ENERGY REGULATORS
REGIONAL ASSOCIATION

RESEARCH PAPER:

UNBUNDLING AND CERTIFICATION OF GAS TRANSMISSION SYSTEM OPERATORS IN LINE WITH THE EU *ACQUIS*

ERRA NATURAL GAS MARKETS AND ECONOMIC REGULATION COMMITTEE

CONTRIBUTIONS AND CONCLUSIONS BY MR. JANEZ KOPAČ

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Energy Regulators Regional Association
44/B Logodi Street, 1012 Budapest, Hungary
Tel.: +36 1 477 0456 | Mobile: +36 70 392 5986
E-mail: secretariat@erranet.org | Web: https://erranet.org

RESEARCH PAPER

Unbundling and certification of gas transmission system operators in line with the EU *acquis*

Summary by the Committee Chairs:
Mr. Mehmet KÜRKÇÜ, Energy Markets Regulatory Authority, Turkiye – Chair
Mr. Viesturs KADIĶIS, Public Utilities Commission, Latvia – Vice-Chair

Contributions and Conclusions by:
Mr. Janez Kopač

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- Mr. Tomáš Moric, Policy Officer, Energy Regulatory Office, Czech Republic
- Mr. Revaz Geradze, Deputy Director of the Natural Gas Department, Georgian National Energy and Water Supply Regulatory Commission, Georgia
- Mr. Denis Vasiliev, Main Specialist, Regulations Section, Natural Gas and Thermal Energy Department, National Agency for Energy Regulation, Moldova
- Ms. Julijana Dimoska-Isajlovska, Deputy Head of the Natural Gas Department, Energy and Water Services Regulatory Commission, North Macedonia
- Ms. Ivana Spasic, Senior Legal Expert for Administrative Affairs, Energy Agency of the Republic of Serbia

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LIST OF ACRONYMS

ECRB	Energy Community Regulatory Board
ECS	Energy Community Secretariat
EC	European Commission
ERRA	Energy Regulators Regional Association
EU	European Union
ISO	Independent system operator
ITO	Independent transmission operator
NG COM	ERRA Natural Gas Markets and Economic Regulation Committee
NRA	National regulatory authority
SSO	Storage System Operator
TSO	Transmission System Operator
TYNDP	Ten-year Network Development Plan
OU	Ownership unbundling
VIU	Vertically integrated undertaking

EXECUTIVE SUMMARY

As part of the 2020-2022 work plan of the Natural Gas Markets and Economic Regulation Committee, this research paper intends to summarize unbundling regimes and certification procedures in the context of the existing EU and Energy Community legislation.

The 'unbundling' as an energy sector concept being the most recognizable for most ERRA members derives from the more than hundred years long attempts to improve competition environment that was finalized by European Union's 3rd Energy Package from 2009. This Package seemed to finalize attempts to provide general rules and guidance on how to make the European gas and electricity markets fully effective and integrated. The ultimate objective of the package and the broader EU policy is to establish competitive energy market, provide affordability and price convergence across Europe, together with ensuring security of supply, further upgrade of the infrastructure, enhancing standards of service, and empowering consumers. Recent crisis with spiked prices due to curtailed supply of gas from Russia and the price cap that the EU introduced as an immediate reply showed that the market design is never ended story.

The EU Gas Directive[1] as a core element of the 3rd Energy Package requires that gas transmission system operators (TSOs) need to be certified in order to ensure that they comply with the unbundling requirements set by the Directive. The provisions of the Package introduced new, expanded rules for the effective separation of supply and generation activities from network operations. The new package was introduced as previous directives did not lead to effective legal and functional unbundling of TSOs.

In this paper, the authors first present the legal developments that led to the current EU energy legislation, to later describe the fundamental concepts and models, and regimes of unbundling in electricity and natural gas regulations. Next, the paper elaborates on the transmission unbundling regimes allowed by the 3rd Energy Package and lastly shows the procedures of certification of TSOs through three case studies provided by Czechia, North Macedonia and Serbia[2].

The research paper concludes that, if a level playing field and a competitive gas market are the objectives, the best possible solution is full ownership unbundling. The ISO and ITO are expected to improve the status quo, but they require more detailed, prescriptive, and costly regulation and are less effective in addressing the disincentives to invest in networks. A particular challenge for the certifying institutions is ownership unbundling in cases where the state is the owner of the network or of the company that owns the network and at the same time an owner of a supply/generation company. The success depends on the political context of the country and the deepness of its democratic processes and the state of the rule of law.

[1] Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009

[2] Despite not being an EU Member State, Serbia is bound by Energy Community rules and as such provided an overview of its certification process in order to complement the report and introduce a perspective of the EU neighborhood.

1. INTRODUCTION

Energy policy usually reflects three elements: security of supply, competitiveness, and sustainability. Out of three the attempts for competitiveness have the longest history.

Competitiveness is a basis for market functioning, preventing creation of monopolies. Concentrated economic power endangers not only the free competition, innovative entrepreneurship, and benefits of consumers but also the role of the government and social policy. This became first evident in the United States in late 19th century when John Rockefeller's Standard Oil Co. became a conglomerate of oil refiners which had all the capacity to set price and supply. In the US at that time, it was widely perceived that competition preserves the balance of economic power and personal autonomy. In such public debate, the US Congress adopted the so-called Sherman Antitrust Act in 1890. In 1914 the US Federal Trade Commission was formed, perceived as the first competition regulatory authority worldwide.

Standard Oil's success went too far. Some of its increasingly aggressive trading practices caused great controversies in public opinion. The rising protest movement led to a reaction from the authorities in defence of the consumers and respect for the basic rules of competition. Eventually, Rockefeller's Standard Oil was to be split into as many as thirty-three companies. Many of them we know still today: BP, Gulf Oil, Chevron, Texaco, Shell, and ExxonMobil.

Antitrust legislation and practice introduced a doctrine of essential facilities. This doctrine was drawn up clearly for the first time in a US Supreme Court ruling. The Terminal Railroad Association comprised of several railroads that maintained control over all railway bridges and switching yards into and through St. Louis. This group blocked the possible completion of transportation services to and out of that destination. The court ruled that such actions constituted an attempt to create a monopoly and restrict trade.

The essential facilities doctrine was first in the US and some hundred years later in the EU and several other countries around the globe a basis for anti-monopoly legislation which allowed third-party access and independent regulation of natural monopolies (infrastructure). Nowadays, the essential facilities doctrine is widely used to regulate transport, telecommunication, energy infrastructure, and even internet platforms and similar.

EU's energy sector was heavily regulated long after the single market was established as a basis for the European Community. Three decades ago, the European electricity and gas sectors were governed by monopolies. Vertically integrated companies, usually in state ownership, were responsible for the generation, transmission, and supply of electricity and for the drilling, transmission, and supply of gas. The final price for consumers was usually determined by authorities but suggested by monopolies over which the state didn't have a good overview. Since those companies also held the grid infrastructure, market access for potential new players was impossible. Incumbent vertically integrated utilities basically were able to act as gatekeepers to the grid.

In 1996 the European Union started to gradually open the market for competition – to liberalize the energy market just like it did before with several other sectors. The legal basis of the liberalization and harmonization of the EU internal energy market. The aim was and is to create one single integrated internal European electricity and gas market across all EU Member States to reduce overall grid costs and benefit from synergies.

A key step in this process was and is the unbundling with the aim to split up the generation, transmission, distribution, and retail activities.

Unbundling in EU did not happen overnight. In the First Energy package adopted for the electricity sector in 1996 and for gas sector in 1998, only accounting unbundling was required. It demanded the vertically

integrated companies to split up the bookkeeping according to the different activities. This was clearly not enough to create a competitive market.

In the Second Energy Package (for the gas sector Directive 2003/55/EC), introduced in 2003, legal unbundling was demanded. It allowed a single company to operate in only one of the activities of the value chain: either transmission, distribution, or supply. It also demanded that by 2007 all European customers should have the ability to choose their supplier. But, because the different companies still could be part of the same holding, the owners of those companies still had quite some market power.

With the establishment of the European Economic Area in 1994 and the Energy Community in 2006, the same legal framework was spread across the continent. EU tried to establish some of those principles globally with the Energy Charter Treaty from 1998, but provisions of that Treaty remained on the level of the First Energy Package and got stuck in progress due to the unanimity principle and geographical distance of signatories.

