

**CEER**  
**Council of European  
Energy Regulators**



Fostering energy markets, empowering **consumers**.

**CEER Roadmap to 2025 Well-  
Functioning Retail Energy Markets  
2019 Self-Assessment Status Report**

**Retail Markets Roadmap WS  
of  
Customers and Retail Markets WG**

**Ref: C20-RMR-11-04-01  
12 November 2020**

## INFORMATION PAGE

### Abstract

In 2015, the Council of European Energy Regulators (CEER) developed a strategic high-level Position Paper outlining the framework of the key characteristics of well-functioning retail energy markets. In 2016-2017, European energy regulators continued the development of a forward-looking framework for evaluating the performance of retail energy markets and prepared the 2018 Roadmap to 2025 Well-Functioning Retail Energy Markets.

In 2018, CEER guided National Regulatory Authorities (NRAs) through the process of self-assessment according to the metrics identified in the 2015 Position Paper on Well-Functioning Retail Energy Markets, which are also defined in the 2017 Handbook. CEER will continue to monitor the progress of self-assessment and encourage NRAs to identify the challenges in their respective countries and develop potential solutions on how to improve their retail market situation.

In 2019 CEER published a first self-assessment status report on the activities of the 2018 Roadmap. This document (C20-RMR-01-03) is an updated second status report that, together with the first status report, has the ambitious goal of creating “competitive, reliable and innovative retail energy markets that benefit consumers by 2025”, for which many steps will need to be taken to achieve this goal.

CEER believes it is important to show progress (or not) and highlight advances on a regular basis. This status report serves this purpose.

### Target Audience

European Commission, energy suppliers, traders, gas/electricity consumers, gas/electricity industry, consumer representative groups, network operators, Member States, National Regulatory Authorities, academics and other interested parties.

### Keywords

3rd Package, Clean Energy Package, consumer rights, consumer protection and empowerment, reliability, retail energy market, simplicity, supplier switching, vulnerable consumers.

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## Related Documents

### CEER Documents

- CEER Roadmap to 2025 Well-Functioning Retail Energy Markets 2018 Self-Assessment Status Report, Ref: C18-RMR-01-03; 30 October 2019  
<https://www.ceer.eu/documents/104400/-/-/89206356-85ff-9977-1ba9-3a8262fe00e3>
- Roadmap to 2025 Well-Functioning Retail Energy Markets, Ref: C17-SC-59-04-02; 9 February 2018  
<https://www.ceer.eu/1518>
- CEER 2017 Handbook for National Energy Regulators - How to assess retail market functioning, Ref: C16-SC-52-03; 24 January 2017  
<https://www.ceer.eu/1256>
- CEER draft Handbook on Harmonised definitions of retail market metrics: Evaluation of Responses, Ref: C16-SC-52-05; 24 January 2017  
<https://www.ceer.eu/1256>
- 2017 Handbook for National Energy Regulators: Pilots, Ref: C16-SC-52-04; 24 January 2017  
<https://www.ceer.eu/1256>
- CEER Position Paper on well-functioning retail energy markets, Ref: C15-SC-36-03; 16 October 2015  
<https://www.ceer.eu/1258>
- A 2020 Vision for Europe's energy customers – Joint Statement CEER/BEUC, 13 November 2012, updated June 2014  
<https://www.ceer.eu/1263>

### ACER Document

- A Bridge to 2025 Conclusions Paper, 19 September 2014, ACER Conclusions Paper attached to Recommendation No 05/2014  
[http://www.acer.europa.eu/official\\_documents/acts\\_of\\_the\\_agency/sd052005/supporting%20document%20to%20acer%20recommendation%2005-2014%20-%20%20energy%20regulation%20a%20bridge%20to%202025%20conclusions%20paper.pdf](http://www.acer.europa.eu/official_documents/acts_of_the_agency/sd052005/supporting%20document%20to%20acer%20recommendation%2005-2014%20-%20%20energy%20regulation%20a%20bridge%20to%202025%20conclusions%20paper.pdf)

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## EXECUTIVE SUMMARY

In January 2017, the Council of European Energy Regulators (CEER) recommended that all its Member and Observer National Regulatory Authorities (NRAs) self-assess their electricity and gas markets.

The self-assessment is based on the 25 metrics developed in the “*CEER 2017 Handbook for National Energy Regulators*”<sup>1</sup>, while the process of performing a self-assessment is described in the “*Roadmap to 2025 Well-Functioning Retail Energy Markets*”<sup>2</sup>. In accordance with these two CEER reference documents, each NRA determines the relevant market in its national context and chooses the methodology for the calculation of individual metrics. Therefore, the information, data and gap-analyses presented in this report are not comparable across countries and cannot be used for benchmarking.

This is the second status report done by CEER, with this one based on the self-assessment performed in 2019. It shows the state-of-play in the work towards well-functioning retail markets. Like the first status report<sup>3</sup>, it identifies the varying completion levels and speeds of the self-assessment by the NRAs. It also has a special focus on gap-analysis for individual metrics provided by NRAs across Europe. The results and the majority of the pilots<sup>4</sup> presented in the report concern the household electricity market.

CEER acknowledges that not all NRAs can legally set national targets for individual metrics with respect to the gap-analysis. However, CEER encourages all NRAs to follow the development of their national retail markets and, where possible, evaluate if and how it is feasible to improve the results of individual metrics.

This process could be started by having a discussion with national policy makers and consumer protection authorities about the goals of well-functioning energy retail markets. If the responsibility is split between different public bodies, it is important for them to cooperate, given that a well-functioning retail market is in the interest of all respective parties.<sup>5</sup>

For the current year of reporting, the status-report indicates that such cooperation was not yet in place as very few gap-analyses have been performed for the related metrics. Out of 22 CEER Member and Observer countries participating in this year’s self-assessment, two (Luxembourg and Great Britain) have done gap-analyses for a vast majority of the metrics<sup>6</sup> and an additional two (Denmark and Poland) have done it for eight metrics. In addition, six countries state that they have done gap-analyses for five or fewer metrics, while the remaining 12 countries report that they have not done any gap-analyses.

In terms of metrics used, some appear to be more difficult to quantify than others. This could be due to lack of data or lack of products in the market. In particular, results for the availability

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<sup>1</sup> CEER 2017 Handbook for National Energy Regulators - How to assess retail market functioning, 24 January 2017, Ref: C16-SC-52-03 <https://www.ceer.eu/1256>

<sup>2</sup> Roadmap to 2025 Well-Functioning Retail Energy Markets, 9 February 2018, Ref: C17-SC-59-04-02 <https://www.ceer.eu/1518>

<sup>3</sup> CEER Roadmap to 2025 Well Functioning Retail Energy Markets 2018 Self-Assessment Status Report, Ref: C18-RMR-01-03 <https://www.ceer.eu/documents/104400/-/-/89206356-85ff-9977-1ba9-3a8262fe00e3>

<sup>4</sup> “Pilots” here means examples of usage of metrics by NRAs.

<sup>5</sup> An enhanced cooperation between NRAs and other public bodies is also in line with the ambitions of the Partnership for the Enforcement of European Rights (PEER), see also: <https://www.ceer.eu/peer>

<sup>6</sup> Luxembourg 23, Great Britain 19

of explicit demand response offers (Metric 13) were reported by only seven NRAs as the remaining respondents did not have complete figures for year 2018.

CEER believes that the self-assessment of metrics can help NRAs with their remit of monitoring and market analysis and thus increase knowledge regarding their national markets. For instance, NRAs can assess the metrics from different perspectives, for example, by analysing developments in consumer categories or products focusing on improvements instead of targets.

CEER will report on successive self-assessments that are planned to be carried out annually through 2025. One conclusion of this status report is that, in order for all CEER Member States to have well-functioning retail markets by 2025, more cooperation at national level is needed among NRAs, Consumer Authorities, Competition Authorities, and Ministries responsible for energy policy to improve the results of individual metrics. Furthermore, to reach the goal of well-functioning retail markets by 2025, CEER encourages NRAs to analyse the interdependencies of metrics that impact each other and to perform gap-analyses for groups of metrics, as an alternative of 25 different gap-analyses for the 25 individual metrics.

Finally, with Directive 2019/944<sup>7</sup> in force and ready to be implemented in all Member States (MS) in January 2021, CEER's concept of a well-functioning retail market is in line with the overall ambitions of the new legislative package. For example, that price signals should reach end-users who, according to the Clean Energy for All Europeans package (Clean Energy Package, CEP)<sup>8</sup>, require access to both smart meters and dynamic price contracts.

In the present report there will be references to other CEER reports that monitor the electricity and gas markets, for example the "*ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2019*"<sup>9</sup>.

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<sup>7</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019L0944>

<sup>8</sup> [https://ec.europa.eu/energy/topics/energy-strategy/clean-energy-all-europeans\\_en](https://ec.europa.eu/energy/topics/energy-strategy/clean-energy-all-europeans_en)

<sup>9</sup> <https://www.ceer.eu/national-reporting-2020>

## 1 Introduction

This report summarises the second round of self-assessment on the well-functioning of retail energy markets by NRAs in 2019 using the 25 metrics presented in the “*CEER 2017 Handbook for National Energy Regulators*”<sup>10</sup>.

NRAs have shared information and data on a voluntary basis. A national self-assessment of the retail market for energy is something that CEER encourages but is not mandatory.

The text in this report contains a selection of information and data, together with highlights from those NRAs that did gap-analyses in 2019. Where available, these are presented as pilots under each metric. Together with the detailed results in the Annexes, this report can be used by NRAs that are still preparing or performing their self-assessment.

The report is based on a questionnaire sent to all Member States in 2019 on the year 2018. Compared to the previous status-report, one more MS responded to the questionnaire: Greece. For Belgium, the current status-report also reports on the results of the regions.

The majority of NRAs<sup>11</sup> that are CEER Members have responded to the questionnaire. A total of ten NRAs has completed a self-assessment with gap-analysis for one or more metrics of their electricity markets. Additionally, 14 NRAs<sup>12</sup> have completed a self-assessment of their gas markets, out of which five have provided gap-analysis for one or several metrics. The results and the majority of pilots presented in chapters 2-9 focus only on the electricity market.

CEER welcomes the fact that so many NRAs, including CEER Observer NRAs such as that of Georgia, were willing to share experiences and their knowledge regarding the self-assessment. However, since not all Member States are represented, this status report does not reflect the European-wide situation.

All 25 metrics in the “*CEER 2017 Handbook for National Energy Regulators*” together indicate whether a country already has a well-functioning retail energy market, or is on its way to having one by 2025. This report should be seen as a status report of individual NRAs and is not a European benchmarking exercise. The report contains only factual information and does not attempt the analysis or the interpretation of the information or data. CEER does not evaluate if a country already has or will have a well-functioning retail energy market in 2025. The task of evaluating if a national market is well-functioning is (as the name *self-assessment* indicates) up to NRAs or other relevant national authorities.

Since the majority of NRAs have focused on the situation for the household electricity customers, this report also focuses on the information and data regarding households and electricity. A full overview of metrics (containing information on the number of NRAs using a specific metric) is included in [Annex II](#) for electricity and [Annex III](#) for gas.

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<sup>10</sup> CEER 2017 Handbook for National Energy Regulators - How to assess retail market functioning, 24 January 2017, Ref: C16-SC-52-03

<sup>11</sup> CEER Members who replied to the 2019 questionnaire for electricity were NRAs from the following 23 countries: Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Georgia, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovenia and Sweden.

<sup>12</sup> CEER Members who replied to the 2019 questionnaire for gas were NRAs from the following 14 countries: Austria, Czech Republic, France, Georgia, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Luxembourg, Poland, Portugal, Slovenia.

## 1.1 Background

In **2015**, CEER developed a strategic **high-level Position Paper** outlining the framework of the **key characteristics of well-functioning retail energy markets**. This Position Paper builds on the ACER Bridge to 2025<sup>13</sup> and the CEER-BEUC 2020 Vision<sup>14</sup>. In addition, the Position Paper addressed the issues raised by the European Commission’s Communication “Delivering a New Deal for Energy Consumers<sup>15</sup>”, published in July 2015. In the Position Paper, CEER established common criteria to assess the functioning of retail markets as a first step in the work to accomplish competitive, reliable, and innovative retail energy markets, benefitting consumers, by 2025. The Position Paper introduced a framework to evaluate the functioning of a retail energy market, whilst considering the current market development.

After the Position Paper, CEER developed a **Handbook for National Energy Regulators in 2017**, which contained the metrics introduced by the Position Paper and their respective definitions. CEER developed this handbook as guidance for NRAs to self-assess.



**Figure 1 Framework of key characteristics of well-functioning retail energy markets**

<sup>13</sup> Energy Regulation: A Bridge to 2025, Conclusions Paper”, ACER, September 2014. [http://www.acer.europa.eu/official\\_documents/acts\\_of\\_the\\_agency/sd052005/supporting%20document%20to%20acer%20recommendation%2005-2014%20-%20energy%20regulation%20a%20bridge%20to%202025%20conclusions%20paper.pdf](http://www.acer.europa.eu/official_documents/acts_of_the_agency/sd052005/supporting%20document%20to%20acer%20recommendation%2005-2014%20-%20energy%20regulation%20a%20bridge%20to%202025%20conclusions%20paper.pdf)

<sup>14</sup> 2020 Vision for Europe’s energy customers, Ref: C12-SC-09-07, 07-Nov-2012, updated June 2014. <https://www.ceer.eu/1263>. On 21 October 2020, CEER and the European Consumer Organisation (BEUC) renewed their Vision for Energy Consumers with a horizon to 2030. The new [CEER-BEUC Vision 2030 for Energy Consumers](#) adds the critical element of inclusiveness and plants the framework within the context of working for a sustainable future.

