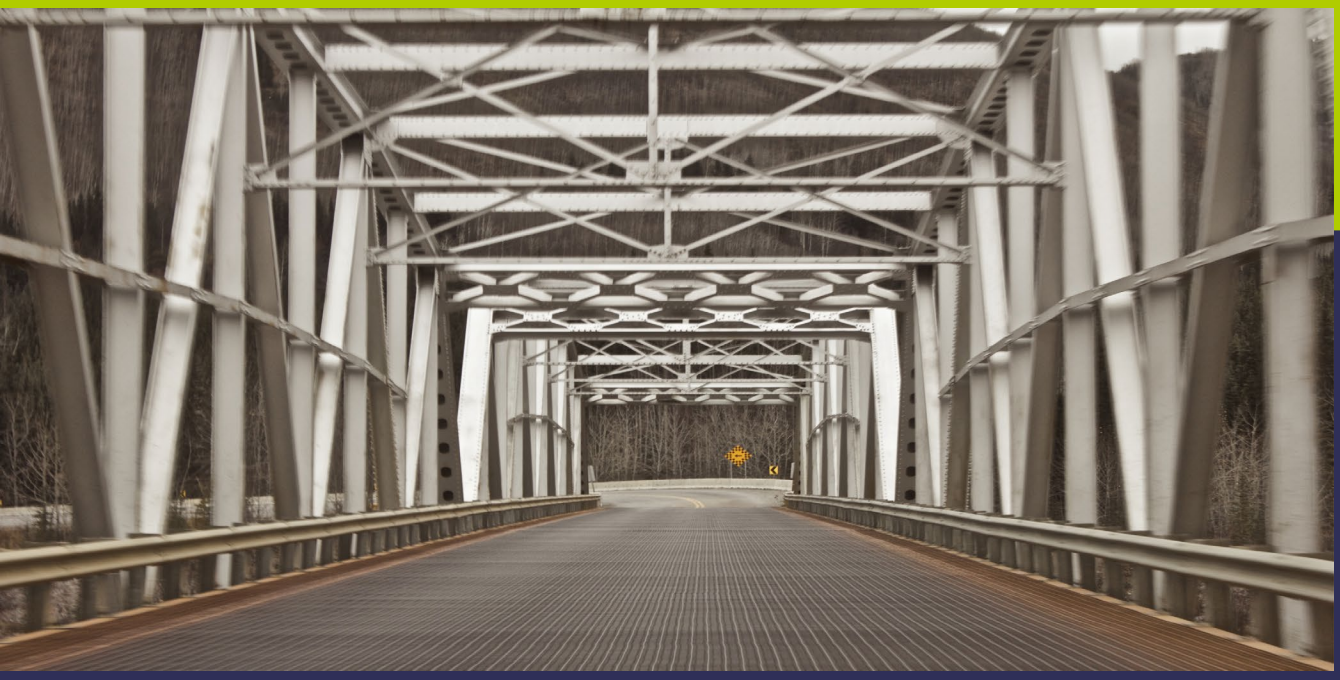
European Commission

EUROPEAN BARRIERS IN RETAIL ENERGY MARKETS



THE NETHERLANDS
Country Handbook

Prepared by vaasaETT REKK MRC CONSULTANTS AND TRANSACTION ADVISERS A member of the MRC Group of Companies THE ADVISORY HOUSE LISTEN-ADVISE-SUCCEED

Energy

EUROPEAN BARRIERS IN RETAIL ENERGY MARKETS PROJECT: The Netherlands 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

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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.

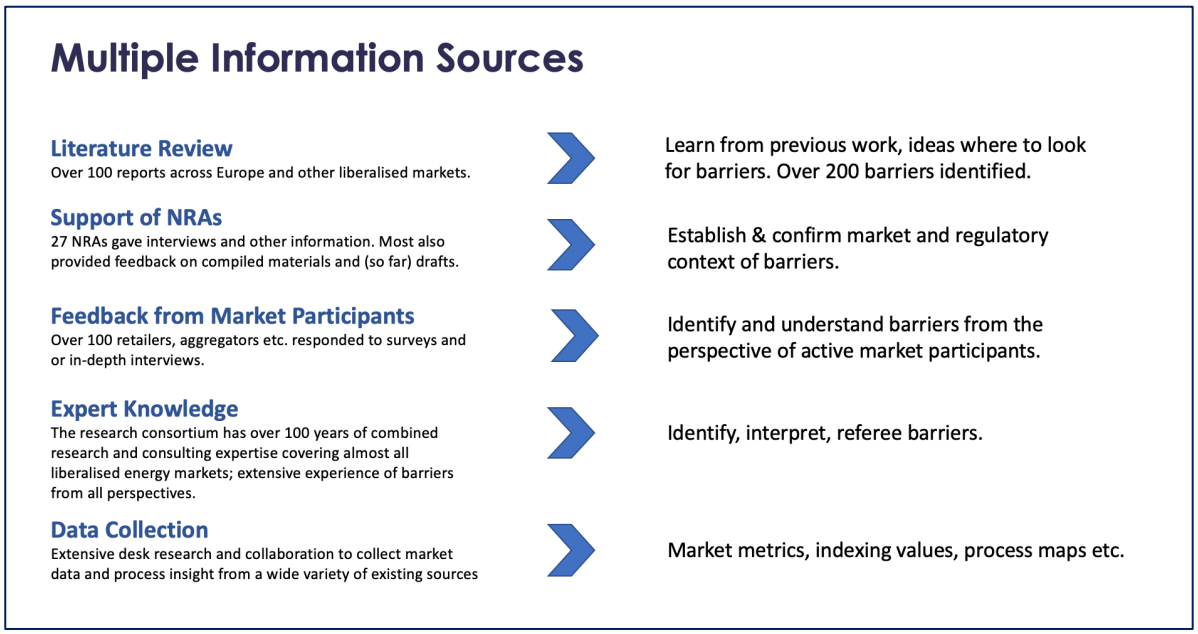
The project focuses on retail (supply), including also demand aggregation services, other additional offerings and new model retail, especially relating to the household segment customers (in some markets households and smaller SMEs may be difficult to distinguish). The project additionally concentrates 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



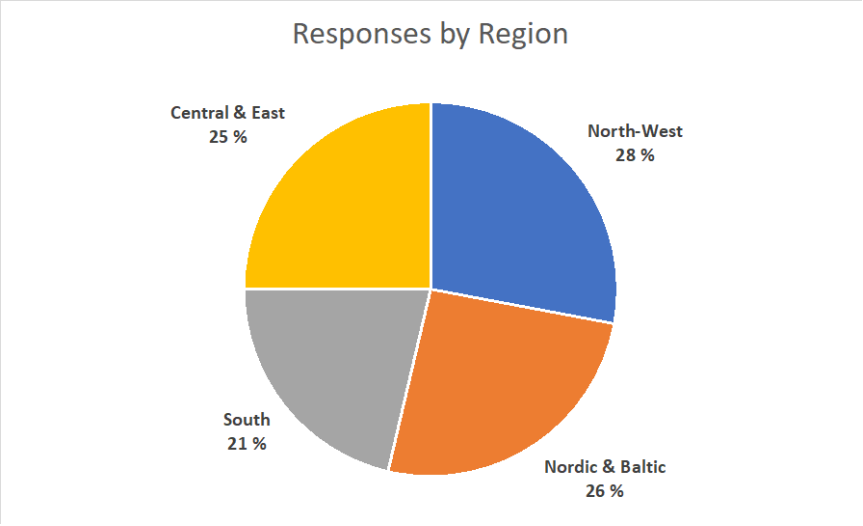
Surveys & Interviews

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.

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 residential 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 Barriers and Ranking

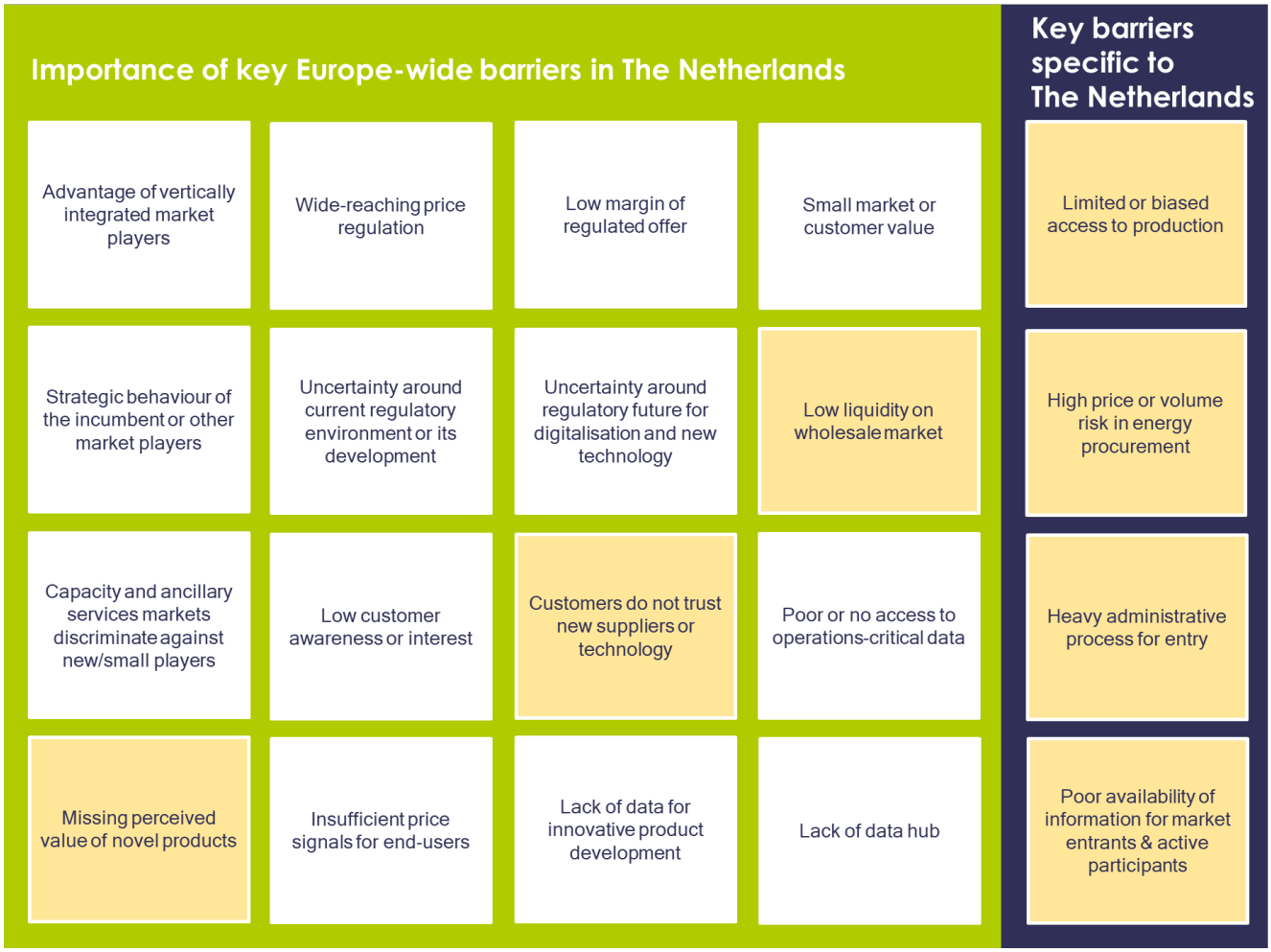
The purpose of the 'European Retail Energy Market Barriers Index' is to enable a degree of comparability between the barriers' context in each of the markets. It is based on metrics that can be collected for all markets, metrics for which available data currently exists. As such it provides a simple, 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 Netherlands

The following figure highlights the key barriers in the Swedish market. Please note, the terms are generic across all researched markets.



