

## **Quasi-regulatory behaviour of the transmission system operator – minimise or legitimise?**

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### **EXECUTIVE SUMMARY**

Natural gas transmission typically constitutes natural monopoly, with the entity providing services enjoying a strong position against its clients. In order to prevent abuse of monopoly power, many regulatory jurisdictions allow transmission services to be operated only within tightly regulated regimes, by appointed transmission system operators (TSOs). However, these are not impermeable to abuses nor free from legal gaps, which can sometimes obstruct the policy outcomes pursued by governments and regulatory authorities. If the TSOs behaves as quasi-regulators, abusing their power or filling legal gaps against the will of policymakers, this can diminish the attractiveness of a sector for other participants, contributing to regulatory failure.

Quasi-regulatory behaviour is characterised by three elements: it imposes burdens on market participants, it can hardly be opposed or negotiated, and its legal basis is doubtful. The market players feel that the TSO is another regulatory body, instituting requirements to be complied with. At the same time, the formal regulator may exploit this by shifting responsibility for difficult acts, or blame for market failures, on the TSO.

The discussed problem may arise from TSO's role in particular market conditions, especially where it is the body with greatest expertise, responsible for building much of the market structure. Another typical reason for quasi-regulatory can be the institutional setting. The TSO may be more capable, willing, better backed by the government, or trusted by market participants to carve the market and make controversial decisions than the national regulator. All of the above issues can be exemplified by affairs happening in two Central-Eastern European gas markets: Polish, which is undergoing rapid development, and Latvian, which is yet to be liberalised.

In Poland, where the gas market undergoes rapid development, the TSO – Gas Transmission Operator GAZ-SYSTEM S.A. enjoys both strong market power and high authority among stakeholders. The market power may sometimes be unfavourable for its clients, especially with regard to model transmission contracts. They can be negotiated in theory and according to the law, but in practice it is extremely hard. Moreover, financial eligibility schemes are so rigid, while discretionary at the same time, that stakeholders might simply perceive them as another set of regulatory compliance costs. On the other hand, the operator's high authority makes it well posed to implement market policies, often more efficiently than the regulator could do unaided; however, legal doubts may arise, since the TSO does not hold adequate instruments to adopt such a role.

To the contrary, in Latvia the gas market is operated by a bundled incumbent enterprise, and awaits opening. Appropriate regulatory framework is in the process of drafting and consultation, but the first proposal for the regime of TPA to the grid operated by incumbent, bundled enterprise JSC Latvijas Gaze was strongly criticised by stakeholders. Main doubts concerned the privileged status of Latvian traders and users, but the commentators also regretted to find that no standard documents such as contracts, forms, etc. have been published for consultation.

A comparative analysis of 17 TSOs businesses with respect to the above issues has been carried out. The charts show that TSOs across Europe possess various levels of power and treat their clients with various approaches – some are liberal, while others are demanding; one is subject to more strict oversight of the regulator, others are given more discretion.

In order to solve the identified problems, quasi-regulatory should be minimised in cases where it may lead to policy obstruction. To this end, a stronger regulatory oversight can be introduced. Conversely, if the TSO can animate the market more efficiently than the regulator, the policymakers should legitimise it, adorning the TSO with necessary legal instruments. For example, the Polish regulator could look closer at model contracts applied by GAZ-SYSTEM, but also assist it with market-creating efforts. On the other hand, the Latvian regulator appears to have a more difficult task of overseeing the incumbent operator into market discipline. Others can examine their systems for instances of the discussed problems by asking right questions to regulatory actors and market participants. Everyone should look for solutions best-fitted to local setting, giving the power to those who can best utilise it, and taking it from those who can damage the policy interest.

## **1. Introduction**

Energy transmission is considered a paragon instance of natural monopoly. Transporting electricity or natural gas from sources to distribution systems and high-consumption end users is characterised by particular economies of scale, limiting or excluding competition [1]. Thus, the monopolistic entity operating the transmission service can exercise significant power over the grid users in many aspects – from access regime through tariffs to quality standards. In many jurisdictions, these issues have been successfully managed by regulatory systems setting the operating entities into frameworks of duties and obligations on the one hand, and powers and prerogatives on the other - by appointing Transmission System Operators (TSOs). This is especially the case of the European Union, where the current legislative framework reflects the idea of preventing monopoly power abuse [2].

However, vesting TSOs with powers and prerogatives, necessary to operate properly, induces the risk of acting beyond mandate, distorting the original policy aims mandated in the

license issued by the appointing authority. Contract-based regulatory systems have similar reasons for failure. Just as concession contracts are inherently incomplete (because of e.g. unpredictability of legal events [3]), every scope of rights and obligations imposed in legislation and licenses is open to interpretation, and policy outcomes depend on the way an appointee decides – and is allowed – to act.

The above has profound consequences. The ultimate goal of most utility regulatory systems is to create a secure supply market with affordable prices for end users, while providing the investors with acceptable returns, thus maintaining an influx of capital enabling grid development [2] [3]. Much depends on how market players – producers, suppliers, traders, distributors, end users – perceive the regulatory framework in which they operate. In day-to-day business, what they may see as the ‘face of the regulatory body’, the closest level of regulation, is how the TSO exercises its rights and meets its obligations. TSO’s activities and their market effects constitute pieces of the regulatory puzzle, found among policy outcomes sought by regulators and governmental bodies at national and supranational level. These bodies should be aware of this phenomenon and work with stakeholders to align TSO’s behaviour with – or embed it in – the regulatory policy to prevent distortion of aims, or to pursue them more efficiently. The purpose of this paper is to outline this notion, give examples, and propose ideas for solutions preventing negative - or fostering positive - effects on policy outcomes.

The sample chosen for analysis is a group of 17 natural gas transmission system operators in the Central-Eastern Europe and neighbouring regions. The time scope is recent past or near future, centred around implementation or application of EU Third Energy Package, in particular Regulation (EC) No 715/2009 [4].

The paper begins with the definition of quasi-regulatory TSO’s behaviour, after which its origin is explained. Then, select cases are discussed to exemplify the explored issue. To these findings, cast into a comparison with other systems, theoretical solutions are suggested, and relation to other sectors is briefly signalled. The paper is concluded by proposals for further research and a set of questions to check whether a regulatory system is susceptible to the discussed problems.