<sup>15</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52015DC0339>

An annex to the Handbook contained pilots performed by several NRAs, as examples of how to use the metrics in practice to self-assess their national markets. The process of performing a self-assessment is described in the **Roadmap to 2025 Well-Functioning Retail Energy Markets**.

In 2019, 22 NRAs used this handbook to self-assess their national markets with the ultimate goal of fostering a competitive, reliable and innovative markets that benefit customers in each country by 2025.

### 1.1.1 What is a gap-analysis?

In the “Roadmap to 2025 Well-Functioning Retail Energy Markets”, CEER describes the concept of gap-analysis in the following way:

*For each available metric in the Handbook NRAs set a national objective and analyse the gap between the current situation described by the collected data and the national objective. On a voluntary basis, NRAs are able to present results of self-assessment and gap-analysis. Self-assessment and gap analysis are recommended to be repeated annually.*

*Based on the result, the NRA in a later stage formulates recommendations and monitors implementation of those recommendations: When an NRA identifies a gap between the national data for a metric and the national objective for that metric, the NRA formulates recommendations on how to reach the national objective. The NRA also monitors the implementation of these recommendations.*

One general conclusion of this report is that there are still very few CEER Members <sup>16</sup> that have carried out and shared gap-analysis for the 25 metrics included in the self-assessment. There seems to be various reasons for this. For example, some NRAs report that it is not within their mandate to set national objectives for individual metrics.

In this year’s work with the Status Report CEER has sought to widen the concept of gap-analysis, from focusing on concrete officially approved figure-based objectives to improvements of individual metric-results in order to keep momentum in the work to reach well-functioning retail markets by 2025.

The highlights of 17 gap-analyses are presented in this report to inspire fully-fledged gap-analysis by all NRAs by 2025. An overview of published pilots for individual metrics is presented in [Annex IV](#).

### 1.1.2 Self-assessment of several metrics together

CEER also encourages NRAs to assess different metrics together or in relation to each other.

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<sup>16</sup> Out of 22 MSs participating in the self-assessment, only ten report that they have done at least one gap-analysis. Twelve report to have done no gap-analysis.

One example of how metrics can be assessed together is Metric 20 (Switching rate) that can be analysed together with Metric 21 (Percentage of inactive customers), Metric 16 (Percentage of customers that trust the electricity market), Metric 1 (Low concentration within a relevant market) and Metric 3 (Percentage of customers connected to a DSO exempt from the strictest unbundling rules, and in particular, how many active rival suppliers that operate in the exempt areas).

Another example is to assess Metric 6 (Availability of time-of-use metering and, where applicable, additional fee paid by the consumer to be able to have time-of-use price vs. traditional metering) in connection with Metric 13 (Availability of explicit demand response offers). Alternatively, Metric 6 in connection with Metric 22 (Percentage of prosumers).

It could also be interesting to see how Metric 1 (Low concentration within a relevant market) correlates with Metric 7 (Correlation between wholesale- and retail market prices) and Metric 8 (Mark-up between wholesale and retail energy prices).

Next year's (2021) Status Report will have a special focus on assessing different metrics together or in relation to each other.

## **1.2 Objective and outline of the paper**

The main objectives of this Status Report are to summarise the second round of self-assessments, show progress in the work for well-functioning retail markets and share experiences between NRAs and other stakeholders.

This report follows the triple-layered framework presented in the Position Paper from 2015 and the Handbook from 2017 and includes eight chapters that each describe one of the eight key properties critical for a well-functioning retail market. Each key property is measured by several metrics and a selection of the results and gap-analysis from the self-assessment are presented for each metric. Where available, examples are presented as pilots under each metric that vary in both length and detail and could be used as a source of inspiration for other NRAs.

This is the third time that CEER publishes pilots for the metrics in the Handbook from 2017. An overview of all pilots published in 2017, 2019 and in this report, 2020, are included in Annex IV.

The report mainly focuses on the electricity market, being the relevant market for all NRAs. For statistics of the inputs received regarding the natural gas market see Annex III.

## **1.3 Quantification assumptions**

If an NRA that mentioned in the questionnaire that they, in the year 2018, used a specific metric but objects to CEER publishing the results of the given metric and of the corresponding gap-analysis, such an NRA is nevertheless counted in the total number of NRAs using the metric.

## 2 Key property I: Low concentration within a relevant market

The Herfindahl-Hirschman Index (HHI)<sup>17</sup> measures the degree of concentration in a market. Based on guidance from the European Commission<sup>18</sup> an HHI of above 2,000 signifies a highly concentrated market. In general, a high number of suppliers and low market concentration indicate a competitive market structure. The HHI is calculated as the sum of the squares of the market shares of all firms in the market. It ranges between 0, for an infinite number of small firms, and 10,000, for one firm with a 100% market share.

**Table 1 Metrics used in the self-assessment of key property I “Low concentration within a relevant market”**

Metric n° and name	Number of NRAs using	Number of NRAs completing gap- analysis
1 Low concentration within a relevant market	21	6

### 2.1 Metric 1: Low concentration within a relevant market

The “ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2019”<sup>19</sup> published the HHI values at the national level for the household markets based on metering points and non-household markets based on volumes.

Some 21 NRAs have used this metric in their self-assessment. Market shares can be calculated from consumed volumes, the number of customers or meter points. The results provided by NRAs show that all these methodologies are used across countries, namely metering points for households and volumes for commercial consumers. The results also show that NRAs used different definitions of relevant markets for their calculations.

Geographically, one value per country is common, even though some NRAs also calculate HHI for individual regions. It is notable that a region or an individual DSO-area with a dominant local supplier can have a high concentration at the same time as the national result shows the opposite, or at least a lower concentration.

The majority of NRAs differentiate between household and non-household customers and a few differentiate between enterprises of different sizes. As the markets differ regarding the level of competition, the HHI also differs between countries from less than 700 to 10,000. A clear pattern of a higher HHI for household consumers than for commercial consumers exists, irrespective of how competitive the market is.

<sup>17</sup> Herfindahl–Hirschman Index, HHI, is a measure of the size of firms in relation to the industry and an indicator of the amount of competition among them.

<sup>18</sup> Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings (2004/C 31/03)

<sup>19</sup> <https://www.ceer.eu/national-reporting-2020>

In Ireland, the Gini coefficient<sup>20</sup> is measured quarterly to complement the HHI. In 2018, the Gini coefficient was 0.57 for electricity household consumers and small businesses, 0.53 for medium-size businesses and 0.45 for large businesses. While the HHI denotes market concentration in absolute terms, the Gini coefficient is used as a relative measure of industry concentration. According to the Irish regulator, the combinatory use of the two indexes gives a clearer picture of the degree to which different firms have a share of the market and the extent of market share equality (or inequality) relative to a perfectly equal market share distribution.

Only six NRAs have made a gap analysis in their self-assessment. Belgium, with an HHI for household customers of 2,750, has set a target of getting under 2,000. The target is motivated by the fact that 2,000 is considered the threshold for a highly concentrated market.

The Netherlands, with an HHI for household customers of 1,964, has set a target of 1,800.

Great Britain and Finland, both countries with HHI under 1,000, have set the target to remain under 1000, the limit for these NRAs for what constitutes an unconcentrated market. Here, the Finnish regulator refers to the Commission's Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings (2004/C 31/03). In paragraph 19 it states that "*The Commission is unlikely to identify horizontal competition concerns in a market with a post-merger HHI below 1 000. Such markets normally do not require extensive analysis*". In GB, the NRA Ofgem closely monitors the level of concentration and its impact on competition. The trend has been downwards for the last decade, with the HHI falling below 1,000 in 2019. However, according to Ofgem, this should not be seen as an explicit 'target' that needs to be achieved or maintained all the time. In 2020, market concentration in Great Britain increased above 1,000 after significant exit and mergers/acquisitions. The market is undergoing important adjustment, but Ofgem do not have any concerns for competition conditions.

Luxembourg, a country with a limited number of active suppliers, has an HHI of 5,404 for the whole electricity market (i.e. household and non-household), calculated by volume. However, big differences among the different consumer segments can be observed. For instance, for the year 2018, the HHI for the residential segment was 8,381, for the <2 GWh professional segment was 7,991 and for the >2 GWh professional segment was 4,633. The NRA would like to see increased competition. In a recently conducted survey, results showed that household consumers are largely happy with their suppliers. At the same time, results also show household consumers' unawareness about their rights and possibilities in a liberalised market.

In Portugal, the NRA did not set an explicit target, since most consumers are in the liberalised market. For this metric, the regulator's objective is to decrease HHI and all measures are made in order to achieve that goal. In 2018, the household market was still highly concentrated, with an HHI of 6,676 based on metering points, while for the non-household market, in terms of consumption volume, the concentration is much lower, with an HHI of 1,751.

The Italian NRA stress that it is difficult to identify an optimal level of HHI that should be the objective of a gap analysis. Both the Italian and the Swedish NRAs conclude that it is not possible for the NRA to set a target for this metric since the regulators cannot influence market shares in a fully competitive market.

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<sup>20</sup> The Gini coefficient is a commonly used measure of inequality that condenses the entire distribution for a market into a single number between 0 and 1: the higher the number, the greater the degree of inequality in that market. The Gini coefficient is a numerical representation of a Lorenz Curve, which maps the ratio of the number of participants in a market and the corresponding market share of each participant.

Malta, a country with one supplier and consequently an HHI of 10,000, has its NRA state that the country has no national objective to change the situation. This is underlined by the fact that Directive 2019/944, Article 6 (Third Party Access) does not apply to Malta. Croatia, also a country with a high HHI of 8,223 for the household market, has not set a national target, but foresees a higher HHI in coming years since some suppliers are leaving the market due to ownership changes.

At the end of 2019, Georgia adopted a new law on Energy and Water Supply. According to the Georgian NRA, the new legislation has laid down the foundation to reform the country's energy sector in line with the Energy Community Treaty and European energy law. The changes envisaged include: unbundling of distribution and transmission activities, introduction of new market players (e.g. power suppliers, universal service providers, supplier of last resort) and market opening for promotion of competition in the internal electricity market.

### 2.1.1 Pilot: Croatia – Metric 1

<b>Quantification &amp; Results</b>
<p>The Croatian Energy Regulatory Agency (HERA) calculates the HHI every year by consumption volume for two market segments in the electricity retail market: household and non-household. While the HHI does not provide conclusive evidence of the level of competition, it points out whether a market has the potential to deliver non-competitive outcomes. The HHI alone is a synthetic measure, and possibly more useful for long-term trend monitoring and cross-country comparison purposes.</p> <p>In December 2014, around 91% of household electricity customers in Croatia were supplied by an electricity incumbent. Since 2014 the HHI has decreased from 8,264 to 7,792 in 2019. During the same period, for non-household customers, after slight decrease in 2015, the HHI has risen to very high values. In December 2019, around 84% of non-household electricity customers in Croatia were supplied by an electricity incumbent and the HHI was 7,172.</p> <p>The calculations are based on data collected by HERA through a monthly information request to electricity Distribution System Operators (DSOs). This is used to calculate market shares for the household and non-household segments. Full market opening was 2008. HERA has monitored the market since this date.</p>
<b>Gap-analysis</b>
<p>From the above it can be concluded that the retail electricity market in the Republic of Croatia has stagnated. The number of valid licenses for the electricity supply business is decreasing, which is a consequence of the acquisition of smaller suppliers by larger suppliers. There are also suppliers that have simply left the retail market. This leads to increased market concentration.</p> <p>The main causes of the stagnation of the retail market are the insufficient cost savings for electricity achieved by changing suppliers, the lack of trust of end-use customers in new suppliers and the supplier's obligations regarding the savings prescribed by the Energy Efficiency Directive.</p> <p>Insufficient savings result from the fact that out of the total selling price of one kWh for the average end-use customer in the household category, only 45% of the price is related to supply costs.</p> <p>Although the legal solutions of the Energy Efficiency Directive were known, not all suppliers were prepared for these obligations. Unprepared suppliers who have not made savings must buy in the market someone else's savings at market prices, or if they fail to do so, they are obliged by law to pay certain amounts to the Energy Efficiency Fund. These potential costs have led to some suppliers leaving the market, leading to a further reduction in the number of suppliers in the market.</p>

### 3 Key property II: Low market-entry barriers

To facilitate competition and innovation (including demand response) for new market entrants i.e. suppliers and third parties, barriers need to be as low as possible. Five metrics have been used to measure market-entry barriers.

**Table 2 Metrics used in the self-assessment of key property II “Low market-entry barriers”**

Metric n° and name		Number of NRAs using	Number of NRAs completing gap-analysis
2	Time needed and cost of accessing well-functioning wholesale markets and licencing/balancing regimes	11	2
3	Percentage of consumers connected to “bundled” DSOs	10	1
4	Percentage of consumers with regulated energy prices	18	5
5	Number of common standards for consumer data and for DSO-supplier contract or existence of a national data hub	14	4
6	Availability of time-of-use metering and, where applicable, additional fee paid by the consumer to be able to have time-of-use price vs. traditional metering	13	4

#### 3.1 Metric 2: Time needed and cost of accessing well-functioning wholesale markets and licencing/balancing regimes

The purpose of this metric is to establish whether such procedures are available to all parties interested in becoming, or acting, as a supplier in the market and secondly to establish if such procedures (notably their length and costs) are equal and non-discriminatory for all.

The metric has been used by 11 NRAs. In most of these countries, procedures exist to access either a national or regional wholesale market. It can take up to three months to gain access and the cost differs from 0 up to 50,000 euros. Six<sup>21</sup> of the 11 markets require a supplier licence that can take up to six months to obtain. In most markets, it is possible for market participants to become a party providing balancing services, which takes up to four months. This scenario reflects the same situation observed in 2018.