Then came Directive no. 2009/73/EC of the European Parliament and Council (also known as EU 3rd Energy Package) aiming at ensuring a framework for the unbundling processes that would need to take place in the European gas market to further develop a competitive and diverse environment for all actors involved in supplying and transporting natural gas within the EU borders. Except for establishing common rules for the natural gas sub-sectors, the directive also presented how all transmission system operators would be defined, identified, and segregated from their original controlling mother companies, via the application of one of the pre-determined unbundling models.

The 3rd Energy Package was adopted in 2009 to make the European gas and electricity market fully effective and integrated. The ultimate objective of the package was to provide affordability and price convergence across an integrated energy market, ensure the security of supply, foster competition, increase standards of service, and empower consumers. The legislative package in gas sector covers the following legal acts:

- 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 (hereafter called "the Gas Directive"),
- Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators,
- Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003,
- Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005 (hereafter called "the Gas Regulation")

The 3rd Package introduced new, further reaching rules for the effective separation of supply and generation activities from network operations. These provisions were introduced as a result of findings that the rules on (legal and functional) unbundling for TSOs, provided for in the previous directives were not effective enough to duly perform the process of separation. Without effective separation of networks from activities of generation and supply (i.e., effective unbundling), there is an inherent risk of discrimination not only in the operation of the network but also in the incentives for Vertically Integrated Undertaking (VIU) to invest adequately in their networks.

The Gas Directive provides a new unbundling regime for TSOs with 3 possible models: the Ownership Unbundling (OU), the Independent System Operator (ISO), and the Independent Transmission Operator (ITO). There is also a specific exception called the "ITO+" model. The Directives allow Member States to

opt for one of these unbundling models, under the restriction that the ISO, ITO, and "ITO+" models can only be chosen for a specific TSO if, on entry into force of the Directives (3 September 2009), the transmission system concerned belonged to a VIU. Even though the models provide different degrees of structural separation of network operations from production and supply activities, they are all expected to be effective in removing any conflict of interest between TSOs and producers/generators as well as suppliers. The rules on unbundling apply equally to private and public entities. The models are further elaborated on in the paper.

Operators that comply with the unbundling rules can apply for certification with their national energy regulator. Every operator must be certified and the regulatory commission provides its opinion on the certification procedure. The next step is a designation by a member state and notification to the European Commission, which then publishes the status in the Official Journal. The Gas Directive also requires regular monitoring of the compliance of TSOs with the unbundling requirements

Consequently, the purpose of this paper is to present an outline of the concept of unbundling and unbundling regimes subject to the 3rd Energy Package, and describe the procedure of TSO certification as required by the Gas Directive, supported by three case study examples.

2. THE CONCEPT OF UNBUNDLING AND ITS FORMS

2.1. What is unbundling and why is it implemented?

First and foremost, unbundling is performed to break down existing monopolies or prevent the formation of new ones, in this case in the natural gas market. EU's gas market model is based on the perception that the competition is good for consumers since it lowers the prices, brings improvements and innovations, and economically punishes the inefficient use of resources. The biggest energy companies operating in the European energy market have had many decades to consolidate their positions and take advantage of their market power. If left unregulated and bundled, they usually hinder the free flow of competing energy products and prevent access to the market for new participants. To provide an analogy, one could imagine a company that specializes in transporting goods and impedes any other drivers or vehicles to access the highway, even though both the consumer (traveller) who paid and the state which granted the land for its construction have paid for that infrastructure. Bundled network operators:

- have interests in the competitive activities and have incentives and possibility to offer preferential treatment to their affiliates, which leads to discrimination of the other competitors;
- take network investment decisions as a group because of the close relationship between the network operator and the parent company. When taking decisions for investment, the parent company still considers the interests of the affiliate supplier, instead of taking into account only the needs for investment;
- tolerate information leakage between the network and the competitive activities, which means that the "Chinese walls" that are in place as information unbundling, are not well implemented. As a result, the affiliated supply and generation branches have access to confidential information from the network operators which gives them advantages with regards to their competitors. The basic breakdown of unbundling can be done by defining it as horizontal and vertical. Horizontal unbundling involves the separation of an entity's various functions amongst multiple smaller entities that can either compete with one another or choose to provide services in different fields. Those companies may be private, state-owned, or have some other ownership structure

e.g., a concession-based one. Vertical unbundling involves the separation of activities, meaning extraction/production, transmission, distribution, and (sometimes) sales. This form of unbundling allows for the separation of potentially competitive segments such as extraction and retail (where many other actors/entities can participate), from uncompetitive, more bottleneck-type, segments (transmission and distribution), which require a single actor to manage the grid infrastructure in a specific area/region.

Vertical and horizontal unbundling provide therefore several benefits for the sector itself and the consumers allowing more choices to consumers.

Unbundling creates several advantages such as increased competition, better efficiency, transparency, governance improvement, and oversight. After undergoing the unbundling process, the vertically unbundled entity can slowly but surely become more efficient due to the ability of the newly segregated entity to focus on its core activities without balancing its interests against its mother company. The unbundled enterprise will be able to reduce the costs of its supplied services, as it can operate in a single market and compete with similar services in that market category. This trend alone could bolster the competitiveness of the market itself and that of the entities that operate in it.

On the aspect of transparency and governance, the existence of grouped and competing companies in the various natural gas service sectors helps to monitor and benchmark the overall activities and operating costs incurred more easily. The overall picture becomes clearer as well, partially thanks to the fact that the regulatory authority responsible will be monitoring the same categories of activities, rather than comparing companies that have heavier diversified activity portfolios with others with more focused service offerings.

Figure 1: ***Gas transmission unbundling status in selected ERRA NG COM countries.***

Country	Are the gas transmission activities unbundled?	If yes, when did unbundling happen?	Adopted unbundling model	Comment
Albania	No	-	-	
Algeria	Yes	2006	ITO	
Armenia	No	-	-	
Azerbaijan	No	-	-	
Bosnia and Hercegovina (Rep. Srpska)	Yes	2020	OU	
Bulgaria	Yes	2007	ITO	
Croatia	Yes	2021	OU	
Czechia	Yes	2013	ITO	
Egypt	No	-	-	
Georgia	No	-	-	
Hungary	Yes	2011	ITO	
Latvia	Yes	2017	OU	
Lithuania	Yes	2015	OU	
Moldova	Other	2021*	OU, ITO	*The TSO unbundling process in the Republic of Moldova is partially concluded, with 1 of 2 registered TSOs having complied with their unbundling requirements. • Vestmoldtransgaz LLC has received its certification of being ownership unbundled in September 2021; • Moldovatransgaz LLC the largest TSO has not yet received its certification under its then chosen ITO model.
Mongolia	Other			Mongolia does not have operational natural gas infrastructure yet.
Mozambique	No	-	-	The TSO unbundling process has not yet been concluded, as for now it is only Maputo and Inhambane Provinces where TSO can be observed.
North Macedonia	Yes	2018	OU	
Poland	Yes	N/A	OU, ISO	
Romania	Yes	2014	ISO	
Thailand	Other	-	-	The unbundling process is described in the resolution of National Energy Policy Council (NEPC) in 2021.
Türkiye	No	-	-	
United Arab Emirates (Abu Dhabi)	No	-	-	
Ukraine	Yes	2020	ISO	

Source: Own elaboration based on survey in the NG COM.

2.2. Types of unbundling under the 3rd Energy Package

As was mentioned in the introduction, the unbundling enshrined in the EU's Second Energy Package did not provide enough clarity to remove all the attempts of gas incumbents to restrict free competition. The tug of war for an appropriate unbundling model determined public and academic debate at a time. The EC proposed ownership unbundling as a preferred model and added in its initial proposal also ISO model to avoid accusations of an attempt for expropriation. Option three (ITO) was created during the negotiations in the European Council. It allows VIU to own and operate the network as under the Second Package but introduced a wide range of structural and behavioural safeguard measures to ensure neutrality in the operation of the network. On the account of manifold interventions of the national regulatory authorities this model was dubbed a "*nightmare for the national regulatory authorities and the TSOs*".

