



EUROPEAN BARRIERS IN RETAIL ENERGY MARKETS



SLOVAKIA Country Handbook

Prepared by **vaasa** **ETT**  **REKK** **MRC** | CONSULTANTS
AND TRANSACTION
ADVISERS  **THE ADVISORY HOUSE**
A member of the MRC Group of Companies LISTEN · ADVISE · SUCCEED

Energy

EUROPEAN BARRIERS IN RETAIL ENERGY MARKETS PROJECT: Slovakia Country Handbook

VaasaETT
REKK
MRC
The Advisory House

Contact:

Philip Lewis, VaasaETT, philip.lewis@vaasaett.com

Balazs Felsmann, REKK, balazs.felsmann@rekk.hu

Chema Zabala, MRC, jmlopez@mrc-consultants.com

Florian Hirschbichler, The Advisory House, florian.hirschbichler@advisoryhouse.com

Manuscript completed in July 2020

The European Commission is not liable for any consequence stemming from the reuse of this publication.

Luxembourg: Publications Office of the European Union, 2021



© European Union, 2021

The reuse policy of European Commission documents is implemented based on Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39).

Except otherwise noted, the reuse of this document is authorised under a Creative Commons Attribution 4.0 International (CC-BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed provided appropriate credit is given and any changes are indicated.

For any use or reproduction of elements that are not owned by the European Union, permission may need to be sought directly from the respective rightholders.

PDF ISBN 978-92-76-30265-0 | doi:10.2833/00842 | MJ-02-21-196-EN-N

How to cite this report: Felsmann, B., Vékony, A., Dézsi, B., & Diallo, A. (2021). European Barriers in Retail Energy Markets Project: Slovakia Country Handbook. Luxembourg: Publications Office of the European Union. ISBN 978-92-76-30265-0, doi:10.2833/00842.

TABLE OF CONTENTS

| | |
|---|----|
| SUMMARY | 4 |
| Project outline | 4 |
| Key barriers in the Slovakian market | 12 |
| Key recommendations | 13 |
| MARKET OVERVIEW | 14 |
| Background | 14 |
| Market structure | 14 |
| Political and regulatory orientation | 16 |
| Regulatory market characteristics | 16 |
| Other market characteristics | 17 |
| Context for aggregation/demand response | 17 |
| BARRIERS | 20 |
| 1) Regulatory disincentivisation | 22 |
| 2) Market inequality | 31 |
| 3) Operational and procedural hindrances | 36 |
| 4) Customer inertia | 41 |
| 5) Other | 45 |
| FINDINGS & RECOMMENDATIONS | 46 |
| APPENDIX 1: PROCESSES | 48 |
| 1) Information gathering before market entry | 48 |
| 2) Licences, registrations and contracts | 49 |
| 3) Balancing | 50 |
| 4) Wholesale | 51 |
| 5) System landscape | 52 |
| 6) DSO-related operations & market communications | 52 |
| 7) Customer switching & moving | 53 |
| 8) Operational obligations/duties | 54 |
| 9) Market exit | 55 |

This document has been prepared for the European Commission however it reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Please note that this and the other country handbooks form just part of the deliverables of the “European Barriers in Retail Energy Markets” project. For more detail on methodology, Europe-wide results and the Barriers Index, please refer to the following associated reports: “Final Report of the European Barriers in Retail Energy Markets Project”; “Report on the European Retail Energy Market Barriers Index”.

SUMMARY

Project outline

The following project outline describes the overall European Barriers in Retail Energy Markets Project. It relates to all the countries and markets which are the focus of the project.

The Context

European retail energy market liberalization is now well into its third decade in the most mature markets. Customers of electricity and gas are now free to choose their electricity and gas suppliers in nearly all markets across the EU and in a number of other European markets. At the same time, the European Commission and national European regulators have created a basis for non-discriminatory market access for energy suppliers through a series of regulations and directives. In theory at least, the European retail energy market is a place where new suppliers and providers of retail services can enter the market and compete relatively freely and on equal terms for customers in the market; a place where formerly incumbent electricity suppliers can compete for gas customers and where gas suppliers can compete for electricity customers; a place where a supplier from one region or jurisdiction can compete in another, without facing unreasonable or excessive barriers; a place where a capacity aggregator or other innovative business model can compete to provide its services to retail energy customers.

Objective

The European Barriers in Retail Energy Markets project was established to research the extent to which the theory is the case in practice; the extent to which energy suppliers across Europe face a variety of barriers to enter and compete in the market; to identify which barriers exist and to provide some suggested solutions to those barriers. The project thereby aims to support the European Commission and Member States in developing policy and implementing actions to reduce barriers.

This project has also designed and calculated a performance index that ranks different countries according to how easy it is to do business in the retail energy segment by combining a selection of measurements into a single score. The project is on the other hand, not intended as a measure or indicator of the 'competitiveness' of any given market, and it does not in this respect judge the effectiveness of regulatory authorities or governments, many of which have put great effort into developing their markets.

It is also important to note that all the markets included in this research are continuously evolving. Changes are being planned and improvements (and in some cases additional barriers) are possible as a result. While this project highlights and considers known future changes, it cannot make assumptions as to the effectiveness and outcomes of those changes. This project is therefore weighted in the present, based on the actual context in the market, whilst accepting that the present context may change, in some cases imminently.

Competitor Perspective

What sets this project apart from previous Europe-wide projects looking at the issue of barriers is above-all that it primarily takes the perspective of the competitor rather than any objective view of regulators, economists or academics. This is an important distinction since it requires an acceptance that even if the existence of specific barriers may not seem logical or rational, and even if they are not permitted or legal, even if they were supposed to have been eradicated, those barriers are significant at least in the experience or expectations of competitors in the market.

Notwithstanding this however, the project does not simply accept whatever competitors claim. On the contrary, the researchers have gone to great lengths to ensure that claims are challenged and justified. Cooperation with regulatory authorities to understand the regulatory context of claims, along with survey and interview feedback from competitors (including incumbent suppliers) with alternative perspectives or points of view, have also been considered to ascertain a balanced evaluation of the barriers in any given market. This approach may therefore be of value to policy makers, and complementary to other studies addressing market outcomes.

In some cases, claims by respondents have been made which cannot be corroborated. For instance, there have been claims by many respondents across Europe about integrated utility behaviours that represent barriers to independent suppliers in the markets. Barriers apparently resulting from a lack full ownership unbundling. Such behaviours may well be regulated against, may even be considered illegal, and authorities may have powers to investigate them - and maybe do so. They are impossible to prove given the mandate and resources of the researchers of this project, yet they are widely reported by respondents and broadly documented in other researches. Such barriers may be considered allegations by the respondents, but where they appear to merit further consideration they have been raised since their potential impact on competition is substantial.

Scope & Scale of Research

The project focuses on electricity and (in most cases) gas markets in 30 European countries, namely the EU27 states plus Great Britain, Norway and Switzerland. It was conducted over the course of more than a year with the cooperation and assistance of nearly all of the relevant national regulatory authorities (the report does not however represent their views and has not been ratified by them), around 150 suppliers and many other stakeholder organizations, across all focus markets. Great Britain was included in the project and cooperation was received from numerous suppliers, the regulator (OFGEM) and other stakeholders. Switzerland and Malta were included to a lesser extent since they are not yet open markets for household customers.

Focus Markets



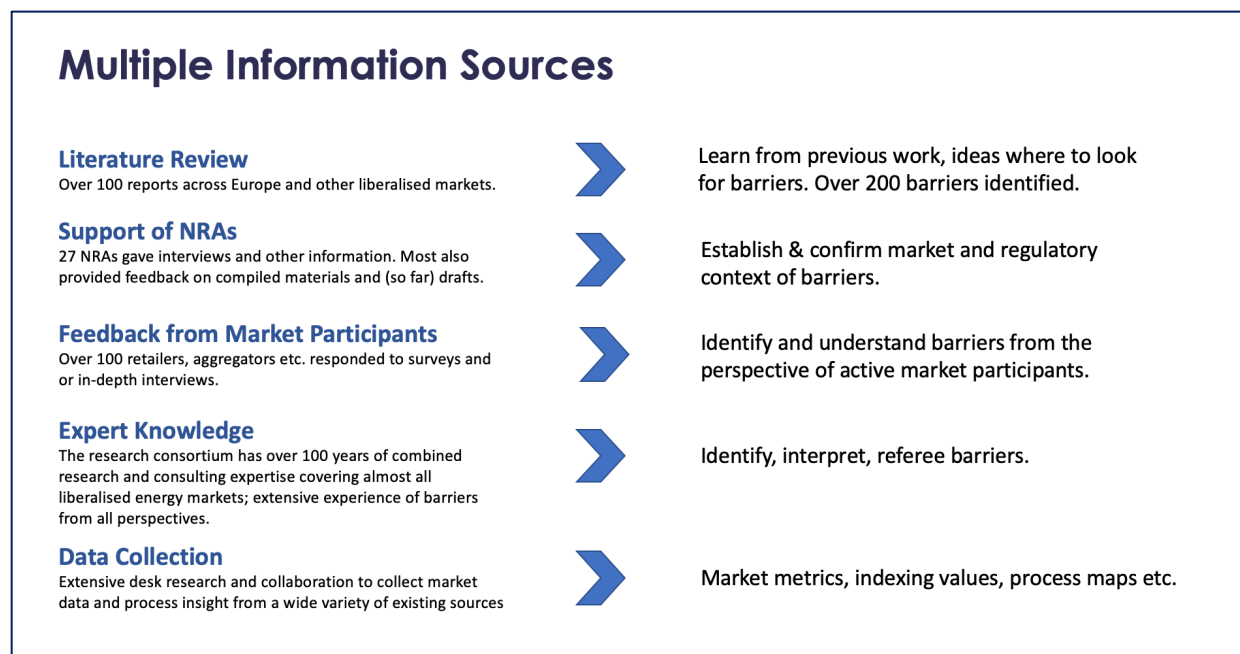
The project focuses on retail (supply), including also demand aggregation services, other additional offerings and new model retail, especially relating to the household segment customers (in some markets households and smaller SMEs may be difficult to distinguish). The project additionally concentrates primarily on barriers that are specific to the energy (electricity and gas) retail market - as opposed to barriers that are true of most markets, such as basic business costs and risk - and it gives priority to barriers for which a potential solution might be sought, as opposed to barriers which are a fact of any energy market and which could not realistically be overcome (such as the barriers relating to the core price volatility of energy as a commodity). The project does not aim to list every possible barrier in the market, however small.

Sources of Information

Many sources of information were used as part of the project. These included an extensive literature review of over 100 public reports, to assist in the targeting of survey questions; interviews with national regulatory authorities (NRAs) to understand the regulatory context in markets; feedback from market participants (suppliers and other competitors) and extensive data gathering for the purpose of collecting market metrics, market processes and

index values. For the latter the task of identifying sources that could deliver comparable and reliable index values was a key challenge of the researchers. The expert knowledge of the project consortium (which has extensive experience from the markets and issues concerned) was also used to add judgement to the process. Specifically, the core project team comprised over a dozen researchers and experts from nine European countries, including international experts who have analysed Europe's energy markets since even before they liberalized.

Figure 1 - Multiple Information Sources



Surveys & Interviews

The primary research mediums used in the project were an extensive questionnaire and in-depth interviews. The purpose of the questionnaire, which contained separate questions depending on the type of respondent, was to provide a comprehensive and structured identification, weighting and magnitude of the barriers as experienced and perceived by suppliers and other competitors. Questions were categorized and broken down according to what was known through the body of existing literature and the experience of the project consortium, ensuring that all known barriers were addressed by the questionnaire. The questionnaire additionally facilitated the identification of barriers that hitherto had not been revealed by the literature review, or which were country specific. Interviews provided additional support and clarification to the findings from the questionnaire as well as allowing respondents to focus on top-of-mind barriers and the interviewers to dig deeper into key and / or unclear issues. While some respondents provided both questionnaire and interview responses, many provided one or the other.

The survey was publicly and widely promoted (via web sites, social media and by other direct means) to potential respondents from 17th June until late October 2019 but remained open until late February 2020 so that stakeholders contacted during Country Handbook development had the chance to respond. The dissemination of information on the project was further facilitated by a widely promoted public website through which over 300 people subscribed.

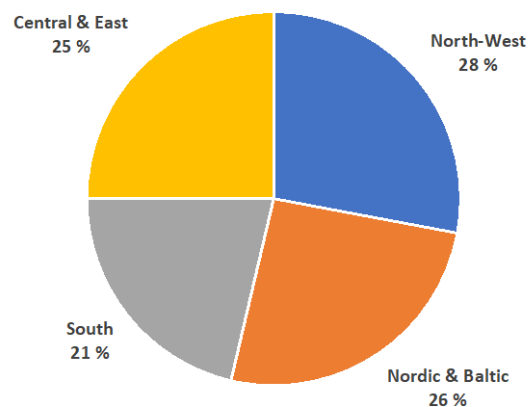
The Competitor Sample

143 questionnaire and interview responses were received representing 120 unique market-specific responses covering 28 focus markets. 71% of responses were through questionnaires versus 29% through interviews. Malta (a closed market for household customers) and Slovakia were the only markets from which responses were not received, although three additional markets received a level of response which was considered insufficient on which to conclude barriers based solely or primarily on respondent feedback. In these markets, namely Bulgaria, Cyprus, Czech Republic, the project consortium applied their expert insight and additional desk research to support the analysis of the markets. Switzerland, also a closed market for household customers, also naturally received insufficient response. The responses from 24 markets were therefore considered sufficient for the purpose of interpreting the barriers within those markets primarily based on respondent feedback. It is important to note that the response rate in no way impacted the index, which is not dependent on responses.