In Croatia, it takes about two months to obtain access to energy procurement in the wholesale market, and guarantees are needed, while in Norway, a trading license (from the NRA) takes around four weeks and it is free. In Denmark, as in Slovenia, there are no supplier licences and there are no costs for registration.

In order to check the implementation of procedures in practice, NRAs could submit a questionnaire to suppliers so that it would be possible to compare the time needed and the cost of accessing well-functioning wholesale markets and licencing/balancing regimes across market participants.

Two NRAs report that they have done gap-analysis for this metric.

<sup>21</sup> Croatia, Cyprus, Ireland, Luxembourg, Norway and Portugal.

The European Commission will publish Country Handbooks in the framework of the “Barriers to Entry and Competition in EU energy retail markets” project, which covers also national licencing procedures<sup>22</sup>.

### 3.2 Metric 3: Percentage of consumers connected to “bundled” DSOs

Bundled DSOs and suppliers acting in collusion towards customers might prevent new actors from entering a market. Therefore, there must be a sufficient level of unbundling between suppliers and associated DSOs in order to create a level playing field in retail energy markets. The existence of bundled DSOs<sup>23</sup> does not immediately presuppose a problem; nevertheless, it is a sign to look further into the matter. No other CEER publications cover this metric and related data, though there is a publication on implementation of unbundling provisions<sup>24</sup>.

Ten NRAs have used this metric in their self-assessment. Depending on the national market circumstances, the data reported on the percentage of customers connected to bundled DSOs differs from 0 to 100 percent. In most of these markets there are DSOs with bundled suppliers exempt from the legal requirements in the 3<sup>rd</sup> Package.

In 2018, in Denmark, 567,104 or 16.7% of the Danish customers (metering points) were connected to 36 exempted DSOs. At the same time, the number of rival suppliers operating in the exempt DSO areas was 38 and the total number of electricity suppliers was 39. This means that the number of rival suppliers operating in the exempt DSO areas compared to the total number of suppliers is roughly similar. In Norway, 42% of customers are connected to exempted DSOs.

In Cyprus, as there is no liberalised market, the NRA reported that 100% of consumers were connected to a single exempt bundled DSO, the only DSO operating.

One country’s NRA reported that they have done a gap-analysis.

The NRA in Luxembourg concluded that in 2018, the percentage of consumers supplied by rival (or alternate) suppliers in exempt bundled DSOs’ networks over the number of consumers connected to the exempt bundled DSOs was 4% in electricity and 0.5% in natural gas. The NRA’s target is that in any given year in both electricity and natural gas markets rival suppliers: (a.) active in the exempt bundled DSOs’ areas supply a higher number of consumers over the total number of consumers connected to the exempt bundled DSOs than the previous year, and (b.) active in areas where the DSO is not ownership unbundled supply a higher number of consumers over the total number of consumers in the country than the previous year.

#### 3.2.1 Pilot: Germany – Metric 3

##### Quantification & Results

<sup>22</sup> <https://www.european-energymarketbarriers-project.eu/>

<sup>23</sup> Under the Clean Energy Package, energy networks are subject to unbundling requirements, which generally oblige MS to ensure the separation of vertically integrated energy companies, resulting in the separation of the various stages of energy supply (generation, transmission, distribution, and retail). For more on this, see CEER’s June 2019 “Status Review on Implementation of TSO and DSO Unbundling Provisions – Update and Clean Energy Package Outlook”: <https://www.ceer.eu/1740>

<sup>24</sup> CEER Status Review on Implementation of TSO and DSO Unbundling Provisions, <https://www.ceer.eu/1740>

As energy networks are regulated monopolies, DSOs have exclusive access to all customers within their network area. Directive 2019/944 requires legal, functional, informational and accounting separation of DSOs and suppliers within a vertically integrated utility, although it also specifies exemptions from these requirements for smaller DSOs.

In Germany, all DSOs are unbundled according to the provisions of the directive. DSOs serving 100,000 or more connected customers have to fulfil legal, functional, informational and accounting unbundling. DSOs with less than 100,000 connected customers are exempted from legal and functional unbundling and are called “de-minimis”.

Some DSOs are a part of a vertically integrated group of companies with more than one integrated DSO. In order to determine the number of customers connected to a DSO, the numbers of connected customers of each vertically integrated DSO within the group has to be taken into account. This should avoid the circumvention of unbundling rules.

Since the composition of shareholders of a company can change due to mergers and acquisitions, the legal obligations of DSOs with regard to unbundling can change too.

Many smaller DSOs which are vertically integrated among themselves are equally relevant for the market as is one large DSO. If their combined number of connected customers is 100,000 or more, they need to apply legal and functional unbundling.

#### **Purpose**

For new suppliers entering the market, both national and cross-border, it is essential to have the same rules. Therefore, there must be a sufficient level of unbundling between suppliers and associated DSOs in order to create a level playing field in retail energy markets. This is essential, in order for all competitive actors to be able to compete on the same terms.

#### **Source of data**

There is no direct source for data. DSOs are obliged to participate in the German Federal Network Agency’s (BNetzA) annual market monitoring survey. DSOs are also obliged to publish<sup>25</sup> the number of consumption points on their websites, which is an indicator for the number of customers connected to their network. For small DSOs, which are obliged to unbundle legally and functionally because they are part of a vertically integrated group of companies, there is no direct source of data. Vertically integrated undertakings (VIU) are obliged to publish and implement an “equal treatment program” for their members of staff employed by the DSOs. They are also obliged to file an annual report on this program, which includes all DSOs of the VIU, to BNetzA.

#### **Quantification**

Germany has implemented the 3<sup>rd</sup> Package requirements around distribution unbundling completely. Therefore “bundled” DSOs do not exist anymore. However, Germany has made use of the option in Article 26 par. 4 of Directive 2009/72/EC to exempt DSOs serving less than 100,000 connected customers from legal and functional unbundling.

The 2019 monitoring survey revealed a total number of 51.4 million final electricity customer metering points supplied in DSOs’ network areas, including 48.4 million metering points of household customers.

#### **Unit of measure**

The unit of measure is the number of connected customers served by the DSOs. Connected customers of vertically integrated DSOs are added together.

Customers connected to a downstream electricity or gas DSO which is not vertically integrated with the upstream network operator, are not added up. Because in the case that there is more than one upstream DSO, it is not clear how connected customers at the downstream level should be allocated to one of the upstream network operators.

<sup>25</sup> According to § 27 StromNZV, § 27 GasNZV

In Germany, 80 out of 839 electricity DSOs have more than 100,000 connected customers and 75% of all electricity customers are connected to these 80 DSOs. The quantity of electricity supplied through these 80 DSO networks amounts to 73% of all delivered electricity.

#### Gap-analysis

The German NRA has not done any gap-analysis.

### 3.3 Metric 4: Percentage of consumers with regulated energy prices

“ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2019”<sup>26</sup> covers the existence of price intervention in electricity and gas markets.

In the self-assessment, the purpose of this metric, in the context of the adoption of the Clean Energy Package, is to measure the impact of price interventions with the ultimate goal of having prices set by the market. This contributes to removing barriers to entry for new suppliers and to creating a level playing field between competing actors<sup>27</sup>.

According to the new Electricity Directive approved in 2019, regulated prices will only be allowed under certain circumstances<sup>28</sup> for a limited time, and under specific rules that will be followed-up by the European Commission between 2022 and 2025. EU Member States shall also ensure the protection of energy-poor or vulnerable household customers pursuant to Articles 28 and 29 in the Directive by social policy or other means than public interventions in the price setting for the supply of electricity.

This metric was used by 18 NRAs in their self-assessment, and according to data provided the percentage of customers on regulated prices varies from 0 to 100 percent. There are social tariffs for vulnerable customers, as well as ex-ante and ex-post regulation. In markets with social tariffs, approximately around 5 to 20 percent of customers have such tariffs.

The Spanish NRA uses “Cost plus methodology”, which means that the regulated prices include energy cost (hourly wholesale market) + grid tariffs + commercial margin. To fix the commercial margin, the Spanish NRA asks for the annual accounts of the suppliers of last resort, as well as the accounts of other big suppliers, in order to compare and calculate the cost of the activity. The NRA then proposes a margin that Government approves. 39% of electricity customers have regulated prices representing 11% of the Spanish consumption volume covering, for example, households with low incomes, large families or retired citizens.

<sup>26</sup> <https://www.ceer.eu/national-reporting-2020>

<sup>27</sup> The definition of this metric was changed due to the new Electricity Directive and therefore differs from the definition that was given in the CEER 2017 Handbook for National Energy Regulators. The Handbook used the definition of ‘regulated prices’ instead of ‘price interventions.’

<sup>28</sup> Article 5 (3a): Public interventions in the price setting for the supply of electricity shall: (a) pursue a general economic interest and not go beyond what is necessary to achieve that general economic interest; (b) be clearly defined, transparent, non-discriminatory and verifiable; (c) guarantee equal access for Union electricity undertakings to customers; (d) be limited in time and proportionate as regards their beneficiaries; (e) not result in additional costs for market participants in a discriminatory way.

In January 2019, British energy regulator Ofgem introduced the default tariff cap<sup>29</sup> as a temporary measure that places a limit on the price suppliers can charge for default and standard variable tariffs.<sup>30</sup> From 2020, Ofgem will be carrying out an annual review of the market to assess whether the conditions for effective competition such that the default tariff cap is no longer required. The result of the first annual review carried out by Ofgem in 2020 is described in a pilot below.

In Belgium, certain categories of households are considered to be vulnerable and may benefit from the status of "protected customer" under certain conditions. In 2018, in the Walloon Region, 11% of all residential electricity customers were protected customers; in gas, 13.5% of the total residential customers were protected customers.

In Georgia, the regulatory commission sets the overall threshold tariffs, which cover all costs for supplying the electricity to the consumer, including generation, transmission and distribution. The Georgian NRA reports that social tariffs do not exist in Georgia. In Latvia, there is a price reduction for vulnerable customers such as low-income families, large families or families that take care of children with disabilities. Persons with disabilities are also considered to be vulnerable customers

In the self-assessment, five NRAs state that they have done a gap-analyses.

In Poland, 64% of household customers currently have a regulated electricity price. A number of default suppliers offer non-regulated prices to all households. The share of customers on non-regulated prices is also growing. The Polish NRA is following this development and has recently began to monitor internal switches in order to see how many customers switch from a default supplier's regulated price to the same supplier's non-regulated price. The future target is a fully competitive market.

In Denmark, the national objectives of 0% regulated electricity prices (metric 4) and the existence of a datahub in Denmark (metric 5) have been achieved through legislative changes to the Danish Electricity Supply Act that have been adopted by the Danish Parliament. The Danish Utility Regulator (DUR) is not the competent authority in Denmark to determine national retail market objectives and how to reach them, and as such, DUR has not set the objectives for these metrics.

### 3.3.1 Pilot: Great Britain – Metric 4

Quantification & Results
In 2019, Ofgem developed an assessment framework in order to determine whether conditions are in place for effective competition in the domestic retail market to recommend lifting the price cap: (1) that there are structural changes facilitating competition; (2) the competitive process is functioning well; and (3) the market outcomes are fair for consumers (see section Gap analysis below for details). Below is a summary of Ofgem's analysis undertaken and conclusions on each condition.

<sup>29</sup> It is a cap on prices, not energy bills – which depend on the level of energy consumption.

<sup>30</sup> This was due to widespread concern that the market was not working as well as it should for consumers on these tariffs, who are typically less engaged with the market and the products it offers. In particular, there was concern that these consumers were being overcharged for their energy supply. For more details see: CMA (2016), ["Energy market investigation: Final report"](#)

**Condition 1: Structural changes from the government, Ofgem and the wider market are facilitating competition.**

Some important progress has been made, such as the modification of licensing requirements to ensure that new entrants are well prepared to meet their commitments to consumers who switch to them, while retaining incentives for supplier entry and innovation. The market is also providing innovative ways for consumers to engage directly or indirectly, for example through price comparison websites and automatic switching services. However, progress with other changes, such as the installation of smart meters (see **Error! Reference source not found.**2), have been slower than expected and further limited by the Covid-19 pandemic. Finally, changes in the coming years – such as Ofgem’s Faster and More Reliable Switching Programme – are intended to enable greater consumer engagement, confidence and trust in the market and will help with progress in meeting in this condition. Overall, Ofgem concluded that Condition 1 is not yet met.

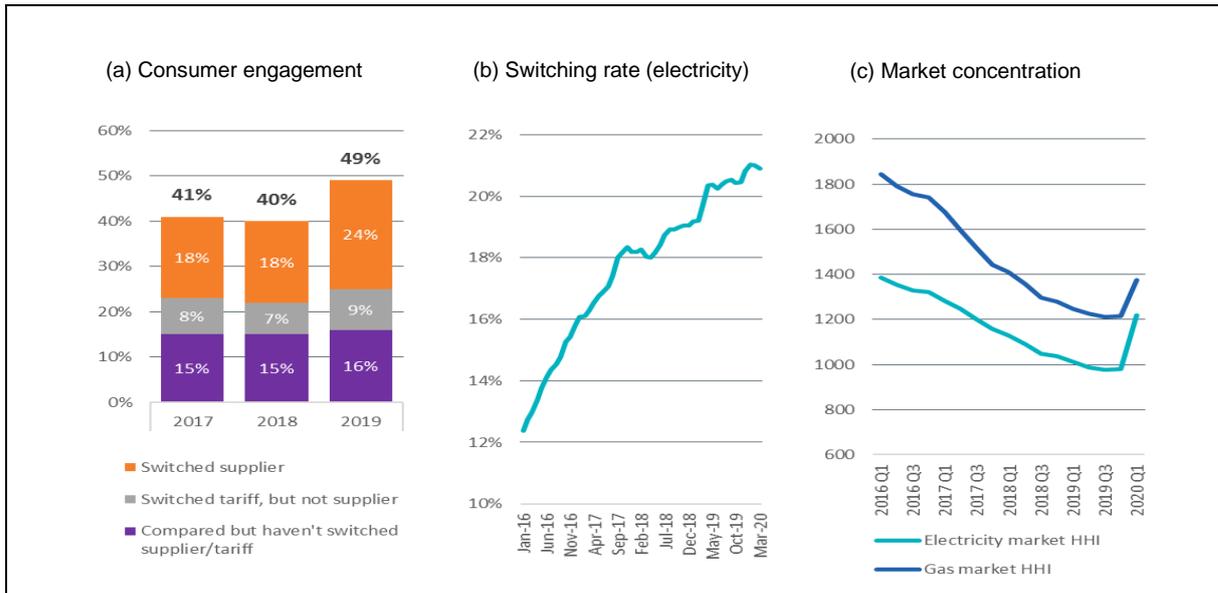


**Figure 2 Progress with installing smart meters in Great Britain**

Source: BEIS (2020) “[Smart Meters Statistics, Quarter 1 2020, Great Britain](#)”.