LEGEND

Has not been raised, indicated or identified as a barrier in this country

Has been raised or indicated as an issue in this country

- May include issues that still are present in the country or are experienced by suppliers even though regulation to address the issue has been enacted by the regulator and effects still awaited; reporting a lag between the regulatory framework structure and its awaited effects
- May include issues where suppliers suffer the effects despite the country being relatively advanced on this topic compared with other EU countries, pilot projects being in place or institutions working to overcome the problem.

Has been identified as an issue in this country and is supported by facts, data or substantial respondent evidence in light of limited initiatives deployed by institutions to control or overcome the issue.

Key recommendations

- **Low liquidity in the wholesale market and limited access to production.** Due to a high number of long-term PPAs, smaller suppliers have a disadvantage compared to larger suppliers, who can (sometimes) utilize access to their own production capacity. Standardized PPAs, which enable smaller suppliers to access additional volume would lower this barrier and would contribute to a level playing field through increased market liquidity. A high level of liquidity should also be ensured for other relevant markets, such as the market for certificates of origin.
- **Poor availability of information and a heavy administrative process for entry.** Improving the information for market participants to be also available in English and issuing preliminary licenses can substantially decrease the level of the existing barriers.

MARKET OVERVIEW

The Dutch retail electricity market has remained relatively concentrated despite numerous entrants, as entrants remain small and entry has been offset by (horizontal) mergers. Currently (Feb 2020) there are 59 licensed suppliers offering gas or electricity in the market.

Market background

Based on the EU's 1st Internal Energy Market Package, with the Electricity Directive implemented in 1997, the energy market in the Netherlands was progressively opened up. The first energy law of the Netherlands was created in 1998 with the Dutch Electricity Act. This act is still the main source of legislation for energy regulation in the Netherlands. Following partial market opening for large industrial customers and green electricity products in 2001, the market for household consumers was fully opened in 2004.

Due to the liberalization of the market, large European market players entered the Dutch market (EON, Vattenfall, RWE, GDF Suez), buying assets from former national generation and distribution companies (Nuon, Essent).

After the implementation of the Third Energy Package through an amendment to the Electricity Act in July 2012, the Netherlands decided on full ownership unbundling with ACM (Authority for Consumers & Markets) as the National Regulatory Authority. ACM was created in 2013 by the merger of the Competition Authority NMa (which was responsible for energy regulation and competition policy until then), the Consumer Authority and the Telecom and Post regulator (OPTA). Since the consolidation, the regulation of energy retail markets is based on the combination of general consumer protection rules and sector-specific legislation. Regulation focuses on the following four components: 1) structural measures, 2) contract restrictions, 3) information provision & transparency and 4) monitoring (tariff surveillance). Furthermore, ACM is authorized to enforce compliance with energy policy, including financial penalties and investigative & enforcement powers.[1]

In addition to the Electricity Act, there are several regulations in place to oversee the implementation of the Act itself, like provisions on tariffs, service measurement, operations and technical conditions and procedures.

The regulator ACM monitors changes in existing or new retail tariffs through those, in order to guarantee reasonable pricing without distorting price formation between competitive retailers.

Market structure

The Dutch market structure for electricity and gas is moderately concentrated. As of 2018 there where 59 suppliers for electricity and gas consumers available to choose from, all operating country-wide. The Top 5 suppliers are Vattenfall, Essent, Eneco, Greenchoice and Budget Energie.

The country´s electricity TSO is TenneT, the gas transmission network is operated by Gasunie Transport Services (GTS). There are 8 DSOs for electricity and 7 DSOs for the gas distribution active on the market. Other important actors in the energy markets are the Energie Nederland, a trade association for all companies producing, supplying or trading electricity, gas and heat, and the NEDU (Dutch Energy Data Exchange Association), a connecting platform for the Dutch energy sector, that represents all parties of the energy sector. Furthermore the Netbeheer

[1] https://thelawreviews.co.uk/edition/the-energy-regulation-and-markets-review-edition-8/1194565/netherlands

Nederland exists as the sector organization of all electricity and gas suppliers. Other market actors are DEA, NWEA and the EBN (the executing arm of the Ministry for Climate Policy).
The smart-meter rollout in the Netherlands is ongoing and the target has been set by the Dutch government to 80% coverage for gas meters and 100% for electricity meters by 2020. The respective DSO is responsible for the hardware of the smart meter rollout and is also the owner of the device. The metering activities, however, are in a non-regulated area of the market, and are in the hands of so-called ODAs (Onafhankelijke Diensten Aanbieders), which are independent service suppliers. They are responsible for the collection of metered data since a market re-design in 2013. Consumers can freely choose, which ODA has access to their data. As of 2018 46.5% of the electricity metering points were equipped with Smart Meters. It is not clear if the rollout target can be reached.[2]

In 2018 electricity generation amounted to around 114 TWh, largely from fossil fuel sources (78%). 30 TWh were generated from coal (26%), around 58 TWh from natural gas (51%) and 1TWh from oil (1%). Electricity generated by wind power plants covered a share of around 11 TWh (9%) and the total amount of renewable electricity generation accounts for 14%. This is in line with the goal of 14% from renewable sources by 2020.[3]
In 2018, final electricity consumption amounted to 122 TWh. Exports amounted to 26 TWh and Imports to 18.6 TWh.
The Netherlands are Europe´s second largest natural gas producer. Nevertheless, the country imported 545 TWh and exported 486 TWh of natural gas, after the production volume declined in 2017, due to a production cap on Europe´s largest onshore gas field in Groningen. Final domestic gas consumption amounted to 258 TWh across all sectors. The high volumes of import and export compared to its demand highlight the countries role as a hub for global energy trade.

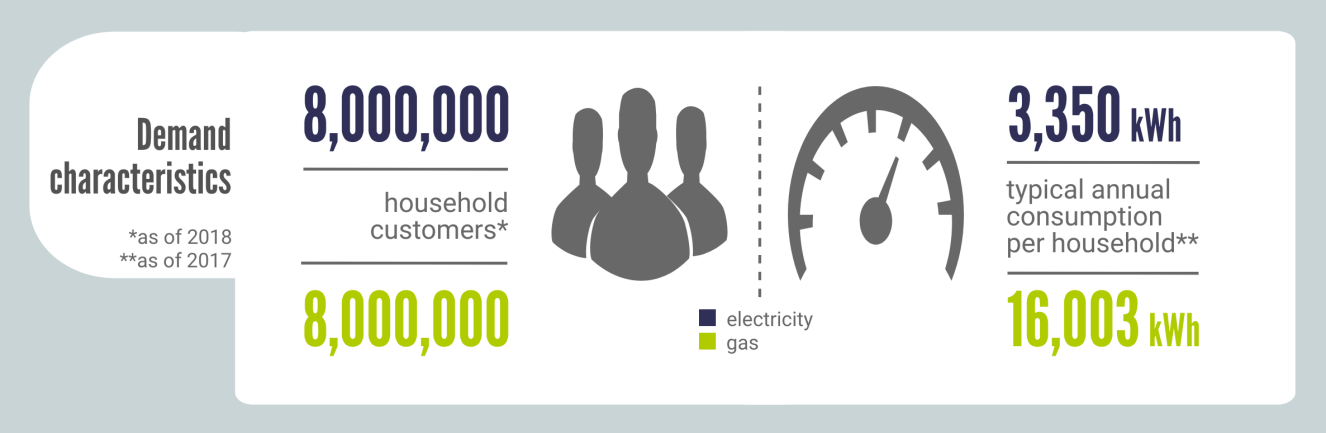
Looking at trading volumes, the electricity market saw about 450 TWh of traded volumes on the most important day-ahead, forward and OTC markets. About half of these volumes were traded OTC Bilateral, followed by Exchange activities. Compared to other European countries, especially Germany, France or the UK, the total electricity volumes traded are low.
The gas market is characterized by the European Gas Hub TTF, Europe´s leading trading point for natural gas. Together with infrastructure that connects to other European markets and via LNG terminal, connecting to the global gas market, the gas hub became highly liquid for OTC and Exchange-traded markets. An average of 60% of Europe´s traded gas volumes is traded at the TTF hub (Around 7.500 TWh in Q4 of 2018). About 5.000 TWh were traded OTC Bilateral, about 2.000 TWh through Exchange Excecution.

As noted before, TenneT is the national TSO for the transmission of electricity and Gasunie Transport Services (GTS) is the TSO for gas. Both are 100% state-owned, but recent plans for better cross-border interconnections might require a full or partly privatization, as rising volumes of wind and solar are increasing the complexity for network operations.[4] Both TSOs were certified by the regulator ACM in 2013 under the Third Energy Package´s unbundling model. TSOs operating the interconnectors BritNed (for electricity flow between UK and the Netherlands) and BBL (the gas pipeline connecting the Netherlands with the UK) were also certified.[5] Unlike most

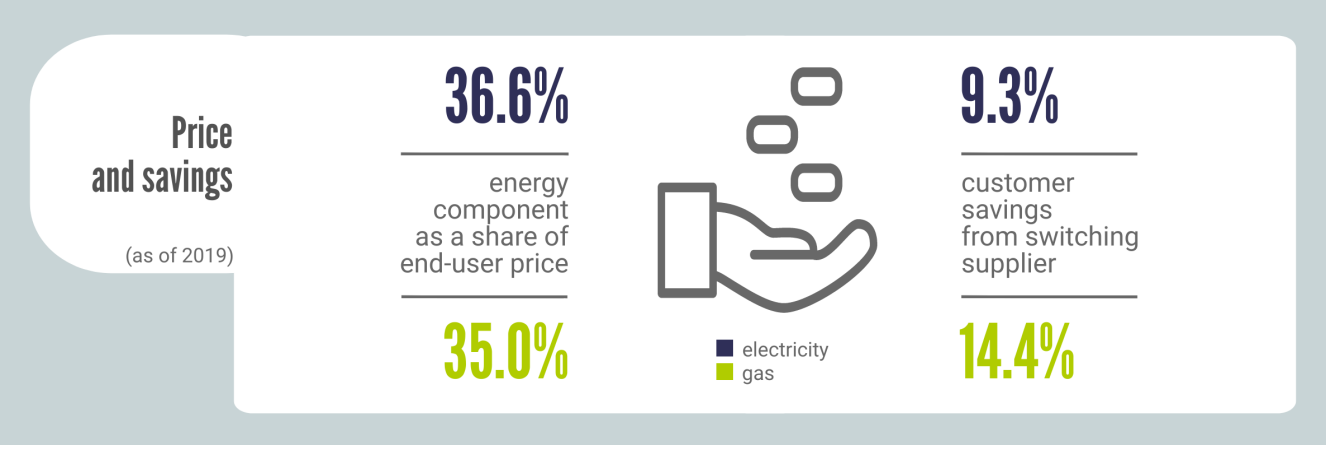
[2] https://www.vert.lt/SiteAssets/teises-aktai/EU28%20Smart%20Metering%20Benchmark%20Revised%20Final%20Report.pdf
[3] IEA country profile
[4] https://www.pv-magazine.com/2019/09/16/dutch-government-seeks-to-privatize-tennet/
[5] https://ec.europa.eu/energy/sites/ener/files/documents/2014_countryreports_netherlands.pdf

EU member states, in The Netherlands, electricity and gas DSOs also need ownership unbundling next to legal and functional independence, as ruled by the Independent Network Operators Act (WON). Therefore, the last two incumbent DSOs were unbundled in 2017, after a series of lawsuits.

The Dutch market has around 8 million residential customers for electricity and gas with an average annual electricity consumption of 3,350 kWh and an annual average gas consumption of 16,003 kWh.