Analysis of the sample shows that responses were spread evenly among the regions. 66% of responses were non-incumbent competitors compared with 34% which were former incumbents in the markets concerned. In many cases the former incumbents are only former incumbents in one region within the overall country they are in. A large proportion of the former incumbents are furthermore active across multiple regions and countries, and therefore are

both incumbents and non-incumbents, defenders and challengers. Among the non-incumbent players were a mix of more established competitors and more recent new entrants, along with more traditional supplies, new model suppliers and aggregators.

Responses by Region



More information on the nature of the sample and responses can be found in the Final Report for this project.

Confidentiality

The importance of data protection and anonymity within the project cannot be stressed enough. Most respondents provided information on condition of anonymity. It was promised by default to questionnaire respondents and was in most cases explicitly requested by interviewees. Many participants additionally stated that they were nervous to respond at all since they were active in a market where there were only a handful of suppliers (or at least independent suppliers) which they felt meant that their responses could easily identify them. This risk was perceived as even greater in cases where the participant had made public statements on issues that would be contained in the research (the risk of readers putting two and two together was a concern). In some cases, respondents stated that they even feared a backlash from other stakeholders if their identity was revealed, or (for

e.g. a brand-new entrant in a market with one brand-new entrant) stated that if we revealed that they were a new entrant the market authority would instantly know who they were and that they were afraid it might inhibit their entry process.

Under such circumstances, it was decided that not only would all responses be anonymous, but also that the type of respondents would not be revealed in connection with given responses on a country level. It has been claimed by a handful of market authorities that this policy reduces the value of the research. The researchers feel that it in fact increases the value of the research since it has allowed respondents to provide information in an uninhibited fashion in a European market where, by and large, independent suppliers - and especially independent new entrant suppliers - are few and far between.

Deliverables

The project has three key deliverables:

- **28 country specific handbooks** detailing the barriers identified in each country together with suggestions for possible solutions. While most of the handbooks cover electricity and gas markets, some only cover electricity or cover gas to a lesser extent due to the absence or limited presence of gas. Additionally, two countries, Malta and Switzerland do not have country reports due to their closed nature with respect to household customers.
- **A robust, peer-reviewed barriers index** of how easy it is to do business in each country. The European Retail Energy Market Barriers Index, contained in the separate European Retail Energy Market Barriers Index Report, allows the objective comparison of market barriers across the focus markets. The report also includes a ranking of the focus markets.
- **An overall Final Report** containing a full project description and bringing together the findings and common learnings from all countries.



The Barrier Index and Ranking

The purpose of the 'European Retail Energy Market Barriers Index' is to enable a degree of comparability between the barriers' context in each of the markets. It is based on metrics that can be collected for all markets, metrics for which available data currently exists. As such it provides a simple, best-available proxy benchmark measure for each of the categories of barriers identified by the project, for each market, and thereby ranks each market. It is intended to be used as an evolving periodical index and ranking on a European and national level.

The index and ranking should, however, presently be considered more of an approach and an indication than an absolute or definitive ranking. It represents the current state of market monitoring data in Europe and will evolve over time as data availability improves. Over time we would expect and recommend that governments and NRAs advance new metric collection to better enable future editions of the index and ranking.

A full description of the Index, its methodology and detailed findings and the ranking can be found in the separate Index report for this project. Within each country handbook the index values for that given country is presented.

Key barriers in the Slovakian market

The following figure highlights the key barriers in the Slovakia market.



Key recommendations

With respect to entry barriers we identified serious issues related to the regulatory framework, mainly price regulation, market inequality and switching procedure. We recommend the following policies for Slovakia:

- Step by step abolition of price regulation for most of the household electricity and gas consumers, may potentially enhance competition thus reduce entry barriers to the market.
- Stricter unbundling rules, which enforce at least brand unbundling, may decrease the potential strategic advantage of the incumbent market participants.
- Creation of a central data hub, would enhance data transition, thus it would create an opportunity to new entrants to come up with innovative solutions and offers for market entry.

MARKET OVERVIEW

Background

Legal evolution

The foundations of the current Slovakian energy markets were laid in the 1990s. Between 1990 and 1994 Slovakia started to create different companies both in the electricity and the natural gas market. In the electricity sector three territorial distribution companies were created, which were distinct from power generation, while in the natural gas sector storage, local exploration and production was separated from transmission and distribution. In the beginning of 2000s further changes were made. In 2001 the Regulatory Office for Network Industries (URSO) were founded, which assumed full responsibility for regulation in 2003. Also, in 2002 high voltage electricity transmission were separated from generation, and in 2007 electricity trade were separated from distribution in the electricity market, while in the natural gas market distribution and transmission were separated in 2006. In 2012 the Regulatory Council was created, totally independent with the aim of adopting regulatory policy.

Parallel with these events the opening of the gas and electricity markets also occurred. In 2001 in both were liberalized for large consumers. After the first step of liberalization, changes came in force earlier in the electricity sector. In 2005 the market was opened for all businesses, while in 2008 to all households. In the natural gas sector, the opening for businesses was in 2009, and for the whole market in 2011. However, price regulation remained in place in both sectors for all households, and small businesses, despite the fact that they are able to change supplier.

Privatisation

Between 2001 and 2004, transmission and distribution companies of natural gas were sold to Gazprom, Gaz de France and Ruhrgas. In 2013-14 Ruhrgas resold their ownership right to the Czech company EPH except for the gas trade which was bought by the state. The three electricity distribution companies were sold to E.ON Energie, Electricité de France International (in 2013 re-sold to EPH) and RWE Plus. Original privatization were transparent, international tenders but only 49% of the shares were sold in all companies, 51% was held by the state.

Market structure

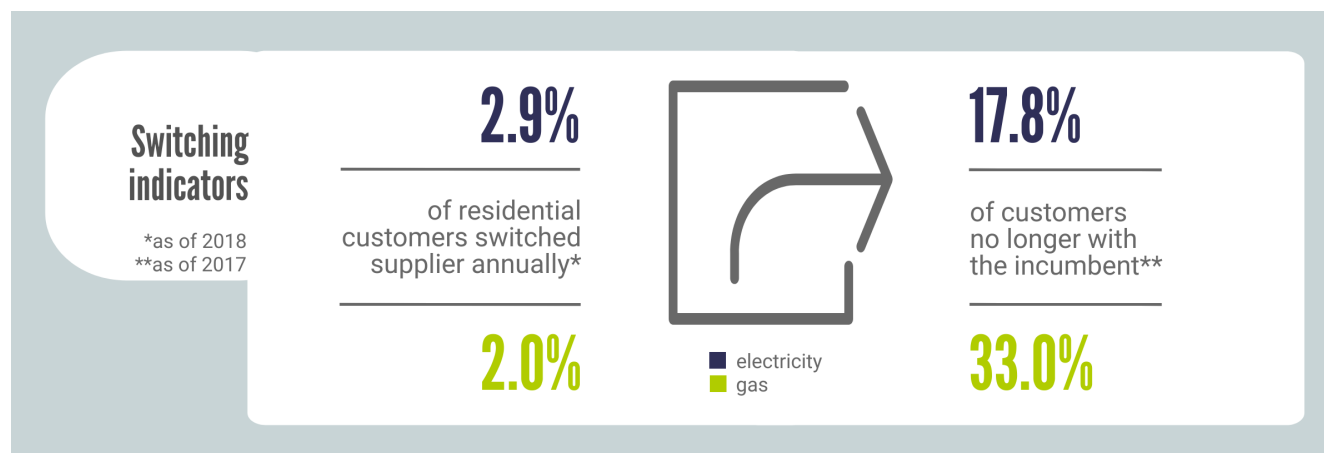
In 2017 electricity consumption of Slovakia was 31 TWh which was paired with 28 TWh electricity generation, which makes Slovakia a net importer of electricity. Almost 55% of the generated electricity is based on nuclear power, with significant hydropower (17%) and coal (11%) generation. Biomass and waste are present in the electricity mix with 6%, natural gas with 4% and solar power with 2.5%. Most electricity is consumed by the industrial sector which accounts for 45% of the demand. The two other dominant sectors are residential (20%) and commercial consumption (28%).

Natural gas consumption in the country accounted for 52.8 TWh in 2018, which was covered almost completely by imports as domestic production is marginal, approximately 1 TWh. Slovakia is mainly supplied by Russia through long-term contract. Industry is the largest consumer of natural gas by 30% followed closely by the residential sector 27%. Heat and power generation accounts for 17% while commercial consumption for 14% of the domestic demand.

The Slovak electricity transmission system operator is called Slovenska Elektrizacna Prenosova Sustava (SEPS), which is a state-owned company. The transmission network consists of approximately 2100 km 400 kV lines, 800 km 200 kV lines and 100 km 110 kV lines. The country is connected with Czech Republic, Hungary, Poland and Ukraine. In the natural gas sector there is also one transmission system operator called Eurostream. Slovakia is connected with Ukraine, Czech Republic, Hungary and Austria with natural gas interconnectors. 6.69 bcm storage capacity is present in the country, which is operated by three companies, NAFTA, Spolu and POZAGAS.

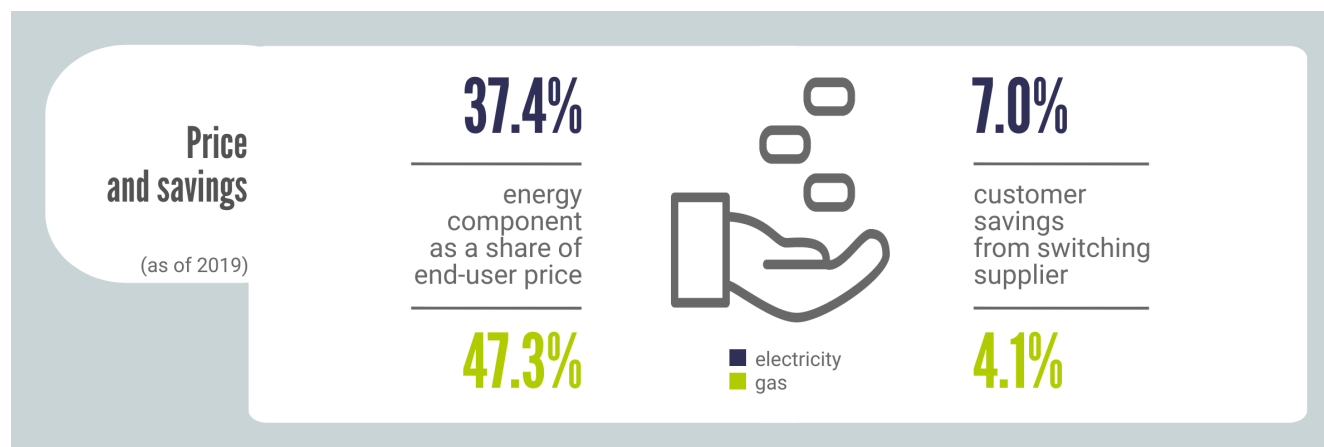
Electricity distribution is dominated by three companies. Based on the Government decision in 2002, the majority shareholder in all three DSO-s are the state. The three main DSOs are Západoslovenská distribučná (ZSD) connected 1.1 million, Stredoslovenská distribučná (SSD), 740 000 and Východoslovenská distribučná (VSD) 630 000 consumers. The minority shares of these DSO's are owned by E.ON, EPH and Innogy respectively. On top of the three major DSOs there were 157 small local DSO's present in 2018 in the market, which are mainly not unbundled. In natural gas distribution there is only one dominant company SPP Distribúcia, which operates almost 100% of the distribution system, in 2018 more than 33 000 km pipeline system, of which more than 6000 kms are high pressure lines. Additionally, 40 small sized local distribution companies present on the market.

In Slovakia almost 200 electricity suppliers operate, however the market is relatively concentrated. There are three main suppliers, which are legally unbundled from the DSO's but operating in the same company structure. The three retailers cover approximately 80% of the household retail market with more or less equal shares. In Slovakia, prices are regulated for vulnerable customers, which are households and small companies. Supplier switching is possible however switching rates are low. In 2018 it was only 2.5% for the total market.



The retail market of Slovakia is heavily concentrated in natural gas sector, with a HHI of 3525 in 2018. Although there are around thirty players present at the market approximately 57% of the total sales are associated with one company Slovenský plynárenský priemysel (owned by the state), which is in the same company group than the major DSO of the country, but legally unbundled. All other participants have a less than 10% market share,

however there are several mid-size suppliers. The largest ones are Innogy Slovensko and MET Slovakia with 8%-8% shares. In Slovakia households and small enterprises are vulnerable customers, so they face regulated prices. The market however is liberalised, so it is possible to change customers. Switching rates were relatively low in 2018 around 3%.