**Condition 2: Competition should be expected to work well in the absence of the price cap.**

Since the time of the Competition and Market Authority’s Energy Market Investigation in 2016, the retail market has become more competitive. Consumer engagement has overall increased and we have seen record high rates of switching leading up to Covid-19: this trend has been driving stronger rivalry between suppliers, with medium-sized suppliers in particular winning and retaining customers from the large incumbents.



**Figure 3 Consumer engagement has increased, and the market is less concentrated in Great Britain**

Source: Ofgem Consumer Surveys 2017, 2018 and 2019 and Ofgem's analysis of data from Distribution Network Operators (DNOs) and Xsoserve.

However, Ofgem remains concerned about the size of the disengaged customer segment, who are more likely to be lower income, and the competitive dynamics that may lead these customers to be overcharged if the default tariff cap was lifted. While the proportion of households on default tariffs for electricity has fallen by 4 percentage points since 2016, it remains the case that the majority of households are on these tariffs.<sup>31</sup>

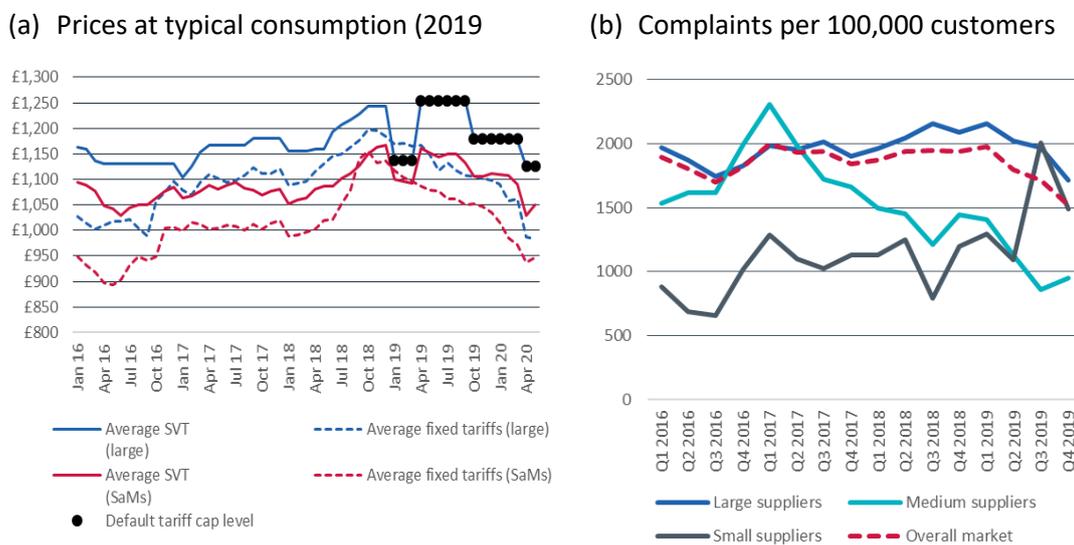
The larger suppliers are pursuing efficiency programmes to bring costs closer in line with the efficient benchmark of the default tariff cap. However, these programmes will take time to bear fruit and deliver lasting productivity gains. In addition, the Covid-19 pandemic has placed financial strain on both consumers and suppliers. As the situation evolves, the scale of these issues will become clearer and Ofgem are monitoring closely how this may affect market structure and competition. Ofgem will also monitor how switching and consumer engagement more generally evolve, given the dip in switching rates since the pandemic. Overall, Ofgem concluded that Condition 2 is not yet met.

<sup>31</sup> As of October 2019, 52% of all electricity customers were on default tariffs.

**Condition 3: Competition should deliver fair outcomes for consumers.**

Ofgem expected that the default tariff cap would narrow price differentials between default tariffs and fixed tariffs, because it lowers the price of default tariffs. However, price differentials have not fallen, but may still be lower than if the cap were not in place (see **Error! Reference source not found.4**). There is therefore significant uncertainty on how prices and differentials will evolve post-cap, with little evidence to suggest that households on default tariffs would continue to pay a fair price if the cap were lifted. This, in combination with increased pressure on household budgets due to Covid-19, increases the risk of lifting the cap.

There is significant variation in quality of service across suppliers, with customer satisfaction highest among medium-sized suppliers, and rising complaints among customers of smaller suppliers. Overall, it is not clear that customer service is improving. Overall, Ofgem concluded that Condition 3 is not yet met.



**Figure 4 Tariff prices and customer complaints in Great Britain**

Source: Ofgem analysis of Energylinx (Until May 2017) & Energyhelpline (June 2017 onwards) and supplier data.

**Gap-analysis**

Ofgem developed an assessment framework for meeting the requirements under Section 7 of the Tariff Cap Act<sup>32</sup>. The framework has four key components: one definition of effective competition<sup>33</sup> and three conditions for effective competition. While the conditions may be satisfied individually to differing degrees, Ofgem will assess whether they have been met overall.

**Definition of effective competition**

<sup>32</sup> See Ofgem (2019) "[Decision – Framework for assessing whether conditions are in place for effective competition in domestic supply contracts](#)".

<sup>33</sup> The Tariff Cap Act does not define effective competition, nor is there a generally accepted definition in relevant policy frameworks or academic literature. For our decision framework, we therefore developed a definition. Our definition and related conditions should be viewed within the context of the requirements under the Tariff Cap Act (i.e., to assess whether conditions are in place for effective competition in domestic supply contracts, and make a recommendation on whether the price cap on default tariffs should remain in place or be lifted).

- Ofgem will consider competition to be effective if there are no significant barriers to consumers being able to access, assess and act on information about the products and services they may want, driving rivalry between firms to win and retain customers.
- Consumers should get fair outcomes in terms of what matters to them, including not being overcharged from either firms making excessive profits or passing on inefficient costs, having access to a reasonable range of tariffs to meet different needs, receiving a good quality of service and being able to transfer quickly and reliably.

#### Conditions for effective competition

- Condition 1: Structural changes are facilitating competition.  
Structural changes are facilitating or can be expected to facilitate the competitive process. These structural changes include those from the government, Ofgem, and the wider market.
- Condition 2: Well-functioning competitive process.  
The competitive process in the domestic retail energy market should be expected to work well in the absence of the cap.
- Condition 3: Fair outcomes for consumers.  
The competitive process should be expected to deliver fair outcomes for consumers in terms of what matters to them. For example, this includes not being overcharged due to prices being set high for excessive profits and/or due to inefficient costs being passed on.

Having applied the assessment framework, Ofgem concluded that conditions for effective competition in the domestic retail market are not yet in place and recommend retaining the default tariff cap for 2021.<sup>34</sup> This will ensure that customers are protected while the functioning of the retail energy market continues to improve.

### 3.3.2 Pilot: France – Metric 4

#### Quantification & Results

Until 2015, the French energy regulator CRE was calculating the percentage of regulated energy prices for all four market segments existing in the retail market in electricity (households, small business customers, medium industrial customers and large industrial customers) and the three segments in natural gas (households, industrial customers connected to the distribution grid and industrial customers connected to the transmission grid). However, since 2016, regulated prices were removed for the medium and large industrial customers (all customers with a subscribed power above 36 kVA) in electricity and for the non-household customers whose consumption exceeds 30 MWh in natural gas.

Therefore, CRE is calculating the percentage of regulated energy prices for the remaining segments, including the household segment and the segment of small business customers for both electricity and gas.

The data is collected on a monthly basis from the main DSOs and Transmission System Operators (TSOs). To calculate the percentage of consumers with regulated energy prices, CRE uses the ratio of the number of consumers with regulated prices and the total number of consumers for each market segment.

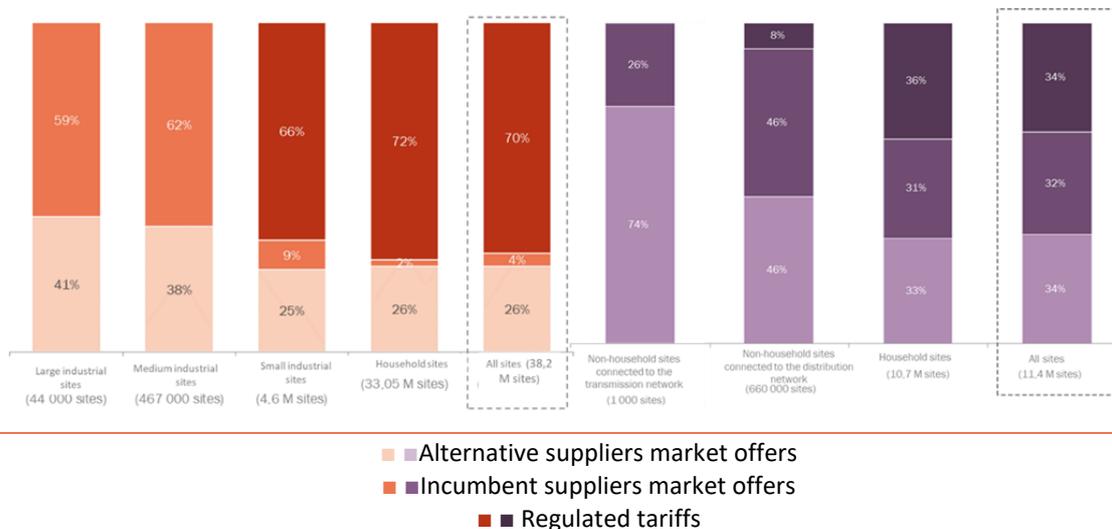
Knowing the percentage of consumers with regulated energy prices is crucial for an accurate assessment of the market development. Nevertheless, it is important also to mention that as for the other indicators, this indicator should be considered alongside other indicators such as the switching rate or other similar indicators of consumer engagement. In order to obtain a complete picture of the health of one's energy market, the NRA needs to know the number of consumers in each segment that have contracts under regulated tariffs. This can also provide information about the behaviour of consumers. If the percentage of consumers with regulated energy prices is high, it can be said that

<sup>34</sup> The Secretary of State will consider it and make a decision by 31 October 2020.

consumers are not active participants in the market and stay with their incumbent supplier by historic reasons of loyalty, but also because of low level of knowledge of market opening and the possibilities offered to consumers. This leads to a more closed market with little competition. On the other side, if the percentage is low, consumers are changing suppliers and are choosing alternative suppliers, which can be interpreted as an evidence of a more dynamic market. However, it is true that consumers can also stay with their incumbent suppliers under market-price based contracts that are more difficult to qualify as market opening, although the percentage of consumers with regulated energy prices is low.

In France, regulated energy prices still dominate the household segment in electricity, with 72% of customers with a contract under regulated tariff in December 2019. However, it is important to note that this figure is decreasing and that market offers are developing with more households choosing these. The natural gas household segment is better developed with only 36% of households under regulated tariffs. Nevertheless, the market share of customers having chosen a market offer with an incumbent supplier is significant, which is not the case in electricity. In the natural gas market, 31% of the households chose a contract with a market offer with an incumbent supplier compared to 33% of the customers with a market offer with an alternative supplier. The main question remains, as mentioned before, to what extent a market opening is valid when customers are choosing the market offers with the incumbent suppliers.

The situation is similar regarding the small business customer segment: dominant regulated tariffs in electricity and market openness in natural gas. In electricity, 66% of the small business customers were supplied under regulated tariffs in December 2019, while this number is very low in natural gas where only 8% of the customers have chosen a contract under regulated tariffs. As for the household segment, the breakdown of offers between market offers with incumbent and alternative suppliers is equal where each has 46% market share.



**Figure 5 Breakdown of offers in electricity (left) and gas (right) as of 31st of December 2019 in France**

The type of price regulation in France takes the form of an ex-ante price regulation. As defined by CEER, in an ex ante type of regulation, the price is defined by the responsible authority based on underlying information on the market, before market participants conclude contracts based on these prices. The Ministry in charge of energy sets regulated tariffs in France, on a proposal from the Energy Regulator. Electricity regulated tariffs change once or twice a year, while natural gas regulated tariffs change once a month.

### Gap-analysis

CRE does not have the competence to set national objectives. The data collected for the indicator presented above reflects CRE's duty to undertake retail market monitoring and its wish to have a broad vision of the functioning of electricity and gas retail markets.

However, CRE is constantly working on improving its retail market surveillance indicators in order to obtain an even broader picture of the market and evaluate the number of customers under regulated tariffs and their offer changing from one offer to another and from one supplier to another. In that sense, in 2017, CRE widened its spectra of indicators by introducing new ones, with suppliers as the source of data this time. The following indicators were introduced:

- Number of connections and disconnections for contracts under regulated tariffs;
- Number of connections and disconnections for contracts under market offers;
- The number of customers changing contract from a regulated tariffs contract to a market contract within the same supplier; and
- The number of customers changing supplier from market offers to regulated tariffs offers within the same supplier.