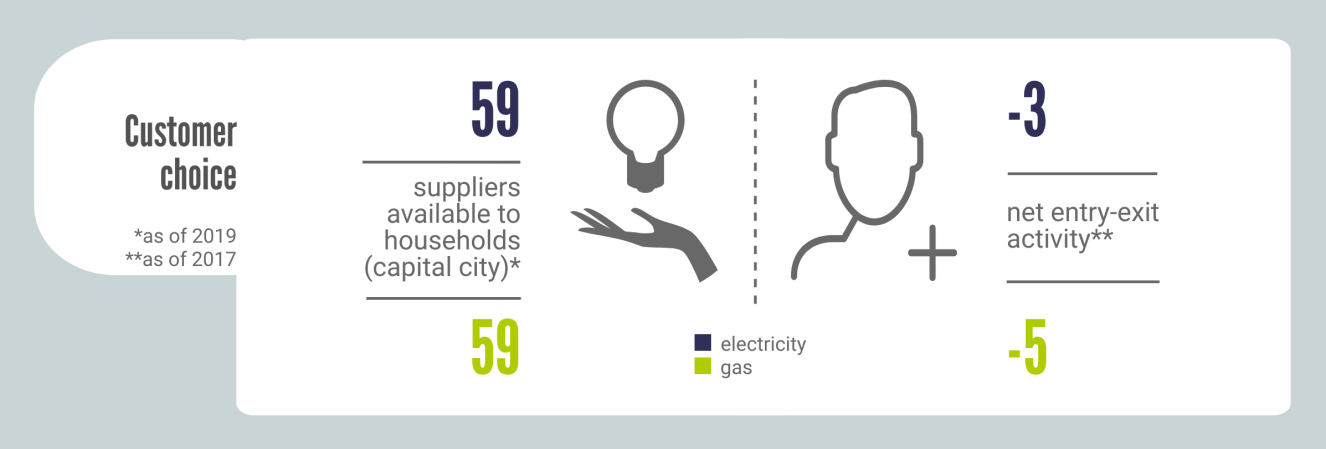


The energy component of the electricity bill accounts for 36.6% for electricity and 35.0% for gas. The rest of the bill comprises of grid tariffs, taxes and duties. Consumers, switching their suppliers, can expect savings of around 9-15%. Customer savings for switching supplier are defined as the percentage difference between the by-default contract of the incumbent and the cheapest option (all types of contracts considered i.e. variable, fixed-price with different durations, direct debit/electronic billing, etc.) The shown data corresponds to 2019, calculated as the average of data collected three times a year (April, August and December). For consistency reasons with other country handbooks this year was taken as a baseline and represents an average household in the capital city of the Netherlands.

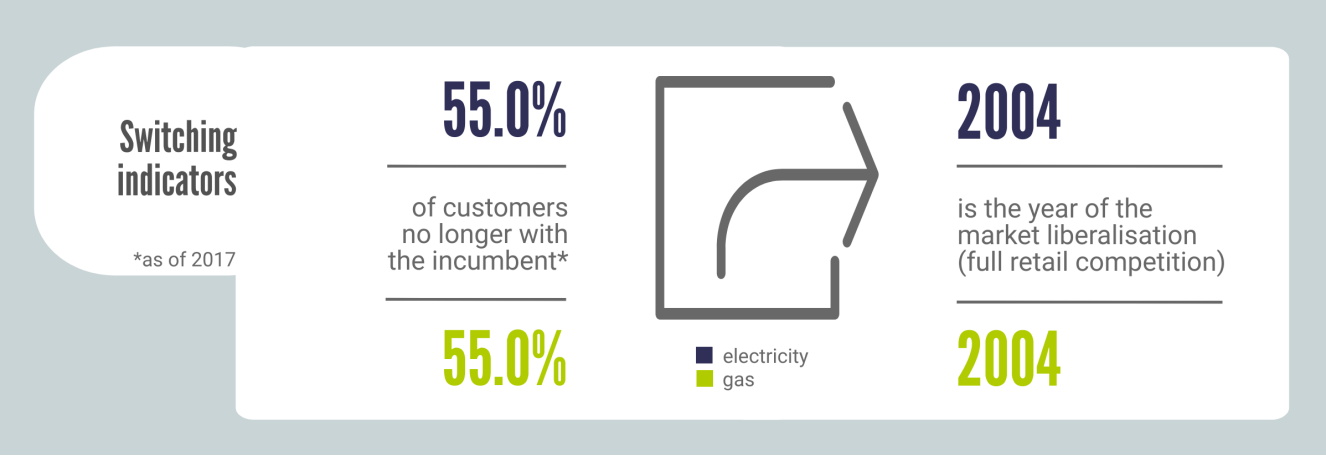


As stated before, there are currently (April 2020) 59 suppliers for gas and electricity active in the capital region of Amsterdam, which are registered at the regulator ACM. While many of them offer both gas and electricity, the customers can also have two different suppliers, a fact not commonly known in the country. Recent years saw a

slight increase in market participants. The licensing process does not have any geographical restrictions and they have the obligation to accept all customers. Subsequently the provided numbers are valid the whole country, as well as for the Amsterdam region, which is pointed out to ensure comparability with other handbooks.
As the research showed, however, only 30 of these suppliers (for both gas and electricity) were available through the price comparison website as of 2020.



The market situation is moderately concentrated, the largest supplier in the country is the incumbent Essent / Energiedirect (3.1m), followed by Eneco (2.4m) and Nuon (2.1m). Together they hold 7.6 million customers making them the dominant suppliers in the country. [6] These numbers are based on the total number of customers, and do not differentiate between gas and electricity. Since companies do not have to share financial data with authorities, there is less data available compared to other countries. A CEER Report of November 2019 saw the three largest household market players at a marketshare of about 70%, both for gas and electricity suppliers.[7] It is worth mentioning that many of these companies use multi-brand strategies, for example the smaller supplier Oxxio being a sub-brand of the Eneco Group. Competition is mainly around green energy products, price competition does not seem to play an important role.



[6] https://www.statista.com/statistics/753410/leading-energy-suppliers-in-the-netherlands-by-number-of-clients/
7 https://www.ceer.eu/documents/104400/-/-/5c492f87-c88f-6c78-5852-43f1f13c89e4

Switching rates in the Netherlands are among the highest in Europe, and more than half of the customers are no longer with the incumbent. Still, many switches occurred from one incumbent to another.

Political and regulatory orientation

The regulator ACM can be seen as consumer-oriented, especially with regards to the Safety Net mechanism and wide-range possibilities of encompassing structural measures, contractual restrictions, rules on information provision, price surveillance and market monitoring.

The Netherlands have outlined an ambitious plan to reduce greenhouse gas emissions by 49% until 2030, compared to 1990 levels. The country developed a detailed plan to extend offshore wind capacity to 11.5GW, making the permission and commissioning easier and faster. Nevertheless, the country still has a very carbon intensive energy generation, due to the fact that it relied on its domestic gas production for the last decades. Since 2018, the production capacities are shrinking and imports have increased by more than a 100%, presenting a challenge for reaching the greenhouse gas emission targets. The country hopes to overcome these difficulties by investing in research, development and demonstration in the fields of hydrogen production, the above mentioned offshore investments, energy efficiency and innovation especially in the refining, petrochemical and agricultural sectors. Also, Carbon Capture and Storage (CCS) technology is planned to play a major role in becoming carbon-neutral, with further incentives being discussed at the moment.

Regulatory market characteristics

Prices in the Netherlands are usually determined by the market, however the country´s regulator ACM has some policies in place that work like a safety net for electricity and gas prices. The regulator surveys all new retail prices before market introduction in order to prevent unreasonable retail prices. The Dutch retail electricity market has remained relatively concentrated, with retailers offering an increasing variety of retail products, often using multiple brands. Competition is characterized by product innovation, especially for green energy, rather than price competition on homogenous products. Gross retail margins are relatively low, but price dispersion is high across retailers. Staying profitable often poses a challenge to suppliers, as they can generate revenue through specifics in the market. For example, there is a contract resiliation fine that is applicable in the Netherlands, which is capped at 100€ and can therefore be a significant part of revenue.

ACM grants licenses for the supply of gas and electricity to residential consumers. These consumers are defined as users with a maximum capacity of 3x80A for electricity and 40m³/h for gas. A new market entrant can try to obtain a license by himself, but can also work with an already licensed supplier and take a role as a reseller. New entrants must fulfill certain organizational, financial and technical requirements and act in line with respective regulations. ACM, as a regulating authority, can apply specific conditions or restrictions to any license and can also remove licenses that have already been granted. Balancing responsible parties need to be accredited by the TSOs TenneT and GTS.

The generation of electricity requires no specific license, except for the building and operating offshore wind parks. A feasibility study has to be conducted for the application and further conditions for the license can be imposed by the Ministry.[8]
Further information on the licensing process can be found in the Appendix.

Other market characteristics

The Netherlands have a budget of €10bn available for subsidies under the renewable energy scheme SDE+. The SDE+ awards an annual compensation for the production of renewable energy in a period of 8, 12 or 15 years. It is available for renewable electricity, gas, heat or combined heat and power (CHP), and is only applicable for projects in the Netherlands. It is a feed-in subsidy, where compensation is calculated on the base of the difference between the basic production costs of the respective renewable energy and the energy market price. The base price is specifically determined for each technology used in the scheme, which maximizes the compensation per MWh.
It is expected that this subsidy will lead to a further rise in PV development, as a project that has been granted a subsidy under the SDE+ scheme has to be realized within three years, and many PV projects received these subsidies in spring 2017.
Next to the national energy plan, the Dutch government signed an Energy Agreement for Sustainable Growth with private parties, employers, trade unions, environmental organizations and others. It aims for a reduction of final energy consumption of 1.5% per year and an increase of renewable energy sources to 14% in 2020 and 16% in 2023.

Context for aggregation/demand response

On the wholesale market (intraday and day ahead), participation with aggregated generation, load access & participation and aggregated load is accepted.
Although Demand Response can access the majority of ancillary services and minimum volumes are adequate, aggregation access is quite limited:

- FCR (Primary Control): Primary Control does not allow load access and aggregation. It is a symmetrical product and therefore the majority demand-side units are not able to participate.
- aFRR (Secondary Control): In the aFRR, demand-side resources are allowed but aggregation is not, thus making it difficult for DR to participate in reality. After 2021 the country´s TSO TenneT will be obliged to procure asymmetrically.
- mFRR (Tertiary Control): Demand Response and aggregation is only allowed in the manual frequency restoration reserves (mFRR).

Access to demand response will become easier in late 2020, due to contracting of ancillary services on a daily basis. With that more parties (and smaller ones) will be able to participate.

[8] https://thelawreviews.co.uk/edition/the-energy-regulation-and-markets-review-edition-8/1194565/netherlands

The role of the aggregator for small consumers is currently not defined, which means in order to get access to the metering data, the aggregator would have to get a supplier license first or sign a service contract with an established supplier.
Currently there is a minor amount of small-scale aggregators participating in the market. The majority are generators, BRPs, or incumbent parties (such as integrated generators and/or retailers). The consumers are also mostly large industry, greenhouses, or those operating in the petrochemical intensive industries.

One main barrier is the fact that a third-party aggregator is obliged to have an agreement with the consumer's BRP and with its retailer - The aggregator can only work as the BRP's service provider.
Technical requirements, such as the symmetry of the products are another barrier for demand response aggregation. EU legislation requires the TSOs to also open the markets for asymmetric products and ACM has granted TenneT a 2 year transition period to change the rules accordingly.

GOPACS is another initiative between the TSO and the DSOs which is aiming for a reduction of congestion in the electricity grid. Flexibility in the form of demand response aggregation can potentially also become a part of the system.