- **Independent System Operator (ISO)** is a more drastic model when the owner of the transmission network itself cedes the technical and commercial control over its assets, which is managed in a very comprehensive way by an independent TSO-like structured entity. Decisions taken by the ISO with regards to network development and other similar investments are almost mandatory for the owner of the transmission network, while its involvement in decision-making processes is closely monitored by the regulator.
- **Ownership unbundling** (OU) is when the entities which operate in the uncompetitive aspects of the energy market such as transmission and distribution are forbidden to own or have any stake in other companies that operate in the competitive side of the energy market (e.g., extraction, generation, production, supply of energy products to final consumers).
- **Legal unbundling** (for this guide an ITO model) is when all the essential input on the TSO's management and decision-making process must be controlled by a legally independent entity with autonomous management from its original owner company. The owning company may partake in the TSO's profits, but any interference in the operators' activities is forbidden. Such an ownership unbundling practice diverts any kind of interest the transport entity might have in other sectors (such as production, supply, or distribution), its sole purpose being the insurance of a proper functioning transmission network and availability of access to it for all eligible third parties.

The Gas Directive envisages the possible unbundling regimes for TSOs in Article 9. As explained, primarily, as a point of departure, the ownership unbundling model (OU), or as alternative the Independent System Operator model and the Independent Transmission Operator model. In addition, there is also a specific exception under Article 9(9) with the so-called "ITO+" model. The regulations allow EU-member states to opt for one of these unbundling models, under the restriction that the ISO, ITO, and "ITO+" models can only be chosen for a specific TSO if, on entry into force of the Directives (September 3, 2009) in the EU or on 6 October 2011 in the Energy Community, the transmission system concerned belonged to a VIU. In cases where the choice for a specific TSO to apply one of the above-mentioned unbundling models exists, all the conditions of the chosen model must be fulfilled. It is not allowed to combine elements of the different models to create a new unbundling model. The Directives also provide a certification process whereby the NRAs assess compliance of the TSOs with the unbundling model of their choice.

Three case studies presented by ERGEG on the cases of the UK, Portugal, and Italy are helpful for comparing the advantages and disadvantages of the ownership unbundling and the ISO.

The ISO model in Scotland was found to have several disadvantages compared to ownership unbundling in England and Wales. The interface between the operator and asset owner is complex and must be

regulated closely. In Portugal, there were no visible improvements when legal ownership was in place, and it was only with full ownership unbundling that made the consumers of electricity benefit from higher levels of investment, improved quality, and lower prices. Italy which originally had an ISO model, due to the difficulties in coordination between the asset owner and operator, in 2005 moved to ownership unbundling resulting in a 30% increase in investment, and a doubling in the number of authorizations.

The unbundling regimes under the 3rd Energy Package are compared in Figure 1 below:

Figure 2: ***Comparison of unbundling regimes in the 3rd Energy Package.***

	OU	ITO	ISO
Ownership of assets	TSO	TSO	VIU
Investment Decision	-	TYNDP	TYNDP
Operation	Independent from supply	Independent from supply	Functionally unbundled

2.2.1. Ownership Unbundling

Ownership unbundling is the fundamental mechanism set by the Gas Directive to create a competitive gas market. OU provides for a property separation: a company performing competitive activities is obliged to sell its natural gas networks. In such a case, the supply or production company has no right to have a controlling stake in the shares or to be involved in any way in the management of the transmission system operator.

The rules on ownership unbundling are laid down in Article 9 of both Electricity and Gas Directives. The provisions of Article 9(1) require that the same legal person cannot control generation, production, and/or supply activities, and at the same time control or exercise any right over a TSO or a transmission system. Furthermore, it is forbidden for that legal person to control a TSO or a transmission system, and at the same time control or exercise any right over a generation, production, and/or supply activities.

Article 9(1) of the Gas Directive requires that each undertaking that owns a transmission system acts as a TSO. The article allows one entity to exercise control[3] (directly or indirectly) on either transmission system operation or production and supply, but not both.

For a better supervision of unbundling on the ground the TSO may appoint a Compliance Officer.

"Under ownership unbundling, to ensure full independence of network operation from supply and production interests and to prevent exchanges of any confidential information, the same person should not be a member of the managing boards of both a transmission system operator or a transmission system and an undertaking performing any of the functions of production or supply. For the same reason, the same person should not be entitled to appoint members of the managing boards of a transmission system operator or a transmission system and to exercise control or any right over a production or supply undertaking."

the Gas Directive, para. 12

[3] *The Gas Directive defines "control" as "any rights, contracts or any other means which, either separately or in combination and having regard to the considerations of fact or law involved, confer the possibility of exercising decisive influence on an undertaking, in particular by: (a) ownership or the right to use all or part of the assets of an undertaking; (b) rights or contracts which confer decisive influence on the composition, voting or decisions of the organs of an undertaking." (Article 2(1)).*

2.2.2. Independent Transmission Operator

A member state can decide not to apply the rules of ownership unbundling, but to apply for an ITO model, which allows for a TSO to remain a part of the VIU under a set of detailed behavioral and structural criteria.

While certification procedures are applicable for all unbundling models, additional requirements are in place for those TSOs who choose the ITO unbundling model (in countries where the ITO model is available as an option under national law). Article 41(5) of the Gas Directive lays down a list of specific duties and powers to be assigned to regulatory authorities where an ITO is designated. These duties and powers are additional to the duties and powers generally conferred on regulatory authorities as regards the TSOs. The list of specific duties and powers is not exhaustive. The NRAs have to assess the compliance of the TSOs with the additional requirements of the ITO model, which are summarized below:

- Autonomous organization, decision making, and business exercise should be endured by the VIUs,
- Physical separation (providing service in separate offices) should be ensured, as well as the independence of staff,
- Independent TSO must sustain investments and the construction, operation, and maintenance of a secure and efficient transmission network, complying with the TYNDP,
- Creation of a Supervisory Body being responsible for decisions of the ITO which may have a significant impact on the value of the assets of the shareholders in the TSO. Supervisory Body cannot take decisions regarding day-to-day activities of the ITO and the management of the network, or with the preparation of the TYNDP,
- Supervisory Body of ITO shall be composed of members representing the vertically integrated company, third-party stakeholders, and members of other interested parties, such as employees of the TSO. Members of the Supervisory board shall have no conflict of interest as specified in Articles 19 and 20 of the Gas Directive,
- Creation of a Compliance program with the nomination of a Compliance Officer which is subject to approval by the NRA.
- Own company identity, brand, and headquarters,
- Legal possession of the transmission network (and also any other assets necessary for the activity) and sufficient personnel for its operation and maintenance, (outsourcing of key functions is usually forbidden),
- Adequate managerial staff with the legal ability to make and enforce management decisions,
- Adequate budget for operational costs and further infrastructure investments,
- No recorded incidents of preferential treatment in relation to owning company or sister entities.
- ITO is not allowed to share IT systems or equipment, physical premises and security access systems with VIU.

Further elaboration on the above points is provided below.

To determine the status of a VIU, it has to be examined whether the gas undertaking is controlled by, or controls, another company active in the gas field (control criteria). If this is the case, then at least one of the two undertakings has to be a transmission system operator, and the second undertaking needs to be integrated and exercise any generation/production and/or supply activity (activity criteria). In addition, both companies should be active in the European Union (geographical criteria).

The Gas Directive requires that to be autonomous *vis-à-vis* any other part of the VIU, ITOs must be equipped with all financial, technical, physical, and human resources. In general, the autonomy

requirements for ITOs under the 3rd Energy Package are applied and work in practice to ensure the autonomy of the ITO *vis-à-vis* its parent undertaking and other parts of the VIU.
Another requirement in the Directive towards an ITO is to be independent from the VIU particularly, with regards to decision-making rights, the power to raise money on the capital markets, and its corporate structure.
The directive set out specific rules aimed at ensuring that any potential conflicts of interest of the management and employees of the ITO are avoided and require that ITOs establish and implement a Compliance Program to ensure that discriminatory conduct is excluded, and compliance is adequately monitored. Equally, a Compliance Officer must be appointed by the Supervisory Board and approved by the NRA. That person is responsible for reporting on the compliance of the ITO with all its obligations.
Also, the Gas Directive requires ITOs to set up a ten-year network development plan (TYNDP) on an annual basis identifying both the investments already decided upon and new projects which need to be executed within the following three years to ensure that the necessary developments are made in the network.
The Gas Directive has a special provision (Article 9(9)) for VIUs that were unbundled according to ITO model, but even more effectively, prior to 3 September 2009 in the European Union and 6 October 2011 in the Energy Community. The exemption is called also the "ITO+" model or Scottish clause.