In the near future, the monitoring of regulated prices will change in France, as some segments of the retail market will no longer be eligible for regulated tariffs. The new Climate Energy Law, voted on in November 2019, stated that regulated prices will be removed as following:

**In natural gas:**

- As of 1 December 2020, for all non-household customers with an annual consumption under 30 MWh
- As of 1 July 2023, for all household customers with an annual consumption under 30 MWh.

**In electricity:**

- As of 1 July 2021, for all non-household customers employing more than 10 persons or with annual revenue exceeding 2 million euros.

This same law provides that, in the context of the end of the regulated tariffs for certain customer segments in gas as in electricity, CRE should calculate and publish margins and average prices of supply of gas and electricity once a year, distinguishing between domestic and non-domestic consumers. Currently, CRE is considering the introduction of these new indicators by consulting the suppliers, and also some neighbouring European regulators who already have in place monitoring of margins and prices.

### 3.3.3 Pilot: Malta – Metric 4

#### Quantification & Results

Several of the articles in the 3<sup>rd</sup> Package (Directive 2009/72/EC) do not apply to Malta, for example, article 33 (Market Opening and Reciprocity) and article 32 (Third Party Access). Directive 2009/72/EC is transposed into national law through the Electricity Market Regulations. This regulation states that a licence to supply electricity to final customers may only be issued to the distribution system operator, Enemalta plc.

Therefore, the Maltese retail market for electricity is not open to competition. The situation is not expected to change in the near future since Directive 2019/944, Article 6 (Third Party Access) does not apply to Malta. The generation of electricity is open to competition with producers having the option to either generate for their own consumption and/or sell to the DSO.

Until 2017, the generation of electricity was mainly the responsibility of the vertically integrated DSO with the exceptions for a number of small private producers generating from renewable energy. This situation changed in 2017 with the divestment of a portion of the generation plants owned by the DSO and the entry of another company in the generation sector. These changes occurred in combination with the introduction of LNG for electricity generation.

There is no liquid wholesale market. Producers sell their electricity to the DSO either on the basis of a power purchase agreement; tariffs and conditions established by regulations; or through tender for solar PV systems.

All electricity customers in Malta are on regulated tariffs. There are three main tariff structures categorised as residential, domestic and non-residential. Residential tariffs apply for the consumption of households in their primary residence; the domestic tariffs to any premises intended for domestic use. Non-residential tariffs apply for the consumption of electricity in any premises not for residential/domestic use.

The regulated electricity retail tariffs are composed of a fixed annual service charge and a rising kWh consumption bands tariff structure. A maximum demand tariff applies for service ratings above 60 Amps/phase. The electricity tariffs cover the cost of the generation/wholesale price of electricity, distribution and supply.

Households may benefit from a reduction in the consumption bill with respect to their primary residence if their consumption does not exceed an established threshold

There are no social tariffs. Vulnerable electricity customers are catered for within the social policy framework. The Department of Social Policy has established the criteria whereby certain categories of energy consumers may be eligible to receive energy benefits. The energy benefit amounts are deducted directly from the electricity bills. The Regulator does not have any role in the determination of vulnerable customers.

Price regulation in Malta takes the form of ex-ante price regulation. The procedure for the approval of the electricity retail prices is established by regulation 36 of the Electricity Supply Regulations. In terms of these regulations the Regulator for Energy and Water Services (REWS) shall approve any proposed tariffs submitted by the distribution system operator that provide sufficient revenue to cover the full cost of generation, distribution and supply of electricity, cover loan repayments and provide a reasonable rate of return on equity.

REWS is required to issue a decision on the proposed tariffs within six months from the submission by the DSO.

In the event of a review of the electricity retails tariffs, REWS publishes the documents related to the review process on its website<sup>35</sup>.

In the case of a refusal from REWS to approve any proposed tariffs, the DSO may appeal to the Administrative Review Tribunal.

The approved tariffs are communicated to the Minister responsible for energy and enter into force through the publication of an amendment to the Electricity Supply Regulations. The residential and domestic tariffs were last reviewed in March 2014 and the non-residential tariffs in March 2015. REWS did not receive any proposal from the DSO for the review of tariffs since March 2015.

To calculate the percentage of customers in between domestic/residential and non-residential, REWS uses the number of electricity accounts in each segment.

The data related to the electricity accounts in each segment is provided by the DSO on an annual basis as a requirement of the licence conditions.

#### **Gap-analysis**

Malta has no national objective to change the situation regarding price-regulation.

### **3.3.4 Pilot: Cyprus – Metric 4**

#### **Quantification & Results**

<sup>35</sup> Regulator's website: <https://www.rews.org.mt/#/en/fa/27>

The Cypriot electricity sector is today 100% covered on the supply side and more than 90% on the generation side by the state-owned Electricity Authority of Cyprus (EAC). However, the energy sector in Cyprus is undergoing fundamental transformations concerning its structure and organisation, its institutional framework and the diversification of its energy mix.

Several Articles of Regulation (EU) 2019/943 do not apply to Cyprus until its transmission system is connected to other Member States' transmission systems via interconnections. Moreover, if the transmission system of Cyprus is not connected to other Member States' transmission systems by means of interconnections by 1 January 2026, Cyprus shall assess the need for derogation from those provisions and may submit a request to prolong the derogation to the Commission. The Commission shall assess whether the application of the provisions risks causing substantial problems to the operation of the electricity system in Cyprus or whether their application in Cyprus is expected to provide benefits to the functioning of the market.

Cypriot NRA Cyprus Energy Regulatory Authority (CERA), in order to fulfil its duties concerning the monitoring of the implementation of rules relating to the roles and responsibilities of transmission system operators, distribution system operators, suppliers, customers and other market participants pursuant to Regulation (EU) 2019/943 (for the articles that derogations do not apply for Cyprus), is in close cooperation with the Ministry of Energy, Commerce and Industry (MECI), concerning the harmonisation of the relevant legislation. The national legislative package that incorporates the provisions of the Directive (EU) 2019/944 and some of the provisions of the Regulation (EU) 2019/943 is expected to be finalised by the end of 2020.

Furthermore, CERA ensures that the roles and responsibilities of each market participant are clearly defined and provided through the Trading and Settlement Rules.

Cyprus uses a mix of ex-ante and ex-post price regulation for all tariffs and all consumers, except for the social tariff for the low-income households. Tariffs are set ex-ante, and in some instances, adjustments are made on an ex-post basis based on the Tariff Methodology. An incentive-based Tariff Methodology is followed.

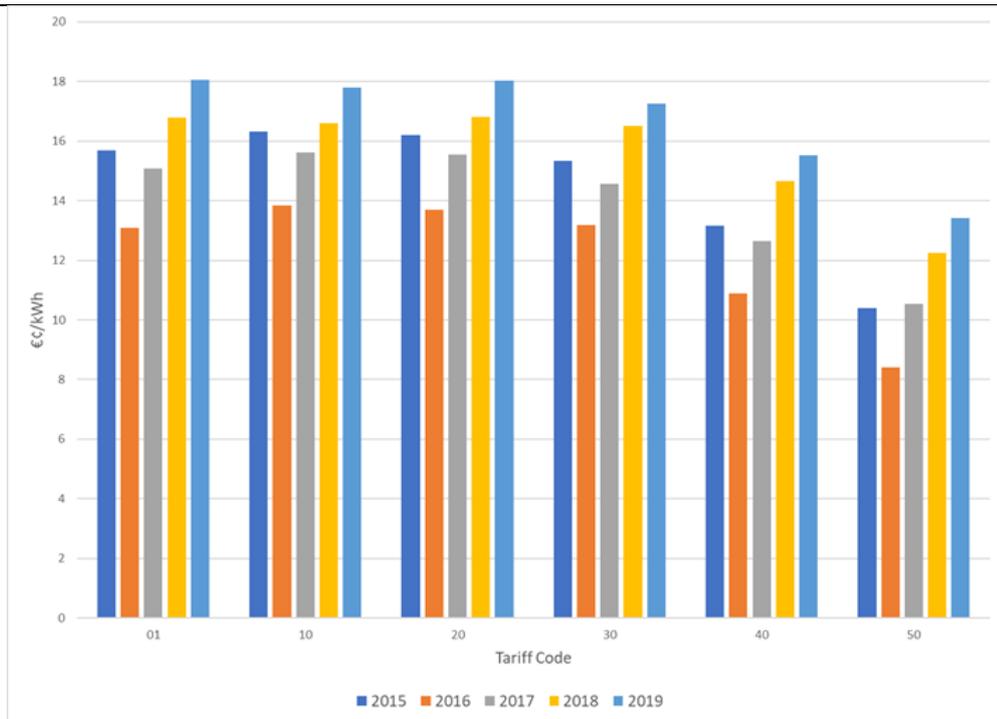
Figure 6 shows the average electricity price per kWh sold, excluding the Renewable Energy Source (RES) levy and the VAT, for the years 2015 to 2019:

- 01: Single Rate Domestic Use Tariff
- 10: Bi-monthly Low Voltage Single Rate Commercial Use Tariff
- 20: Bi-monthly Low Voltage Single Rate Industrial Use Tariff
- 30: Monthly Low Voltage Seasonal Two-Rate Commercial and Industrial Use Tariff
- 40: Monthly Medium Voltage Seasonal Two-Rate Commercial and Industrial Use Tariff
- 50: Monthly High Voltage Seasonal Two-Rate Commercial and Industrial Use Tariff

Figure 6 also shows that the 01, 10 and 20 code prices (domestic, commercial low voltage and industrial low voltage, respectively) are higher than other tariffs, while the 30, 40 and 50, which are Seasonal Time of Day (STOD) prices (low, medium and high voltage commercial and industrial respectively) are at a lower level.

The reduction of the basic price of tariffs from 2017 onwards is due to CERA decisions on the new regulated electricity tariffs under the Regulatory Decision N<sup>o</sup> 02/2015 "Statement on Regulatory Practice and Methodology of Electricity Tariffs".

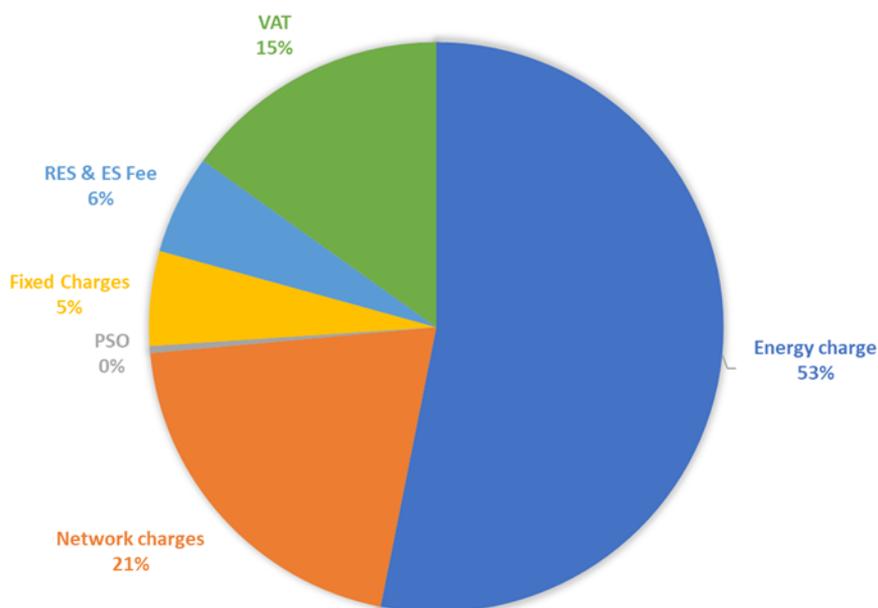
Single Rate Domestic Use Tariff (Code 01), applies to all household consumers. However, household consumers may also apply for Two Rate Domestic Use Tariff (Code 02), which is a Seasonal Time of Day tariff. Vulnerable household consumers may apply for Domestic Use Special Tariff for Specific Categories of Vulnerable Customers (Code 08).



**Figure 6 Average Tariff Rate (excluding the RES levy and the VAT) in Cyprus**

CERA, by Decision 160/2017, approved the new tariffs of the Electricity Authority of Cyprus, which show the separation of the electricity price in the individual charges of each regulated activity. With the additional information, the consumer will be able to make better decisions about consumption.

Figure 7 shows the electricity invoice breakdown per billing category for a typical household consumer with a consumption of 600 kWh in December 2018 at the basic price (excluding fuel adjustment).



**Figure 7 Electricity invoice breakdown in Cyprus**

### Gap-analysis

The overarching objectives of the tariff regulation are to maximise the long-term competitiveness of the Cypriot economy, protect the interests of consumers in the short and long term against prices established on a monopoly basis, meet public service obligations, safeguard the security of electricity supply and promote energy efficient and quality of the services provided by the licensees.

The tariffs are determined on the basis of a methodical and consistent application of the principles set out in the methodology (Regulatory Decision 02/2015); and the proposals and decisions about tariffs are evidence-based and are formulated after thorough consultation with the parties concerned.

More specific objectives of regulated tariffs are that they:

- reflect the cost of service so as to enhance economic efficiency;
- allow the reasonable prospect of recovery of efficient costs;
- are fair and non-discriminatory unless justified on the grounds of other tariff objectives such as enhancing economic efficiency;
- avoid cross subsidies between different electricity sector activities (i.e. generation, transmission system ownership, transmission system operation, distribution system ownership, distribution system operation and supply);
- are simple, transparent and predictable;
- encourage efficient consumption decisions by consumers;
- are compatible with the clear environmental objectives set by the Republic of Cyprus;
- allow the recovery of efficiently incurred costs related to public service obligations and the promotion of generation of electricity from renewable energy sources and high-efficiency cogeneration;
- encourage security of electricity supply;
- provide incentives to regulated firms to operate efficiently; and
- promote efficiency and quality of the service provided by licensees.