BARRIERS

The European Barriers to Entry and Competition in Retail Energy Markets project has researched barriers across 30 European markets. From this research, barriers to entry have been identified and grouped into four over-arching pan-European barriers' blocks.

Over-arching pan-European barrier blocks

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

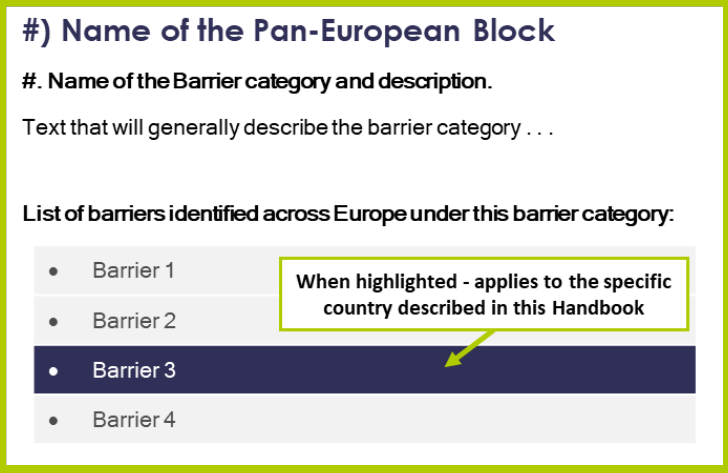
Description of the four-over-arching pan-European barrier blocks:

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.

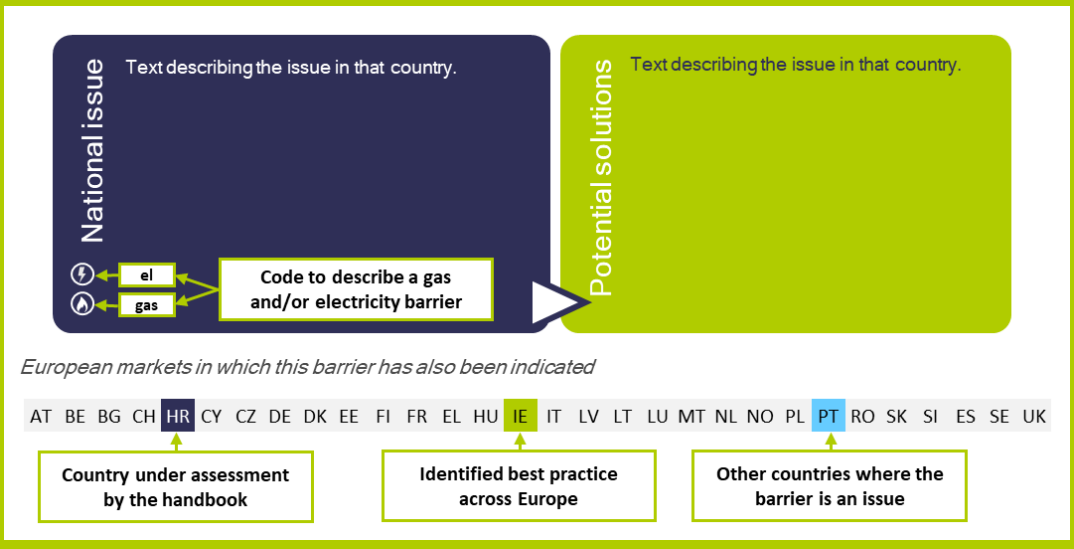
Within each of these high-level blocks are contained sub-categories, which are also mostly pan-European in nature. Each of these sub-categories contain the specific barriers which relate to individual markets as described in the following chapter. Altogether, we identified 45 barriers, most of which broadly across Europe. Only a selection of them apply to the Dutch 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 the Netherlands. When a barrier applies to the Netherlands, it will be highlighted in the table following a general description of the barrier itself as shown in the example below:



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 the Netherlands. 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 barriers[9]:

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.
   In the majority of the 30 analyzed countries, energy prices are no longer regulated. 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.[10] 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 the Netherlands:

   - 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. Across Europe, the following specific barriers related to "burden(-sharing)" were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in the Netherlands:

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

[9] Please note: these definitions are Europe focused, not specific to the Netherlands. Highlighted barriers have been identified as country specific.
[10] CEER Benchmarking report on removing barriers to entry for energy suppliers in EU retail energy markets. April 2016 [footnote wording and format to be improved].

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 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. Across Europe, the following specific barriers related to "unpredictability of regulatory framework" were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in the Netherlands:

- 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). Across Europe, the following specific barriers related to "innovation-friendliness" were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in the Netherlands:

- 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 the Netherlands: Price regulation

No barriers around price regulation were identified in the Netherlands.

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

Obligation to collect tariffs unrelated to energy on behalf of others. In the research this barrier was raised as an issue in the Netherlands.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. Combined billing, a billing regime in which the supplier provides the customer with one bill containing the cost for electricity and for the network, usually also encompasses taxes and others service fees. The supplier is considered the only contact point responsible for all those charges, and are thus also financially responsible for collecting them, e.g. having to pay the DSOs regardless of whether the suppliers manage to collect money from their customers. Suppliers hence assume this risk, which might be increased further when DSOs require suppliers to pay them advanced deposit. In other markets, energy suppliers may be tasked with collecting fees for unrelated services, e.g. TV licence fees, or providing other services, e.g. energy efficiency measures.

National Issues

Some respondents mentioned the tax discounts (vermindering energiebelasting) as a barrier. The barrier arises from the time lag between the monthly deducted instalments and the payback from the authorities.

Potential Solutions

Charges unrelated to the suppliers business or not in the nature of an unregulated business, should either be collected by the regulated business (DSO) or in case this is not possible, it must be ensured that the suppliers are compensated in time.

European markets in which this barrier has also been indicated

AT BE BG CH HR CY 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 the Netherlands: Regulatory unpredictability

No barriers around price regulation were identified in the Netherlands.

1.4 Description of regulatory disincentivisation barriers in the Netherlands: Access to innovation

Market structures does not incentivize novel products (missing perceived value). In the research this barrier was raised as an issue in the Netherlands.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.

European markets in which this barrier has also been indicated

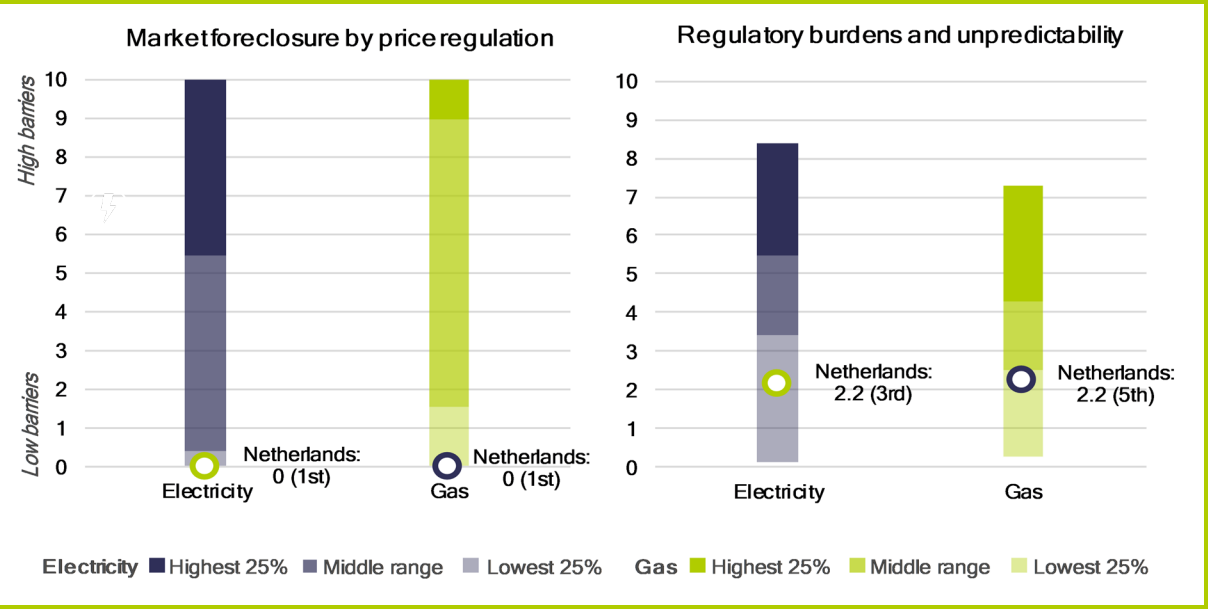
AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

1.5 Netherlands' 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 the Netherlands 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



The Dutch market does not have any price regulation in place. Regarding the regulatory burdens and unpredictability Netherland's score is 2.2 for electricity (3rd place) and 2.2 for gas (5th place).

2) Market inequality

Within market inequality, barriers across Europe have been sub-categorised into two areas encompassing 8 specific barriers[11]:

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

[11] Please note: these definitions are Europe focused, not specific to the Netherlands. Highlighted barriers have been identified as country specific.

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 related to "unbundling and market power" were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in the Netherlands:

- 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.

   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. Across Europe, the following specific barriers related to "equal access to and maturity of wholesale market" were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in the Netherlands:

   - 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 the Netherlands: Unbundling and market power

Limited or biased access to production. In the research this barrier was raised as an issue in the Netherlands. Market participants who also own generation assets can use their power to withdraw production capacity from the

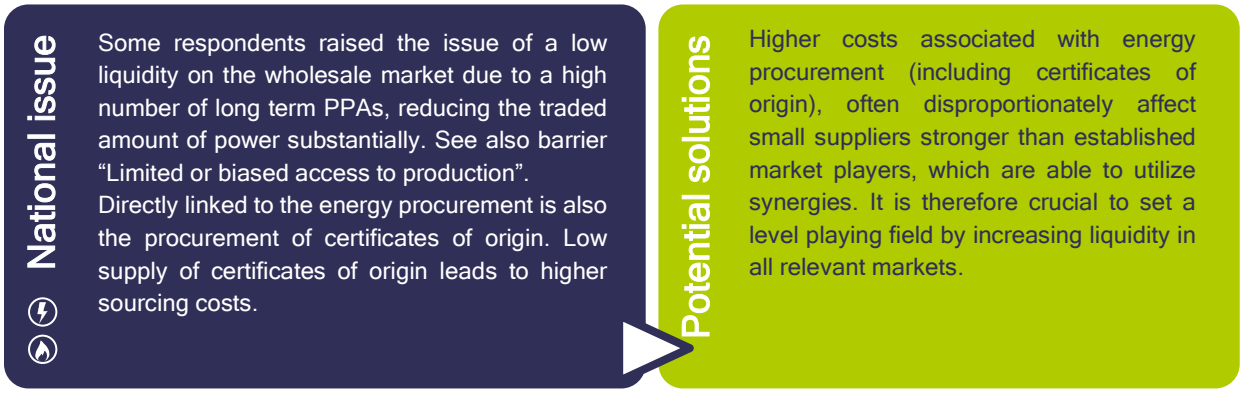
open market, thereby limiting liquidity in the wholesale market. Small suppliers with little bargaining power may be disadvantaged, e.g. if there is no standardization around PPAs.

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

2.2 Description of market inequality barriers in the Netherlands: Equal access & maturity of wholesale market

Low liquidity in the wholesale market. In the research this barrier was raised as an issue in the Netherlands. 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.



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

High price or volume risk in energy procurement. In the research this barrier was raised as an issue in the Netherlands. Volume and price risk, due to the difference in time and volume between procurement and billing, raises risks for market participants and therefore presents a barrier. This is a particular problem in combination with a lack of hedging opportunities that would allow companies to insure against wholesale price fluctuations.