## **2. Definition**

If a very broad notion of regulation is adopted, meaning *government imposed controls on particular aspects of business activity* [3], there are instances where TSO’s acts are quasi-regulatory. This term has been used by the World Bank [3] for instances where a governmental body other than an independent regulator plays such a role. In this paper, a different meaning is adopted. Quasi-regulatory acts are understood as activities characterised by the following three elements:

- 1) an act shaping a market player's status in the regulatory environment,
- 2) imposed unilaterally by the TSO with little or no scope for negotiation, and
- 3) in relation to a legal mandate, but without explicit authority arising from legislative or administrative acts.

The first element is observed when the TSO charges market players with duties or obligations not constituting basic business terms of transactions, such as price and quality of services, but are related to formal aspects (eligibility, contractual rights and obligations, information exchange). The second element means that these acts are difficult to oppose or negotiate, especially when the TSO's overwhelming market power *de facto* prevents modification *de iure* negotiable arrangements. The third element distinguishes quasi-regulatory behaviour from delegated regulatory roles, and means that the legal basis for such acts is vague - with the TSO acting in a 'regulatory twilight zone' - or even nonexistent, where it tries to fill legal loopholes. The third element also excludes such actions from the realm of pure market power - the TSO is well posed to justify its will by citing regulatory circumstances. Hence, such acts should be called *quasi-regulatory*: **without being formally appointed as the regulator, the TSO behaves in a way that market players apprehend as *regulation in action***. For them, negative consequences could include:

- reduced regulatory certainty - the TSO may behave inconsistently, since its actions are not always subject to strict procedures;
- lack of transparency and clear procedures of redress against quasi-regulatory acts;
- creation or aggravation of market entry barrier for local new entrants and entities seeking expansion into other markets;
- reduced stakeholder participation - consultations may be up to the TSO's decision.

Such a state of affairs can also affect the situation of national regulatory authority ('the NRA'<sup>1</sup>); for example distort or dilute policy goals put forward by the NRA if those do not correspond with the TSO's views. However, the NRA may derive a political gain - an opportunity to shift onto the TSO the responsibility for precise, expertise-intense aspects of the market, as well as risks associated with doubtful acts.

### 3. Origins

It is important to note that TSOs do have actual regulatory roles and delegated powers within some legal frameworks. For example, European TSOs comprising ENTSOG, established by [4], are responsible for preparing network codes ('NCs') aimed at promoting completion and

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<sup>1</sup> If no specific national market is discussed, the NRA should be understood as any regulatory body appointing and overseeing the TSO.

functioning of the internal gas market (Article 4). It is the TSOs' technical expertise and knowledge of practical issues that justifies their crucial role in the preparation of NCs. Also, the wording of law vesting the TSOs and other system operators with duties is noticeably similar to wording defining the responsibilities of authorities across the EU (recital 16 of the preamble).

Quasi-regulatory behaviour usually appears on low, on ground level of regulation. It may arise from a TSO's role in particular market conditions, or from the political and institutional setting, especially from an NRA's political stance.

Regarding the former, the crucial aspect is the implementation of Third Party Access (TPA) principle, which facilitates market entry and development ( [4], recitals 4, 10 of the preamble). While ENTSOG drafts harmonised NCs at the European level, national TSOs draft their network codes - or equivalent documents such as rules or general terms and conditions - and file them to relevant authorities (usually an energy regulator) for approval (Article 23 of Directive 2009/73 [5]). The TSOs usually have greater expertise in areas requiring precise technical solutions, such as balancing, natural gas quality etc. But network codes also contain provisions implementing the TPA regime, more legal than technical - e.g. rules of contracting (for connections and transmission) and terms of cooperation, in which the TSO may possess stronger organisational expertise than market players, especially new entrants. This may cause the market players to perceive the TSO as just another public authority, where they have to spend a lot of money and file limitless paperwork, and not a performer services on a commercial basis.

Turning to the political setting posing the TSO as a quasi-regulator, several causes can be proposed. The most obvious would be insufficient expertise of an NRA to challenge the TSO on a level ground (in terms of knowledge) if its acts are not clearly against the law, or weak authority of an NRA compared to that of the TSO when dealing with the ultimate power-granters - the government and legislature. The latter may be especially evident in the years of dynamic transmission grid development, when the policymakers may be inclined to celebrate the successes of TSOs, and pose them as co-decision makers to market affairs. Another reason may be responsibility shifting - the NRA may want to focus on issues more direct to consumers, enabling short-term political gains [6], and leave to the TSO less favoured topics such as setting restrictive market entry requirements for market participants. Thirdly, this does not have to arise from the NRA's bad attitude - there may be situations where the legislative component of regulatory framework is dubious, giving rise to loopholes or *regulatory vacuum* - the situation in which action is urgent, but it is not clear who is authorised to act. That vacuum would rather be filled by the TSO who has expertise as well as commercial urge to act, rather than the NRA, who must have a clear legal basis for its actions (see e.g. Article 7 of the Polish Constitution [7]).

## **4. Select issues**

Below, the issues outlined are put into contexts of actual regulatory affairs, concerning TPA regimes and contracts for transmission services. The first part depicts an important feature of governing the growing Polish gas market, namely the model transmission contracts ('MTCs') applied by the Polish TSO for gas – Gas Transmission Operator GAZ-SYSTEM S.A. ('GAZ-SYSTEM'). The second part explores a recent development in a yet-to-grow gas market - Latvia, where draft TPA rules of Latvijas Gaze JSC have been put forward for consultation.

### **4.1 Model transmission contracts and financial guarantees applied by GAZ-SYSTEM**

As many other TSOs, GAZ-SYSTEM aims on meeting the transparency and non-discriminatory treatment requirements by offering transmission services based on model transmission contracts, published on its website in accordance with [4]. Article 5 of the Polish Energy Law [8], implementing the European acts, defines minimum standards on the content of a transmission agreement. Since the TSO is a private law entity, the MTC is a contract governed by private law [9]. MTCs are drafted by the operator. Neither the Energy Law nor the EU laws prohibit negotiation of such, so in theory the market players seeking transmission service are free to bargain their rights and obligations. In practice, there are numerous constraints.