Currently the regulation of the energy sector is based on the Act on Energy (2012), the Act on Regulation in Network Industries (2012). In the electricity sector another important regulatory document is Act on Promotion of Renewable Energy Sources, and High Efficiency Combined Generation (2009).

Political and regulatory orientation

The newest energy policy related document of Slovakia is the National Energy and Climate Plan. The document contains several strategical goals which affect energy suppliers as well:

- Reach a renewable share of 19,2% percent until 2030 in the total energy sector and 27.3% in the electricity sector.
- Increase PV capacities to 1260 MW in 2030 (from 680 MW in 2021)
- Increase onshore wind capacities, to 1000 MW in 2030 (from 30 MW in 2021)
- Complete natural gas interconnection projects in the North-South direction.
 - Polish- Slovak interconnector
 - Eastring
- Potential emergency natural gas supply lines from Czech Republic and Austria
- Completion of Slovakia-Hungary and Slovakia Czech Republic new electricity infrastructure projects.
- Initiate ACON a cross-border smart grid project between Slovakia and Czech Republic

Regulatory market characteristics

Electricity and natural gas prices are regulated in Slovakia for vulnerable customers which means households and small enterprises. For other market players end-user prices are not regulated. The fee for the usage of the network is also regulated, by the Slovakian regulator.

Only retailers with specific trading license can sell electricity or natural gas to the final consumers. License issued in any other European Union Member State is acceptable in Slovakia, after registration but local presence is

required for operation. Also, there are strict reporting requirements by the regulator for market participants. More detailed information on the registering process and the difference between registering in the gas- or electricity market can be found in the appendix under the chapter “Licenses, registrations and contracts”.

The authors are not aware of any substantial changes to the current Slovakian regulatory framework, in the near future.

Other market characteristics

Generation market

Electricity generation market is heavily centralized in Slovakia as 69% of all generation capacity including most of the bigger power plants are in the hand of SE. SE is owned in 66% by SPH and 33% by the Slovakian state.

Wholesale market

Most of the electricity is traded through bilateral contracts, in the Prague Commodity Exchange and in the EEX platform. There is also a short-term electricity market in Slovakia. The Czech and Slovak short-term electricity market is coupled since 2009. This was later extended with Hungary in 2012 and with Romania in 2014. According to IEA country report of Slovakia however only 8% of the total generated electricity is traded on the short-term market.

Natural gas trading in Slovakia is mainly characterized by long-term contracts, commodity exchanges, trading on the virtual trading point, bilateral OTC agreements and underground gas swaps. In 2016 the total traded amount in the latter two was 7.5 and 16 TWh respectively. Total trades at the virtual trading point were 168 TWh.

Smart meters

According to the information of IEA Slovakian Country Report, smart grid development is in the hand of Managing Committee in Slovakia. The members of the committee are the TSO the three most important DSOs and some other electricity market players. Their Intelligent Deployment project is in its early stage. The aim of the project is to place smart meters for 80% of all consumers whose consumption is larger, then 4 MW until 2020. Until June 2017, 82 000 smart meters were installed by the three major DSO's which 21% of the target number. The smart-meter rollout in 2018 was 5% country-wide.

Taxation

On top of the traditional taxes there is an energy tax present in Slovakia, however retailers who serve household customers are excluded from this tax.

Context for aggregation/demand response

Demand side players can participate in the wholesale and balancing market since 2007, however their participation is not common. In Slovakia demand side players can participate in the mFRR market. Currently however demand side response is generally applied through bilateral agreement with big industrial consumers. It is important to highlight however that some market players operate on the wholesale market as well. Aggregators

are currently not present in the Slovak Republic, which results in the fact that participation in the balancing market is currently only a theoretical possibility for demand side players.

BARRIERS

The European Barriers to Entry and Competition in Retail Energy Markets project has researched barriers across 30 European markets. From this research four over-arching pan-European categories of barriers have emerged:

Over-arching pan-European barrier blocks

| | | |
|----------------|---|---------------------------------------|
| Barrier Blocks | 1 | Regulatory disincentivisation |
| | 2 | Market inequality |
| | 3 | Operational and procedural hinderance |
| | 4 | Customer inertia |

Description of the four-over-arching pan-European barrier blocks:

1. **Regulatory disincentivisation:** barriers arising as a consequence of the general regulatory framework of the natural gas and electricity retail markets. We address the impact of price regulation, burden (-sharing), regulatory unpredictability and access to innovation. All these items may disincentivize competition within the natural gas and electricity retail markets, as well as entrance by new suppliers.
2. **Market inequality:** barriers arising from an uneven playing field for different types of suppliers. Often, certain market players already have a competitive advantage by being very close to the formerly integrated DSO (or still being vertically integrated in case the de-minimis rule applies), controlling a large amount of generation capacity or having a large market share. If market rules do not prevent this, such players can exercise their market power to treat other market players in a discriminatory way, creating market barriers. We examine issues related to unbundling, historical roles and access to market mechanisms.
3. **Operational and procedural hindrances:** barriers arising as a consequence of the complexity and national/regional differences in standards and procedures in different process areas, affecting how easily new entrants can enter and operate in the energy retail market. We look at issues and differences in licensing, signing up and operations compliance, as well as data access, processes and data management from the suppliers' point of view.
4. **Customer inertia:** barriers arising due to customer behavior and attitude. For the energy market to function, end-users must be willing and able to switch supplier. If customers do not switch supplier, suppliers need not worry about losing customers, so there is no incentive for suppliers to improve their services, minimize prices or innovate to compete for customers. We examine barriers related to customer inactivity or disinterest in the energy markets.

Within each of these high-level categories are contained sub-categories, which are also mostly pan-European in nature. Each of these sub-categories contain the specific barriers which relate to individual markets as described in the following chapter. Altogether, we identified 45 barriers, most of which broadly across Europe. Only a selection of them apply to the Slovakian case as reported in the following chapters of this handbook.

HOW TO READ AND INTERPRET THE FOLLOWING SECTIONS

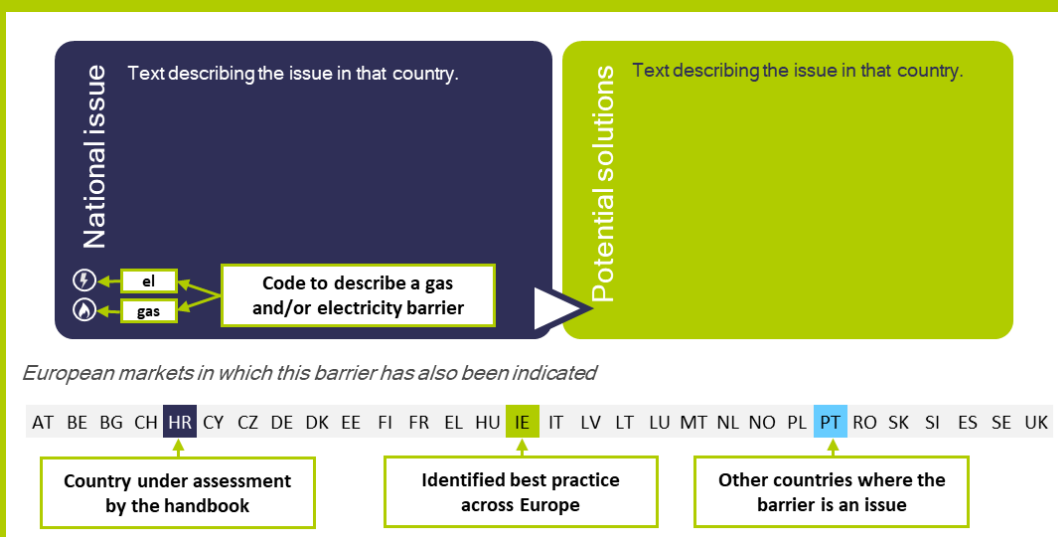
Each of the following four chapters explores one of the four pan-European blocks of barriers and report how each sub-category barrier apply to Slovakia. When a barrier applies to Slovakia, it will be highlighted in the table following a general description of the barrier itself as shown in the example below:

| #) Name of the Pan-European Block | |
|--|---|
| #. Name of the Barrier category and description. | |
| Text that will generally describe the barrier category . . . | |
| List of barriers identified across Europe under this barrier category: | |
| • Barrier 1 | When highlighted - applies to the specific country described in this Handbook |
| • Barrier 2 | |
| • Barrier 3 | |
| • Barrier 4 | |

As showed in the above figure, the table lists all the barriers we have identified in Europe within the specific barrier category. Only if a sub-category barrier is highlighted in the table, it means that suppliers raised it as a barrier, and it is a prevalent issue in Slovakia.

Highlighted sub-category barriers are then briefly described following a twofold methodology which

- reports what the suppliers are experiencing in the market as a national issue and
- suggests potential solutions to the problem as depicted in the below figure



At the end of each chapter, Country's performance within the category, according to quantitative indicators, is then presented.

For additional market context, please see Appendix 1: Process Maps, which gives a high-level graphical overview of the most critical steps involved in establishing and operating as a supplier in the national market.

1) Regulatory disincentivisation

Within regulatory disincentivisation, barriers across Europe have been sub-categorised into four areas encompassing 17 specific barriers¹:

1. **Price regulation.** Regulated prices usually refer to regulation or control of end-user's prices by a public authority, usually the National Regulatory Authority (NRA). Price regulation can take different forms, such as setting or approval of prices, price caps or various elements of these. In Europe, there still exist Member States which have maintained end-user regulated prices during the market opening process and after, in the intention of protecting households or even non-household customers from significant increases in energy prices, especially in a context of limited competition. In some cases, this regulation has led to below cost prices and to low margin to cover the supplier activity risk, discouraging investments and the emergence of newcomers.

According to CEER², 14 European countries out of 27 answering a recent CEER survey have price intervention in electricity for household consumers. Where regulated prices remain, NRAs tend to consider them as a significant barrier to entry for alternative suppliers. All Member States, where NRAs consider regulated prices as a significant barrier, are planning to remove them, at least for non-household customers. Across Europe, the following specific barriers related to price regulation were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in Slovakia:

- Price regulation discriminates against certain suppliers.
- High penetration of price regulation
- Low margin of regulated offer (margin squeeze)

2. **Burden sharing.** Energy suppliers across Europe are often required to collect payments for services not part of their business, or to provide other services such as services related to energy efficiency, or to manage assets such as those of the metering system. These requirements can pose a barrier for suppliers' operation on the retail market by raising their costs and distracting focus from their core business and might deter entry into the retail market by newcomers. Barriers related to burden(-sharing) detected in this study are as follows:

- Obligation to collect tariffs unrelated to energy on behalf of others.
- Obligation to keep a minimum-security stock as a gas reserve

3. **Regulatory unpredictability.** The establishment of an internal natural gas and electricity market in the European Union is an ongoing process. European legislative packages are boosting this process, making

¹ Please note: these definitions are Europe focused, not Slovakian specific. Highlighted barriers have been identified as country specific.

² Monitoring Report on the Performance of European Retail Markets in 2018. CEER Report 4 November 2019.

market regulation evolve rapidly. Transposition of regulation into the national regulatory frameworks is not always smooth and NRAs' actions are sometimes unpredictable. This leads to uncertainties for suppliers related to unclear and unknown future developments of the regulatory framework, including the attitude of the institutions that regulate the retail market and oversee market operation and organization. This uncertainty is a barrier that impacts suppliers' business, preventing their entrance in the market, making strategic business planning difficult or forcing them to adopt different approaches during operation. The following barriers related to unpredictability of regulatory framework were detected in this study:

- Suppliers face uncertainty because of a newly liberalized regulatory environment or uncertain future development of the regulatory framework
- Uncertainty caused by industry actors influencing legislation, e.g. incumbent or associations shape legislation
- Uncertainty regarding future regulatory developments, especially in the field of digitalization and new technology
- Attitude of authorities hinders development of the market
- Uncertainty regarding environmental obligations and non-renewable generation capacity

4. **Access to innovation.** Most European energy market are currently designed based on practices as they were during the period of national monopolies by what today are incumbent suppliers. Allowing suppliers and new entrants to be innovative depends not only on the opportunity to compete on prices, but also to diversify, welcoming new products, market actors and business models. When national regulatory frameworks do not take into account innovation in the retail market (regarding e.g. availability and functionality of smart metering, the possibility of flexible contracting and tariffs, or whether the demand side can bid in the balancing system), this may pose a barrier for new market entries, particularly more modern players. If new entrants are to be enabled in order to increase the level of competition in the retail market, regulations must accommodate future developments on the energy markets, especially considering that in the future new entrants may not only be electricity and gas suppliers but also act as aggregators or energy service companies (ESCOs). European barriers relating to innovation-friendliness are as follows:

- Data protection issues
- Lack of incentivisation for novel pilot projects or post-pilot market rollout
- Lack of data for innovative product development
- No fit between new business models and existing regulation/obligations
- Missing flexibility in tariff structures
- Missing information and incentives for demand-side grid management
- Market structures do not incentivize novel products (missing perceived value)

1.1 Description of regulatory disincentivisation barriers in Slovakia: Price regulation

High penetration of price regulation. From our studies of this market, it appears that this would pose a barrier in Slovakia. The part of the market eligible for regulated prices is only partly contestable for a new entrant. Consumers that have access to regulated services are extremely difficult to reach with competitive offers. If this market segment is big, i.e., price regulation has high penetration, only a small part of the market (generally non-household customers) is easily contestable. Price regulation maintains the old structure of the market, where consumers do not face risks and do not have to care about comparing offers and choosing a supplier. Price regulation keeps the market in an immature phase where neither consumers nor suppliers can learn how a competitive market works.