National issue

Some respondents raised the issue that supply contracts are usually offered at a 1-3 year contract duration with a fixed price. On the procurements side, substantial price risks exist with regards to the procurement of energy and certificates of origin. In case hedging is not possible or very expensive, this presents a barrier in this market.

Potential solutions

It has to be ensured that (hedging) options, reducing the associated risk, are available and affordable to all market participants.

European markets in which this barrier has also been indicated

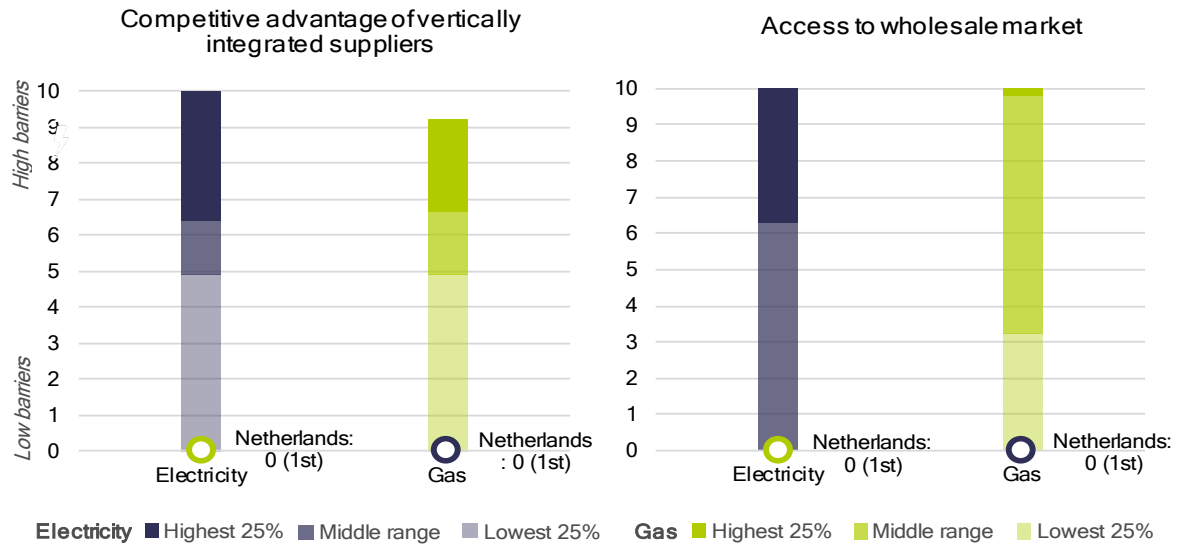
AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

2.3 Netherlands' 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 the Netherlands 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



Netherland's score regarding competitive advantage of vertically integrated suppliers is 0 for both the electricity and the gas market (1st place). Regarding access to wholesale market, the score is 0 for electricity (1st place) and 0 for gas (1st place).

3) Operational and procedural hindrances

Within operational and procedural hindrances, barriers across Europe have been sub-categorised into two areas encompassing 13 specific barriers[12]:

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.

[12] Please note: these definitions are Europe focused, not Netherlands specific. Highlighted barriers have been identified as country specific.

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 related to "sign-up & operations compliance" were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in the Netherlands:

- 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

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.

   Across Europe, the following specific barriers related to "data access & processes" were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in the Netherlands:

   - Lack of data hub

- Complex, heterogenous 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 the Netherlands: Sign-up & operations compliance

Poor availability of information for market entrants & active participants. Some respondents in the Netherlands raised this as a barrier. Detailed information about legislation, licensing requirements and procedures during operations etc. are available, but currently only in Dutch 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.

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.

Heavy administrative process for entry (registration / licensing). In the research this barrier was raised as an issue in the Netherlands. The processes required to enter a market constitute a large administrative burden. Overly complicated and very time-consuming processes and requirements present a barrier in terms of the time and money that new entrants must invest. This barrier refers to all steps required to obtain a license or registration allowing participation in the market as a retailer.

National issue

Some respondents mentioned a heavy administrative process for obtaining a license. As all processes and systems have to be set up before the license is granted, new entrants might be forced to use services offered by third parties. In case those services are very expensive, this presents a barrier in the market.

Potential solutions

Granting a preliminary license after compliance with only a selected amount of requirements (which carefully needs to be assessed) would allow market participants to quicker enter and test the market offering as well as develop own services within a given timeframe.

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
				CY			DK				EL		IE	IT				NL				RO					UK

High financial requirements (incl. long working capital cycles) and forced risk during operations. In the research this barrier was raised as an issue in the Netherlands. High financial requirements such as securities and minimum account balances for balancing services and procurement, as well as long working capital cycles, e.g. due to expensive IT infrastructure, can present a barrier due to the amount of capital that must be set aside. This is a challenge especially for small and new retailers. A high level of risk, e.g. non-refusal right of customers, can similarly act as a barrier.

National issue

Several issues around high financial requirements have been raised by suppliers. This includes high initial set-up costs (incl. switching software), high security deposits for the balancing account. Also, respondents mentioned the inability to reject customers as a source of additional risk. Especially the combination of those financial requirements and risks present a barrier in the market.

Potential solutions

Regarding It software costs, see “Highly complex or country-specific systems & processes”.
Margin calls, collaterals and other security deposits should be designed in a non-discriminatory and proportionate way, taking the supplier size and the related risk into account.
The inability to reject customers should be addressed with compensation mechanisms for defaulting 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
	BE					DE	DK			FR			IE					NL		PL					SI	ES	SE	

Highly complex or country-specific systems & processes. In the research this barrier was raised as an issue in the Netherlands. The systems landscape (forecasting, customer service etc.) can require significant costs, especially when first being established. Limits to or costs of outsourcing can fall disproportionately on smaller suppliers with less expertise in-house. If these systems are similar to those required in other markets, this investment can be capitalised on when expanding to other markets; if they are country-specific, expansion requires the same investment again in the new market.

National issue

Mentioned by some respondents, the central switching platform (EDSN) is based on a country-specific system and country-specific and complex acknowledgement processes.

Potential solutions

Need for standardization across Europe of systems and procedures required by the country retail market. When these systems are similar to those required in other markets, suppliers´ investment can be capitalized when expanding to other markets.

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

Unduly burdensome environmental obligations. In the research this barrier was raised as an issue in the Netherlands. Environmental obligations such as energy efficiency schemes and certificates of origin may present a barrier as they can lead to increased bureaucracy and costs. Such obligations can be perceived as a barrier particularly if their relevance to the market is not clear to suppliers or if their implementation is felt to be unfair.

National issue

Some respondents mentioned issues around the certificates of origin (see “high price or volume risk in energy procurement”).
Furthermore, issues around the obligation to service and how to handle the switching and purchasing processes of solar PV customers have been mentioned.

Potential solutions

For certificates of origin, see “high price or volume risk in energy procurement”.
Increasing transparency related to all relevant market processes and offering the information in multiple languages (see “poor availability of information for market entrants and active participants”) will substantially reduce 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

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

No barriers around data access & processes were identified in the Netherlands.

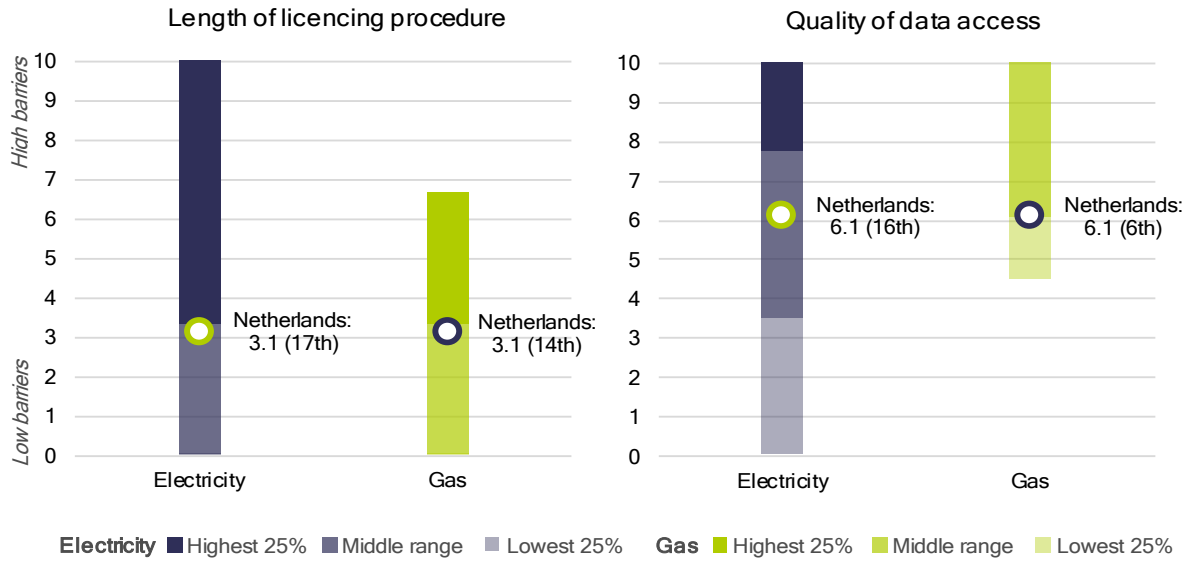
3.3 Netherlands’ performance in this barrier category

The following figure shows quantitative indicators of how far operational and procedural hindrances act as a barrier in this market. The values for the Netherlands 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 if attributed if the regulator has more moths 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



Netherland's score regarding the length of the licencing procedure is 3.1 for the electricity market (17th place) and 3.1 for the gas market (14th place). Regarding the quality of data access, the score is 6.1 for electricity (16th place) and 6.1 for gas (6th place).

4) Customer inertia

Within operational and procedural hindrances, barriers across Europe have been sub-categorised into one area encompassing 6 specific barriers[13]:

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 related to "customer orientation" were detected by this study. Those highlighted in blue have been raised, indicated or identified as barriers in the Netherlands:

   - 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 the Netherlands: Customer orientation

Lack of trust in new or foreign suppliers and in new technology. In the research this barrier was raised as an issue in the Netherlands. Lack of trust in new and/or foreign suppliers can be caused by previous bankruptcies in the market or simply customer unfamiliarity with the new supplier's quality of service. This presents a barrier for new suppliers trying to attract customers, as they have to invest heavily in building a new relationship. Customers and hence retailers may also mistrust new technology, at least until they have been convinced that it is useful and will not disrupt their lifestyle, which is difficult to do until enough people use the technology.

[13] Please note: these definitions are Europe focused, not specific to the Netherlands. Highlighted barriers have been identified as country specific.

National issue

Some respondents mentioned a substantial lack of trust in new and especially foreign suppliers.

Potential solutions

Create a verification label of trust, that new suppliers can apply for, which indicates that the new supplier works in line with the countries´ guidelines and is financially reliable.
New technology could be promoted through clear communication of pilot results, through which open questions, which typically lead to mistrust, can be answered.