Firstly, it must be noted that MTCs are always intertwined with network codes in various ways. The gist is which document takes precedence in case of any discrepancies. GAZ-SYSTEM's model inter-operator contract takes precedence over the network code ( [10] clause 1.4), while the model framework contract [11] does not contain such a clause. The NC [12] (article 6.2.11) implies that the contract may be negotiated, but also states that the TSO applies a uniform model agreement to ensure equal and non-discriminatory treatment of its clients (article 6.4.1). Hence, if most agree to the standard contract, any deviation might encroach on the equal and non-discriminatory treatment principle. The client with greatest chance to alter the content of the agreement would be the incumbent dominant entity. If the TSO agreed to a significant alteration of terms in favour of that client, this could undermine the very notion of equal and non-discriminatory treatment, meant to create a level playing field for all market participants (recitals 4, 8 of the preamble to [5]). GAZ-SYSTEM may thus refuse any changes to the model contract citing equal treatment principle, even though confidentiality of actual contracts prevents other market players from verifying this. Apparently, the only way to amend terms leads through the President of Energy Regulatory Office (referred to as the NRA) arbitration (article 8 section 1 of [8]). This could stretch the contracting process significantly, and may worsen cooperation. In turn, the model contract may become practically non-negotiable. MTCs implement many NC provisions in detail, but the law does not require submission of those for approval by the NRA.

Secondly, one element of TPA regimes should be stressed - financial guarantees ensuring settlement of charges. Article 14 section 3 of [4] allows for granting - where appropriate - TPA services subject to guarantees of creditworthiness, if such guarantees are non-discriminatory, transparent, proportionate, and do not constitute undue market-entry barriers. Creditworthiness of TSO's clients, enabling steady revenue, is appropriate in growing gas markets undergoing significant grid development; however, excessive market-entry barriers for new entrants can hamper the shift towards competition. If there is little scope for negotiation, this will be viewed as just another regulatory compliance cost. Therefore, TSOs and NRAs should work on solutions discouraging untrustworthy speculators, while not facing potential entrants with excessive financial and administrative burden.

GAZ-SYSTEM deems financial guarantees an appropriate prerequisite to granting transmission and balancing services access. This is prescribed in the NC (article 6.3), but the guarantees are defined in detail in the MTC. The value is proportional to transmission charges and the volume of transported gas, but relevant provisions (chapter 3 of [11]) are not straightforward, and may cause difficulties with initial calculations of the costs of business. Moreover, as far as equal and non-discriminatory treatment is concerned, a lot depends on how the operator's staff deals with procedural terms. For example, the value of guarantee submitted to secure imbalance charges depends on the monthly average Gas Reference Price (CRG) from the month preceding the submission of guarantee; fluctuations in prices are reflected in e.g. different sums deposited for the same volumes traded. Though this is a market-based and transparent mechanism, there is a potential for preferential treatment: if there is a significant spread between consecutive monthly averages, and two companies are applying for identical transmission ability allocation at the break of months, the sum of imbalance guarantee paid may depend on how quick the operator's employee carries out the procedure - the term of application acceptance is up to 14 days, but it may be done for another business day as well, as there is no minimum; no encroachment on procedures would take place, but this would be an instance of unequal treatment. Moreover, the catalogue of accepted guarantee forms is open (see clause 3.17 of [11]), and there is a possibility of preferential treatment by conceding to a weak instrument. If the operator decided to strictly observe the non-discrimination principle, some provisions of the MTC would remain unused. In general, GAZ-SYSTEM is an example of significant TSO's power and little NRA's oversight of financial guarantees as specified in the contract, because that document does not require NRA approval. Different solutions are applied elsewhere, as shown below.

Another problematic issue related to MTCs and network codes is their potential effect on third parties which did not originally intend for a business relationship with the TSO. According to Polish legal scholars [9], the network code constitutes general terms and conditions of a contract, recognised by article 384 of the Polish Civil Code [13], and not a binding legal act - when the NRA approves a code, it does not become its own decision, but simply declares that a

NC is compliant with legislation. However, the Energy Law states that system users with facilities connected to a system should comply with the network code prepared by that system's operator, and that the code constitutes a part of the service agreement (article 9g sec. 12 of [8]). This is dubious, because the legal definition of *system user* does not mention any contractual relationship, but only the technical fact of supplying gas into or withdrawing it from a system - does it mean that every system user is obliged to deal with the operator? A positive answer would contradict other legal principles, including freedom of contract (article 353<sup>1</sup> of [13]) and the closed catalogue of sources of law in the Polish legal system (article 87 of [7]), but would, on the other hand, have a sound technical justification - all system users should follow the same protocol for grid operation, balancing, information exchange etc. In this case, if the TSO needs all entities connected to his grid to follow suit, and is not authorised to *force* them to conclude contracts so that the network code becomes applicable, how can this important objective be met? Two problems arise here: first, the fact that the operator freely drafts almost non-negotiable MTCs does not contribute to market players' feeling legally secure. Second, a transmission network code serves as a tool for delivering policy objectives [14], and when the NRA approves a NC, it should consider whether the TSO possesses necessary legal instruments to deliver those objectives. Failing to do so may lead to regulatory vacuum, where actors agree on desired outcomes, but none is willing to risk behaving *ultra vires* to achieve them.

To summarise, market players in Poland may sometimes be confused about which business activities are purely commercial, and which are administrative. Notably, there are signs that GAZ-SYSTEM's efforts are believed to be the main driver of gas market liberalisation, even though it is not the formal regulatory entity [15].

## 4.2 Latvijas Gaze draft TPA rules

For multiple reasons, Latvian natural gas market is at a much earlier stage of development compared to many other CEE countries, e.g. Poland or Czech Republic [16]. Latvia has been listed among *emergent and isolated markets* (article 49 of [5]), meaning that some provisions of the Third Energy Package are derogated. The Latvian parliament adopted deadlines for market liberalisation, mostly through legislation centred around Third Party Access to the transmission network owned by JSC Latvijas Gaze ('LG') - an incumbent, bundled enterprise with Russian Gazprom shareholding, and no Latvian state ownership. The deadline for liberalisation has been prolonged several times, but finally it was decided that the market shall be opened in April 2017 [16]. In February 2015, the Public Utilities Commission of Latvia published a consultation document outlining the TPA regime - Rules of the use of the Joint Stock Company "Latvijas Gāze" natural gas transmission system ('the Rules'<sup>2</sup>, [17]). Numerous stakeholders, including neighbouring TSOs and regulatory authorities, expressed their opinions, focusing on two things

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<sup>2</sup> The author worked on the English translation published by the Lithuanian energy regulator.