National issue



In Slovakia vulnerable customers pay regulated prices for electricity and natural gas. The category vulnerable customer includes all household consumers, and small size enterprises. As a result, a very large portion of the Slovakian electricity and natural gas market face regulated prices.

Potential solutions

A significant decrease in the size of vulnerable customers can intensify competition, which potentially results in easier entry for new market participants.

European markets in which this barrier has also been indicated

AT BE **BG** **HR** CY CZ DE DK EE FI **FR** EL **HU** IE IT LV LT LU NL NO **PL** **PT** **RO** **SK** SI **ES** SE UK

PORTUGUESE BEST PRACTICE CASE: Roadmap for removal of regulated retail prices. Portugal removed end-user price regulation for non-household customers and the transitional period ended in 2016. As part of the phase-out process, which started in 2010 for gas non-household customers and in 2011 for electricity non-household customers, a transitional period was defined by the government in Portugal in order to enable customers supplied under regulated end-user prices to choose a new market supplier and move to the liberalised market. During this period, the NRA (ERSE), sets a tariff (called the 'transitional tariff'), which may include an additional value, whose objective is to promote customers to switch to a market tariff.

Lastly, under the terms of Government Ordinance N. 39/2017 of 26 January 2017, consumers who still have regulated tariffs have a transitional period until 31 December 2020 to choose an electricity market supplier. While, under the terms of Government Ordinance N. 144/2017 of 24 April 2017, consumers who still have regulated tariffs have a transitional period until 2023 to choose a natural gas market supplier.

Low margin of regulated offer (margin squeeze). From our studies of this market, it appears that this may pose a barrier in Slovakia. It is common across Europe that price regulation sets the regulated price to a defined or maximum level and allows all market participants to serve customers within this regulated segment. However, this can create a barrier in the market if the regulated price is set to such a low level that only companies that can benefit of economies of scale are able to generate a sustainable margin. All other market participants will be confronted with a margin squeeze, making it very difficult to compete. The greater the size of the regulated customer segment the stronger the barrier, as it reduces the contestable part of the market for smaller players.

National issue



Electricity and natural gas prices for households are among the lowest (especially for natural gas) in Europe which results in low margins. Also, our estimations show, that margins are small even in European comparison in Slovakia. It seems that one aim of the regulator is to keep these prices low in order to protect household consumers.

Potential solutions

One potential solution can be the continuous withdrawal of price regulation or regulating the end-user prices in such a way that allows larger margins. Another possibility is ex post price regulation.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

SPANISH BEST PRACTICE CASE: Low margin of regulated offer. Before 2014, the price regulation regime (PVPC) raised many complaints from electricity companies, claiming that the price was set below cost or may have too limited margin to cover the risk of activity.

Hence, a new Royal Decree was issued (RD 216/2014), establishing a new methodology for calculating the PVPC, including the energy cost, the applicable access tariffs and a commercial margin.

The main difference is that the energy cost is now calculated on an ex-post basis, using the average price resulting in the spot electricity market during the period covered by the bill. In the case of consumers with an operative smart meter installed (as of now, more than 98%), since 1 October 2015, a real consumption tariff following the spot price, is applied. The real time price is published by the electricity TSO through ESIOS platform.

Having a pass-through of the energy cost from the electricity spot market is considered as a best practice within the price regulation category. This prevents the energy component of the regulated tariff to be set below cost. However, the customers exposure to the volatility of the spot market may trigger further Government interventions.

Discussions still exist about the value of the commercial margin, which still is seen as too low by reference suppliers and limits the ability to compete of new and small companies. Also, having a price regulation in place that applies to the 95% of the retail market is perceived as hindering competition among suppliers. Suppliers wish a phase-out of price regulation regime, with a clear plan defined by the relevant institutions.

1.2 Description of regulatory disincentivisation barriers in Slovakia: Burden (-sharing)

Obligation to collect tariffs unrelated to energy on behalf of others. From our studies of this market, it appears that this would pose a barrier in Slovakia. The obligation to collect non-energy-related tariffs, with the risk of delayed or non-payment, presents a barrier as it can substantially increase the total risk as well as required cash reserves. It can also act as a barrier if energy suppliers may be tasked with collecting fees for unrelated services as it can distort pricing.

National issue



On top of the regular tariff elements, consumers of Slovakia must pay a coal power plant subsidy in their electricity bills. This tariff can have largely distorting effect on efficient pricing, and it is contradiction with the decarbonization goals of the country.

Potential solutions

The abolition of this tariff element would possibly eliminate this barrier.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

1.3 Description of regulatory disincentivisation barriers in Slovakia: Regulatory unpredictability

Suppliers face uncertainty because of a newly liberalized regulatory environment or uncertain future development of the regulatory framework. From our studies of this market, it appears that this may pose a barrier in Slovakia. Uncertainty can arise from a brand-new regulatory environment, which may include poorly defined responsibilities between actors, lack of or understaffed responsible departments/authorities that the supplier must communicate with, etc. Also, suppliers may experience uncertainty because of unpredictability around what the future regulatory framework will look like and hence what business opportunities will be possible.

National issue



There are some uncertainties with respect the future of the price regulation as Europe is moving toward retail markets without end user price regulation, so the transition can be a challenge for Slovakia.

Potential solutions

Slovakia will need a clear plan about how they would like to introduce unregulated prices in all consumer segments, which can reduce the potential uncertainty of the market players.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO **SK** SI ES SE UK

Uncertainty regarding future regulatory developments, especially in the field of digitalisation and new technology. From our studies of this market, it appears that this may pose a barrier in Slovakia. New technological advances require regulatory frameworks in order to be fully rolled out without excessive business risk for suppliers. Smart meter rollout targets, progress and associated rights and obligations can be a main source of uncertainty. Also, regulatory uncertainty regarding the future of demand response aggregation or other novel services can hinder investment/innovation in these areas.

National issue



Currently regulation for demand side participation, for smart meters and innovative technologies are not mature in Slovakia, these innovative services and solutions are not widely used. On top of that because of technical constraints currently it is not possible to connect systems to Slovakian distribution system with more than 10kW. The legislation hinders the development of associated innovative products and solutions.

Potential solutions

If future legislation focuses on supporting digitalization and new technologies, it will potentially enhance investments thus reducing entry barriers. Also, investments into grid development seems to be a prerequisite of any action in Slovakia.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO **SK** SI ES SE UK

1.4 Description of regulatory disincentivisation barriers in Slovakia: Access to innovation

Lack of data for innovative product development. From our studies of this market, it appears that this would pose a barrier in Slovakia. Smart meters open up opportunities for novel demand-side and aggregation services that rely on almost real-time consumption data to be able to match grid requirements and balancing product bids. Aggregators must be able to access customers and their data independently of suppliers, who in effect constitute a competitor for the DR provider/aggregator.

National issue



In Slovakia smart meter rollout is relatively low (5% in 2018), which hinders the ability to collect close to real time data, thus making innovative product development more difficult. Also, there is no data hub in the country.

Potential solutions

Creation of a data hub and the incentivization of greater penetration of smart meters would potentially reduce the effect of this barrier.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

No fit between new business models and existing regulation/obligations. From our studies of this market, it appears that this may pose a barrier in Slovakia. Regulatory frameworks need to provide an environment for not only piloting new business models but also allow for further advancements without risking any grid stability, e.g. net-metering schemes and self-consumption. Regulatory requirements/obligations designed for traditional suppliers may not make sense for innovative players who are nonetheless bound by them. Unclear current regulation around demand response aggregation, such as missing role definitions, makes it challenging for novel services to enter and grow.

National issue



In the electricity sector there are some missing definitions in the regulation such as aggregators. Also, the regulation currently does not incentive the deployment of smart-meters and demand side response solutions sufficiently.

Potential solutions

Making the proper definitions in the regulatory environment and creation of implementation plans for new technologies may decrease the importance of these barriers.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

Missing flexibility in tariff structures. From our studies of this market, it appears that this would pose a barrier in Slovakia. Tariff structures' potential to be flexible is a main driver of demand flexibility as it allows the design of incentive-based tariffs with several Time-Of-Use tariff zones, encouraging customers to consume when it is cheaper. This is true for grid as well as energy components. Rigid or flat structures, which are defined by regulation, hinder new and innovative demand-shifting offerings on the market.

National issue



Prices are regulated for vulnerable customers and on top off that there are fixed charges for the usage of the network, with low share of the energy component of the bill. These factors make it difficult to introduce a flexible tariff structure in Slovakia.

Potential solutions

Abolition of regulated prices may increase competition and would allow for a more flexible tariff structure. Also, a greater share of the energy price in the final electricity bill (by reducing other price elements) would also enhance the efficient introduction of a flexible tariff system.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

LATVIAN BEST PRACTICE CASE: Grid tariff flexibility

Inflexible tariffs can **no longer pose a barrier** to innovative products in Latvia, as recent regulatory changes enabled networks to charge more dynamically for distribution. In 2016 **differentiated distribution tariffs** were introduced for electricity market, which have been shown to **reduce end-user costs**. In 2019 differentiated distribution tariffs were introduced in natural gas market. Through these tariffs, end users are incentivised to decrease their connection capacities if appropriate, reducing their distribution costs and freeing up system capacity both for security and efficiency of supply and new connections.

Market structures does not incentivize novel products (missing perceived value). From our studies of this market, it appears that this would pose a barrier in Slovakia. Without an existing demand and/or mindset for novel services such as DR, new entrants face the barrier of establishing the entire market before they can act in it. A low level of perceived value can due to a technology lag, customers' being unaware or not incentivized, or little competition between traditional suppliers resulting in little need for suppliers to innovate/differentiate.

National issue



Currently there are several factors that disincentivize novel products in the Slovakian market. Firstly, aggregation is not possible based on regulation. Secondly, currently there is not fierce enough competition between traditional suppliers. Finally, because of potential technological barriers only large player are present on the DR market.

Potential solutions

There is no single solution to this problem set. One important step would be if regulation would put a main emphasis on creating a framework in which novel products can comfortably operate.

European markets in which this barrier has also been indicated

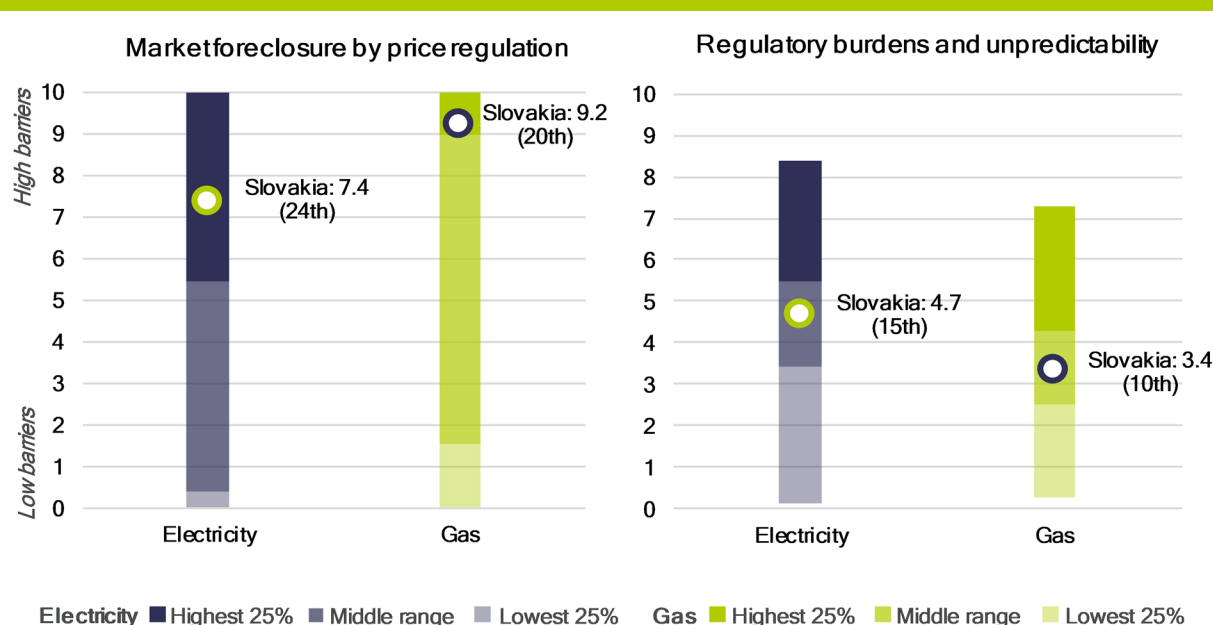
AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

1.5 Slovakia's performance in this barrier category

The following figure shows quantitative indicators of how far regulatory disincentivisation acts as a barrier in this market. The values for Slovakia are shown against the range across all analyzed countries. These scores contribute to the performance index. The performance indicators of regulatory disincentivisation are the followings:

- **Market foreclosure by price regulation:** The index consists of sub-indicators, the penetration of price regulation (among residual customers), and the mark-up of the regulated offer. High score is attributed if the penetration is high, and the mark-up is significantly lower than the average mark-up on the competitive markets.
- **Regulatory burdens and unpredictability:** The index consists of two sub-indicators. Regulatory burdens reflects to the non-energy share of the energy bill in an average household, which are regulated (taxes, network fees). Regulatory unpredictability was measured with the related question in the supplier's survey. High score is attributed if the share of the non-energy elements is high, and the survey respondents gave high score for the question.