2.2.3. Independent System Operator

The second exception is manifested in Articles 9(8) and 14 of the Gas Directive. Member states where the transmission system belonged to a VIU on 3 September 2009 can choose not to follow ownership unbundling. In this case, a member state can approve and designate an independent system operator (ISO), that is not affiliated with the VIU which can retain the ownership of the transmission system. However, ISOs are also subject to the control limitations laid down in Article 9(1).
The requirements for the ISOs are defined in Article 14 and are presented below:

- ISO is required to have its disposal the necessary financial, technical, physical, and human resources to carry out the tasks of TSOs,
- ISO has to comply with a ten-year network development plan approved by the NRA,
- ISO has to comply with the obligations of TSOs under Regulation (EC) no 715/2009, about the cooperation among TSOs at the European or regional level[4].
- ISO should also be certified by the regulatory authorities and designated by the member states. ISO must comply with the rules on ownership unbundling.
- Transmission owner is obliged to finance investments decided by ISO without delay and objection.

3. CERTIFICATION AND DESIGNATION OF TSOS

An undertaking can be designated as a transmission system operator only if it is certified according to the procedures laid down by the provisions of Article 10 of the Gas Directive. This approval is a two-step

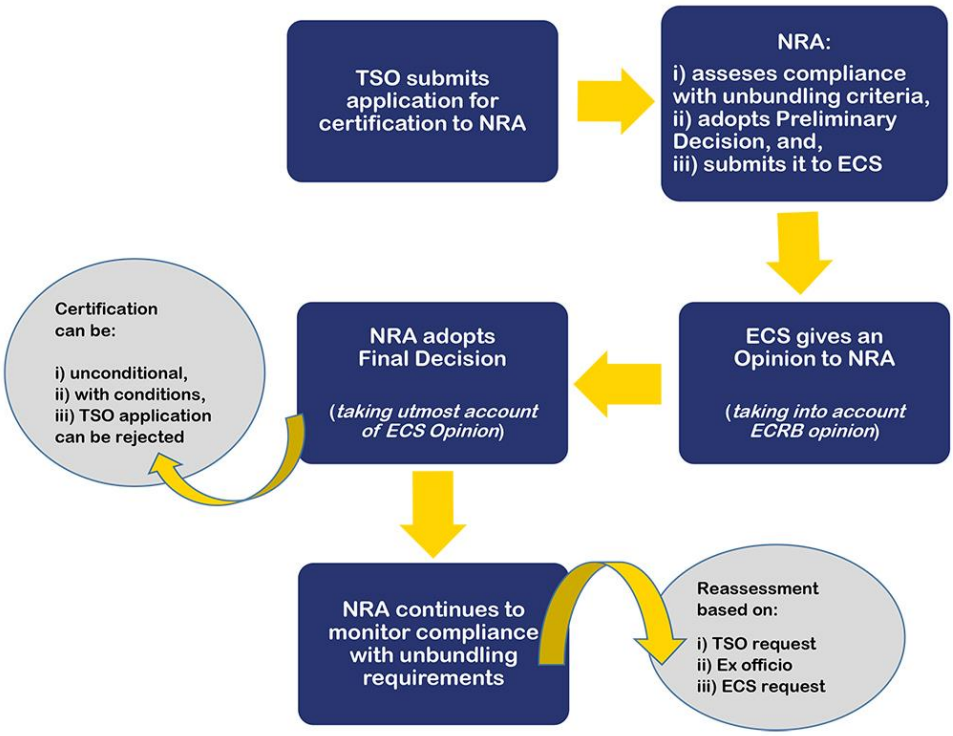
[4] According to Article 12 of the Regulation (EC) No 715/2009, the TSOs are required to establish regional cooperation within the ENTSO-g, to contribute to its tasks and contribute to the bi-annual regional investment plans. TSOs are also required to promote operational arrangements.

procedure: certification by a national regulatory authority and designation by a member state. Designated TSOs are notified to the European Commission and published in the Official Journal.
It is the NRA's responsibility to verify that the TSO has been duly unbundled in line with the requirements of the Gas Directive. After the preliminary certification by the NRA, The Energy Community Secretariat (ECS) issues an Opinion on the NRA's preliminary certification decision considering the opinion of the Energy Community Regulatory Board (ECRB). The respective NRA issues a final certification decision taking into account the decision of ECS.
The Gas Directive also requires monitoring the continuity of the compliance of TSOs with the unbundling requirements laid down in Article 9. To this end:

- TSOs are responsible for notifying the national regulatory authorities of any planned transactions that may require a reassessment of their compliance with Article 9, and national regulatory authorities are required to monitor the compliance of the TSOs in such a notification.
- NRAs are also responsible for monitoring compliance of TSOs:
  - with their initiative, when they know that a planned change in rights or influence over transmission system owners or transmission system operators may lead to an infringement of Article 9, or where they have reason to believe that such an infringement may have occurred,
  - when it is requested by the European Commission.

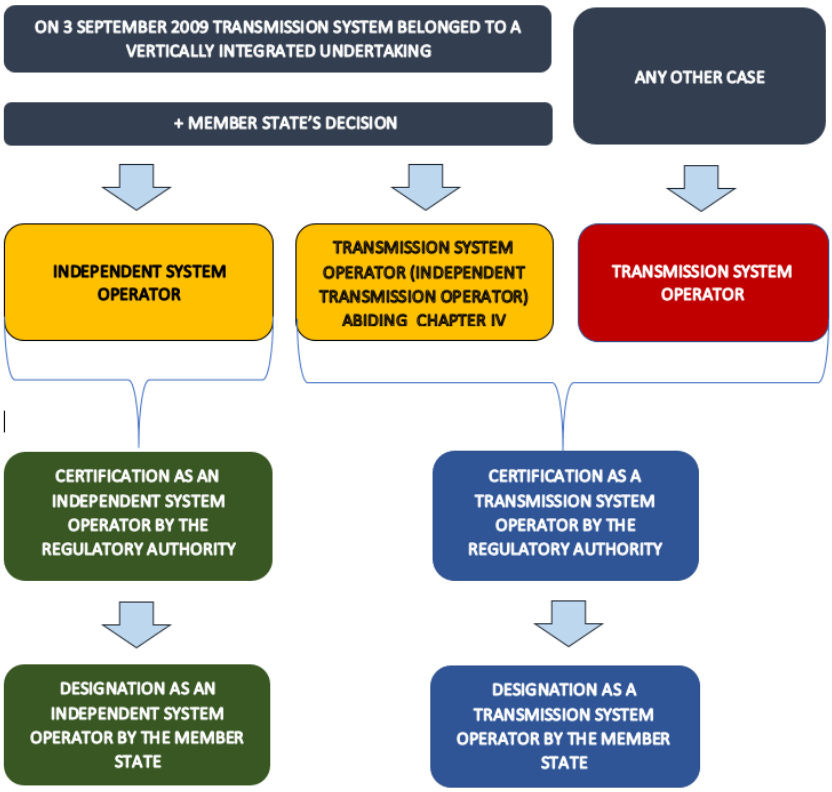
The procedure for certification of TSOs is defined in Regulation (EC) no 715/2009 (Article 3) and illustrated in Figure 2 below (presenting the case of the Energy Community). Certification pathways for different unbundling regimes are shown later in Figure 3. There is no difference in the procedure between the EU and the Energy Community. The opinion is issued by the ECS in cases of the Energy Community Contracting Parties and by the EC on the territory of the EU Member States.

Figure 3: ***Steps of certification of TSOs.***



Source: https://energy-community.org/legal/certification/steps.html

Figure 4: ***Designation pathways for unbundling models.***



Source: Own elaboration based on the EU acquis.

3.1. Certification practice

The terminal objectives of unbundling regimes are:

- Assets of network operations (both transmission and distribution) are separated from the supply (production and wholesale),
- Non-discriminatory access to gas networks is ensured,
- Cross-subsidization between supply and network operations is eliminated,
- Transparency in strategic information's provision is ensured,
- Competitiveness in gas supply is achieved and,
- Sufficient network investments are made.
-

"Any system for unbundling should be effective in removing any conflict of interests between producers, suppliers, and transmission system operators, to create incentives for the necessary investments and guarantee the access of new market entrants under a transparent and efficient regulatory regime and should not create an overly onerous regulatory regime for national regulatory authorities."

The Gas Directive, para. 9

Several requests for the scope of unbundling must be cross-checked by the competent authority. In the EU and in the Energy Community these are in the first instance national Energy Regulatory Authorities, followed by the EC and ECS which issue its opinion that has to be taken into account by the national regulatory authority in the EU Member State.