- privileged LG status among system users and insufficient comprehensiveness and transparency of the rules.

Regarding the former, in the scheme for available capacity calculation prescribed in clause 11 of the Rules, one of the factors subtracted from technical capacity are the LG capacity needs to perform its obligations towards national customers and *technological processes*. This practically means that only unneeded, surplus capacity would be available through TPA [18], and the stakeholders believe it would hamper liberalisation [19] [20]. There are other potentially discriminatory clauses, such as clause 26 (giving priority to DSOs serving Latvian users and traders) or clause 31 (giving priority to Latvian users in case of physical overload) [21].

The second major area of controversy concerned the process of concluding transmission contracts. First, several stakeholders noted that if LG aims on using standard contracts, draft documents such as transmission contract, application forms etc. should have been attached to the Rules for consultation; otherwise, they claimed, the Rules are not a full package of regulations<sup>3</sup> [21] [19]. Also, clause 43, expressly anticipating cases where the TSO *deviates* from the rules of standard contract, raised questions of why should there be any deviations [18] [20]. Others expressed doubts about procedures of contracts conclusion, especially obsolete - given current technological abilities - arrangements on communication during capacity allocation, relying on paper letters exchange and imposing rigorously short terms for e.g. application corrections (clause 24) [18].

In sum, the Rules presented by Latvijas Gaze are rather conservative in terms of reforming the market, with extensive provisions in favour of the incumbent's bundled business. The extent to which the stakeholders opinions will be reflected in the final network usage rules approved by the Public Utilities Commission will be an indicator of the balance of power between the regulator and the incumbent. Given the reliance of the Latvian gas market on one supplier, and shareholder structure of LG, it will also show how the Third Energy Package can work in practice to facilitate liberalisation of emergent, isolated markets.

## 5. Comparative analysis

Selected aspects of 17 TSO's businesses are presented in Appendix 1. The four charts are the input data for theoretical solutions proposed in part 6, and can also serve as a tool for quick comparative look on specifics, enabling e.g. a benchmarked assessment whether a given practice is restrictive or liberal. For entities in emerging markets outside the analysed regions, it may be a useful overview of different solutions to consider.

## 6. Minimise or legitimise? Proposed solutions

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<sup>3</sup> Note that neither the Polish market can consult documents applied by GAZ-SYSTEM which, in fact, execute the network code.

Where the TSO discretionary behaviour could act against the will of the regulator, it should be **minimised**, i.e. **put into strict regulatory oversight or even guidance by the NRA**. Conversely, where the TSO's expertise and engagement allows it, the lawmakers and the NRA could **legitimise its discretionary actions by giving them legal validity, so that a market entity becomes an actor of regulatory governance and policy** – no longer a *quasi* regulator. The NRA could then focus on other activities, especially its conflict and complaint resolution role. Appendix 2 sets out a matrix of institutional setting factors to be taken into account as potential reasons for *minimising* or *legitimising*, and presents ideas for instruments of directing regulator's actions towards one of these. One does not necessarily preclude the other - combinations of both, applied to different issues, may work best in some situations. Solutions to examples presented in part 4 can be as follows.

### **6.1 - GAZ-SYSTEM - minimise discretion, legitimise market animation**

If the lawmakers entitled the NRA to require submission of draft MTCs along with the network code for approval, that would greatly increase the market players confidence in entering into agreements with the TSO. Also, explicit areas subject to negotiation could be defined to achieve greater transparency and to prevent strongest players from contracting on unjustly more favourable conditions than new entrants. This is especially relevant to financial guarantees, where the NRA should not abstain from deciding on clauses from the private law domain: guarantees specified in the network code yield more transparency, less possibilities of unequal treatment, and - last but not least - a chance for stakeholders to collectively negotiate with the TSO. At the same time, the NRA should require that all business processes implementing the network code at the day-to-day operational level are clear to the clients, e.g. by requiring more precise procedural provisions in the NC.

When it comes to the binding force of the contracts, legitimising the Polish TSO's role in animating market changes could be beneficial. It possesses organisational capabilities and technical expertise to *guide* market players, particularly where it affects the grid operation (as in the case of inter-operator contracts with DSOs). Also, its ownership structure and legal standing allows close government oversight over its business. The NRA should make sure the TSO holds legal instruments to deliver the principles incorporated into the network code - if it does not, the regulator should take a proactive stance and assist the operator in its actions. With regard to the network codes binding force against third parties, many countries practice publishing the network codes in promulgation journal, which suggests their *erga omnes* binding force rather than *inter partes* contractual character, giving greater authority to the TSO when carrying out market-shaping processes.

## 6.2 - Latvijas Gaze - minimise discrimination potential

In the case of the Latvian TSO, legitimising its market concept would nullify the Public Utilities Commission's effort to achieve conditions for a liberal gas market in compliance with the Third Energy Package. Among other important amendments, the NRA should require the TSO to draft and publish all relevant business documents, in particular the standard transmission contract, for consultation. Moreover, stipulating the priority of network rules over transmission contracts, as in many cases presented in Appendix 2, could be a solution to prevent anti-market *deviations* from the standard contract.

## 7. Analogy to other sectors

The above ideas may be applied to other sectors. Regulated entity's actions should be analysed in the light of the three elements listed in part 2 and the notion of *market player* adjusted properly. One sector particularly fit for such an analysis is the electricity transmission. For example, the problem of NCs serving as a *de facto* bodies of law, imposing duties and obligations on all connected entities regardless of any contractual relations, has been raised by Polish electricity generators when consulting amendments to the Energy Law [22], which is the very problem described in part 4.1 - apparently, legal character of national NCs should be reconciled with profound technical and commercial role they play in energy markets.