European markets in which this barrier has also been indicated

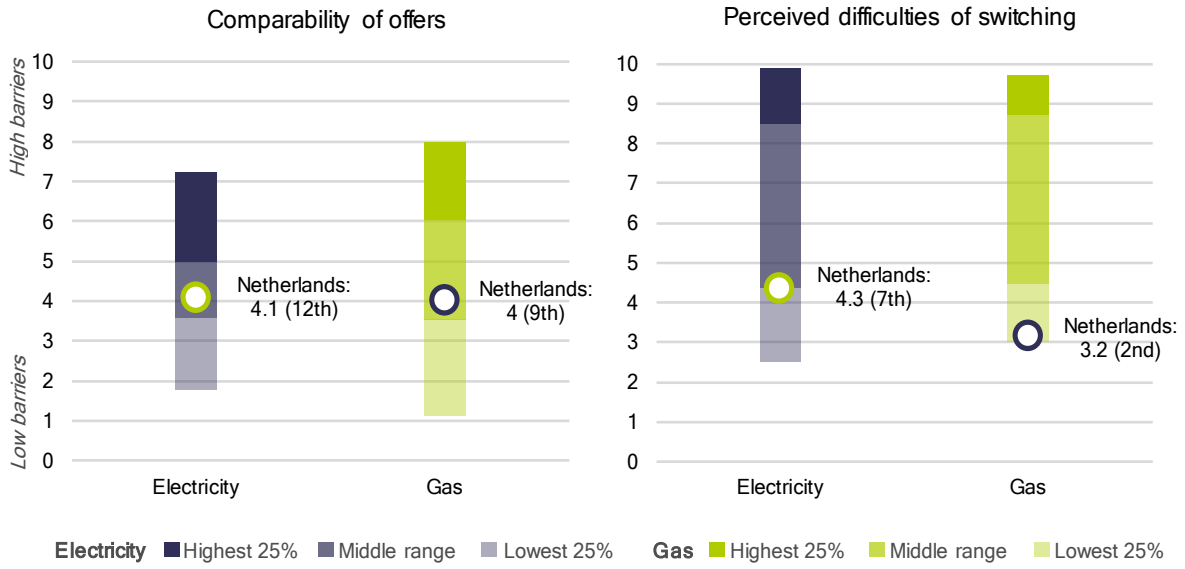
AT BE BG HR CY CZ DE DK EE FI FR EL HU IE IT LV LT LU NL NO PL PT RO SK SI ES SE UK

4.2 Netherlands' 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 the Netherlands 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



Netherland's score regarding the comparability of offers is 4.1 for the electricity market (12th place) and 4 for the gas market (9th place). Regarding the perceived difficulties of switching the score is 4.3 for electricity (7th place) and 3.2 for gas (2nd place).

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 the Netherlands: Other

No barriers around other fields were identified in the Netherlands.

FINDINGS & RECOMMENDATIONS

This handbook provides a high-level framework of relevant barriers to entry and operate for energy suppliers into the **Dutch** 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.

Under the first group, **regulatory disincentivisation**, suppliers did not raise any concerns regarding “price regulation” (as there is no price regulation in place) and “regulatory unpredictability”. The main concerns relate to “burden sharing” and “access to innovation”.

One barrier regarding burden-sharing was raised, “obligation to collect tariffs unrelated to energy on behalf of others”. Some respondents more specifically identified the tax discounts (vermindering energiebelasting) as a barrier. The barrier arises from the time lag between the monthly deducted instalments and the payback from the authorities. Charges not related to the suppliers´ business should not be collected by them, as they only put additional risk on them. Collection by regulated participants (DSOs) should be the goal, and if not possible, suppliers should be compensated for the additional risk factor.

“Market structures does not incentivize novel products” was raised as an issue in the “access to innovation” category. Market regulation should aim to not only allow new products, it should also make sure, that existing structures don’t stand in the way of new products maturing on the market. With increased financial attractiveness of new products and services, general awareness will follow automatically.

Regarding **market inequality**, one barrier, that was identified was limited access to wholesale market volumes. Due to a high number of long-term PPAs, smaller suppliers have a disadvantage compared to larger suppliers, who can (sometimes) utilize access to their own production capacity. Standardized PPAs, which enable smaller suppliers to access additional volume would lower this barrier and would contribute to a level playing field through increased market liquidity. A high level of liquidity should also be ensured for other relevant markets, such as the market for certificates of origin. Also, making sure that hedging options are affordable and accessible by all participants would create a fairer market environment.

Operational and procedural hinderances are regarded as barriers by some of the suppliers responding to the survey or being interviewed. Barriers around “Poor availability of information for market entrants & participants”, “heavy administrative entry process” and “high financial requirements” were raised, as well as “highly complex or country specific systems & processes” or “unduly environmental obligations”.

Improving the information for market participants to be available in English; issuing preliminary licenses and a general harmonization of all systems and processes within the country and throughout Europe, can substantially decrease the level of the existing barriers.

Customer inertia barriers category, groups all those issues related to customer behaviour and attitude within the retail energy market. The participants from the Netherlands raised the “lack of trust in new or foreign suppliers and new technology” as a barrier here. This trust could be established through a verification label, that new suppliers could apply for, indicating compliance with the country´s guidelines and financial requirements. New technology could be supported through open and accessible communication of pilot results, to answer any open questions, which typically lead to mistrust.

APPENDIX 1: PROCESSES

This section describes market processes in energy retail in the Netherlands. 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 entrance

Further comments

ACM – National regulatory authority

- ACM publishes once a year an Energy Monitor report (developments in the energy market for consumers)
- Information on supplier licensing process (relatively extensive)
- ACM serves as first point of contact, providing a "starting conversation" as part of the supplier licensing process, all necessary steps and forms can be downloaded from the ACM website.
- Overview of rules and laws to follow as a supplier, including extensive guidance documents.
- ACM sets rules for network operators and users of the gas and electricity networks in the energy codes*: energy codes are laws, jointly designed by ACM, TSOs and DSOs and issued by ACM (ACM has the authority to enact laws):*

- Rate codes or rate structures – define rules with which network operators must calculate the tariffs for each service that they offer
- Technical codes - rights and obligations of network operators and network users (e.g. connection of customers, allocation of capacity, measurement of energy consumption, etc.)
- Information codes - describes how companies in the energy sector may and must exchange data

TSO (Tennet for electricity; Gasunie Transport Services for gas)

- Tennet with only poor information on the balancing regime in the Netherlands
- Gasunie Transport Services with very detailed information for shippers, balancing regime and standard contracts (also in English)

Association

- Energie Nederland – trade association for all companies that produce, supply and trade in electricity, gas and heat; Energie Nederland gives a good overview about latest changes in the market. No information on market entry process; own reports accessible to members only.

NEDU - Dutch Energy Data Exchange Association

- NEDU is the connecting platform of the Dutch energy sector. All market parties in the energy sector are represented here by market role. The various market roles work together to achieve innovation and process improvement in the mutual processes. The NEDU market roles are proposing changes to the regulations (information code) concerning the way in which these parties exchange data
- NEDU is facilitating discussions regarding energy codes, before recommending changes to ACM
- NEDU coordinates the EDSN (Energie Data Services Nederland)

Price comparison sites, e.g.:

- Currently no “public” comparison too (Could change in the future due to the E- Clean Energy Package)
- www.energievergelijken.nl (English website)
- www.energieleveranciers.nl (in Dutch)
- www.gaslicht.com (in Dutch)
- www.overstappen.nl (in Dutch)
- www.pricewise.nl (in Dutch and English)

Certiq:

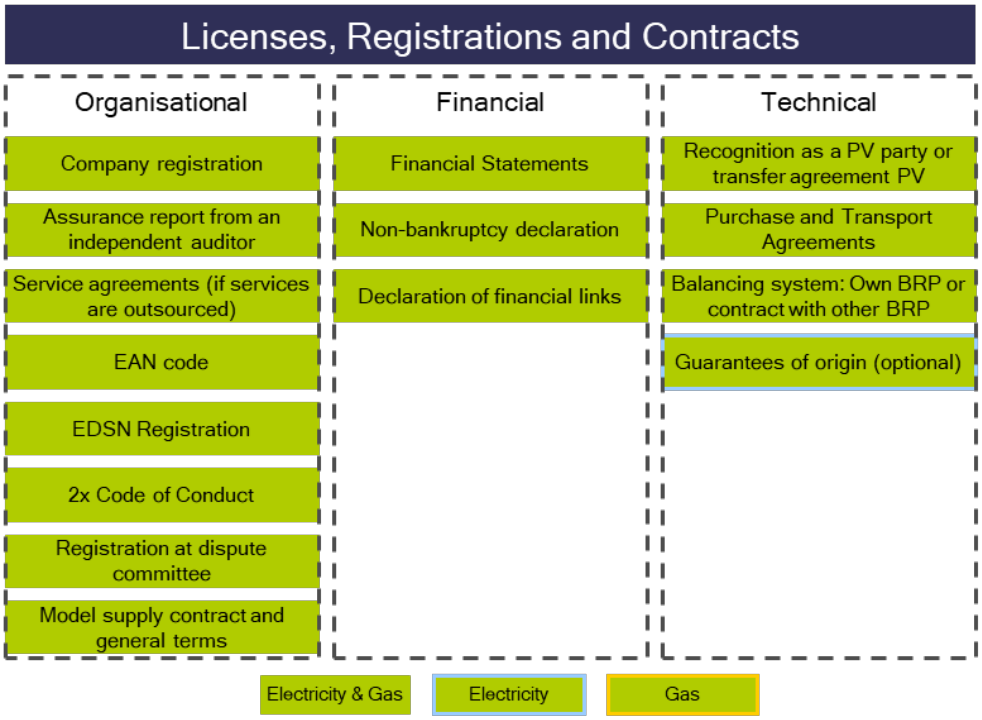
- Guarantees of origin: http://www.certiq.nl/en/
- More details below, chapter 2) Licenses, registration and contracts

General comment

- Most information is provided in Dutch; ACM website available also in English but with reduced content (e.g. supplier licencing process only described in Dutch)
- It is not transparent what contracts have to be concluded with whom

- Supplier license for residential customers:
    - Costs 1,199 euros per permit (electricity or gas)
    - ACM decides on application within 8 weeks

2) Licenses, registration and contracts



Further comments

General

- Supplier license can be obtained from ACM via a comprehensive, standardised process, which is well explained.
- Given that all requirements are fulfilled, the process takes less than 8 weeks to complete.
- Costs of €1,199 per individual permit (gas or electricity)

Company registration

- Abstract from the Dutch chamber of commerce to proof the B.V.

Registration at EDSN

- The new supplier has to register at EDSN through a form on their website.
- This form can be found at: https://www.edsn.nl/nieuwe-marktpartijen/registratie/

Code of Conduct (x2)

- Code of Conduct for Smart Meters, available at Energie Nederland homepage
- Consumer and Energy Supplier Code of Conduct, available at Energie Nederland homepage

Contracts with DSO

- Each customer signs a contract with the DSO as a part of the supply agreement between the customer and the supplier.

- No separate contract between DSO and supplier has to be signed. A BRP (with the ability to transport to the end-user) suffices.