Since the 3rd Energy Package with its unbundling procedure entered into force the EC issued 147 Opinions on unbundling of gas and electricity TSOs while the ECS issued 19 Opinions.[5]

Approximately a similar number of all TSOs is certified under OU and ITO models (some 90% of all). ISO model and other unique solutions are very rare.

Article 10 of Gas Directive 2009/73/EC establishes a certification procedure. It starts with the initiation of the procedure by the TSO. If there is a cross-border transmission infrastructure, NRAs must cooperate with each other, in order to align their decisions. There are special rules for TSOs controlled by third countries.

During the procedure, the NRA can review all relevant documents, and ask the TSO or other entities for further documents/evidence. The burden of proof as to whether the requirements are met is put on the candidate operator or on the system owner. National rules (administrative proceedings) may require the NRA to consult previously the TSO. The NRA shall adopt a preliminary certification within four months from the date of the notification by the TSO, or from the date of the European Commission request. After the expiry of that period, the certification shall be deemed to be granted. After having received the opinion of the EC/ECS in maximum two months (could be extended for two months more), the final certification decision is made by the NRA within two months. The NRA is required to take "utmost account" of the EC/ECS's opinion. The certification procedure must be approved by the NRA and the undertaking is designated as being a TSO by the State. NRA must publish its final decision, together with the EEC/ECS Opinion At any time during the procedure, NRA and EC/ECS can request from a TSO and/or an undertaking performing any of the functions of production or supply any information relevant to the fulfilment of their tasks.

After the approval, NRA must monitor the compliance and the conditions of certification approval. The focus is on general oversight, such as financial information, general meeting minutes, new shareholders, and new investments. Besides that, NRA must analyze the Compliance officer´s reports, ask TSOs to provide information, ask for the TSO's planned transactions, ask for commercial and financial agreements, and similar. NRA must reopen a certification procedure to ensure all requirements are being fulfilled upon a reasoned request from the EC/ECS, on its own initiative, or after notification of the TSO. The reasons for recertification can be a change of shareholders, new contracts with the VIU, changes in the branding/communication policy, and similar.

The analysis of the certification practice has shown that the EC has interpreted relatively strict provisions of the directive with quite some liberty according to its rationale and effect, transforming the provisions of the directive into a rule of reason, particularly when certifying TSOs in public ownership. The strict application of Article 9 would *„run counter to the principle of proportionality"*[6]. Such practical approach allowed not to turn ownership unbundling into a purpose in itself but put it into the context of opening the key bottleneck for the development of an internal market for energy. Such a relaxed approach was a result of a need to attract financial investors into the transmission system network. At the same time,

[5] *They can be found here:*

- *https://energy.ec.europa.eu/system/files/2021-06/certifications_decisions_0_0.pdf*
- *https://www.energy-community.org/legal/certification.html*

[6] *Commission Opinion C (2013) 979 final of 15.2.2013*

the EC tried to contain potential abuses of its pragmatism by listing a number of elements of relevance for the weighting under the rule of reason. Among them are:

- Control of old small-sized generation plants may be temporarily allowed through a subsidiary if performed under a regulated framework and special monitoring duty;
- Financial investors may be allowed but without voting rights/appointment of Board Members;
- Compliance officers may be "put in place";
- Articles of Association review: shareholders must confirm before general meetings they have no interest in generation and supply;
- Letter from Board Members confirming personal independence;
- Annual reports submitted to NRA: confirming the fulfilment of conditions imposed, sending general meeting minutes, and accounts.

Unbundling made decisions for new major pipelines less attractive to investors. This was the reason that the NRAs and the EC started to use a possibility of an exemption to the general rules on regulated third-party access and unbundling, which are possible under the provisions of the Art 36 of the Gas Directive for new major infrastructure under certain conditions. Perhaps the most outstanding exemption was granted to the consortium building Trans Adriatic Pipeline, connecting Trans Anatolian Pipeline with Italy and thus bringing gas from Azerbaijan to Central Europe. On the territory of Greece, Albania, and Italy the EC and the ECS together with national NRAs agreed with 25 years exemption to ownership unbundling and third-party access.

When granting an exemption, the regulatory authority needs to accurately justify its exemption decision and limit its scope and duration to what is strictly necessary[7].

For NRAs is perhaps the most challenging certification procedure in cases of unbundling of public undertakings. The principle of non-discrimination, which requires treating private and public companies alike has to be respected also in the case of public bodies. The State is vertically integrated undertaking if it engages in more than one energy related activity. This analogy is to be made in cases where the entities dealing with transmission and production/supply are on the same hierarchical level, e.g., two ministries in the same government. The situation in the EU and in the Energy Community emerged quite often since many incumbents were or still are state owned. Art 9(6) of the Gas Directive allows that ownership unbundling requirement is satisfied if (State-controlled) TSO and the (State-controlled) generation and/or supply activities are controlled by two separate public bodies.

Separation of i.e. two ministries with Ministers being in a team with the same Prime Minister looks odd at a first glance. The practice has brought several nuances with a lot of fine-tuning and sometimes even a request to change the law empowering the Government (i.e., the case of Serbian electricity TSO) or even a request to adapt the international agreement (i.e., agreement between the Russian Federation and the Republic of Serbia concerning gas TSO Yugorosgaz). Already the very first Opinion of the EC in the certification procedure (Energinet.dk[8]) had to carefully explore relations between the Minister of Finance and the Minister for Energy to give a positive Opinion. It allowed even an exception in a form of a transitory period despite something like this is not envisaged in the Gas Directive, justified by „the complexity of the project".

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[7] Commission staff working document on Article 22 of Directive 2003/55/EC (hereinafter Staff Working Document) concerning common rules for the internal market in natural gas and Article 7 of Regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity, SEC(2009)642 final of 6.5.2009 at chapter 1.3 and in particular para 17; see also Commission Decision CAB D(2008) 142 of 8 February 2008 (Nabucco / Austrian section), at paragraph 26.

[8] Commission Opinions C (2012) 87 and 87 final of 9.1.2012

3.2. Case Study 1: Czechia[9]

The Czech transmission system is operated by only one TSO – NET4GAS s.r.o. ("NET4GAS"). NET4GAS opted for an ITO model as a means of effective unbundling from the options stipulated by the 3rd Energy Package. This decision was made considering all possible factors ranging from the legal framework, costs, interference with ownership rights or their exercise, the impact on the regulation of gas transmission prices (and thus also the impact on the customer), and the time necessary for implementation. Moreover, the fact the ISO model has not been implemented in the Czech legal framework was considered as well.

One of the specifics of the NET4GAS case was the Gazelle pipeline, an interconnector pipeline under the third-party access and ownership unbundling exemption. To ensure compliance with the exemption granted, a subsidiary, BRAWA s.r.o., was created to own the exempted pipeline. The ITO certificate then also had to encompass the operation of the Gazelle pipeline.

Another particularity of the case was the provision of a flexibility service (a balancing service in the form of the provision of gas balancing the supply and withdrawal to a pre-agreed extent) by a gas trader that was part of the same VIU. NET4GAS had to demonstrate that the use of this service was in line with the ITO's requirements i.e., that the service was necessary for the operation of the system and was awarded in a public procurement procedure.

Another exception was the provision of a technical dispatching service to a gas storage operator from the RWE Group. In addition to the ERO, the contract was also examined by the Office for the Protection of Competition and it had to be demonstrated that there was no discrimination against other market participants.

One of the curiosities worthy of mentioning was the technical interconnectedness of the gas facilities, which originally formed a single network. This was particularly the case regarding the interconnection of the transmission network and gas storage facilities (until 2006 in one company, RWE Transgas a.s.). It was thereby difficult to ensure compliance with the requirement for operational and ownership independence of the ITO. The solution had to be found by legislation regarding ITO unbundling while avoiding unnecessary costs (e.g., building duplicate pipelines or metering stations that would not be operationally justified). This has been achieved by setting up appropriate contractual relations between the TSO, the gas storage operator, and the DSO. The relationships were set up in such a way that the TSO never used the facilities of another entity to fulfill its obligations and any sharing was moved to the relationship between the gas storage operator and the DSO, where it was allowed by unbundling rules.

Last but not least, there was a dedicated data link between NET4GAS and other system operators (from the RWE group) located at the SITEL s.r.o. data center site. NET4GAS demonstrated to the ERO that this was not in breach of the ITO rules as the interconnection was solely for the necessary exchange of operational data.