CERA approves the allowed revenue, in accordance with the periodic regulatory review and in accordance with the objectives set out above, for each of the activities of generation by a dominant generator, transmission system ownership, transmission system operation, distribution system ownership, distribution system operation and supply by a dominant supplier.

Prior to the start of each regulatory control period, CERA conducts a periodic regulatory review to determine the allowed revenues for each activity for the regulatory control period. Each regulatory period is five years. The first regulatory period started in 2017.

The objective of the periodic regulatory review is to incentivise the provider of each regulated activity to reduce controllable costs while allowing the provider of the activity the reasonable prospect of recovering its reasonable costs so as to maintain a viable efficient business. The provider of a regulated activity shall bear the difference between its allowed revenues for a regulatory control period and its actual costs for the regulatory control period, where the difference may be positive or negative, and the difference shall not be carried forward as an adjustment to the allowed revenues of a future regulatory control period except as allowed for in accordance with a factor adjustment described in the methodology. The allowed revenues arising from non-controllable operational costs shall be adjusted when there are deviations in the forecasted energy or when factors change.

The electricity companies, currently only the Electricity Authority of Cyprus (EAC), prepare and submit to CERA for approval, tariff proposals based on the published methodology, not later than six months before the start of the regulatory period during which the proposed tariffs will be implemented. Upon receipt of the approval, the electricity company must publish the approved tariff plan and inform its customers.

### **3.4 Metric 5: Number of common standards for consumer data and for DSO-supplier contract or existence of a national data hub**

The purpose of this metric is to monitor the possibility of accessing information easily for suppliers, aggregators and other third parties in the retail market. The lack of access to consumer data is a barrier for both new national and cross-border actors.

The metric is used by 14 NRAs. In this year's self-assessment, six NRAs<sup>36</sup> have reported that they have some sort of national data hub or other centralised data solution in place.

In Austria, two data hubs cover all customer-related procedures, which allows a standardised data exchange.

The Danish data hub is run by the Danish TSO Energinet. When a Danish customer enters into a supply contract, the supplier obtains access to the customer-related master data, metering point-related master data and metered data. A supplier that the customer does not have a contractual relationship with (for example, a potential supplier or a third party), can be authorised to obtain access to the customer's data. The authorisation is part of the customer-controlled access to data in the DataHub, whereby a customer can give data authorisation by a secure log-in solution. Electricity suppliers must have an agreement with DSOs, where the supplier intends to supply electricity to customers. The agreement between the supplier and DSO may be based on the standard agreement prepared by the Danish Energy Association. According to these standard terms, the DSO requires new suppliers to provide security for future payments, until the supplier has submitted two successive annual accounts.

In Italy, a national centralised data hub for the electricity and gas markets was implemented in 2012. The hub is run by Acquirente Unico (a neutral and institutional company) and contains customers' data together with commercial and technical data for all points of delivery. The main functions are to facilitate exchange of metering values, manage switching and moving and to provide data to the TSO for settlement. At present, Italian consumers do not have access to the data in the data hub. However, in 2019 a consumption data portal was instituted. Here, consumers may access their historic consumption data for all points of delivery in their name (currently for the past 12 months, but soon it will be extended to 36 months). Third parties can access consumption data based on explicit consumer consent.

In the Netherlands, a centralised data hub facilitates market functioning. The data hub contains metering data, data related to the point of delivery, data related to various energy-processes (such as supplier switching) and supplier-consumer contract data (current supplier and current contract end date). The individual consumer owns the data and the information may only be accessed by a market participant based on explicit consumer permission.

Since 2019, Norway has a national datahub in place where suppliers and third parties (after customer consent) have access. It is run by the TSO. In Belgium, Atrias is the designated party supervising the central market system/data hub, ensuring optimal data exchange between all market participants. According to the Belgian NRA, the realisation and adaption of the platform to keep track with the new evolution and needs of the energy target models, is and remains a difficult process as such. Croatia has one common standard for data and DSO-supplier contracts. Croatia also has a data-hub.

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<sup>36</sup> Belgium, Croatia, Denmark, Italy, Netherlands and Norway.

An additional number of countries plan or are currently implementing data hubs, for example, Finland and Sweden that will have data hubs in place in 2022 and 2023, respectively.

According to this year’s self-assessment, six NRAs have answered that there are procedures, either in place or under development, containing common standards regarding the accessibility of data for suppliers and third parties. In eight countries, there is or will be a procedure for contracts between DSO and supplier where a supplier-centric model is applicable<sup>37</sup>.

Four NRAs has done a gap-analysis regarding metric 5.

The market communication structure in Luxembourg for both electricity and gas is decentralised, meaning each supplier has to communicate with each DSO. Data exchange can still be a market barrier, notwithstanding the existence of the single data exchange protocol. New entrants are required to undergo specific developments to participate in the Luxembourgish Market Communication. As of 2018, consumers and third parties requested data from suppliers and DSOs using a paper form, as part of a one-off request. This procedure is not yet standardised across DSOs. Billing data is not yet being sent through the electronic market communication route. The envisaged data hub will probably introduce a centralised communication structure and lead to an effort to harmonise data exchange structures and formats between the electricity and gas sectors. In the medium term, the objective is to align electricity and natural gas market communication standards within a national energy data hub.

In Great Britain, based on the extensive engagement and analysis during the “Call for Evidence on Future Supply Market Arrangements”<sup>38</sup>, Ofgem concluded that the current supplier hub model<sup>39</sup> is not fit for purpose for energy customers over the longer term. In line with this conclusion, the UK Government and Ofgem have launched a comprehensive joint review into the retail energy market<sup>40</sup> that outlined the vision for the future to ensure that it can better serve customers’ through enabling innovative business models and propositions, while ensuring future customers are appropriately protected – regardless of their level of engagement.

### 3.4.1 Pilot: Slovenia – Metric 5

Quantification & Results
Over the last decade the electronic information exchange among market participants in the Slovenian electricity market has been developed and standardised. The focus was primarily on ensuring standardised and harmonised processes for the liberalised downstream electricity and gas markets following open standards (e.g. ebIX® models and Harmonised Role Model) and EU rules with proper national customisation. The processes included are continuously developed and enhanced. A supplier-centric model is applied in Slovenia. The procedures and the standards for accessing the metering data within key market processes (supplier switching, imbalance settlement, billing) have been defined and implemented.

<sup>37</sup> These countries are Croatia, Denmark, Great Britain, Luxembourg, Netherlands, Romania and Spain. In Norway, the NRA currently develop a new regulation for the implementation of a supplier centric model, making retailers the main point of contact for consumers.

<sup>38</sup> <https://www.ofgem.gov.uk/publications-and-updates/future-supply-market-arrangements-response-our-call-evidence>

<sup>39</sup> Great Britain currently has a decentralised data hub model, with data only stored at metering point until retrieved by supplier/DSO.

<sup>40</sup> <https://www.ofgem.gov.uk/publications-and-updates/flexible-and-responsive-energy-retail-markets>

According to the Decree on measures and procedures for the introduction and interoperability of advanced electric power metering systems (2015) and the last update of Energy Law (2019), the national data hub providing the means of a single access point to end user metered data should be developed by the DSO. The purpose of the data hub is to ensure uniform communication methods and standardised processes for market participants in a non-discriminatory, objective and transparent way so as to create relatively low market entry barriers. According to the decree, the DSO is responsible for all developments in advanced metering infrastructure domain. Development of the national data hub was classified by the Energy Agency (Slovenian NRA) as a new task for the DSO which should report on status and progress to the Energy Agency and Ministry of Infrastructure; permanent project monitoring based on objectives set in the project plan is performed on yearly basis by the Energy Agency mostly based on following key performance indicators (KPIs): technical alignment (architecture, technology used), completeness and efficacy of data services and economic efficacy.

Metering data is collected in five distribution metering centres managed by distribution utilities which are integrated into a common energy data hub. At the beginning of 2020, more than 75% of metering points were equipped with smart meters (different generations), which allow remote data collection and other basic functionalities as a minimum.

Currently, as a result of the evolution of information interchange, two data exchange platforms cover all customer-related procedures, which allows a standardised data exchange and handle data communication and business processes between market participants in the Slovenian electricity market.

The data exchange platform EVT, together with PERUN web portal managed by the DSO, today handles all major procedures and data regarding the processes of switching and moving of consumers, as well as other data services related to billing.

All metering data and all necessary information for switching & settlement purposes, e.g. electricity taxes and network tariffs, are collected, processed and made available to registered suppliers. The data formats are defined by the *Rules on the system operation of electricity distribution network*, published at the DSO web site. Today, the EVT and PERUN 3.0 cover 36 web services and one message queue data service enabling efficient B2B data interchange by using the following non-exhaustive list of data services:

- Master data;
- Supplier switch;
- Customer move;
- End of supply;
- Monthly meter reading of customer to DSO for billing via supplier by WS B2B;
- History of meter readings;
- History of consumption;
- Tariff change;
- Change of billing grid use fee via supplier or direct billing by distribution;
- Collect data for billing energy and grid use fee;
- Search and reports; and
- Alignment of data.

Since October 2019, the so-called Uniform system for access to metering data (SEDMp), acting as exchange platform together with the web portal “Moj Elektro”<sup>41</sup> has been introduced by five distribution utilities aimed to cover major gaps in uniform access to the metering data for end customers. Initially designed to focus on business-to-consumer (B2C) data services domain only and to accompany the function of EVT/PERUN, it has recently been enhanced with additional features in business-to-business (B2B) data services domain to serve as single data access point for metered data in B2C and B2B domain. Besides the access to billing data and different historical aggregated consumption/production data on daily, weekly and monthly basis, it also provides access to 15-minute metered data.

Similarly to EVT/PERUN, it is integrated with the five metering centres of local distribution utilities. SEDMp gives end users the opportunity to observe the energy usage or production from their own metering points, independently from which metering centre the data collection was made by using the web portal mojelektro.si or a mobile app. The authorisation management function enables customers to grant the access to their data to third parties (suppliers, aggregators etc.) through B2C web access. The additional B2B data services for suppliers, aggregators, energy service providers, distribution companies, regulatory authorities are under development or in a testing phase. In May 2020, the B2B web portal, called “Central electro-energy portal” (CEEPS) was introduced in order to provide uniform access to imbalance settlement data services (in 1h and 15 min intervals) for suppliers and the power market operator.

SEDMp has been introduced in order to provide the following non-exhaustive list of data services:

- **End Customer web portal and mobile app – Moj Elektro:**
  - Daily and monthly metering data;
  - 15 min metering data (for metering points equipped with smart meters);
  - Monthly billing data (the same as on bills);
  - Authorisation process for metering points access for third party;
  - Access to control all customer relations data;
  - Data exports in standard formats;
  - Self-reading billing data import;
  - Information regarding Voltage Quality and Continuity of supply (planned);
  - Statistical end user data for last 12 months (partially implemented); and
  - Interactive calculator for tariff change justification (planned).
- **Business User Portal – CEEPS:**
  - Imbalance settlement (in test);
  - 15 min metering data from RES (planned);
  - 15 min metering data from distribution substations (HV-MV level) (planned); and
  - Aggregated 15 min metering data for distribution area separately (planned).
- **Other Business-to-Business Services:**
  - 15 min data for metering points above 43 kW (daily on schedule);
  - 15 min data for metering point below 43 kW for a cluster of metering point (daily on schedule);
  - 15 min data for batch of metering points (on demand);
  - 15 min metering data from RES (planned); and
  - Aggregated 15 min metering data for distribution area separately (planned).

## Gap-analysis

According to the DSO, the national data hub should have been fully operable in the period of 2017-2018 offering a whole set of data services to users, and all customers should be equipped with smart-meters compliant with the functional requirements set by the decree, at the latest by 2025.

<sup>41</sup> <https://mojelektro.si/login>

The majority of data services planned for the national data hub has been made available to eligible users on the abovementioned platforms. However, the implementation of a national data hub, as well as smart meter roll-out, is still ongoing. Several modifications in data operation and processing are needed before a centralised data hub is compliant with the provisions set by legislation.

The technical architecture of the national data hub defined according to decree back in 2015 should be reviewed and updated. The existing platforms will reach the end of their technical-economic lifespan in 2025 and should be replaced with state-of-the-art data-hub solutions. The consolidation of both platforms, namely EVT/PERUN and SEDMp into a homogenous single IT solution should be anticipated.

The platforms will comply with the provisions of the Clean Energy Package (CEP). Considering the market needs (e.g. flexibility markets) and an increase of active customers, the extended set of data services provided by the existing national data-hub should be available soon after the implementation of CEP.

However, a gap has been identified that is related to technical capabilities of customers with older smart meters. To close this gap, the Energy Agency introduced a provision allowing active customers participating in system services to obtain a state-of-the-art smart meter free of charge.

The consolidation of both platforms into a single data exchange platform should be assured through an evolutionary development lifecycle, in order to assure economic efficiency and future-proof design of the Slovenian national data hub. Besides, the need for new types of national data-hubs with information on flexibility assets (e.g. Flexibility registers) comprising the smart EV charging stations also raises the questions on integration and future optimisation of existing hubs.

The next “future-proof” generation of Slovenian data-hubs should be in place in 2025, utilising the functionalities of the new AMI generation and being integrated with potential newly developed data-hubs supporting the arising flexibility markets. The requirements, rights and obligations of the relevant market participants in terms of the data hub, and thereby also the functionalities of the data hub, should be adequately incorporated and kept updated in the regulations within the framework of the Slovenian Energy Law and secondary legislation (e.g. network codes, market rules etc.).