## 8. Conclusions. Proposals

A series of questions to examine how the TSO exercises its powers, deals with market players, and cooperates with the NRA, is proposed in Appendix 3. Answers provided by governmental officials, regulators, TSOs themselves, and market players would allow measuring the significance of the problem pondered here. The questionnaire is partly inspired by the World Bank's work [3]. The *legitimation* concept should be understood as close to *co-regulation* as presented by E. Balleisen and M. Eisner [23], rather than typical *self-regulation* as described by Baldwin et al. [6], and the former provides a better reference for considering specific elements.

Policy outcomes may sometimes not be met because of seemingly minor faults in the market design. Regulation is only as good as its effects, and these also depend on the behaviour of regulatees. In natural gas markets there is one unique regulatee whose actions affect the situation of every other - the transmission system operator. Regulators and policymakers should identify where quasi-regulatory behaviour may anneal their plans, and where they can utilise it to achieve plans. Plenty is to be considered within the EU Third Energy Package, but this could also be done by countries at initial stages of carving power markets. There is no

single *best practice* mechanism - regulatory systems must fit local conditions [3]. If business practice shows that a market entity can perform regulatory functions more efficiently than an independent regulator, it should be allowed to, though this may seem controversial in the beginning. But, as philosopher Bertrand Russell put it, *when you are studying any matter (...) ask yourself only what are the facts, and what is the truth that the facts bear out* [24].

## Appendices

Appendix 1 – Comparison of select aspects in 17 TSOs business

Appendix 2 – Solutions and institutional setting criteria

Appendix 3 – Questionnaire to determine existence and significance of quasi-regulatory behaviour

## References

- [1] C. von Hirschhausen et al., “Competition in Natural Gas Transportation? Technical and Economic Fundamentals and an Application to Germany,” Chair of Energy Economics and Public Sector Management, TU Dresden, Dresden, 2007.
- [2] European Commission, “Questions and Answers on the third legislative package for an internal EU gas and electricity market,” 2 March 2011. [Online]. Available: [http://europa.eu/rapid/press-release\\_MEMO-11-125\\_en.htm?locale=en](http://europa.eu/rapid/press-release_MEMO-11-125_en.htm?locale=en). [Accessed 30 May 2015].
- [3] A. C. Brown, D. Gencer, J. Stern and B. Tenenbaum, Handbook For Evaluating Infrastructure Regulatory Systems, Washington D.C.: The World Bank, 2006.
- [4] *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*, Official Journal of the European Union of 14.8.2009, L 211/94.
- [5] *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*, Official Journal of the European Union of 14.8.2009, L 211/94.
- [6] R. Baldwin, et al., Understanding Regulation, New York: Oxford University Press, 2012.
- [7] *Constitution of the Republic of Poland*. Journal of Laws of 1997, No. 78, item 483 with amendments
- [8] *Energy Law*. Consolidated text: Journal of Laws of 2012, item 1059 with amendments
- [9] Z. Muras and M. Swora, Prawo energetyczne. Komentarz, Warsaw: Wolters Kluwer Polska, 2010.

- [10] GAZ-SYSTEM S.A., "Model Inter-Operator Transmission Contract," [Online]. Available: [http://www.gaz-system.pl/fileadmin/pliki/do\\_pobrania/pl/umowy\\_wzorcowe/Wzorcowa\\_Miedzyoperatorska\\_Umowa\\_Przesylowa\\_MUP\\_.pdf](http://www.gaz-system.pl/fileadmin/pliki/do_pobrania/pl/umowy_wzorcowe/Wzorcowa_Miedzyoperatorska_Umowa_Przesylowa_MUP_.pdf). [Accessed 21 May 2015].
- [11] GAZ-SYSTEM S.A., "Model Transmission Contract," [Online]. Available: [http://en.gaz-system.pl/fileadmin/pliki/do\\_pobrania/en/umowy\\_wzorcowe/Transmission\\_contract.pdf](http://en.gaz-system.pl/fileadmin/pliki/do_pobrania/en/umowy_wzorcowe/Transmission_contract.pdf). [Accessed 21 May 2015].
- [12] GAZ-SYSTEM S.A., "Transmission Network Code," [Online]. Available: [http://en.gaz-system.pl/fileadmin/pliki/iriesp/en/TNCv24\\_20140729\\_search\\_EN.pdf](http://en.gaz-system.pl/fileadmin/pliki/iriesp/en/TNCv24_20140729_search_EN.pdf). [Accessed 28 March 2015].
- [13] *Civil Code*. Journal of Laws of 1964, No. 16, item 93 with amendments
- [14] GAZ-SYSTEM S.A., "Annual Report 2012," Warsaw, 2012.
- [15] GAZ-SYSTEM S.A., "Annual Report 2013," Warsaw, 2013.
- [16] R. Āboltniš and D. Akule, "Liberalization of the Natural Gas Market: Overview and Challenges," November 2014. [Online]. Available: [http://providus.lv/article\\_files/2866/original/gaze\\_EN\\_marts.pdf?1425992760](http://providus.lv/article_files/2866/original/gaze_EN_marts.pdf?1425992760). [Accessed 11 May 2015].
- [17] Public Utilities Commission of Latvia, "Consultation document about draft rules elaborated by JSC "Latvijas Gāze" "Rules of the use of the Joint Stock Company "Latvijas Gāze" natural gas transmission system" (...)," 5 February 2015. [Online]. Available: [http://www.regula.lt/SiteAssets/naujienu-medziaga/2015-vasaris/Konsultaciju\\_dokuments\\_ENG.pdf](http://www.regula.lt/SiteAssets/naujienu-medziaga/2015-vasaris/Konsultaciju_dokuments_ENG.pdf). [Accessed 11 May 2015].
- [18] AS EG Vörguteenus, "Response to public consultation," 4 March 2015. [Online]. Available: <http://www.sprk.gov.lv/uploads/doc/PubliskakonsultacijagazeESTEGTSO.pdf>. [Accessed 11 May 2015].
- [19] Klaipėdos Nafta, "Regarding the draft rules (...)," 3 March 2015. [Online]. Available: <http://www.sprk.gov.lv/uploads/doc/PubliskakonsultacijagazeLTKlaipedasnafta.pdf>. [Accessed 11 May 2015].
- [20] UAB Litgas, "Comments on the draft rules (...)," 4 March 2015. [Online]. Available: <http://www.sprk.gov.lv/uploads/doc/PubliskakonsultacijagazeLTLitgas.pdf>. [Accessed 11 May 2015].
- [21] National Commission For Energy Control And Prices, "On public consultation of the draft rules (...)," 4 March 2015. [Online]. Available: <http://www.sprk.gov.lv/uploads/doc/PubliskakonsultacijagazeLTRegulators.pdf>. [Accessed 11 May 2015].
- [22] Towarzystwo Gospodarcze Polskie Elektrownie, "Postulaty sektora energetycznego w

związku nowelizacją ustawy Prawo energetyczne,” 20 August 2009. [Online]. Available: <http://www.tgpe.pl/pl/d/12a2e672fdf9393ae8ce3bc6b574122f>. [Accessed 27 May 2015].