The origin of the unbundling process can be traced to the establishment of the Transgas state transmission company in 1998. Subsequently, the Czech government sold 97% of shares in Transgas a.s. to RWE Gas AG three years later. The privatization process was completed in 2003. The Transgas a.s. was henceforth fully owned by RWE Gas AG. The RWE Transgas Net s.r.o. was established due to EU unbundling regulation as the TSO and SSO in 2006.

The RWE Transgas Net s.r.o. was renamed NET4GAS in 2010 as part of the ongoing process of unbundling gas transmission from gas trading activities following the European Union's regulatory policy, which required full separation of the brand strategy for transmission activities from the trading activities of vertically integrated gas companies. However, it remained as a part of a VIU within RWE

[9] *This case study was consulted with the company NET4GAS s.r.o.*

Group. The process of ownership unbundling was completed in 2013 when RWE Group sold its stake in NET4GAS to a consortium of Allianz Capital Partners and Borealis Infrastructure.

In terms of the quantification of costs, unbundling can be divided into three phases according to cost recognition requests submitted to ERO:

- 2009-2011: 154 891 000 CZK (especially IT, rebranding, relocation),
- 2011-2012: 20 178 201 CZK (IT, relocation of the control room, certification – translations and expert opinions),
- 2012-2013: 10 416 050 CZK (IT),
- Total: 185 485 251 CZK.

To conclude, given that almost 90% of the unbundling costs originated from the IT department (163 083 393 CZK out of 185 485 251 CZK) and that the IT department project took 2 years and some activities were still being completed during the certification process, this part can be considered the most difficult.

For comparison, the costs of the certification itself (excluding the labor cost of TSO employees), i.e., for official translations of contracts or expert opinions, were quantified in the application for recognition of unbundling costs at 185 221 CZK.

Given the need to secure expert opinions from the Czech Metrology Institute for the transfer and metering stations between the transmission system, gas storage facilities, and distribution system, the most capital-intensive part of the certification process can be identified as demonstrating compliance with the requirement for operational and financial independence of the TSO.

The legal framework of TSO certification and unbundling in the Czech Republic is based on the Gas Directive, the Gas Regulation, and their implementation in the Act No 458/2000 Coll., on the conditions of doing business and the exercise of state authority in the energy sector and on amending certain acts, as amended (the "Energy Act").

The process of certification started on 29 February 2012, when NET4GAS submitted its application for a certificate of independence to the ERO. The deadline for the process under the Energy Act in accordance with the Gas Directive was one year in total.[10] In the course of the procedure for approval of the application for a certificate of independence, the procedure was interrupted several times because the ERO requested supplementation of the application with additional documents or another form of the documents already provided. This included, for example, the submission of full versions of the executive contracts without blacking out sensitive data or the addition of data and the submission of expert reports by the Czech Metrology Institute on the interconnection between the transmission system, gas storage, and distribution systems. In the course of the certification process, the ERO assessed whether and to what extent NET4GAS complies with the unbundling rules applicable to the ITO model set out in the Czech legislation implementing the Gas Directive.

The ERO, for example, examined service contracts to ensure the full independence and autonomy of the TSO. The ERO furthermore examined whether the existing interconnection of the IT systems concerned could potentially lead to discrimination and, if so, to determine by when those IT systems must be separated to mitigate any risk of conflict of interest and abuse where such a risk existed. to ensure full compliance with the Gas Directive, the ERO assessed the previous employment of the members of the Management Board to determine whether the independence requirements were met.

[10] *Specifically: the ERO preliminary decision (4 months), the Ministry of Trade opinion concerning SoS (2 months), the Commission approval (2 months) with 2 months extension in case of ACER consultation and the ERO final decision (2 months).*

After fulfilling the conditions of independence set out in the Gas Directive, the Gas regulation, and the Energy Act, and demonstrating them to the ERO, the TSO, NET4GAS, was granted a certificate of independence on 28 January 2013 via ERO's decision. The certification procedure thus lasted 11 months. After the decision was issued, NET4GAS notified the ERO of the sale of the shareholding of NET4GAS. The ERO consequently terminated the ongoing proceedings related to the ITO regime and its relationship with other RWE Group companies. This intention was notified to the European Commission as well on 17 May 2013. Subsequently, in its opinion, the European Commission stated that it did not see any reason to carry out a new certification due to the change of ownership.
The certification process, and especially unbundling in the case of Czech TSO, therefore proved to be an extremely time and labour-intensive undertaking for all parties involved due to a specific design of the Czech gas network, which was built as a single interlinked system, and complexity of IT solutions needed for unbundling and in the sourcing of IT systems. Regarding the unbundling of IT systems, the need to tender an IT integrator was identified by TSO to make the most of the existing IT environment and not to use unbundling as an opportunity to start completely from scratch.
The difficulty and a certain level of unpredictability of the unbundling process regarding IT systems can be illustrated by the fact, that RWE IT Czech s.r.o. still provided NET4GAS with the housing technology in the data center (for the operation of administrative IT systems) during the certification procedure, as a consequence of the fact, that NET4GAS was forced to withdraw from the contract with the winner of the tender for a new supplier of data center services. The contract was implemented in 2011 and NET4GAS withdrew from the contract on 21 December 2011 due to the supplier's failure to fulfil the subject of the contract.

3.3. Case Study 2: Serbia

I.

Serbia fully transposed the 3rd Energy Package provisions on unbundling on 29 December 2014 by adopting Energy Law, which stipulates that the TSO is eligible to apply for certification according to the ITO model only if it has already been part of the vertically integrated company at the time of adoption of this law (2015).
Serbian Energy Law defines all prescribed criteria for TSO certification from the Energy Package concerning common rules for the internal market in natural gas such as the obligation of TSO to be the owner of the transmission system (except for the ISO model), to be legally and functionally independent from other companies performing activities of production and supply, to assure that there is no direct or indirect control or exercise of any right over TSO by any legal or physical person that is directly or indirectly engaged in activities of energy production and supply, and *vice versa*, to assure TSO independent decision making and transmission operation, independence of employees that shall not have engagements whatsoever with companies performing gas production or supply, including the adoption of Compliance Program & nomination of Compliance Officer (if organized according to ITO model), etc.
Energy Agency of the Republic of Serbia – the Serbian NRA – (hereinafter: AERS), is authorized to assess the fulfilment of prescribed certification criteria in certification procedure enacted by TSO application or by AERS *ex officio* (in this case AERS evaluates the validity of a certificate issued due to suspected TSO misconduct/infringement of certification criteria, in which case certificate may be revoked).
AERS has 4 months to decide on a TSO certification request (AERS may issue a certificate, reject it on a procedural ground, or refuse a certification request if the TSO does not fulfil prescribed certification criteria). Once AERS issues a certificate to TSO, it shall transmit its decision ("preliminary AERS decision

on certification") to the Energy Community Secretariat (hereinafter: ECS) together with TSO request and encompassing documentation.

ECS, according to the provisions of the Gas Directive, has 4 months to assess the NRA decision and consult the Energy Community Regulatory Board (ECRB - forum of Contracting Parties NRAs) to deliver its *Opinion*.

Once ECS issues its Opinion, AERS *shall take utmost account* of this Opinion before it adopts the *Final AERS decision on Certification* (at this point certification procedure is slightly different from the EU Directive). If AERS's final decision on certification diverges from ECS Opinion, AERS is still obliged to publish it. In this case, ECS may consider including this diverging "case" as information (or possibly as a dispute) to the Agenda of the Energy Community Ministerial Council.

Apart from the Energy Law, the other main regulations on certification in Serbia are the Rulebook on licensing and certification, the Company Law, and the Law on Ministries. The latest Amendment of the Law on Ministries prescribes that the ministry in charge of the economy and the ministry in charge of energy, separately and independently from each other perform additional monitoring. Supervision over gas and electricity transmission operators is granted to the Ministry of Commerce, while companies performing gas and electricity supply, public supply, and gas and electricity production are monitored by the Ministry of Energy. This separation of monitoring competencies depending on the type of energy activity introduced by the Amendment of Law on Ministries expands prescribed certification criteria only for those TSOs that are public enterprises or companies under the control of the Serbian Government.

II.

Two VIUs which operated in Serbia at the time of the adoption of the Energy law in 2015 were: PE Srbijagas (a 100% state-owned public company established for transmission, distribution, and gas supply) and Yugorosgaz-Transport LCC (a daughter company of VIU "Yugorosgaz JSC". VIU "Yugorosgaz JSC" performing gas supply and gas distribution and its ultimate controller is OAO Gazprom, while PA Srbijagas is a minority shareholder).