### **3.5 Metric 6: Availability of time-of-use metering and, where applicable, additional fee paid by the consumer to be able to have time-of-use price vs. traditional metering**

This metric is covered by “*ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2019*”<sup>42</sup>.

The purpose of this metric is to determine if customers have the possibility to be active on the market through demand response or flexibility schemes. If a customer cannot access time-of-use meter readings, retail market competition for new suppliers, aggregators and third parties with innovative contracts could be distorted and market choice restricted. Therefore, a lack of time-of-use-metering hinders both innovation and overall market development.

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<sup>42</sup> <https://www.ceer.eu/national-reporting-2020>

The Electricity Directive that came into force in July in 2019 states that to promote energy efficiency and empower final customers, Member States should recommend that electricity undertakings and other market participants optimise their use of electricity e.g. via the introduction of smart metering systems<sup>43</sup>. The Directive also states that Member States should ensure that the national regulatory framework enables suppliers to offer dynamic electricity price contracts and that final customers who have a smart meter installed can request a dynamic electricity price contract with at least one supplier and with every supplier that has more than 200,000 final customers.

This metric is used by 13 countries. The data provided shows that time of use metering is available in many countries, for example Croatia, Cyprus, Denmark, Finland, France. As described in the ACER-CEER Market Monitoring Report 2018 - Consumer Empowerment Volume<sup>44</sup>, the granularity differs between 15 minutes, 30 minutes, 1 hour, night/day, peak/off-peak and in some cases seasonally. In the examples provided in the self-assessment, there is no additional fee for the customer.

Many countries have set targets for full smart meter roll-out, for example, Denmark (2020), Ireland (2024), Netherlands (2020) and Greece (2024).

In Sweden (where hourly metering is available on request since 2012), all meters should be able to measure 15 minutes granularity from 2025.

Four NRAs<sup>45</sup> have done a gap analysis.

In Great Britain, in order to realise the benefits of the smart meter roll-out more fully, Ofgem is seeking to introduce market-wide half-hourly settlement<sup>46</sup>. Over the past year, Ofgem has made policy decisions on access to data for settlement purposes and on supplier agent functions and published a draft impact assessment, which included an updated economic assessment. Reforming the existing electricity settlement process will attribute the costs of gas and electricity consumption more accurately across the day. This will incentivise suppliers to offer new products and services that will help customers to use electricity at times of day when it is cheaper to generate and transport.

In the Netherlands, approximately 61% of the customers used a 15-minute time-of-use meter at the end of 2018. The country target is 100% by the end of the year 2020.

According to Danish national law, the objective of a 100% roll out of smart meters with time-of-use metering have to be reached not later than the end of 2020.

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<sup>43</sup> Article 19(1), "Smart metering systems", DIRECTIVE (EU) 2019/944 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU (recast)

<sup>44</sup> <https://www.ceer.eu/documents/104400/6693346/ACER+Market+Monitoring+Report+2018+-+Consumer+Protection+and+Empowerment+Volume%281%29/dad05c46-f5ae-936d-4a21-d66c508ea5bf>

<sup>45</sup> GB, NL, DK and LU

<sup>46</sup> <https://www.ofgem.gov.uk/electricity/retail-market/market-review-and-reform/smarter-markets-programme/electricity-settlement-reform>

Although the target of a 95% rollout of electricity smart meters by end of 2019 has not been achieved in Luxembourg, the physical rollout of smart meters is well advanced compared to some other Member States. The activation of smart meters, meaning the sharing of 15-minute load curves with suppliers, is lagging behind schedule for technical reasons, both on the DSO and supplier side, but will be ramped up in the course of 2020. In terms of deployment, deployment targets in electricity had not been met on 31 December 2019. Mass provision of smart meter data to suppliers has not yet started.

#### 4 Key property III: A close relationship between wholesale markets and retail prices

Well-functioning retail energy markets are dependent on well-functioning wholesale energy markets. Organised and transparent wholesale markets determine the price of energy as a commodity and provide the foundation for the prices that consumers pay in the retail energy market. Two metrics are used to assess close relationships between wholesale markets and retail prices that concern only the energy component of the total retail energy price. i.e. separate from network tariffs, taxes and surcharges.

**Table 3 Metrics used in the self-assessment of key property III “Close relationship between wholesale markets and retail prices”**

Metric n° and name	Number of NRAs using	Number of NRAs completing gap-analysis
7 Correlation between wholesale and retail energy prices	12	4
8 Mark-up between wholesale and retail energy prices	12	4

##### 4.1 Metric 7: Correlation between wholesale and retail energy prices

The purpose of this metric is to determine whether consumers receive correct signals from wholesale markets. Consumers may receive price signals from wholesale markets through the energy component of the retail price if the pricing of this component follows variations in the wholesale price. The degree of correlation between wholesale and retail energy prices depends largely on the price structure of the contract the customer has agreed to with the retailer. Price structures vary from hourly pricing contracts set against wholesale markets to fixed-price contracts. Thus, the correlation should be assessed against the most appropriate wholesale price reference.

However, the ability of suppliers to offer contracts that have a close correlation to wholesale markets depends on their ability to access and procure energy. This analysis, therefore, presumes that wholesale markets are well-functioning, organised and transparent.

Furthermore, the “ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2019”<sup>47</sup> includes a comparison of the responsiveness of the energy component of the retail price to wholesale energy price.

<sup>47</sup> <https://www.ceer.eu/national-reporting-2020>

What is unique in the CEER Self-Assessment is the framework of which the current status report is written, and that each NRA has the freedom to compare the correlation of all categories of retail products (not only the standard product by the incumbent supplier) and across all categories of customer segments (not only household).

To be noted is that the methodology employed in the ACER/CEER Market Monitoring Report is the same for all Member States (i.e. same average annual household consumption of 3,500 kWh/year in electricity and 11,000 kWh/year in natural gas). The results reported in this status-report are those that NRAs calculated according to their own methodology adjusted for their national retail markets, and can therefore diverge from the Market Monitoring Report methodology. The data published in the ACER/CEER Market Monitoring Reports may therefore differ from the data in this status report.

This metric is used by 12 NRAs, of which five have provided their results and three<sup>48</sup> stated that they have done a gap analysis.

The Danish NRA reports a correlation between the retail price and the wholesale price in terms of variable electricity products as 0.8 (2018). This close correlation means that customers receive price signals that correspond with the price on the wholesale market. The NRA has calculated the correlation for variable spot-based products and not fixed price products. In 2018, fixed-price products constituted only 8% of the volume sold in the Danish retail market for electricity. Furthermore, the correlation for variable spot-based products is a better market indicator than the correlation for fixed-price products, since the price on fixed-price products is determined in advance and with a duration of more than three months.

In Luxembourg, the NRA observes yearly mark-ups and would inform the Ministry having energy in its attributions in case the yearly mark-up exceeds €20/MWh for electricity and €10/MWh for natural gas. However, a significant increase (> 100%) from one year to the other which remains within these limits would also necessitate notification. In any case, the NRA has no means of intervention on the supply price other than to notify the responsible minister who could ask for justifications from the respective suppliers.

In the Netherlands, the NRA found a correlation of 0.9-0.93 for fixed-term contracts and 0.75 for variable contracts (2019). The result is analysed further in the pilot below.

In Sweden, the correlation for fixed-term contracts is 0.94 and for variable contracts is 0.92.

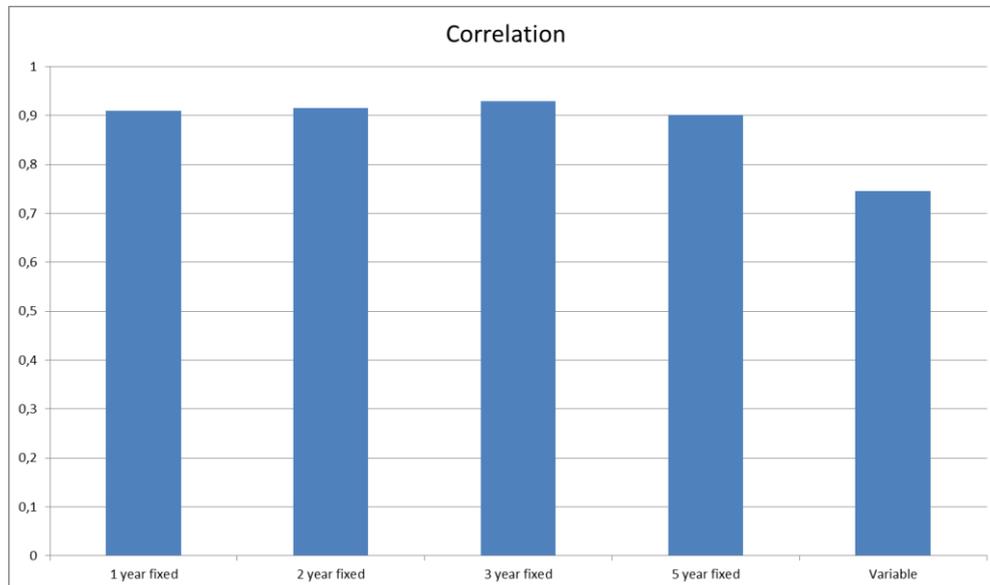
Some NRAs commented to CEER that they were unable to perform a gap analysis as they are not the competent authorities in their countries, since the role of the NRA is not policy development but retail market monitoring and, where applicable, the operation of an online price comparison tool.

#### 4.1.1 Pilot: Netherlands – Metric 7

##### Quantification & Results

<sup>48</sup> Belgium, Luxembourg, Great Britain

In the Netherlands, the most common contract types are one- or three-year fixed price contracts or variable price contracts. Depending on the purchasing strategy of a supplier, the correlation with wholesale price tends to differ. The NRA in the Netherlands, the Authority for Consumers and Markets (ACM) has used retail prices of suppliers for the period of 2019.



**Figure 8 Correlation of price contracts with wholesale prices**

The retail prices are sent to ACM by suppliers at least once a year and four weeks prior to a change in price and consist solely of contestable charges.

The wholesale prices are determined by modelling purchasing strategies which are common in the market. For example, for one-year fixed price contracts, ACM would construct a portfolio of wholesale products which are necessary for supply for a year. This portfolio is “purchased” on a single day. This purchasing day is dependent on the start date of delivery of the product by the supplier. These wholesale prices also account for margin and various costs.

The analysis assumes that wholesale markets are well-functioning, organised, and transparent. The products analysed are variable price and one- and three-year fixed price contracts. The retail prices are unweighted averages of offers on the market and the wholesale prices consist of modelled portfolios.

The analysis shows that contracts with a variable price have a significantly lower correlation. This might be explained by the fact that variable-price contracts mostly are not used for acquiring new customers. Consumers having these contracts might be less focused on the retail price, as they would otherwise switch to fixed-price contracts, which generally have lower prices. Therefore, suppliers might be less inclined to change retail prices as the wholesale price changes. Due to the method used, a difference in purchasing strategy between fixed- and variable-price contracts is already controlled for.

### Gap-analysis

ACM does not have a direct impact on this indicator. However, increased retail market transparency and consumer awareness should lead to higher price competitiveness on all types of products.

## 4.2 Metric 8: Mark-up between wholesale and retail energy prices

The purpose of this metric is to determine whether consumers are paying a fair price for energy relative to the underlying wholesale price. The evolution of mark-ups serves as an indication of the level of retail competition and the “responsiveness” of the retail price to rising or falling wholesale prices over time. The level of the mark-up will depend on the price structure of the contract that the consumer has agreed to with the retailer. Price structures may vary from hourly pricing set against wholesale markets to standard variable pricing to fixed pricing. This analysis, as well as the one made in the previous metric, presume that wholesale markets are well-functioning, organised and transparent for the responsiveness of retail to wholesale prices to occur.

This metric is used by 12 NRAs to reveal which contract types are the most beneficial to consumers. However, the overall conclusion is that few NRAs have provided examples of mark-ups and comparisons of mark-ups for different product types.

Some NRAs report the mark-up between wholesale and retail prices as part of their analysis of the relationship between wholesale and household prices in the framework of the national reporting that NRAs submit annually to the European Commission, ACER and CEER. More details on individual analysis performed by specific NRA can be [found on the CEER website](#). A comparison of average mark-ups in Member States can be found in the “ACER/CEER - Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2017: Electricity and Gas Retail Markets Volume”.

In Denmark, the NRA reported that the average mark-up for variable electricity products was 1.14 eurocents/kWh in 2018. The average mark-up has remained rather constant throughout the year. The average mark-up in Denmark is low, which means that the suppliers' gross profit per kWh is low. The mark-up is calculated on the basis of weighted energy volume average. The NRA has only calculated the mark-up for variable spot-based products, since fixed price products only constitute 8% of the volume sold in the Danish retail market for electricity. Furthermore, the mark-up for variable spot-based products constitutes a better market indicator, since the price on fixed price products is determined in advance and with a duration of more than three months.

In the Netherlands, the average was 2.39 eurocents/kWh (2019).

In Portugal, the mark-up ranges between 0.89 eurocents/kWh for domestic customers and -0.01 eurocents/kWh for non-domestic customers. Slovenia states that average suppliers with presumed purchasing strategy obtained the average monthly gross margin of 0.15 eurocents/kWh in 2018<sup>49</sup>. Because of the fixed price retail contracts, suppliers took the risk of the price variation and bear the cost of negative gross margins in some months. A strong negative correlation between the mark-up and the wholesale price is present. Slow responsiveness of the retail prices again reflects the dominance of fixed type consumer contracts.

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<sup>49</sup> The wholesale prices were obtained as described in the Metric 7. The retail price is the energy only retail price of the average household consumer (4096 kWh) in the PCT.

The Spanish NRA found the mark-up ranging between 2.3-3.2 eurocents/kWh for household customers, 0.1-1 eurocents/kWh for Small and Medium-sized Enterprise (SME) and <0.2 eurocents/kWh for industrial customers. The Swedish NRA stated that the average mark-up was 1.4 eurocents/kWh for both, fixed and variable contracts.