Performance indicators



Slovakia is in the worst performing 25% of countries with respect to barriers related to price regulation in both markets. The reason for this fact that all electricity and natural gas household consumers pay regulated price in the country and on top of that mark-up for regulated offers are very low especially in the natural gas sector. With respect to regulatory burdens and unpredictability Slovakia is around the median of the investigated countries.

2) Market inequality

Within market inequality, barriers across Europe have been sub-categorised into two areas encompassing 8 specific barriers³:

1. **Unbundling and market power.** In order to facilitate better competition and improve performance of the individual parts of the energy companies, the Energy Directives introduced rules for legal, functional and accounting unbundling between DSOs and supplier. Although legal unbundling has been implemented throughout all EU member states, barriers arising from vertical integration can still be observed in many markets, raising the question if the required level of unbundling is sufficient in order to meet the goal of a fair and competitive retail market. Companies serving less than 100 000 customers are only obliged to implement accounting unbundling.

In order to avoid confusion among end customers between the separate parts of integrated energy businesses, brand unbundling has been a focus area for NRAs over the last years. Nevertheless, in several EU countries, the difference in the branding of the supplier and the DSO is perceived as insufficient. Strategic and unfair advantages for incumbent suppliers around transparency, pricing and access to information and data occur in most of the European countries studied. Access to production capacities can also be limited for small suppliers if market players with a large generation portfolio can withdraw production capacity from the accessible markets. Balancing and ancillary services markets can also be distorted as they are often still designed to mainly benefit large-scale generation, discriminating against smaller market participants. Below, we describe these barriers related to market power in more detail.

Across Europe, the following specific barriers around “unbundling and market power” were detected in this study:

- Lack of brand unbundling
- Discriminating, strategic behaviour of incumbent, and obstruction by other market players.
- Strategic, unfair advantage of vertically integrated market players and lack of transparency.
- Limited or biased access to production.
- Discrimination against new and small market players in capacity and ancillary services markets.

2. **Equal access to and maturity of wholesale market.** The wholesale markets present one of the most important sources for energy procurement for all market participants. New and small suppliers tend to have weaker bargaining position in bilateral negotiations, which occurs higher sourcing costs, therefore leading to a competitive disadvantage. Access to a well-functioning wholesale market (an energy exchange) therefore enables smaller suppliers to buy energy for competitive prices.

³ Please note: these definitions are Europe focused, not Slovakia specific. Highlighted barriers have been identified as country specific.

Barriers related to the wholesale market can arise by discriminatory market platform access and the absence of any viable alternative. Furthermore, a lack of available products and low liquidity can both lead to an increase in risk, disadvantaging small market participants substantially more than large, established suppliers. Barriers related to “equal access to and maturity of wholesale market”, detected in this study are as follows:

- Discriminatory market platform access (standards, guarantees, etc.)
- Low liquidity in the wholesale market
- High price or volume risk in energy procurement

2.1 Description of market inequality barriers in Slovakia: Unbundling and market power

Lack of brand unbundling. From our studies of this market, it appears that this would pose a barrier in Slovakia. Similarities in the name and logo of the incumbent supplier and the DSO negatively impact the retail market in terms of competition, as customers are unaware that they are two separate entities and hence of their opportunity to choose supplier.

National issue

The electricity market of Slovakia is dominated by three legally unbundled companies where the DSOs have similar names and profile then the supplier. So, the lack of brand unbundling seems to be a relevant market barrier.

The problem is also relevant in the natural gas sector, as the main DSO of the country is legally unbundled as well, with the DSO and the retailer also having similar names and profile.



Potential solutions

Introducing stricter brand unbundling rules (requirement for different name and logo) may decrease the potential advantage of the incumbent suppliers.

European markets in which this barrier has also been indicated

AT BE BG CH **HR** CY **CZ** DE DK EE FI FR EL HU IE IT LV LT LU MT NL NO PL **PT** RO **SK** SI **ES** SE UK

PORTUGUESE BEST PRACTICE CASE: Brand unbundling. Inefficient brand unbundling between distribution and supply companies, such as similarities in the name and logo of the incumbent supplier and the DSO had a negative impact on the Portuguese retail market, in terms of competition until early 2019. However, during the second half of 2019, ERSE approved a new image and name for *EDP Serviço Universal*, which is now called *SU Eletricidade*. The measure aims to avoid confusion with the other EDP group brands and implies the complete distinction of the graphic, chromatic, symbolic and communicational elements of that last resort supplier. Finally, the DSO image is also changing, for a new image (new designation, new logo and different color).

Notwithstanding the above measures, the level of consumer awareness and ability to distinguish between DSO and suppliers remains low, due to either the recent application of this legal binding decision by the regulator or due to the scarce level of information among customers. Keeping high the competition advantage of incumbent suppliers.

SPANISH BEST PRACTICE CASE: Brand unbundling. Inefficient brand unbundling between distribution and supply companies, such as similarities in the name and logo of the incumbent supplier and the DSO had a negative impact in terms of competition on the Spanish retail market, until 2018. In 2018, the CNMC approved a legally binding decision obliging several companies of the main integrated energy groups to change their DSOs corporate name, to change their brand image and to identify unequivocally the company when informing customers so that consumers can clearly identify the company. This measure has already been implemented by all Spanish DSOs, vertically integrated with supplying activity. However, the level of customer awareness regarding this point remains low due to either the recent application of this legal binding decision by the regulator or due to the scarce level of information and of knowledges among customers. As in other industries, companies operating in the sector for long time, always keep a competitive advantage over the others.

Strategic, unfair advantage of vertically integrated market players and lack of transparency. From our studies of this market, it appears that this may pose a barrier in Slovakia. DSOs are required to separate distribution activities from supply both legally and in practice, so that unregulated distribution activities do not cross-subsidise any supply business. However, co-ownership is allowed, and small DSO/supplier companies are often exempted from any unbundling. Vertically integrated companies are still able to use their market power to gain an advantage in terms of information, allowing them for example to target customers based on consumption profiles or win back customers during the switching process, or in terms of access to financing through e.g. DSOs favouring sister companies when procuring services.

National issue



Both the electricity and the natural gas markets are heavily concentrated in Slovakia, with the incumbent players having significant market share, and markets are concentrated. This potentially allows them not to enable smaller market players to earn larger market share, through pricing or other means.

Potential solutions

It is difficult to identify a simple solution as this high concentration is probably a result of several market factors. Increase of transparency, enforcing fiercer competition could decrease the market power of the incumbents thus reduce the potential of strategic advantage.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO **SK** SI ES SE UK

GREAT BRITAIN BEST PRACTICE CASE: Unbundling of DSOs and supply businesses

Great Britain provides an example of well-functioning separation between distribution and supply. Ten of the 14 electric DNOs (distribution network operators) are free standing companies, while 4 are part of groups that include generation and supply businesses. Of the 4 companies that distribute gas, only 1 is part of a group that also owns a gas supply business. The companies that have generation or gas supply affiliates are effectively unbundled. In this study, we found no evidence of incomplete unbundling presenting a problem in Great Britain. DNOs are prohibited from providing end-user services, they are invisible to the customer, and no suppliers in the study had experience of the supplier/DNO relationship being exploited.

2.2 Description of market inequality barriers in Slovakia: Equal access to & maturity of wholesale market

Low liquidity in the wholesale market. From our studies of this market, it appears that this would pose a barrier in Slovakia. A lack of liquidity in the wholesale market is a barrier to operation as it leads to higher prices and risks, and therefore increases sourcing costs. Market participants with a lot of market power can withdraw their production capacities from the wholesale market and thus discriminate against other players.

National issue

Slovakia imports most of its natural gas supply from Russia and there is a very low liquidity of the domestic natural gas wholesale market, as only very small amount of gas is traded associated with exchanges or organized platforms.



Potential solutions

Creating a liquid trading platform for natural gas can enhance market players to trade, creating a more liquid wholesale market.

European markets in which this barrier has also been indicated

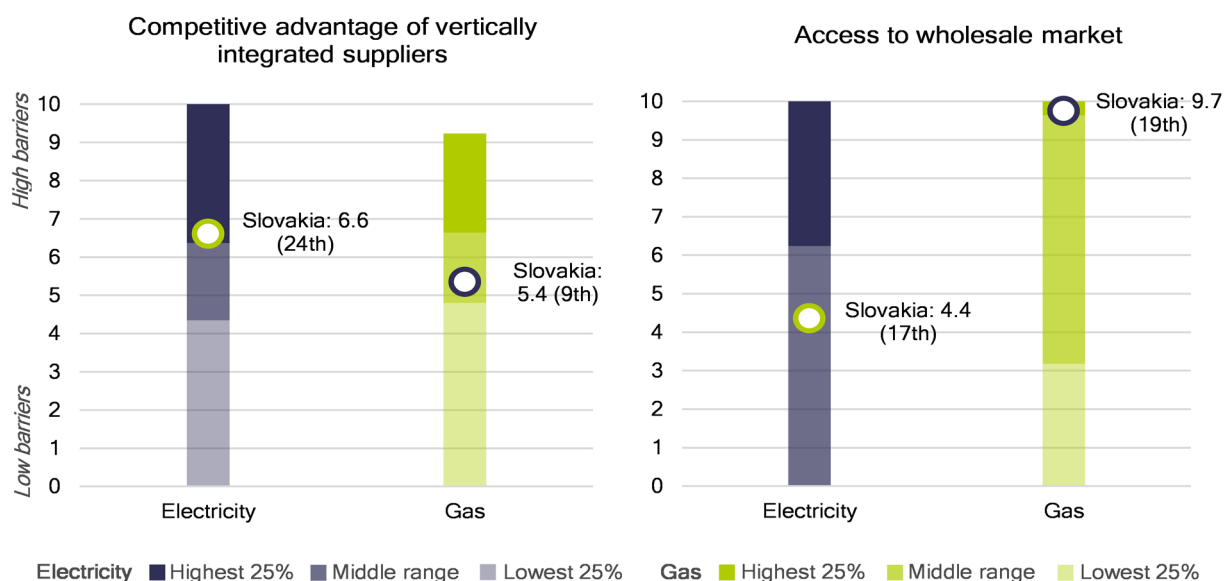
AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

2.3 Slovakia's performance in this barrier category

The following figure shows quantitative indicators of how far market inequality acts as a barrier in this market. The values for Slovakia are shown against the range across all analyzed countries. These scores contribute to the performance index. The performance indicators of market inequality are the followings:

- **Competitive advantages of vertically integrated players:** The index consists of sub-indicators, the market share of vertically integrated suppliers (on the residential competitive market), and the strictness of DSO unbundling. High score is attributed if the vertically integrated suppliers have a high aggregated market share, and the unbundling regime is not very strict (brand unbundling is not in force, high share of local, integrated companies).
- **Access to wholesale market:** The indicator measures the accessibility of wholesale market by quantifying the liquidity of wholesale markets. High score is attributed if the traded volume is relatively low compared to the consumption of the country (churn rate). Traded volume includes volumes that are traded at hub as recorded by brokers (OTC) or exchanges and does not include 'contracted' (LTC or other bilateral deals) volumes which are conducted 'off market'.

Performance indicators



The incumbent, vertically integrated companies are the major players in both in the electricity and natural gas markets, which share their brand with their DSOs. As a consequence, the country is performing relatively moderate with respect to competitive advantage of integrated suppliers, especially in the electricity sector. By looking of the possibility to access wholesale markets, in the electricity sector there are some barriers present, but at the gas sector Slovakia faces significant liquidity problems.

3) Operational and procedural hindrances

Within operational and procedural hindrances, barriers across Europe have been sub-categorised into two areas encompassing 13 specific barriers⁴:

1. **Sign-up & operations compliance.** Sign-up, licensing or registration, along with other administrative requirements or system establishment such as arranging contracts with relevant stakeholders (TSOs, DSOs, BRPs) are among the first steps that a new supplier undergoes to enter and operate in a retail energy market. To deliver natural gas or electricity to final consumers in Europe, an energy supplier usually needs to be registered to a certain institution list, or to proceed with a notification, or follow a process to grant a licence. Entrance processes for suppliers often requires commitments such as a minimum standard of customer service obligations, requirements on service quality, to provide financial guarantees or to have a communication system in place.

In most responding NRA countries, suppliers need to register and make contracts with certain stakeholders (mainly TSOs and DSOs) to procure the access to the energy grid: transport capacity, balancing. This procedure can be very different from a country to another. Accessing wholesale markets and balancing may also require a license or prior agreement/registration with the market operator. In some markets, business processes to enter and operate in the retail market can be extremely detailed and burdensome. The lack of a functioning national wholesale market may also hinder the entrance of retail companies that are not vertically integrated.