- [23] E. J. Balleisen and M. Eisner, “The Promise and Pitfalls of Co-Regulation: How Governments Can Draw on Private Governance for Public Purpose,” in *New Perspectives on Regulation*, Cambridge, MA, The Tobin Project Inc., 2009, pp. 129-152.
- [24] B. Russell, Interviewee, *Bertrand Russell - Face to Face Interview (BBC)*. [Interview]. April 1959.

## Appendix 1 – Comparison of 17 TSOs businesses

Chart 1: V4 countries

Name	Operator Gazociągów Przesyłowych GAZ-SYSTEM S.A.	NET4GAS, s.r.o.	eustream, a.s.	FGSZ Zrt.
Country	Poland	Czech Republic	Slovakia	Hungary
Ownership	State	Corporate	26% state, 74% corporate	~20% state
Unbundling	Ownership	Ownership	ITO model	ITO model
Network code equivalent document	Transmission Network Code	Network Code	Operational Order	General Terms And Conditions Regarding System Usage Contracts
Published in	Regulatory bulletin	Regulatory bulletin	Regulatory bulletin	Promulgation journal
Contract published	On TSO's website	On TSO's website	On TSO's website	On TSO's website
Superior document	Contract	*Network code	Network code	Contract
Financial guarantee	Obligatory	Obligatory	On TSO request; BU-BD, PAL: obligatory	Obligatory
Guarantee value	Fixed	Calculated by the TSO	Calculated by the TSO; BU-BD, PAL: fixed	Fixed
Short description of guarantee calculation basis	Transmission and capacity: equal to fees for up to two months, no cap; Balancing: proportional to the value of transmitted gas (according to the reference price), no cap	Credit exposure calculated based on monthly transmission fees, auction bids, balancing risk; credit exposure must be equal to or lower than credit limit; no cap	Economic analysis of creditworthiness and estimated value of services performed by the TSO; no cap; BU-BD: 50,000 EUR; PAL: equal to capacity fee, dependent on commodity risk	Equal to transmission, odourisation and volume fees for a specific period, dependent on the product (minimum 10,000,000 HUF for daily framework contracts); no cap; additional security required for balancing contracts
Accepted forms of guarantee	Bank guarantee, insurance guarantee, cash deposit, rating; promissory note in case of 4-year proper payment record; other form approved by the TSO	Rating, bank or other guarantee, cash deposit	Bank guarantee, prepayment, cash deposit; parties can agree another form	Bank guarantee or cash deposit

<b>Relevant provisions - form contract</b>	Part 3 - Financial security	Article VI - Deposit	Article 2 (BU-BD, PAL); Article 3 (other contracts)	Article 5 - Contractual security (Article 7 in balancing contracts)
<b>Relevant provisions - network code</b>	Article 6.3	Article 6.2.8, Appendix 1	Article 6.5	Article 12.4 - Contractual securities
<b>Guarantee specified in</b>	Contract	Network code: calculation; contract: deposit rules	Network code	Network code: rules in most cases; contract: value; rules in balancing services, title transfer services
<b>Comments</b>	NTS only considered for analysis; TGPS is similar	Network code superiority may be derived from section 23.3 and from article VIII section 4 of the general transmission contract	Several template contracts: wheeling service, title transfer service, back-up and back-down service, parking and loaning service	Guarantee for balancing services related to clearing houses policies

## Chart 2 – Southern EU countries

Name	Plinovodi d.o.o.	Plinacro d.o.o.	Bulgartransgaz EAD	Transgaz SA
<b>Country</b>	Slovenia	Croatia	Bulgaria	Romania
<b>Ownership</b>	~40% state	State	State	58.5% state
<b>Unbundling</b>	ITO model	Ownership	ITO model	ISO model
<b>Network code equivalent document</b>	System operating instructions for natural gas transmission	Transmission Network Code	Draft Rules for using Bulgartransgaz natural gas transmission networks as of 12 April 2013	Network Code for the National Gas Transmission System
<b>Published in</b>	Promulgation journal	Promulgation journal	Promulgation journal	Promulgation journal
<b>Contract published</b>	On TSO's website	On TSO's website	On TSO's website	Attached to the NC
<b>Superior document</b>	*Network code	*Network code	Network code	Contract
<b>Financial guarantee</b>	On TSO request	Obligatory	Obligatory	Obligatory
<b>Guarantee value</b>	Calculated by the TSO	Fixed	Fixed	Fixed

<b>Short description of guarantee calculation basis</b>	Unpaid liabilities toward the TSO (arising from all fees applicable)	Equal to 10% or 30% relevant period capacity fee in case of long term bookings (50% for promissory note); 100% in case of short-term bookings	Equal to 150% monthly value of the nominated capacity	Equal to at least 5% of the requested capacity value
<b>Accepted forms of guarantee</b>	Unspecified; alternative forms of payment acceptable	Bank guarantee; promissory note in case of 12-month proper payment record	Bank guarantee, cash deposit, or other form of guarantee or collateral approved by the TSO	Rating, bank or other guarantee, cash deposit
<b>Relevant provisions - form contract</b>	Article 13 - (...) payment terms (paragraph 10)	Article 4	n/a	Part VIII - Guarantees
<b>Relevant provisions - network code</b>	n/a	Article 10 - Means of payment security	Article 5.5	Article 27
<b>Guarantee specified in</b>	Contract	Network code: general terms, contract: value	Network code	Network code
<b>Comments</b>	Article 71 of the network code explicitly deprives of transmission services in case of contract non-conclusion	General terms can be considered superior given the lack of priority provisions in the form contract; also, Article 26 provides that if the general terms change, they are only applicable to the contracts concluded after the change, which implies that this is the substance of agreements rather than typical GTCs	Guarantee provision is a prerequisite for access application; parties are obliged to sign a new contract if a new network code is approved by the regulator	Contracts enable parties to stipulate further guarantees on equal terms; article 22 explicitly provides for supplementation and amendment of the contract