Since 2015, both TSO has taken measures toward assuring unbundling and certification.

The first certification request was submitted by "Yugorosgas-Transport LCC, which requested to be certified according to the ISO model. AERS issued a preliminary and in its final decision on conditional certification in 2017. AERS in its Final Decision certified this TSO as ISO, conditionally, for a period of 1 year, urging this TSO to conduct necessary measures for fulfilling missing requirements prescribed in the Energy law for full ISO certification. ECS in its Opinion on the Final AERS Decision implied that "Yugorosgas-Transport LCC", as being a part of a vertically integrated company, was not eligible for certification according to the ISO model and that AERS decisions to issue conditional certificate is not in line with the Gas Directive. As "Yugorosgas-Transport LCC" failed to fulfil missing conditions within a period one year, AERS revoked its certificate in 2019. After this, the Serbian Government proposed an Action plan in 2021 to define requirements for the completion of necessary activities for certification of "Yugorosgas-Transport" LCC. Yugorosgas-Transport" LCC transmission system is relatively small as it supplies around 5 % of all final customers in Serbia.

The main gas transporter in Serbia in 2015 was PE Srbijagas. At that time, this entity performed activities of gas supply, transmission, and distribution system operation, public supply, and function of supplier of last resort. Since then, PE Srbijagas has begun process of restructuring. Firstly, PE Srbijagas established a daughter company for gas transmission - TSO "Transportgas Srbija" LCC. From 2016 until 2018 "Transportgas Srbija" gradually was taking over the transmission operation from PE Srbijagas. In this process, PE Srbijagas transferred to "Transportgas" Srbija LLC the necessary material resources, contracts, and employees. Transportgas Srbija LCC, as a separate legal entity (at the time 100% owned by PE

Srbijagas), started to operate as an independent legal entity and gas transportation company in 2019, but at the same time its owner, PE Srbijagas, retained the ownership rights over the whole transmission system which supplies around 95% of final customers. In 2021. The government of Serbia adopted an Action plan for the restructuring of PE Srbijagas. According to this plan, all shares of PE Srbijagas in Transportgas Srbija LLC have been transferred to the Government of Serbia by the end of 2021, and from that moment, this TSO ceased to be part of VIU PE Srbijagas. However, the transmission system as an asset is still owned entirely by PE Srbijagas. Up until now, Transportgas Srbija LLC applications for certification according to ISO and ITO models were rejected by AERS as incomplete, or as premature, as the Government of Serbia according to its Action plan still needs to complete the remaining activities for restructuring PE Srbijagas and certification of "Transportgas Srbija" LLC

In 2019 the AERS adopted Act on granting the *right the exemption from TPA, regulated prices, and ownership unbundling* to project company Gastrans LLC (its final shareholders are VIU OAO Gazprom (51%) and VIU PA Srbijagas (49%)). After the exemption was granted, this project company started construction of a gas interconnector of approx. length of 400km that interconnects Serbian, Bulgarian, and Hungarian gas markets. Construction of all pipelines was finished in October 2021 when Gastrans LLC started its commercial operation.

AERS in its Exemption Act conditioned Gastrans LLC to obtain a certificate before the commercial operation date. This certification criteria were tailored according to the *ad hoc ITO model* of unbundling that was already applied by the European Commission in the exemption procedure from ownership unbundling of the Trans Adriatic Pipeline (TAP project). Gastrans LLC, after finalizing pipeline construction, submitted to AERS a request for certification. AERS issued to Gastrans LLC certificate proving that it has accomplished requirements for unbundling according to *ad hoc ITO model,* as defined in Gastrans Exemption Act (owns and independently operates its transmission system, has its own material, operational and human resources, is independent in its day- to -day decision-making and operations from its shareholders, has implemented Compliance plan & nominated Compliance Officer, etc).

3.4. Case Study 3: North Macedonia

I.

North Macedonia has fully transposed the 3rd Energy Package provisions on unbundling on 21 May 2018 by adopting Energy Law where the procedures for Transmission System Operator of natural gas Proprietary Unbundling and Natural Gas Transmission System Operator Certification has been fully established.

North Macedonia has chosen Ownership unbundling (OU) as unbundling model.

Macedonian Energy Law defines all preconditions for TSO certification from the Energy Package such as: is the owner of the natural gas transmission system, is not part of a vertically integrated company, is a holder of license for energy activity - transmission for natural gas, is independent from performance of other energy activities, has been certified and designated as a transmission system operator for natural gas by the Energy Regulatory Commission.

In order to ensure the independence of the transmission system operator for natural gas, the same entity is not entitled at the same time:

- directly or indirectly to participate in the management and supervision of a company that performs any of the natural gas production and/or supply activities and directly or indirectly to manage or accomplish other right with the natural gas transmission system operator.

- directly or indirectly to participate in the management of the transmission system operator of natural gas and at the same time to directly or indirectly manage or accomplish another right in a company that performs any of the natural gas production and/or supply activities.
- to appoint members of the supervisory body and the management body of the natural gas transmission system operator and at the same time directly or indirectly to manage or accomplish another right in a company that performs any of the activities for production and/or supply of natural gas;
- cannot be a holder of a licenses and be involved in a performance of activities for production, organization and management of the natural gas market, distribution, trading, or supply of natural gas.
- cannot uncover business sensitive information to companies for production and/or supply of natural gas (including the employees of the company) If the natural gas transmission system operator was part of a vertically integrated natural gas company.

The Ministry of economy is the owner of the operator of the natural gas transmission system. The Ministry of economy is independent in decision making on the selection of supervisory authority, i.e., management authority of the operator of the natural gas transmission system. The members of the supervisory body, in the process of decision-making must not seek nor accept instructions or directions from the Government or other state authority and may not be elected as members of a supervisory body or management body of companies that perform production or supply/trade of natural gas, or companies that have an opportunity to direct or indirect influence on decision-making in those companies.

The natural gas transmission system operator, irrespective of the organizational form, after previous approval by the Energy Regulatory Commission, shall adopt a compliance program determining the measures to be undertaken for the purposes of non-discrimination of natural gas transmission system users based on any ground, obligations of employees in the realization of the program shall be defined, and the manner of monitoring of the compliance of the operation of the natural gas transmission system operator shall be determined, with the obligations determined by this Law and program. In the Energy Law is established that the realization of the program is monitored by a compliance officer. The compliance officer is appointed by the supervisory body of the natural gas transmission system operator, after previous approval by the Energy Regulatory Commission. The Energy Regulatory Commission may not approve the appointment of the compliance officer due to lack of independence or expertise. The supervisory body can dismiss the compliance officer upon prior approval by the Energy Regulatory Commission. Upon request of the Energy Regulatory Commission, the supervisory body should dismiss the compliance officer for reasons of lack of independence or expertise. The Energy Regulatory Commission authorizes the conditions regulating the mandate and the employment terms for the compliance officer, including the duration of their mandate or employment, with the aim to ensure independence, as well as all the necessary conditions for exercising their authorizations and performing their tasks. During their mandate, the compliance officer should not perform other professional activity, nor have benefits or business relations, directly or indirectly, in company in the energy sector or in its partners or shareholders. The natural gas transmission system operator is obliged to give the compliance officer all the data and information necessary for exercising of their compliance, and upon their request, to provide them with access to all the premises in which the operator performs their activities. The compliance officer is obliged to monitor the implementation of the compliance program, prepare, and submit to the Energy Regulatory Commission an annual report on the measures undertaken for its implementation, submit reports to the supervisory body, give recommendation in relation to the

compliance program and its implementation and notify the Energy Regulatory Commission on any substantial breaches with regards to the implementation of the compliance program. The compliance officer submits to the Energy Regulatory Commission the proposed investment plan or the proposed decisions for individual investments in the natural gas transmission system, simultaneously when the managing body of the natural gas transmission system shall submit the decisions to the supervision body. The managing body, the supervisory body and the managers of the natural gas transmission system operator are obliged to invite the compliance officer to attend all the meetings and to submit to him all the necessary materials, especially when decision is made on conditions related to the services for access and use of natural gas, particularly regarding usage fees, allocation of transmission capacity and congestion management, projects related to the management, maintenance and development of the natural gas transmission system, including investments in connections and interconnection capacities, and, purchase or sale of natural gas, necessary for the operation of the natural gas transmission system, including ancillary balancing services.

