, Ne, Xe	trace

Azeri gas
 Russian gas
 Nord Sea gas
 Algeria gas
 Black Sea/ East Mediterranean gas
 LNG
 Domestic production

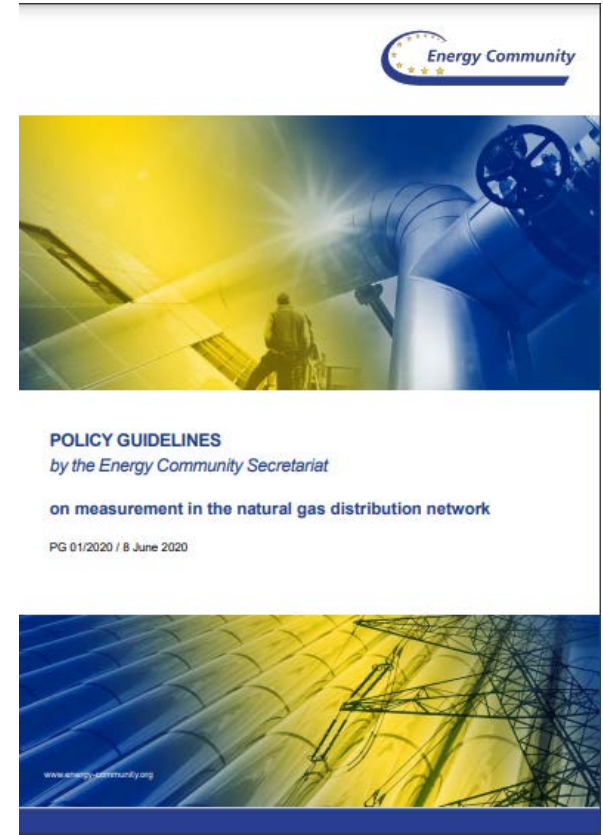
 Biogas / Biomethane
 Synthetic gases
 Hydrogen

Typical composition of natural gas, source://www.researchgate.net

<https://www.energy-community.org/legal/acquis.html>

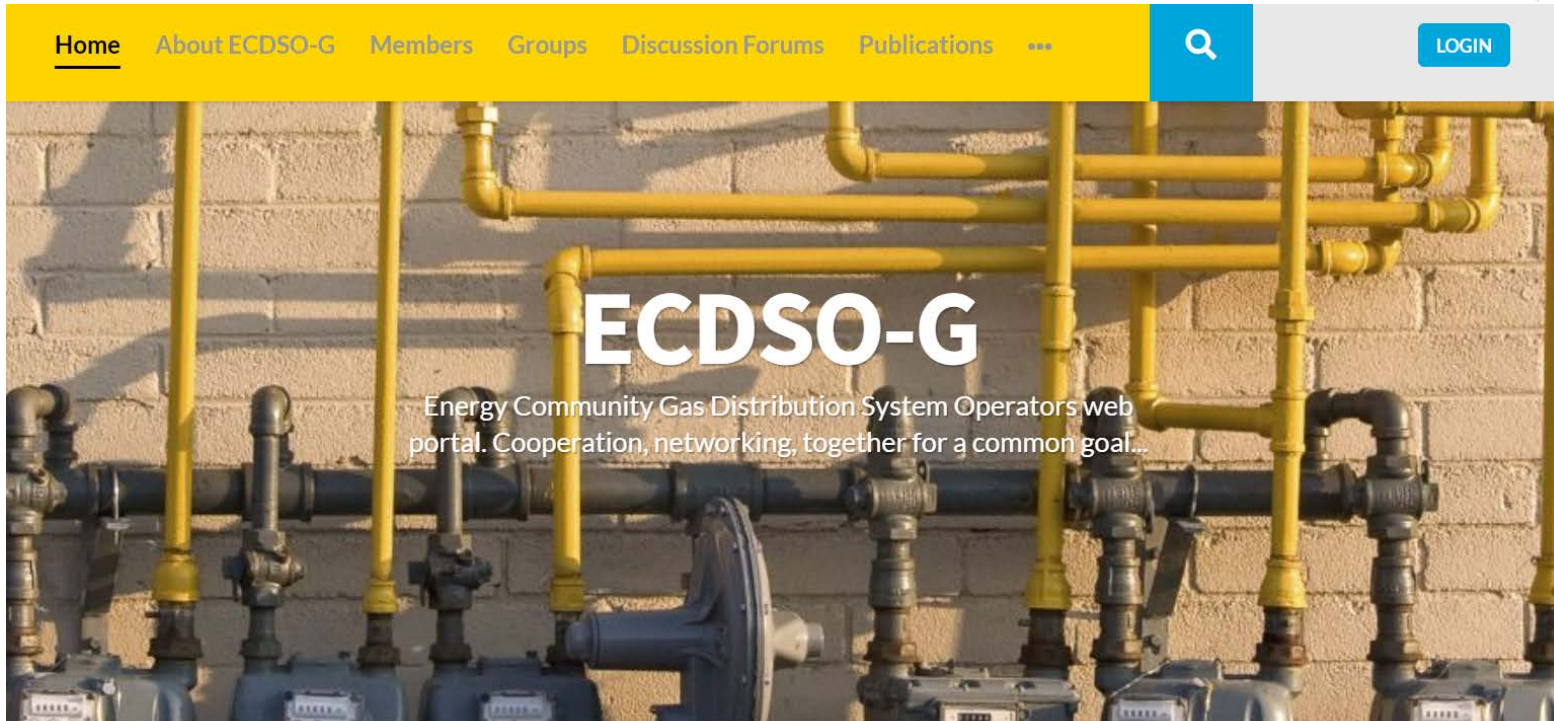


The screenshot shows a navigation menu with the following items: Cross-cutting, Electricity, Gas (highlighted in yellow), Security of supply, Oil, Climate, Environment, Renewable energy, Energy efficiency, and Infrastruct. Below the menu is a dark blue banner with the text: Directive 2009/73/EC of 13 July 2009 concerning common rules for the internal market in natural gas.



The screenshot shows a document page with the Energy Community logo at the top. The main content is titled "POLICY GUIDELINES by the Energy Community Secretariat on measurement in the natural gas distribution network" and dated "PG 01/2020 / 8 June 2020". The page features two images: the top one shows a worker in a hard hat near large industrial pipes, and the bottom one shows a power line tower against a blue sky. The website URL www.energy-community.org is visible in the bottom left corner of the image area.

<https://www.energy-community.org/documents/secretariat.html>



Welcome to the Energy Community Gas Distribution System Operators web portal