Across Europe, the following specific barriers around “sign-up & operations compliance” were detected in this study:

- | |
|---|
| • Poor availability of information for market entrants & active participants |
| • Heavy administrative process for entry (registration / licensing) |
| • High financial requirements (incl. long working capital cycles) and forced risk during operations |
| • Excessive reporting requirements during operations |
| • Excessive information requirements around billing and energy labelling |
| • Highly complex or country-specific systems & processes |
| • Regional differences or differences between DSOs within a country |
| • Cumbersome or biased switching process |
| • Unduly burdensome environmental obligations |
| • Unduly burdensome or insufficiently regulated market exit |

⁴ Please note: these definitions are Europe focused, not Slovakian specific. Highlighted barriers have been identified as country specific.

2. **Data access & processes.** Data access and management refers to the processes by which data are sourced, validated, stored, protected and processed and by which it can be accessed by suppliers or customers. In a well-functioning energy retail market, it is important that the information required to operate in the market is available to newcomers (subject to applicable legislation on data protection). This may include information on, for example, individual consumption or more specific meter details. This data is required in order for suppliers to carry out their market role, such as initiating a switch, or billing a customer. A standardized approach to the provision and exchange of data creates a level playing field among stakeholders and helps to encourage new, challenging market actors to enter the market. In order to avoid data management and access processes acting as a significant barrier to entry, Member States' initiatives to standardize data format and processes, including investments in data hub infrastructure, have the potential to make a positive impact.

European barriers relating to "data access & processes are as follows:

- Lack of data hub
- Complex, heterogeneous IT infrastructure and/or low level of digitalisation
- Missing access or poor quality of operations-critical data

3.1 Description of operational and procedural hindrances barriers in Slovakia: Sign-up & operations compliance

Poor availability of information for market entrants & active participants. From our studies of this market, it appears that this would pose a barrier in Slovakia. Detailed information about legislation, licensing requirements and procedures during operations etc. are not readily available, or only in the local language. This makes it difficult for potential new entrants to (1) understand the market and judge its suitability for their business; (2) efficiently go through the entry process to establish on the market; (3) operate effectively and efficiently.

National issue

Many parts of the legislations and main reports about the Slovakian market are only available in Slovakian language. Also, the country is excluded from several international comparison studies and reports due to lack of information. Relevant sites provide more information if the user is on the Slovakian interface, than when at the English interface.

Potential solutions

It may increase transparency significantly if all documents would be available in English, and there would be more reports available in English as well which provide a detailed description about the market.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

AUSTRIAN BEST PRACTICE CASE: Availability of information for market entrants & active participants.

The Austrian NRA, E-Control offers a comprehensive “starter kit” with all the necessary information for new market entrants in German and English language. Furthermore, statistical data, covering switching rates, price levels, smart metering rollout progress and others is frequently being published. Therefore, a barrier is not only non-existing, but even more, the situation in Austria can be regarded as a best practice.

3.2 Description of operational and procedural hindrances barriers in Slovakia: Data access & processes

Lack of data hub. From our studies of this market, it appears that this would pose a barrier in Slovakia. There is no centralized data hub or a platform for switching and access to DSOs information. This increases the time and effort required by suppliers to access customer or network data, e.g. to enact a switch or target potential new customers. This tends to favour suppliers with a high market share (and hence access to large amounts of customer data, including historical usage data) or suppliers vertically integrated with a DSO such that the parent company benefits from DSOs providing data directly to the supplier side.

National issue

Currently there is no centralized data hub neither in the electricity nor in the natural gas sector in Slovakia.

Potential solutions

Creation of a central data hub would enhance information sharing thus entry possibilities further.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE **DK** EE FI FR EL HU IE IT LV LT LU NL **NO** PL PT RO **SK** SI ES SE UK

DENMARK BEST PRACTICE CASE: Denmark's DataHub

The development of the DataHub is held up by market actors in other countries as a good example of regulatory development that involved and cooperated with market players. A key aspect of the successful development process was that a single organization (the TSO) had a clear system-wide responsibility to implement the changes, enabling streamlining of the process. Market players report the launch of the DataHub as the most important recent innovation in Denmark's energy system.

NORWAY BEST PRACTICE CASE: A well-designed data hub improved market equality in Norway

The Norwegian market is characterized by a large number of small, local, currently vertically integrated supplier-DSOs. Across Europe, this study has found vertical integration to cause issues around data access, where the integrated supplier (usually the incumbent) has an advantage in data access through its affiliation with the DSO, which collects and controls the information. However, such issues were not raised in Norway.

This favourable situation results from the existence since 2019 of a centralized data platform, Elhub, that is functioning near-perfectly according to suppliers to even out the playing field around data access (see section 3.2). Previously, independent suppliers faced delays and obstruction in obtaining customer data from DSOs. The impact on data exchange was so great that one supplier described their dealings with DSOs as “different pre- and post-Elhub worlds”. The Elhub moreover allows the regulator to technologically control that actors are behaving appropriately.

Missing access or poor quality of operations-critical data. From our studies of this market, it appears that this would pose a barrier in Country. Non-availability, delayed or low quality of operations-critical data (incl. smart meter data) presents a main barrier as it increases the need for manual processing and therefore costs. Especially in combination with information advantage, this can give of certain market participants such as DSOs and incumbents a major advantage in providing the required service level to the customers.

⚡ National issue

Because of the low shares of smart meters, close to real time data is not available for most of the households, which hinders operation.

Potential solutions

Greater smart meter penetration may reduce the negative effects of this barrier.

European markets in which this barrier has also been indicated

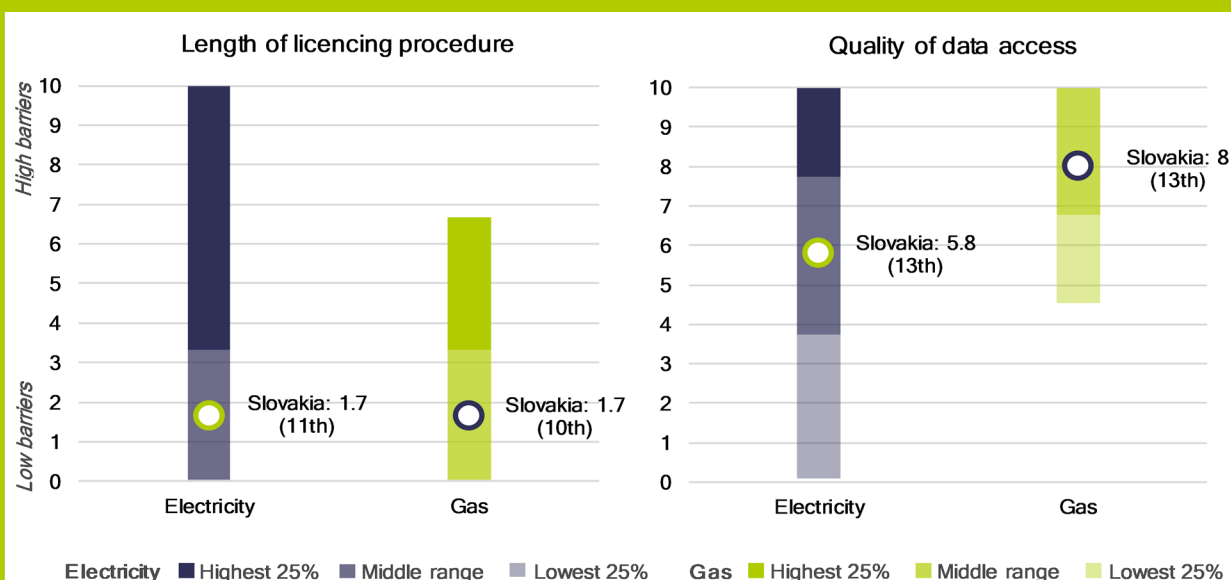
AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO **SK** SI ES SE UK

3.3 Slovakia's performance in this barrier category

The following figure shows quantitative indicators of how far operational and procedural hindrances act as a barrier in this market. The values for Slovakia are shown against the range across all analyzed countries. These scores contribute to the performance index. The performance indicators of operational and procedural hindrances are the followings:

- **Length of licensing procedure:** The complexity of the licensing procedure is quantified with the legal deadline of the licensing procedure. High score is attributed if the regulator has more months for authorization, while 0 score is attributed if there is no licensing obligation in the country,
- **Quality of data access:** The barriers relating to the quality of data access are measured with a checklist indicator, which focuses on the DSO's practices regarding data collection and access provision to suppliers. High score is attributed if the format of the data provision is not standardised, third party access is not available via website or data hub, and the smart meter rollout is small.

Performance indicators



Getting the licence in Slovakia is relatively easy and fast, that is why the country is ranked high in both sectors. With respect to quality of data access the country is performing close to the median, which is the results of the low penetration of smart-meters, and only nationally standardised data format.

4) Customer inertia

Within operational and procedural hindrances, barriers across Europe have been sub-categorised into one area encompassing 6 specific barriers⁵:

1. **Customer orientation.** Whether customers want to or can engage with the market depends on a broad range of market characteristics, including how well authorities inform and support customers and how energy companies are viewed by the customer. For example, if there is no trusted central place to compare offers from different suppliers, customers may struggle to make an informed choice; or if customers perceive all energy companies as irresponsibly profit-driven, or providing a poor service, they may feel there is nothing to be gained from switching. Moreover, across Europe, most energy markets have been liberalized relatively recently (last 20 years, some only a few years ago), so for a considerable portion of customers the potential for them to engage may still feel unfamiliar.

Across Europe, the following specific barriers around “customer orientation” were detected in this study:

- Lack of information regarding available offers and switching possibilities
- Low customer awareness or interest makes it difficult to attract customers
- Insufficient price signals for end-users
- Changing supplier is cumbersome or has little pay-off for the customer
- Consumers prefer status quo
- Lack of trust in new or foreign suppliers and in new technology

4.1 Description of customer inertia barriers in Slovakia: Customer orientation

Low customer awareness or interest makes it difficult to attract customers. From our studies of this market, it appears that this may pose a barrier in Slovakia. If customers are not well informed about their opportunities to participate in the market or are not motivated to use them, or find the market too complex to access, they are not driven to seek out or engage with new energy suppliers. If energy is not a core priority for customers in their lifestyle, it is difficult to engage them in the market overall. This barrier also prevents uptake of novel services such as DR, as the benefits are difficult to promote to customers who do not already value energy or their role in the market.

⁵ Please note: these definitions are Europe focused, not Slovakian specific. Highlighted barriers have been identified as country specific.

National issue



In Slovakia customer awareness is low, so for companies it is difficult to attract customers. One potential reason behind that despite household customers and small enterprises can freely change supplier, it is difficult to find competitive offers because of the existing tariff system.

Potential solutions

Incentivizing more diverse pricing schemes through regulation (no regulated tariff, or greater share of the commodity component in the bill) may potentially result in higher customer awareness.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO **SK** SI ES SE UK

Insufficient price signals for end-users. From our studies of this market, it appears that this would pose a barrier in Slovakia. Many factors can mean that market price signals do not reach end users, e.g. small energy component of bill, low energy prices, simplified/estimated settlement, etc. With limited price signals, there is little incentive for customers to engage with the market as they have limited power to bring their costs down, or to see an impact of their behaviour on their bills.

National issue



In Slovakia energy component of the bills are small, prices are regulated, and general price levels are low in the electricity and natural gas retail markets. Therefore, the systems serve insufficient price signals for the consumers, which decreases competition thus acts as a barrier to market entry.

Potential solutions

Abolition of price regulation and the introduction of flexible, dynamic tariff system can enhance the emergence of sufficient price signals for consumers.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE **DK** EE **FI** FR EL **HU** **IE** IT LV LT **LU** NL **NO** PL **PT** RO **SK** SI ES **SE** UK

Changing supplier is cumbersome or has little pay-off for the customer. From our studies of this market, it appears that this would pose a barrier in Slovakia. A slow switching process, one prone to delays and errors, or having to pay to switch, may discourage customers to switch, which in turn lead to low customers engagement. Effective price competition between suppliers requires rapid, effective, such that customers see the benefit to them in a short timeframe. Also, if there is little financial gain for customers to switch, it discourages participation.

National issue



Because of the relatively low regulated prices for vulnerable consumers in the natural gas and the electricity sector, these consumers are not incentivised to change supplier. By changing consumers their burdens can only slightly change, so switching has little pay-off for them.

Potential solutions

This barrier is a consequence of earlier described barriers. If competition would be fiercer in the Slovakian market, than a supplier change would be associated with more benefits for the customers.