The certification procedure for the natural gas transmission system operator should be implemented at the request of the natural gas transmission system operator to whom a license has been issued for the activity of natural gas transmission or ex officio by the Energy Regulatory Commission (in cases when the natural gas transmission system operator has not submitted a certification request or when a violation of the provisions for ownership separation prescribed by the Energy Law has occurred or may occur), or at the request after submitted elaborated request by the Energy Community Secretariat. The natural gas transmission system operator shall be obliged to (if not certified), submit a certification request, along with the documents prescribed by the certification rules adopted by the Energy Regulatory Commission and notify the Energy Regulatory Commission of all planned transactions which might necessitate its re-certification. Within four months as of the date of submission of a certification request by the natural gas transmission system operator or as of the date on which the Energy Community Secretariat has submitted the reasoned request, the Energy Regulatory Commission should draw up a proposed certification decision regarding the natural gas transmission system operator and should immediately submit it to the Energy Community Secretariat, along with all the information related to the proposed decision. Within 60 days after receiving the opinion by the Energy Community Secretariat, the Energy Regulatory Commission should adopt a decision regarding the certification request. The Energy Regulatory Commission should consider the opinion of the Energy Community Secretariat and should announce the reasons for the possible derogations from the opinion. After the implementation of the certification procedure, the Energy Regulatory Commission issues the natural gas transmission system operator a certificate appointing it the natural gas transmission system operator and confirms that it meets the requirements regarding ownership unbundling and independence, as well as the conditions regarding financial and material ability and technical and human resources, as well as other conditions prescribed by this Law. In the Energy Law is separately prescribed Certification Procedure for Third Countries Persons and the revision of the certification.

Additionally, the Energy Regulatory Commission adopts a Rulebook on certification of energy transmission system operator and natural gas transmission system operator where is regulated the procedure for determining the compliance of the operator's work on the electric transmission system and the operator of the natural gas transmission system with the requirements established in the Law on energy.

Thus, the main requirements from the EU Gas Directive are ensured in the Energy Law. Effective separation of supply and generation activities from network operations are established in the provisions of the Energy Law. In the same time any potential conflicts of interest of the management and employees

of the ITO are avoided and discriminatory conduct are excluded. According to the Energy Law it is planned to be established independence of the TSO in view of the autonomous organization, decision-making and exercise of the business of the TSO and its independence in its decision making and its activities through its organizational structure which needs to be autonomous from the VIU.

II.

The Joint Stock Company for performing energy activities NATIONAL ENERGY RESOURCES Skopje in state ownership (NER) was established in 2010 for the purpose of realization of the project for construction and development of the national gas pipeline system in the Republic of North Macedonia. The main professional activity of AD GA-MA is natural gas transmission and natural gas pipeline system management in the Republic of North Macedonia. AD GA-MA is holder of license for energy activity - transmission for natural gas, issued by the old Energy Law.

The natural gas transmission system in the Republic of North Macedonia is part of the Russian transit natural gas pipeline which passes through Ukraine, Romania and Bulgaria, and is intended for Turkey, Greece, Serbia and Monte Negro. The connection point of our system with the Bulgarian one is on the eastern border, in the area called Deve Bair.

At the end of 2020, the Assembly of RSM approved the Law on the purchase of the share of Makpetrol AD Skopje in the natural gas transmission operator AD GA-MA Skopje. In 2021, a financial transaction of around 32.8 million euros was carried out for the purchase of the share of Makpetrol AD Skopje by the state, thus AD GA-MA became a fully state-owned company. As next step the process of merging AD GA-MA and NER into one legal entity is expected to be completed after which the conditions will be created to start the certification of the operator for transmission of natural gas by the Energy Regulatory Commission.

Due to delays in the establishment and certification of independent gas transmission operators, the gas transmission system operator is not yet unbundled in line with the 3rd energy package.

After completing the overall process of licensing and certification by issuing Decision on certification and establishing a functional transmission system operator, it should ultimately unlock progress on other pending issues, such as the proper implementation of the Network Codes, related to capacity allocation, congestion management, tariffs, balancing, interoperability, and cooperation with neighbouring transmission system operators.

4. CONCLUSIONS

The conclusions drawn from this research paper can be summarized as follows:

Legally and functionally unbundled gas incumbents are a guarantee for fair competition, which brings benefits to final consumers. Unbundling has several aspects which academia is separating into vertical and horizontal and into legal and functional. The concept of the regulation of natural monopoly (so-called essential facilities), and to allow the regulation of them, has been developed in the United States more than a century ago. EU acquis started to mention unbundling in the so-called Second Energy Package in 2003 and fully developed the concept in the Gas Directive 2009/73/EC from 2009, as part of the 3rd Energy Package, equally for the electricity and gas sector. Unbundling encompasses several requests related to the prevention of conflict of interest between the infrastructure owners and producers/suppliers of gas and the potential deception of consumers and other market participants. The range of separation efforts requests includes numerous details from the unquestionable independence of Supervisory Board members to the details such as separated entrances in the offices and different accounting and IT services providers.

The same rules are relevant for the territory of the European Economic Area and the Energy Community. The 3rd Energy Package envisages several details of the unbundling process which must be surveyed by the NRA and EC/ECS. Surveillance ends with the certification of the NRA in which the Opinion of the EC/ECS must be considered. Since the 3rd Energy Package with its unbundling procedure entered into force the EC issued 147 Opinions on unbundling of gas and electricity TSOs while the ECS issued 19 Opinions. This wide range of Opinions offers an excellent overview of details that are important in the fine-tuning of unbundling process.

An undertaking can be designated as a transmission system operator only if it is certified according to the procedures laid down by the provisions of the Gas Directive. This approval is a two-step procedure: certification by a national regulatory authority and designation by a member state. Designated TSOs in the EU are notified to the European Commission and published in the Official Journal while in the Energy Community they are notified to the ECS and published on its web page.

The Gas Directive also requires monitoring the continuity of the compliance of TSOs with the unbundling requirements and requests from the NRA to re-open the procedure in case any relevant circumstance has changed.

The Gas Directive provides an unbundling regime for TSOs with the following unbundling models:

1. The Ownership Unbundling model (OU),
2. The Independent System Operator model (ISO),
3. The Independent Transmission Operator (ITO) model.

There is also a specific exception under Article 9(9) of the Directive that is called "ITO+" model.

A particular challenge for the certifying institutions is ownership unbundling in cases where the state is the owner of the network or of the company that owns the network and at the same time an owner of a supply/generation company. The Gas Directive offers a solution for such numerous cases which is an approximation of true unbundling, however this measure did not prove the most efficient. It always depends on the political context of the country and the deepness of its democratic processes and the state of the rule of law. Therefore, it always risks being somewhere between an effective remedy and an eyewash.

The Directive allows Member States to opt for one of these unbundling models, under the restriction that the ISO, ITO, and "ITO+" models can only be chosen for a specific TSO if, on entry into force of the Directive (3 September 2009 in the European Union and 6 October 2011 in the Energy Community), the transmission system concerned already belonged to a VIU.

Several large integrated companies in the EU have already chosen the ownership unbundling even before the Third Package entered into force. Long before the ownership unbundling was implemented as binding legislation in the EU acquis, such practice was recommended by the OECD.

Based on the observation of more than a century-long process of unbundling of VIUs and some two decades of practice in the EU and the Energy Community we could summarize the following recommendations:

- if a level playing field and a competitive gas market are the objective, the best possible solution is full ownership unbundling. Only in such cases do the consumers of gas benefit from higher levels of investment improved quality, and lower prices,
- only legal unbundling does not show visible improvements,
- in the case of ISO, the interface between the operator and asset owner is complex and must be regulated very closely. Difficulties in coordination between the asset owner and operator can be expected almost automatically,
- the ISO and ITO are expected to improve the status quo, but they require more detailed, prescriptive, and costly regulation and are less effective in addressing the disincentives to invest in networks,
- when an ISO model is implemented, its effects in tackling vertical foreclosure are not clear because the incumbent would have to behave as if it was not vertically integrated,
- setting up an effective ISO or ITO is a timely process that needs constant involvement of the NRA in the day-to-day operational process of the network operator. It might be expected that the costs or regulations are higher than in the case of full unbundling,
- a particular challenge for the certifying institutions is ownership unbundling in cases where the state is the owner of the network or of the company that owns the network and at the same time an owner of a supply/generation company. The success depends on the political context of the country and the deepness of its democratic processes and the state of the rule of law.

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