**Chart 3 – Baltic countries**

<b>Name</b>	<b>AS EG Võrguteenus</b>	<b>Latvijas Gaze</b>	<b>AB Amber Grid</b>
<b>Country</b>	Estonia	Latvia	Lithuania
<b>Ownership</b>	~51% state	Corporate	~96% state
<b>Unbundling</b>	ITO model	None	ISO model
<b>Network code equivalent document</b>	Standard terms and conditions for provision of network services; Standard terms and conditions for balance agreements	Draft Rules of the use of the Joint Stock Company “Latvijas Gāze” natural gas transmission system as of 2.02.2015	AB Amber Grid rules for the access to the natural gas transmission system
<b>Published in</b>	Regulatory bulletin	Regulatory bulletin	Regulatory bulletin
<b>Contract published</b>	On TSO's website	On TSO's website	On TSO's website
<b>Superior document</b>	Contract	Contract	Network code
<b>Financial guarantee</b>	None	*On TSO request	On TSO request
<b>Guarantee value</b>	n/a	n/a	Fixed
<b>Short description of guarantee calculation basis</b>	The operator may file for a bankruptcy warning if the buyer will obviously not meet its obligations	The deposit sum is defined in the contract	Capacity: for less than two months: total fee; for longer term: two biggest monthly fees; Quantity: 20% value of the gas transported or traded on the gas exchange
<b>Accepted forms of guarantee</b>	n/a	Deposit	Bank guarantee, advance payment, or security component fund
<b>Relevant provisions - form contract</b>	n/a	n/a	n/a
<b>Relevant provisions - network code</b>	n/a	Articles 44, 51, 52	Paragraphs 6.4-6.5, Paragraph 14

Guarantee specified in	n/a	Contract	Network code
<b>Comments</b>	Standard conditions of contracts approved by the competition authority; standard contracts allow for different arrangements	The draft TPA rules stipulate that the deposit is due if the system user does not observe the payment term, or the system user concludes the contract for the first time	The TSO may request the security in the circumstances - defined in the Rules - suggesting that the user may have problems fulfilling its obligations; superiority of Rules explicitly stated (clause 3.3 of the standard contract)

**Chart 4 – Mediterranean, Balkan countries, and developed Western markets**

Name	GA-MA AD	JP "Srbijagas"	BOTAŞ	DESFA S.A.	GASCADE Transport GmbH	Gasunie Transport Services B.V.
<b>Country</b>	Macedonia	Serbia	Turkey	Greece	Germany	Netherlands
<b>Region</b>	Balkan countries		Mediterranean		Developed markets	
<b>Ownership</b>	*State	State	State	*65% state	Corporate	State
<b>Unbundling</b>	Accounting	None	Ownership	ITO model	ITO model	Ownership
<b>Network code equivalent document</b>	Transmission Network Code for the Transport of Natural Gas	Rules of Procedure of Transmission System for Natural Gas	Transmission Network Operation Principles	Network Code for the regulation of the National Natural Gas System	General Terms and Conditions of GASCADE Transport GmbH	Transmission Code Gas - part of the Dutch Network Code
<b>Published in</b>	Promulgation journal	Promulgation journal	Promulgation journal	Promulgation journal	n/a	Regulatory bulletin
<b>Contract published</b>	n/a	Attached to the NC	On TSO's website	On TSO's website	On TSO's website	On TSO's website
<b>Superior document</b>	Contract	Network code	Network code	Contract	n/a	Contract
<b>Financial guarantee</b>	Obligatory	Obligatory	Obligatory	Obligatory	On TSO request	Obligatory
<b>Guarantee value</b>	Negotiated	Fixed	Fixed	Fixed	Fixed	Fixed

<b>Short description of guarantee calculation basis</b>	The user is obliged to guarantee regular payments	For capacity bidding: present-day value of 3,000cm of natural gas (according to the reference price); long-term bookings: 150% of the capacity value, capped at 8m dinars, monthly bookings: 75% value	Equal to 20% of the annual capacity fee	Minimum 12 month booking: equal to 15% annual booked capacity charges; shorter than 12 months booking: 25% capacity charges corresponding with committed capacity	Twice the value of average monthly capacity charges or capacity charges expected for the following two months	Monthly capacity charges, portfolio imbalance signal, contracting record; users accounts
<b>Accepted forms of guarantee</b>	Agreed by the parties	Bank guarantee or cash deposit	Performance bond issued by a bank in Turkey	Due Payment and Good Performance Letter of Guarantee issued by a bank approved by the TSO	Rating, bank guarantee, deposit, corporate guarantee, indemnity letter; advance payment	Parent company guarantee, security deposits, bank guarantee
<b>Relevant provisions - form contract</b>	n/a	Collateral payments - article 7	Clause 2.2	Article 8. Letter of Guarantee	Sections 36, 36a	Articles 3.3, 3.4
<b>Relevant provisions - network code</b>	Article 10 section 2 tiret 8	Article 15.3 - Collateral	Section F in fine	Article 8 Paragraph 5 letter F)	n/a	Annex 1 Creditworthiness Requirements
<b>Guarantee specified in</b>	Contract	Network code	Network code	Contract	Contract	Network code
<b>Comments</b>	Model contract not available	The guarantor bank must be licensed by the National Bank of Serbia; in case of deposit, tripartite agreement (User, bank, TSO) must be signed; Articles 1 and 14 of the model agreement imply that the Rules should take precedence	Explicit priority of Network Operating Principles	The bank letter of guarantee must comply with the sample attached to the standard transmission agreement; provisions of the agreement contrary to the Network Code are null and void	The TSO requests a deposit or advance payment if there are circumstances suggesting that the shipper may have difficulties fulfilling its obligation; the shipper has a chance to defend against any claims, and the TSO checks if these circumstances are still in place every 6 months	Guarantees based on the principle of credit limit - better financial standing means lower requirements as to securities provision; the security provision process is described in detail on the TSOs website