Registration at dispute committee

- Registration at an independent dispute committee (e.g. De Geschillencommissie)

Balancing system:

- Join either as own BRP (contracts with TSO, DSO)
- or contract with existing BRP
- Details on balancing regime are given in Energy Codes ("Netcode elektriciteit")

Supply contract

- Supplier is grid and meter point user and passes the fees through to the customer
- Only one contact for customer

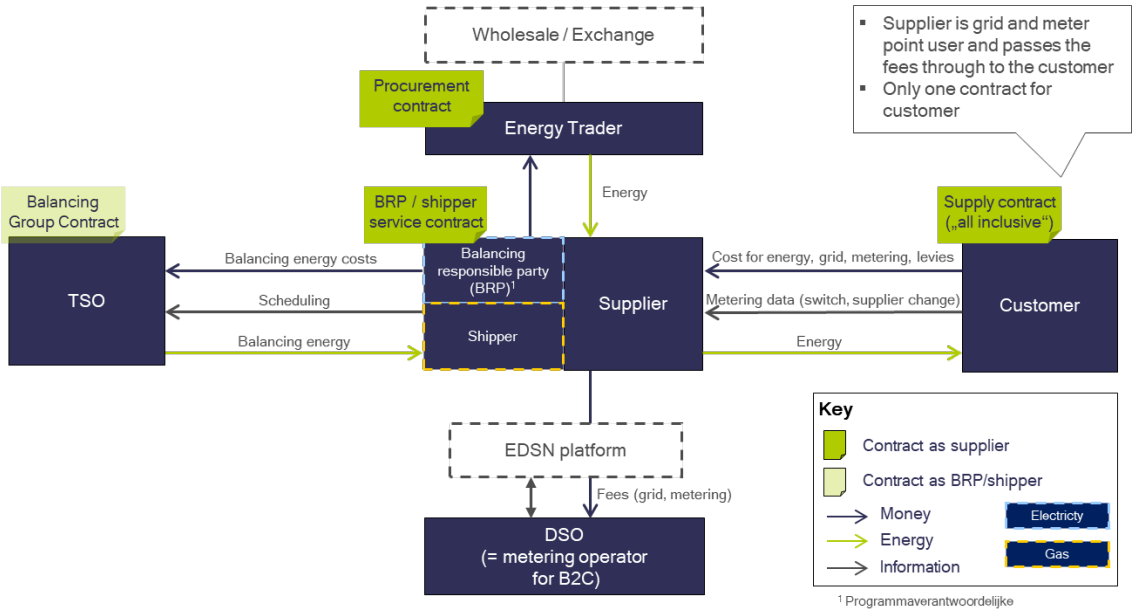
Guarantees of Origin (Optional)

- Optional, otherwise national average will be shown
- Certiq, issues guarantees of origin
- Mandatory for all electricity market participants, starting in 2021
- Not available for gas, green gas is mostly compensated

Purchase and Transport Agreements

- Specifically for providing gas, the retailer has to prove to ACM that he is able to supply gas reliably. This can be done by submitting purchase and transport agreement with a sufficiently long contract duration

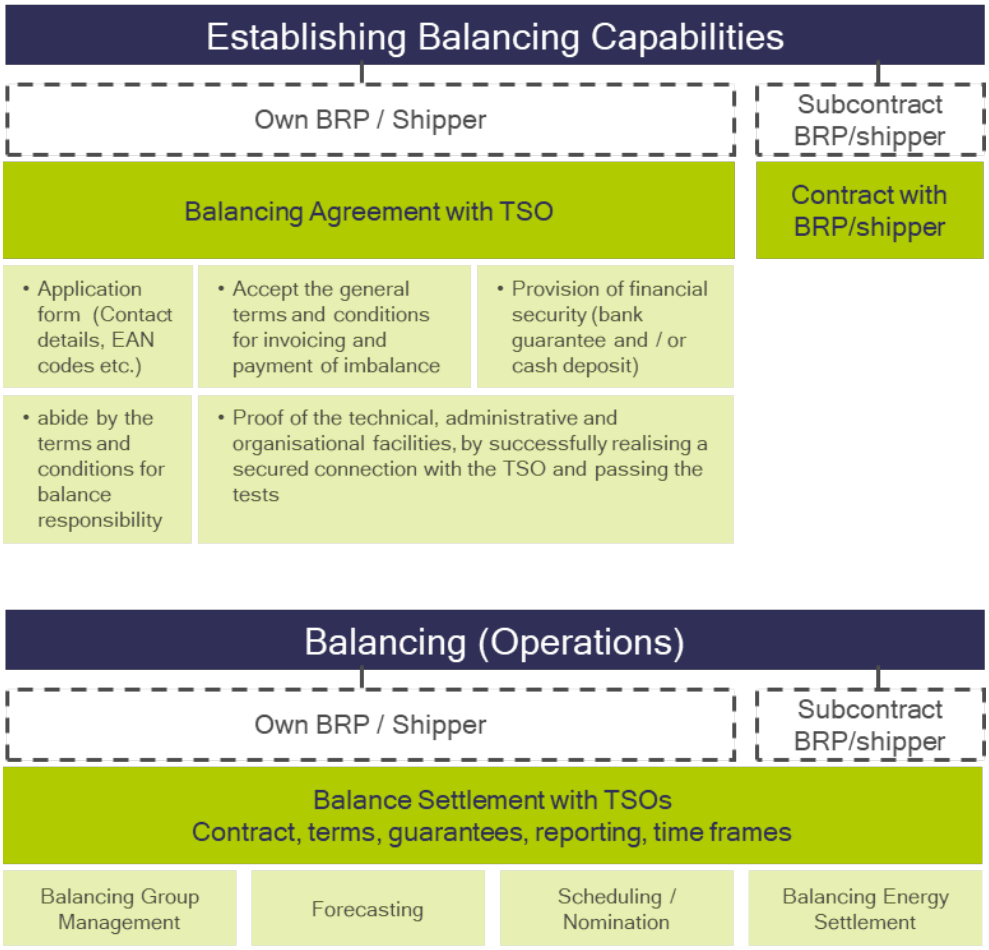
Overview of contracts to be closed as electricity and gas supplier:



New market model established in 2013

- Suppliers the sole responsibles for managing the switching on behalf of the customers
- Only one bill
- Metering infrastructure became exclusive responsibility of DSO
- Since 2012 DSO are obliged to roll-out smart meters; Customers can choose to opt-out,
- Meter point operator in the B2C segment is the DSO; Consumers cannot choose their meter point operator (high volume customers can)

3) Establishment & operation of balancing



Further comments

Electricity BRP

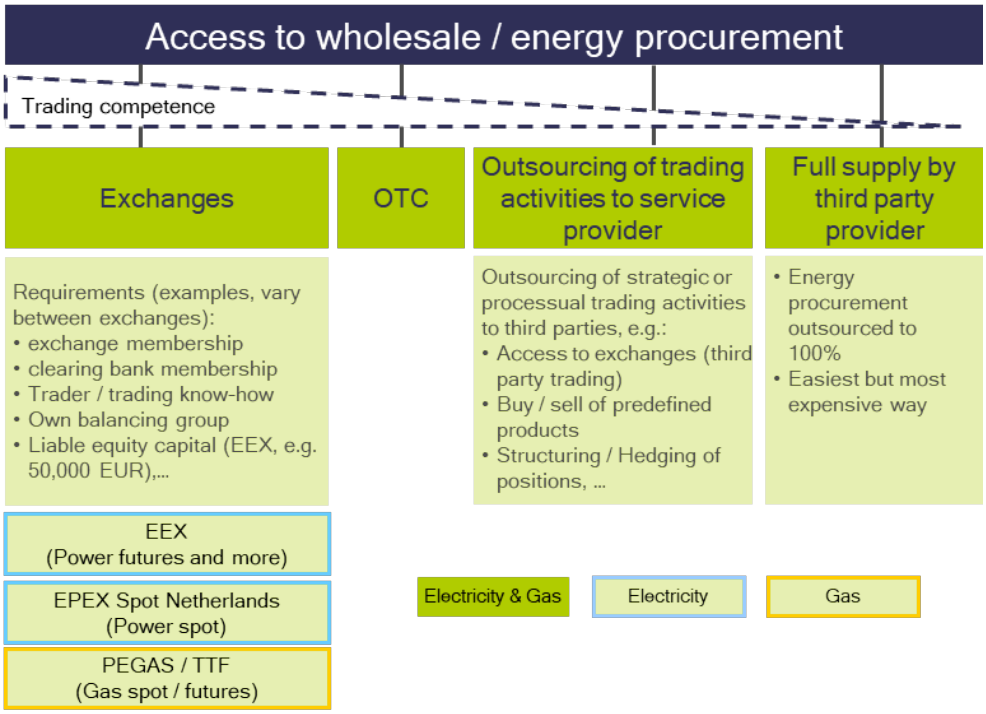
- The application must be conducted with the TSO (Tennet)
- The minimum bank guarantee deposit for TenneT is €96.000 (as of end of 2018).
- Requirements of a BRP are specified in the Grid Code “Electricity”
- Around 40 BRPs available in the market
- Standard Load profiles are published at the website of NEDU: https://www.nedu.nl/documenten/verbruiksprofielen/
- Load profiles for Prosumers are currently not available

Gas shipper:

- The licensing process to become a shipper is explained in detail on the TSO website (Gasunie Transport Services)
- The TSO requires proof of creditworthiness, electronic communication capabilities and prudence (expertise, technical, administrative and organisational capabilities)

- Details on creditworthiness are outlined here in detail: https://www.gasunietransportservices.nl/en/shippers/become-a-customer/creditworthiness
- The rules for shippers are set out in the National Network Code Gas, which can be found at the Government website
- Standard Load profiles are published at the website of NEDU: https://www.nedu.nl/documenten/verbruiksprofielen/

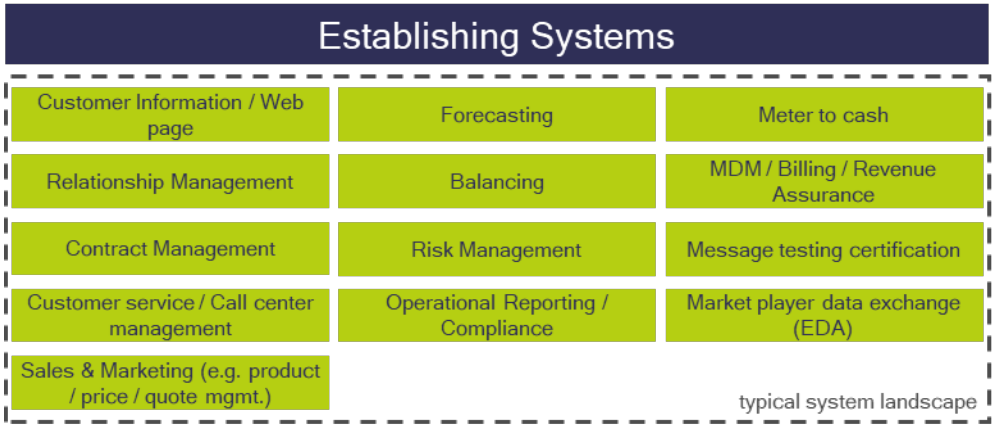
4) Acquiring wholesale / energy procurement



Further comments

- Energy procurement and related risks can be fully outsourced to external service provider (most expensive)
- Trading on behalf of supplier can be done by the BRP or other third parties (e.g. brokers, financial institutions, …)
- Depending on business model and internal trading know-how suppliers can procure energy directly on wholesale markets (exchange, OTC)
- In between there are many hybrids forms possible, meaning that only single or many trading activities can be outsourced to third parties (individual agreements)
- There are no obligations in the way of procuring energy but ACM will evaluate the financial situation to ensure the supplier is able to comply for at least 1 year
- Own generation capacities are not mandatory

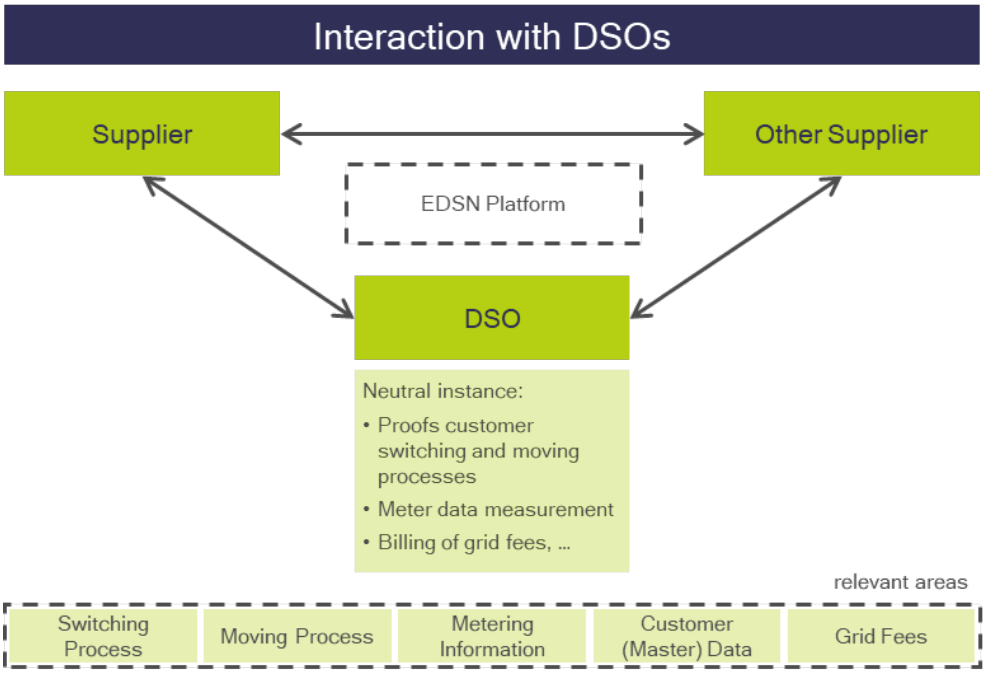
5) Provision of system landscape



Further comments

- All system requirements can also be outsourced but the responsibility rests with the supplier
- There are no country specific systems, only Messaging (Data Communications), using EDSN (Format) is mandatory