European markets in which this barrier has also been indicated

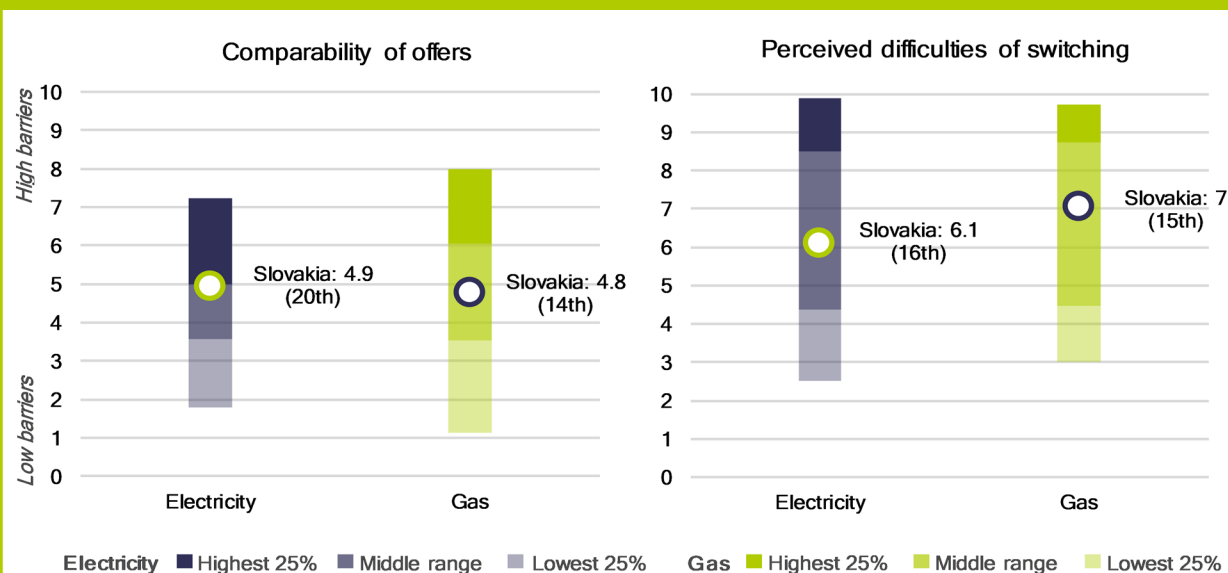
AT BE BG **HR** CY **CZ** DE **DK** **EE** FI FR **EL** HU IE **IT** **LV** **LT** LU NL NO PL PT **RO** **SK** SI **ES** SE **UK**

4.2 Slovakia's performance in this barrier category

The following figure shows quantitative indicators of how far customer inertia acts as a barrier in this market. The values for Slovakia are shown against the range across all analyzed countries. These scores contribute to the performance index. The performance indicators of customer inertia are the followings:

- **Comparability of offers:** The index consists of sub-indicators. The first measures consumer's ability to compare offers, based on a survey commissioned by the DG Justice and Consumers. The second is a checklist indicator which quantifies the availability of comparison websites, based on their number and functionalities. High score is attributed if the consumers gave low scores for comparability, and there are no comparison websites in the country.
- **Perceived cost of switching:** The difficulties of the switching process is also measured based DG Justice's survey. The indicator incorporates the experience and opinions of customers who have switched, and also of those who haven't because they faced obstacles or thought it might be too difficult. High score is attributed if the high share of consumers has bad experience or opinion on switching process among all customers who considered to switch.

Performance indicators



Switching is moderately difficult in the electricity and gas sector as well. Despite there are some price comparing platform are available in Slovakia, prices are difficult to compare according to survey results. Based on consumers experience, switching process is moderately difficult in the natural gas sector and relatively difficult in the electricity sector.

5) Other

Other aspects of the market not directly related to its functions, as addressed above, may also impact suppliers' ease to enter and operate in the market. These relate to characteristics of the market that are not necessarily a barrier per se, but their impact on the energy retail environment could be minimized to benefit market function.

5.1 Description of other barriers in Slovakia: Other

Small market or customer value. From our studies of this market, it appears that this would pose a barrier in Slovakia. A small population and/or low consumption hinders profitability. Market size as a barrier could be ameliorated by better harmonization of markets.

National issue

The Slovakian market is relatively small, thus can be unattractive for many potential market participants.



Potential solutions

Size of the market is difficult to change, however the creation of an even more competitive environment within the Slovakian electricity and natural gas retail markets can at some extent counter the size effect.

European markets in which this barrier has also been indicated

AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

FINDINGS & RECOMMENDATIONS

This handbook provides a high-level framework of relevant barriers to entry and operate for energy suppliers entering the Slovakian retail electricity and gas markets, as well as examples of actions that relevant institutions as NRAs, ministries, etc., have taken, are taking or could take in the future to remove them.

In particular, the handbook groups the barriers to entry and operate in the energy retail market into four different categories as listed below.

1. Regulatory disincentivisation.
2. Market inequality.
3. Operational and procedural hindrances.
4. Customer inertia.

In this section we report the main findings and recommendations for each category.

According to our indicator-based analysis there are significant barriers present on the Slovakian retail energy markets in association with the regulatory environment. Both in the electricity and natural gas sectors end user prices are regulated for vulnerable customers, which incorporates all households and small enterprises. Price regulation may disincentivize competition, because there is lesser space for price competition, which can create an entry barrier for potential market participants. Based on our calculations the mark-ups on the regulated offers are also very low, which further limits competitive pricing.

There are other potential issues with respect to consumer prices. First, that Slovakian customers have to pay a coal subsidy, which may distort pricing as well and it is in contradiction with the decarbonization goals of the country. A potential associated problem is that the share of the energy component of the bill is small in both the electricity and natural gas market, so even with the abolition of price regulation the creation of a flexible price system may be challenging.

With respect to innovative technologies and solutions there are some barriers present in the Slovakian market. The smart meter around 5% in the country, which makes it difficult to enter the market with an innovative business model because of the potential lack of market value. On top of that, current legislation does not necessarily support the penetration of new technologies and solutions, for example, aggregators are not yet defined in Slovakian regulatory framework.

As a first step we suggest the step by step abolition of price regulation, which can possibly turn the retail energy markets more competitive. Also, larger share of the energy part in the bills may allow greater flexibility in pricing and reduce entry barriers, which can be achieved through the reduction of non-energy price elements and additional taxes. The removal of the coal subsidy would also point toward that direction. Additionally, further regulatory steps can promote the widespread penetration of innovative technologies and solutions, such as defining aggregators in the regulation.

Within the market inequality barrier category Slovakia is performing moderately compared to the other investigated European countries. The biggest market players are legally unbundled companies with no brand unbundling and with potential strategic advantage over other participants in both the electricity and the natural gas sector. Based on our analysis, the competitive advantage of the incumbents is stronger at the electricity market, than the natural gas market. We think the implementation of strict brand unbundling criteria would potentially reduce the advantage of incumbents and would support market entry. We also identified that liquidity of the wholesale market in the gas sector is very low in Slovakia, which can also hinder market entry.

Based on our analysis there is no important operational barriers present in Slovakia, getting a licence is easy and fast, and operation is not hindered by vast number of additional requirements. On the other hand, we were able to identify some barriers with respect to data management. Because of the low penetration of smart meters, suppliers are not able to have real time data about the customers. Additionally, there is no central data hub present in the country. We also find that it is relatively difficult to obtain information about the market, which can be problematic for a new entrant as well.

We think that barriers associated with data management can be reduced through several steps. First, by the creation of a central data hub, with international data format. And second to help the penetration of smart systems in order to access real time data.

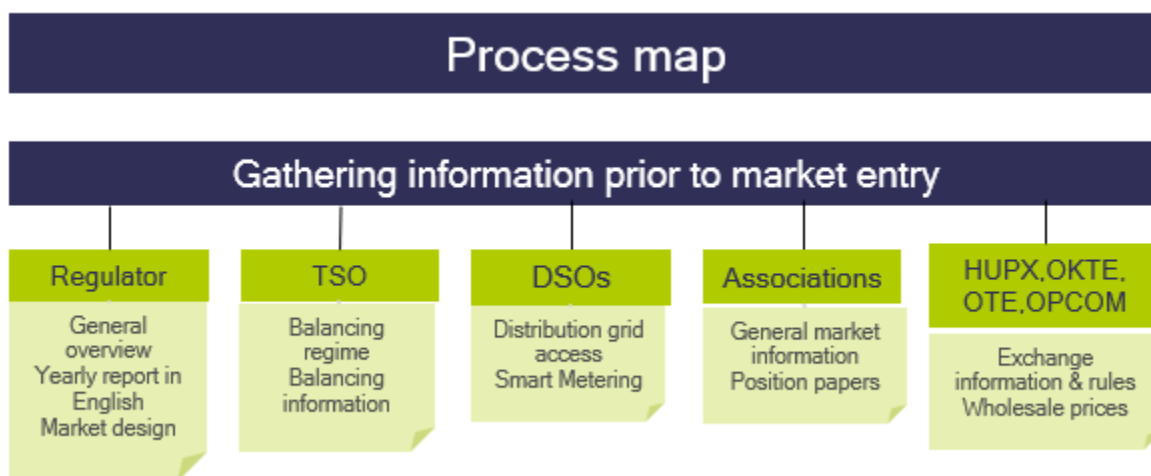
Switching rates are relatively low in Slovakia which, according to our view, is a representation of several market barriers. Although based on our indicator analysis, switching is not particularly difficult, the incentives are possibly low for customers. We identified two main reasons behind this phenomenon, the first one is the lack of interest by the consumers, and the second one is the potential lack of competitive offers by retailers. The two factors are of course interlinked and originate mostly from the price regulation design of the country. With respect to number and functions of compatibility tools, Slovakia is close to the median of the investigated countries.

To summarize, we identified serious issues related to the regulatory framework, market competitiveness and switching. Based on our findings price regulation can act as an important market barrier, which affects the whole household consumer market. Price regulation is also associated with low margin of the regulated offers in Slovakia. This has significant effect on consumer switching, as consumers may not be incentivized to change, because of the lack of differences between available offers. It is also important to highlight that in the Slovakian market the biggest players are retailers associated with only legally unbundled DSO, without brand unbundling, which may result in the competitive advantage of incumbents over new entrants.

APPENDIX 1: PROCESSES

This section describes market processes in energy retail in Slovakia. This provides context for the market barriers described above by giving a high-level overview of the most critical aspects involved in establishing and operating as a supplier in the national market. The stages of market entry and operation are described in sequence, each with an illustration (“process map”) showing that stage’s various processes together with comments/details on market specifics.

1) Information gathering before market entry



Relevant comments on information gathering

- Potential market participants can gather information mainly from the web page of the regulator, the TSO and the DSOs
- URSO (the regulator) provides a general market overview in every year about the state of electricity and natural gas markets in English, however this report lacks many important details.
- On the TSOs website market information and data is available in English language as well. Operational rules are also archivable in English
- Out of the four electricity and gas DSOs only two have an English webpage, where only limited information is available in English, mostly for customers
- Most of the technical and legal requirement documentations, and contracts are only available in Slovakian language.

2) Licences, registrations and contracts⁶

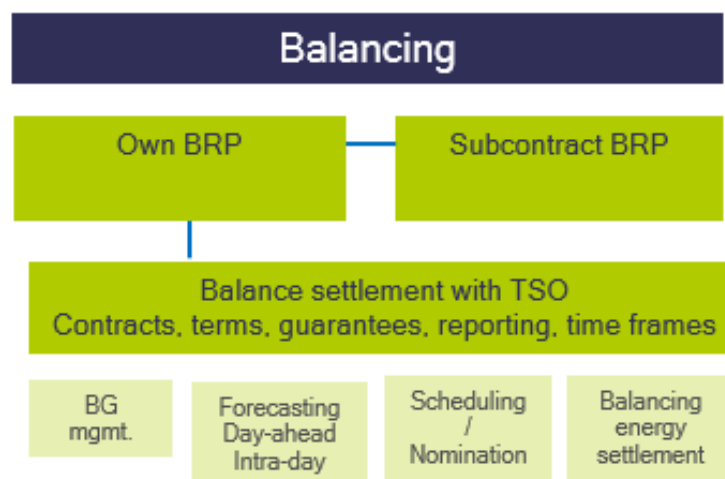


Relevant comments on Licenses, registrations and contracts

- For electricity and natural gas trading licence is required for all retailers
- Licence application requires a completion of an application form, an extract from the Commercial register and a statement of Criminal Records.
- EU licences is acceptable in the Slovak Republic, but even in this case application form must be completed.
- For suppliers' local establishment is required
- In order to use distribution network contract with the relevant DSO is required in the electricity and the natural gas sector.
- Administration fee of 2000 EUR must be paid in the natural gas sector (electricity?)
- Suppliers need to have a transmission contract with the TSO in the natural gas sector (electricity?). Requirements for the contracts are,
 - Bank guarantee, pre-payment or deposit account
 - Appropriate IT system
 - Neighbouring network requirements (letter of the adjacent network operator
 - For universal service providers additional quality requirements and obligation to supply.
- In accordance with Market Rules, each participant in the electricity market may be responsible for derogations (they create their own balance group) or they may transfer their responsibility for derogations to a different subject of billing (they are becoming a part of the balance group of the subject of billing)
- Contract with the DSO is required

⁶ Wolf Theiss (2018): The Wolf Theiss Guide to: Licencing of Electricity and Gas Wholesale Activities in Central, Eastern & Southeastern Europe, webpage ÚRSO