## Appendix 2 - Solutions and institutional setting criteria

INSTITUTIONAL SETTING CRITERIA*						
staff expertise level	highly competent, versatile NRA staff; weak TSO staff			lack of relevant competence among NRA staff; proficient TSO staff		
quality of regulatory framework	coherent and complete regulation of all actor's duties and obligations			operational areas left unregulated; lack of legal tools for the NRA		
market development stage	single supplier market			well-developed, competitive market		
balance of power	NRA keeping close oversight over all market aspects			NRA dealing only with general regulatory issues		
unbundling status	integrated enterprise			ownership unbundling		
political influence on the TSO	risk of conduct contrary to government policy, opaque TSO business cases			direct and indirect state influence on strategic level, clear TSO business cases		
SOLUTION AREAS/ PRACTICALITY**	1	2	3		2	1
legal character of network code	draft the network code for the TSO and establish as law	adopt network code's content as an NRA decision	enforce network code arrangements through administrative decisions where necessary		furnish the TSO with legal tools to enforce the network code	delegate the TSO to draft the network code established as law
equal treatment in contracts	draft the model contract for the TSO	require standard contracts submission for approval	set business terms guidelines for standard contracts	limit negotiation possibilities to specific clauses		allow establishing universally binding contract terms
stakeholder participation	require the NRA to perform consultations	require consultation of all standard documents and procedures		establish market committees to consult the TSO's documents on a regular basis		establish legal rules of consultation process for operator's documents
financial guarantees	adopt binding rules of financial guarantees	require drafting financial guarantees rules in the network code	set guidelines for financial guarantees rules	exempt financial guarantees rules from approval	allow imposing guarantees on a case-by-case risk assessment basis	

\* - left column represents extreme settings in favour of minimization, the right – in favour of legitimisation

\*\* - practicality: 3 - solutions which are practical and would not require significant changes in law, 2 – solutions requiring changes in regulatory governance, 1 – theoretical proposals which would require significant changes in most regulatory systems

### Appendix 3 – Questionnaire to determine existence and significance of quasi-regulatory behaviour

issue in question		regulatory system actors and market participants					
regulation area	relevant aspect	governmental bodies ('GBs')	NRA	TSO	other systems operators (DSOs, SSOs)	suppliers and traders	transmission grid end users
institutional setting	communicated image of policy outcomes	Whose achievements are usually communicated as policy successes?	Which sector outcomes are communicated as its policy successes?	Which strategic goals achievements are communicated?	Who is perceived as contributing most to friendly business environment?		
	political influence on the TSO	Can they directly or indirectly attune the operator's business conduct?	Is it formally or informally pressed to deal with the TSO in a defined way?	What is the formal and informal degree of independence in strategic decisions?	What is the TSO's perceived degree of independence, and is it seen to act in alignment with the government policy?		
	loopholes in regulation	What is the desired and achievable degree of specificity in legislation?	Does key documents approval ensure highest achievable coherence and completeness?	Does it possess all necessary legal tools to fulfil obligations imposed by law and the NRA?	Are there clear, legally coherent rules of cooperation between systems?	Is the primary legislation complemented with secondary and technical acts enabling fulfilment of the principles written into law?	
	staff expertise	Is there adequate expertise to draft, verify, and amend the operational rules? Are there expertise-building mechanisms?		Is the operators' staff competent enough to fulfill key obligations without external aid? Are there expertise-building mechanisms?		Are the operators overt and accessible, enabling expertise-building among commercial entities' staff?	
market policy	market development tools	Do they have clear policy concepts and strategies for the gas sector?	Does it exercise all formal and informal tools to shape and execute policy concepts?	Is it actively engaged in shaping and executing policy concepts?	Are there opportunities to propose and co-create market tools, other than lobbying?		

	<b>equal treatment</b>	How are national economy and security of supply principles reconciled with level playing ground in the market?	Is there a clear and transparent stance on incumbents/main suppliers/national entities?	Is the equality and non-discrimination principle embedded in the documents subject to approval?	Are the duties imposed through inter-operator arrangement bearable for new entrants or smaller operators?	Is there any scope for discrimination or preferential treatment written into legislation or key TSO documents?
<b>rules drafting &amp; contracting policy</b>	<b>consultation &amp; stakeholder participation</b>	Is there any involvement in drafting the TSO documents?	How strong and thorough is the enforcement of consultation obligations?	Are consultations limited to where legally required, or are other documents voluntarily provided to stakeholders for opinion?	To what extent are individual or collective opinions taken into account by the TSO? Are there informal fora where market participants can persuade the TSO to update the documents?	
	<b>transparency of standard documents</b>	What is the scope and depth of standardisation of transmission services required by the law or by administrative standards?		To what extent are standard documents accessible and understandable to market participants? Are they compatible with business practice? How often are they modified or updated?		
	<b>clarity of contracting procedures</b>	Does the law prescribe any standards for procedural documents?	Are there arbitration and review procedures accessible to market participants?	Are there internal schemes and procedures which the staff can follow when conducting business?	Does the TSO behave in a coherent, predictable way in accordance with key documents?	Are the procedures simple enough for non-gas market professionals in-house?
	<b>negotiability</b>	Are transmission services contracts ruled by general private law regime?	Does it encourage or facilitate negotiations with the TSO?	Can the contracts be negotiated with no prejudice to equality and non-discrimination principle?	Is there parity in cooperation with the TSO or are they practically bound by its rules?	Is there any possibility to adjust the transmission contract to the business needs of a specific market participant?
<b>financial guarantees</b>	<b>clarity and transparency</b>	Does the primary or secondary legislation regulate financial guarantees?	Are the rules on financial guarantees within the scope of approval and oversight?	Are there procedures ensuring that all guarantees are eligible, correctly calculated, and current?	Is it possible to calculate ex ante the actual costs associated with financial guarantees?	

	<b>proportionality &amp; market entry barriers</b>		Are there surveys for market participants' opinions on financial eligibility requirements?	Are there different schemes suited to different groups of market participants?	Do financial guarantees affect business decisions, e.g. the choice of product terms?
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