6) DSO related operations / market communication



Further comments

General

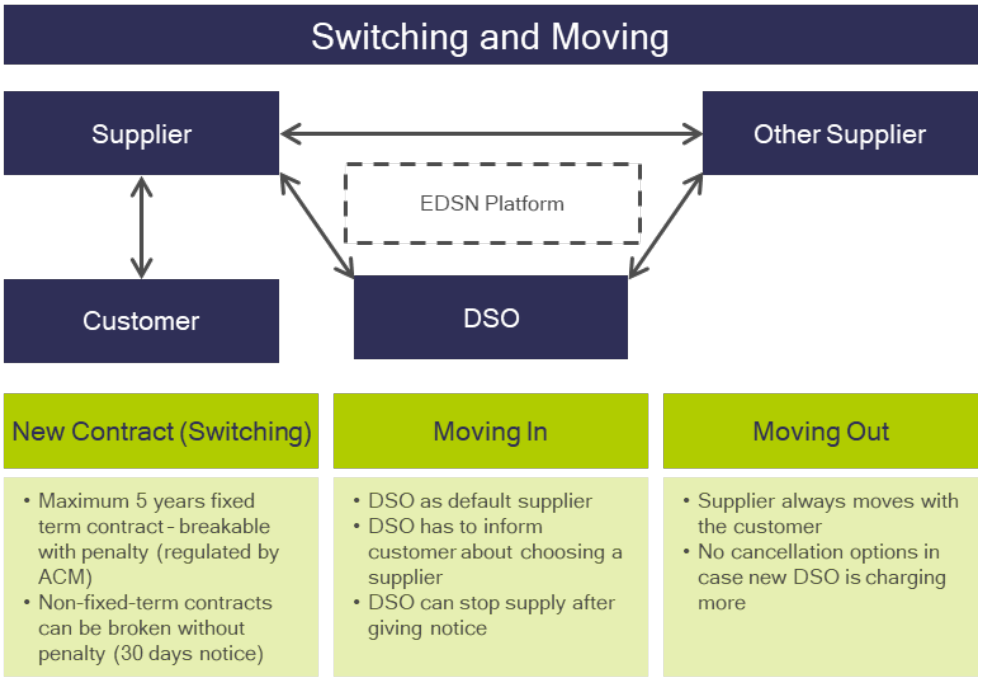
- Energie Data Services Nederland (EDSN) is the central energy data hub
- EDSN develops and operates the Dutch energy data hub on behalf of the Dutch transmission and distribution system operators
- NEDU coordinates EDSN and EDSN is owned by members of NEDU

- The purpose of EDSN is to ensure optimal functioning of the Dutch energy market in transition through uniform communication methods, transparent market processes and secure data access
- Operative since 2007
- EDSN focuses on continuous improvement of its market-facilitating services. (e.g. customer portal giving customers control over their own data)
- The exchange via the platform can take place via two standardised ways of exchanging information
- SOAP Webservices (XML) -enables you to link your systems to the central services of EDSN (requires technical implementation and administration)
- Graphical User Interface (GUI) - use the services behind the Portal via the Internet; This does not require any further technical equipment in your system

EDSN

- Connection register: All administrative data of electricity and gas network connections are recorded in an unambiguous manner. Part of this is registering the supplier, the program and measurement manager who are commercially responsible for the connection.
- Measurement data & Contract Information: (validated) meter readings are freely available for market parties that have a customer mandate (supplier provides meter reading to the system); New supplier can check the system regarding contract end and consumption based on the consent of the customer; Smart Meter data (for billing purposes only) is also provided via the system – all smart meter readings are stored in the smart meter and are retrieved by the DSO daily. The supplier requests the metering data at the DSO. This metering data is not stored in the registers of EDSN.
- Allocation and reconciliation: The data is provided by EDSN, the processes are handled by the TSO/DSOs. Allocation of volume to market parties (based on daily measured volumes or based on estimates / profiles) that are later reconciled based on actual measurement data.
- Others: A customer portal has not been implemented yet

7) Customer switching and moving



Further comments

Switching

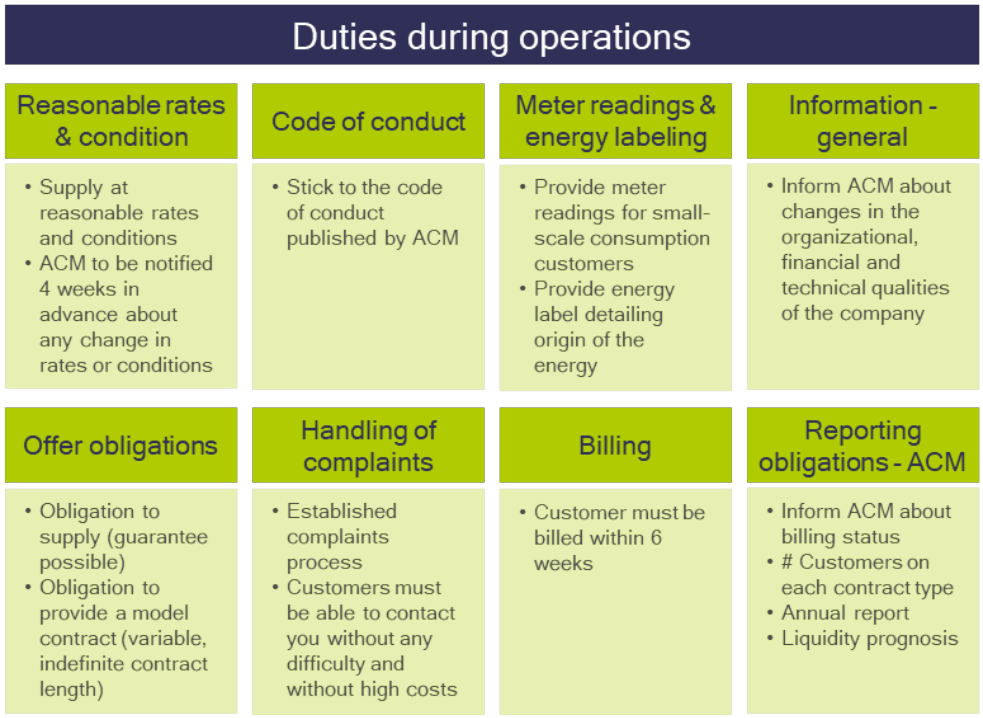
- Retailers are the sole responsible party for managing the switching on behalf of their customers
    - Record is changed in the household register
    - EDSN triggers the rest of the process automatically
    - only when something goes wrong or a dispute arises, the EDSN platform is not used
- Processes for switching are standardized
- Supplier can be switched even before contract end in a fixed-term contract → penalty for early contract breach (regulated by ACM)
- Automated contract renewal is prohibited → terminated fixed-term contract becomes a variable, timely unlimited contract which can be cancelled at any time; around half of the market is using non-fixed-term contracts
- Variable tariffs can change twice a year within the duration of the contract; they can be cancelled anytime (within a 30 day break term) without penalties
- Network operators and energy suppliers have agreed that suppliers who wish to request data from the central register must have explicit consent from the consumer

Moving in & out

- When moving in, the DSO is the default supplier (transition price)
- The DSO must inform the customer about choosing a supplier
- The DSO can stop supply when the suppliers cancels the contract and customer is in default

- The DSO can also stop the supply in case the customer is not choosing a supplier
- When moving out, the supplier is moving with the customer; in case the new DSO is charging more, the customer cannot cancel the supplier contract

8) Operational obligations / duties



Further comments

Reasonable rates and conditions

- Energy companies with a license are required to provide every year, and four weeks before a change in their rates, a statement of the rates that they charge and the conditions that they apply when supplying electricity and / or gas to small-scale consumers.

Code of conduct

- Information requirements are regulated in the “Code of conduct” (Self regulation), which can be enforced by law
    - Market transparency (by making information more comparable)
    - Prevent abuses (e.g. telemarketing, door-to-door selling)
    - Customer has to be precisely informed about the total annual costs of a specific offer

Meter readings and energy labelling

- A supplier is responsible for the distribution of the determined meter readings for all small-scale consumption connections for which he is registered as a supplier in the connection register

Offer obligations

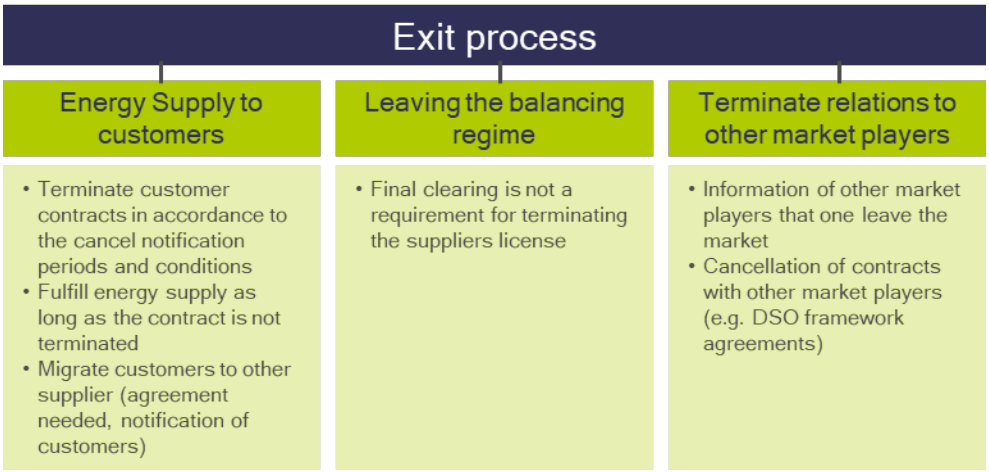
- Generally, retailers are obliged to offer energy to everyone who demands it

- Retailers are allowed to ask for guarantees for the contract: The supplier has the ability to demand a guarantee from a customer of at most six times the monthly payment for electricity and/or gas. The suppliers agreed upon this in article 15 of the General terms & conditions from Energie-Nederland

Reporting obligations - ACM

- ACM must be informed about the status of the billing process (bills must be sent out after 6 weeks)
- Every 6 months, ACM must be informed about the number of customers on the different contract types
- Every October, a liquidity prognosis must be sent to ACM
- ACM must be informed four weeks prior to a change in the rates; in case rates are changed more frequently, agreements to provide the necessary information in a specific timeframe, can be made

9) Exit Process



Further comments

- Information on how to exit the market can be found online at ACM.nl
- Energy suppliers can leave the market, but they must fulfill their obligations as energy supplier. They have to ensure that all customers been switched to another 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

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