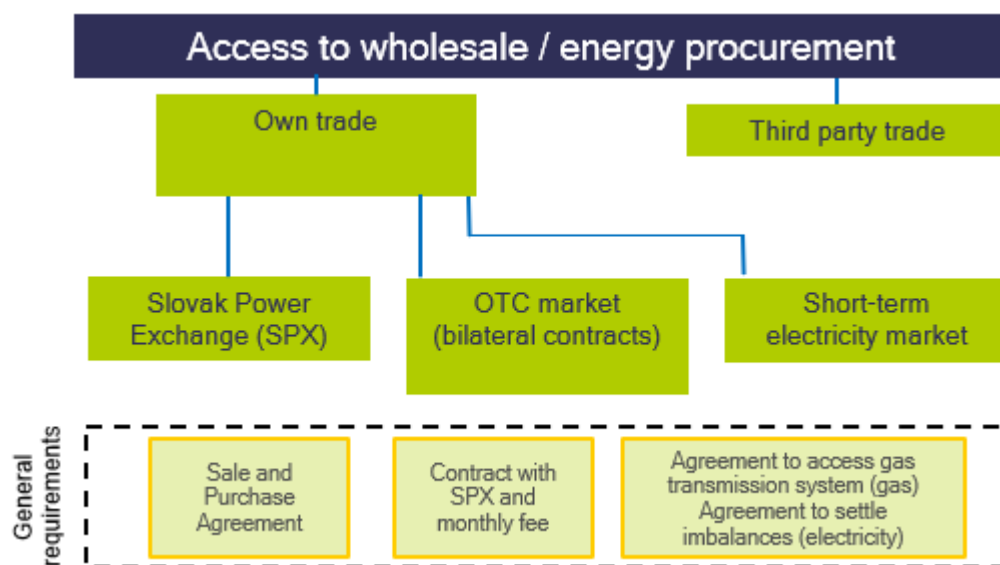
3) Balancing



Relevant comments on balancing

- In accordance with Market Rules, each participant in the electricity market may be responsible for derogations (they create their own balance group) or they may transfer their responsibility for derogations to a different subject of billing (they are becoming a part of the balance group of the subject of billing)
- An electricity customer can change its balance group
 - on a monthly basis, always as of the first day of a month, if its offtake point is equipped with continuous metering
 - on a quarterly basis, always as of the first day of a quarter, if its offtake point is not equipped with continuous metering.
- A condition for the change of a clearing entity is
 - the termination of the contract on the deviation settlement with a clearing authority if the electricity customer bears its own deviation liability
 - the termination of the contract on the assumption of deviation liability by the electricity customer in relation to the existing clearing entity, if the electricity customer chose the regime of a transferred deviation liability
- A clearing entity to which an electricity market participant transferred its deviation liability after the conclusion of the contract on the assumption of deviation liability will ask a distribution system operator to which the offtake point of such electricity market participant is connected to perform a change in the assignment of the offtake point into its balance group.
- The distribution system operation checks the completeness and correctness of the data stated in the requirement of the clearing entity and informs relevant clearing entities about the execution of the change.

4) Wholesale⁷



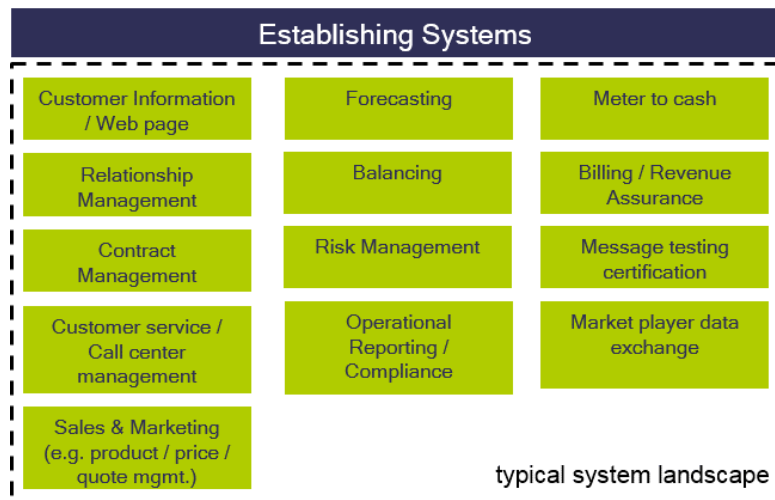
Relevant comments on the wholesale market

- Trading on behalf of supplier can be done by the BRP or other third parties (e.g. brokers, Financial institutions, ...)
- Wholesale trading of electricity in Slovakia may be carried out by OTC, on the exchange, on the short-term electricity market and by way of auctions
 - OTC: The Electricity Trader shall conclude a Sale and Purchase Agreement and an Agreement on Settlement of Imbalances
 - Trading on the exchange: Electricity may be exchanged via the Slovak electronic exchange system maintained by the power exchange operator SPX (Slovak Power Exchange). For entry into the SPX, a trader must conclude an agreement with SPX and pay a monthly fee
 - Short-term electricity market (day-ahead market): The organised short-term electricity market allows participants (Electricity Traders) to offer or demand electricity and helps to decrease the possibility of imbalances
 - Auctions may be used for cross-border trading on cross-border profiles or for auctions established by an electricity trader in compliance with the regulation adopted by URSO
- The Slovakian Power exchange is coupled with the exchange market of Hungary, Czech Republic and Romania.
- Wholesale trading of gas in Slovakia may be carried out by over-the-counter trading (OTC) and by way of auctions:
 - OTC: The wholesale Gas Trader shall conclude a Sale and Purchase Agreement and an Agreement on Access to the Gas Transmission System

⁷ Schoenherr Energy (2012): A basic primer to electricity & gas wholesale trading in CEE; Wolf Theiss (2018): The Wolf Theiss Guide to: Licencing of Electricity and Gas Wholesale Activities in Central, Eastern & Southeastern Europe

- Auctions may be used for auctions established by a gas trader in compliance with the regulation adopted by URSO, which sets forth, inter alia, requirements of the procedural auction rules, which shall be drafted by the Trader and submitted for approval to URSO

5) System landscape



Comments on System landscape

- The typical system landscape of a supplier includes,
 - Items related to communication and customer relations
 - Items related to technical operation
 - Items related to operation on the market

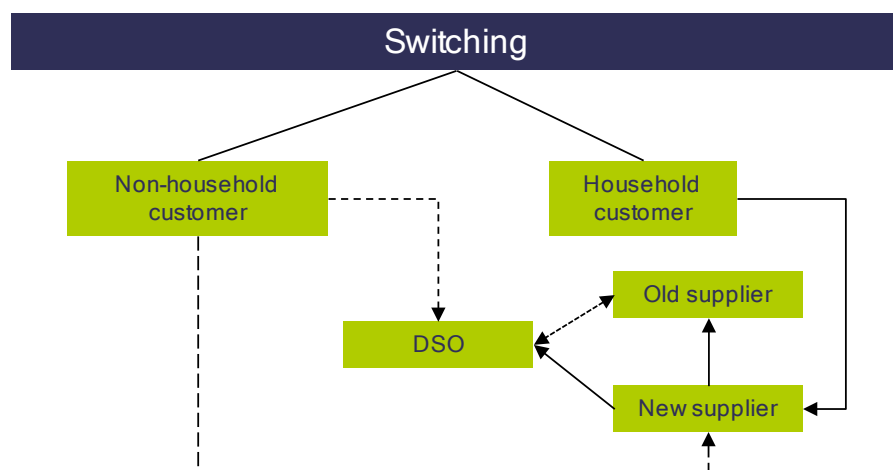
6) DSO-related operations & market communications



Comments on DSO-related operations & market communications

- There are 3 major electricity and 1 natural gas DSOs in Slovakia. Suppliers can use the grid of these DSOs without discrimination. There are small local DSOs in both sectors that are not required to unbundle.
- Uniform contract must be conducted between the suppliers and the DSO; however the exact requirements are only available in Slovakian language.

7) Customer switching & moving



Comments on customer switching & moving

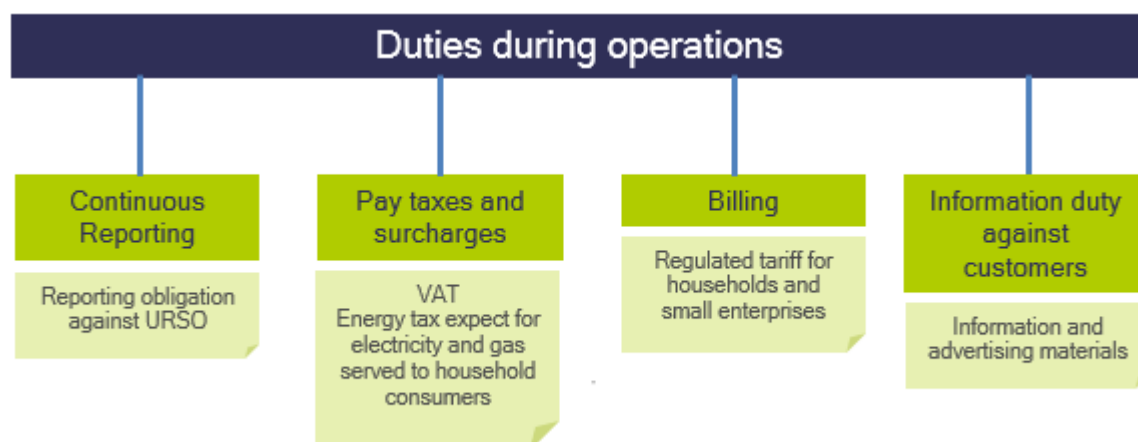
GAS

- Requests in the process of switching the gas supplier shall be sent by the new gas supplier at the earliest 26 and at the latest 21 full calendar days before the change of gas supplier becomes effective.
- No later than three days after the date of receipt of requests for change of gas supplier, SPP-D shall inform the existing user of the distribution network - the original gas supplier - of this fact.
- Existing distribution network user - the original gas supplier may object to the change of gas supplier for the relevant offtake point (s) within 10 full calendar days before the requested date of change of gas supplier, but not earlier than 15 days before the required date of change of gas supplier. The objection may be raised solely due to the non-termination of the gas supply contract no later than the date of the change of gas supplier.

Electricity

- A condition for switching electricity suppliers is a termination of your agreement on electricity supply concluded with your current electricity supplier as of the day of the supplier switch at the latest and a conclusion of an agreement on electricity supply with a new electricity supplier with effect from the day of the supplier switch.
- An electricity supplier with whom an electricity market participant concluded an agreement on electricity supply shall inform about this fact the distribution system operator to whose system the offtake point of such electricity market participant is connected.
- The distribution system operator checks the completeness and correctness of the data provided by the electricity supplier in accordance and informs the electricity supplier about the execution of the change.
- A non-household electricity customer without an imbalance responsibility regime, if he initiates a change of supplier, he submits the following documents:
 - request for registration of off-take points and change of assignment of off-take points to the electricity supplier's balance sheet group,
 - change list,
 - Declaration of honor by the customer on termination of the contract with the existing supplier,
 - electricity supply contract with a new supplier.

8) Operational obligations/duties



Comments on Operational obligations/duties

Billing

- Household customers and small enterprises are considered as vulnerable customers, so these consumers face regulated tariffs in the natural gas and electricity sectors as well.

Reporting⁸ (for ÚRSO)

Retailer must in the Gas sector,

- within 30 days of the commencement of the activity submit to the Office for approval the Rules for allocation of assets and liabilities, costs and revenues.
- submit to the Office the data relating to the assessed quality standards for the previous year and publish it on the supplier's website.
- submit the data relating outputs from separate records which are the subject of accounting for the previous year
- submit the price proposal to the Office before planned commencement of the performance of gas supply to the households or gas supply to the small business.
- submit the Commercial terms of gas supply drafted according to the sample of Commercial terms published at the Office's webpage, before planned commencement of the performance of gas supply to the households or gas supply to the small business.
- publish the regulated prices and approved Commercial terms at the webpage of the supplier

Energy efficiency:

- There is no energy efficiency obligation scheme in Slovakia for suppliers, there are alternative policies to achieve energy efficiency.

⁸ ÚRSO's webpage

9) Market exit



Comments on market exit

- Energy suppliers can leave the market, but they must fulfill their obligations in the role as energy supplier
- There are no penalties for leaving the market per se. Penalties might arise in case legal obligations are violated.
- Conditions for cancellation of bilateral contracts (e.g. with service providers or balancing responsible parties) are depending on the individual contracts

Getting in touch with the EU

In person

All over the European Union there are hundreds of Europe Direct information centres. You can find the address of the centre nearest you at: https://europa.eu/european-union/contact_en

On the phone or by email

Europe Direct is a service that answers your questions about the European Union. You can contact this service:

- by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),
- at the following standard number: +32 22999696, or
- by email via: https://europa.eu/european-union/contact_en

Finding information about the EU

Online

Information about the European Union in all the official languages of the EU is available on the Europa website at: https://europa.eu/european-union/index_en

EU publications

You can download or order free and priced EU publications from: <https://op.europa.eu/en/publications>. Multiple copies of free publications may be obtained by contacting Europe Direct or your local information centre (see https://europa.eu/european-union/contact_en).

EU law and related documents

For access to legal information from the EU, including all EU law since 1952 in all the official language versions, go to EUR-Lex at: <http://eur-lex.europa.eu>

Open data from the EU

The EU Open Data Portal (<http://data.europa.eu/euodp/en>) provides access to datasets from the EU. Data can be downloaded and reused for free, for both commercial and non-commercial purposes.