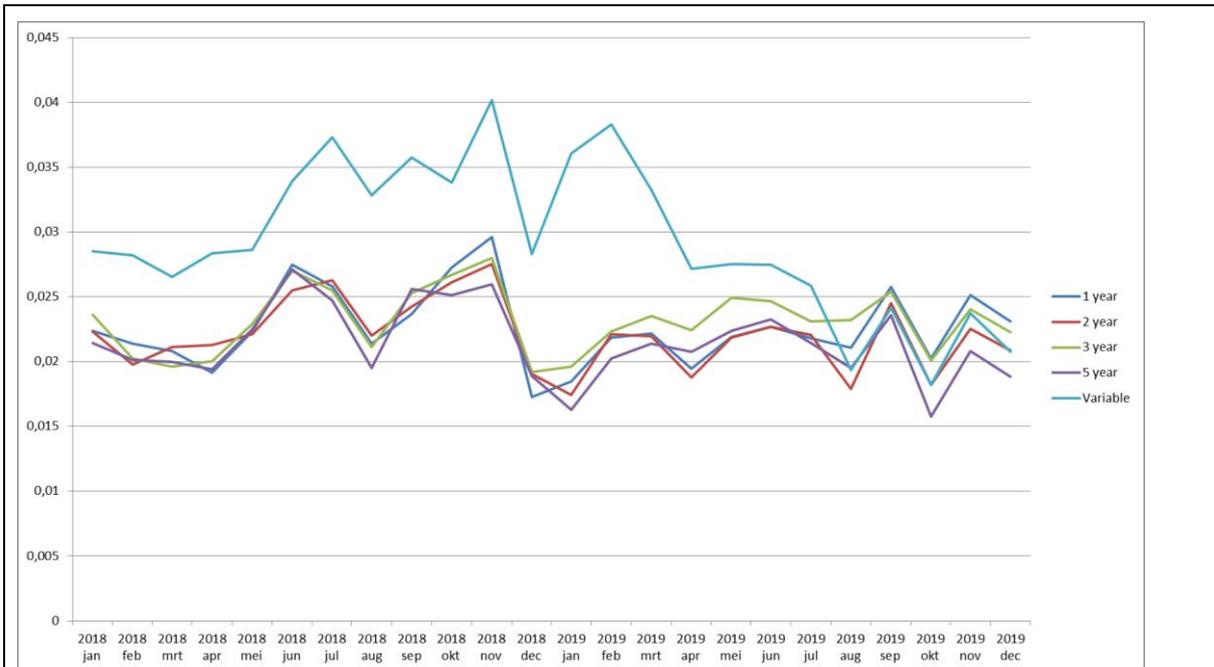
The British NRA stated that total domestic supply profits (electricity and gas) aggregated across the six largest firms, measured as earnings before interest and tax (EBIT), decreased by 35% in 2018, compared to the 10% reduction between 2016 and 2017. The overall average profit margin, measured by EBIT as a percentage of revenue, fell to a nine-year low of 2.7%.

Three NRAs<sup>50</sup> have done a gap analysis. Luxembourg concludes that the results depend on the methodology employed and would inform the Ministry having energy in its attributions in case the yearly mark-up exceeds 2 eurocents/kWh for electricity and 1 eurocent/kWh for natural gas. However, a significant increase (> 100%) from one year to another which remains within these limits would also necessitate notification.

#### 4.2.1 Pilot: Netherlands – Metric 8

Quantification & Results
<p>The mark-up measures whether consumers are paying a fair price and the margin is not (too) high.</p> <p>In the Netherlands, the most common contract types are one- or three-year fixed price contracts or variable price contracts. ACM has used retail prices of suppliers for the period of 2018-2019.</p> <p>For determining the mark-up, the retail prices are sent to ACM by suppliers at least once a year and four weeks prior to a change in price and consist solely of contestable charges.</p> <p>The wholesale prices are determined by modelling purchasing strategies which are common in the market. For example, for one-year fixed price contracts, ACM would construct a portfolio of wholesale products which are necessary for supply for a year.</p> <p>This portfolio is “purchased” on a single day. This purchasing day is dependent on the start date of delivery of the product by the supplier. These prices consist solely of the wholesale energy prices.</p>

<sup>50</sup> Belgium, Luxembourg and Great Britain



**Figure 9 Mark-up of different contract types**

Variable price contracts have had a significantly higher mark-up than fixed-price contracts until the middle of 2019. This might be explained by increased competitiveness of this type of product or as a response to the increasing wholesale price.

### Gap-analysis

The Netherlands has not identified a target and made a gap-analysis for this metric as the NRA does not have a direct impact on this indicator. However, increased retail market transparency and consumer awareness should lead to higher price competitiveness on all products.

## 5 Key property IV: A range of offers, including demand response

A well-functioning market is characterised by innovation and the range of products and services offered to consumers. In general, a retailer's ability to offer a significant number of commercial options – coupled with consumers' ability to compare the offers and take informed decisions – is a sign of healthy competition and innovation. Five metrics are used to assess whether the current range of existing offers, including the existence of demand-response offers, provide for competitive and innovative retail energy markets.

**Table 4 Metrics used in the self-assessment of key-key property IV "A range of offers, including demand response"**

Metric n° and name	Number of NRAs using	Number of NRAs Completing gap-analysis
9 Availability of a variety of pricing and billing options	21	5
10 Availability of value-added services for implicit demand response and self-generation	11	3
11 Availability of online offers	19	4

12	Availability of contracts guaranteeing the origin of energy	15	2
13	Availability of explicit demand response offers	7	2

## 5.1 Metric 9: Availability of a variety of pricing and billing options

The purpose of this metric is to determine if household and/or SME customers have the possibility to choose different pricing options, e.g. fixed pricing, variable pricing or wholesale-based pricing, and billing offers, e.g. advance payments or post-meter reading payments, in retail energy markets. In fact, retailers may offer differentiated products based solely on the way in which those products are priced or billed. Various options of pricing and billing can present innovations in the market and create benefits for the consumer. Opportunities for a variety of pricing and billing options should enable new suppliers with innovative ideas on pricing and billing to enter a market. If such opportunities are severely restricted, this might distort competition.

The majority of NRAs report that a wide variety of pricing and billing options are available to consumers, with 21 of them having used this metric. However, under the Clean Energy Package, in each MS there should be at least one type of supply contract available to consumers based on dynamic prices when the package is fully implemented in 2021.

Five NRAs<sup>51</sup> have done a gap analysis. They all state that no national target has been set, given the variety of pricing and billing options in the market

This indicates that the majority of NRAs do not have the statistical data available to allow them to quantify the share of consumers under existing pricing and billing options. Furthermore, some NRAs do not obtain statistical data from business consumers at all, i.e. they obtain statistical data only for the household segment.

Some NRAs reported that in their countries there are a wide availability of price offers, that go from variable price-offers that change 4-12 times per year, offers with price indexed to the wholesale price (including hourly priced contracts), and besides the most common fixed price offer there is also products where the customer is billed a fixed monthly payment without regard to actual consumption. There are some countries that the offer's price is indexed to the regulated end-user prices.

The Danish NRA details that, for electricity, the objective for the gap analysis is making available a broad range of pricing and billing options to customers, while in Poland, even if the Comparison Tool allows consumers to compare, it does not cover the entire retail market.

In Great Britain, the NRA monitors the variety of pricing and billing options available in the market in order to understand the degree of competition and innovation, as well as the ease of comparability of the different options for consumers. This approach is evolving, with more attention dedicated to new tariff developments, e.g. discounts and new bundles etc. For the NRA, the quantification of this metric includes a broad range of measures, among which, most importantly, are: the different tariffs and payment types, the number of consumers on the different types and the main price differentials. A variety of billing and pricing options remain in place.

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<sup>51</sup> Denmark, France, Great Britain, Luxembourg and Poland.

In Luxembourg, the availability of a variety of pricing and billing options can be only quantified for the household segment, for the year 2018. Thus, statistical data could be also collected from business consumers in order to allow for comparisons across consumer segments. Suppliers could enlarge the choice of pricing and billing options available to consumers as in 2018, only half of the options categorised by CEER were actually provided in Luxembourg.

There are still some CEER countries surveyed where smart meters are not yet in place, meaning that the only available billing options in those countries are advance payments. Full deployment of smart-meters will make more pricing and billing options available. In particular, post-meter reading payments should become a reality in countries where energy bills are still being invoiced as advance payments. However, in Portugal, most people do not have smart meters, but have quarterly meter readings. Meanwhile, every customer can send a meter reading. The payments are post-meter reading payments.

For the year 2018, CEER identified the following pricing options:

**Table 5 Pricing options for 2018 identified by CEER**

Pricing options	
1	Variable (i.e. price paid per unit of electricity or gas used can change at any time);
2	Fixed (i.e. an offer that guarantees that the prices paid per unit of electricity or gas used will not change for a given period of time);
3	Mixed (i.e. based on both fixed and variable components);
4	Variable spot based (i.e. variable price based on the wholesale market spot price);
5	Variable wholesale price based (i.e. settled against monthly/weekly average wholesale price);
6	Capped (i.e. guarantees that the price paid per kWh for electricity or gas will not rise beyond a set level for a given period of time, but may go down – usually for this certainty consumers pay a small premium);
7	Indexed variable (i.e. similar to spot-based which is linked to wholesale, but linked for example to standard incumbent offer with guaranteed discount of X% or to retail price index);
8	Green (i.e. offers based on renewable generation resources like hydro, solar, wind, biomass etc. for electricity and biogas for gas);
9	Online (i.e. with savings/discount for managing accounts online, online billing);
10	Social (i.e. offers for vulnerable consumers);
11	With monetary gains (e.g. discount, supermarket vouchers, etc.);
12	With additional services (e.g. energy efficiency, boiler maintenance etc.);
13	Guaranteed origin of energy (any energy source other than green or country-specific). <sup>52</sup>
14	Bundled products (e.g. in combination with telecommunication services)

<sup>52</sup> Guaranteeing the source of energy can relate to: electricity, gas, including hydrogen, heating and cooling. See Article 19 in the revised renewable energy directive, Directive (EU) 2018/2001, part of the CEP. Additionally, preamble 59 of the Directive states “Extending the guarantees of origin system to energy from non-renewable sources should be an option for Member States.”:

<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L2001&from=EN>

<b>15</b>	Other (e.g. other pricing offers that do not fit any of the above descriptions)
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In terms of the availability of different billing options, most NRAs stated that customers could choose from cash, direct debit, bank transfer, credit card, pre-payment and electronic invoicing. Besides these options, some NRAs presented there could be special billing options like once-a-year bill payment (estimated annual consumption split over twelve months) and annual payments based on real consumptions for those customers with smart meters. One NRA mentioned that there are some special arrangements with large organisations, whereby, electricity bills may be settled by direct deduction from the employee's salary.

For year 2017, CEER identified the following billing options, which are still valid in 2018:

**Table 6 Billing options in 2017 identified by CEER**

<b>Billing options</b>	
<b>1</b>	Direct debit
<b>2</b>	Bank transfer
<b>3</b>	SEPA (Single Euro Payments Area)
<b>4</b>	Credit card
<b>5</b>	Cash
<b>6</b>	Pre-payment

## **5.2 Metric 10: Availability of value-added services for implicit demand response and self-generation**

This metric shows how innovative the national retail energy market is becoming. Most of the results gathered for year 2018 relate to the electricity sector only, as implicit demand response and self-generation are almost non-existent in the natural gas sector.

The results submitted to CEER related to the availability of contracts containing price mechanisms, and/or added services that allow consumers to reduce their load or shift it from peak to off-peak periods, as well as to self-generate. Availability of market infrastructure, e.g. smart meters, and procedures enabling consumers to receive the correct price settlement are essential to make implicit demand response and self-generation an established and viable option for consumers.

As of 2018, 11 NRAs reported that they have used this metric. For instance, in Denmark, contracts for implicit demand response such as time-of-use contracts or flexibility contracts has been available since 2017 when flexible settlement (settlement on hourly basis) became available for customers with an annual consumption up to 100,000 kWh with smart meters installed. Some suppliers are beginning to offer electricity contracts/products with flexible settlement to customers with an annual consumption up to 100,000 kWh.

The Danish NRA believes that time-of-use metering and flexible settlement is expected to activate household customers in the retail market in terms of adjustment of consumption, supplier switching etc. Before 2017, only non-household customers with an annual consumption over 100,000 kWh had hourly settlement.

In Greece, a net-metering process was introduced 2019 for self-producers in Greece<sup>53</sup>. The total number of photovoltaic (PV) systems for self-consumption in operation in 2018 was 1,104. Similarly in Georgia, due to the lack of feed in contracts or tariffs, payments for consumers who use a micro power plant (a renewable energy source which is installed for this consumer's self-consumption only) are carried out based on the net-metering principle.

In Malta, customers with a renewable (RES) generator have the option by law to generate primarily for their own consumption. In 2018, 2,724 electricity customers (including residential/domestic and non-residential) had contracts, which include feed in from electricity, and/or gas from self-generation.

In Norway, electric car charges and smart thermostats were the kind of value-added services or products that contributed to demand flexibility and were therefore available for customers. In 2018, suppliers could provide customers with software and corresponding appliances with demand response switches, for example for heat pumps.

In Slovenia, 0.31% of customers had such contracts in 2018, which included feed in from electricity, and/or gas from self-generation. Pilot projects regarding critical peak tariff, ancillary services and energy communities have been undertaken with small numbers of customers in contained geographical areas in order to test implicit demand response solutions.

Four NRAs<sup>54</sup> have done a gap analysis. Sweden's gap analysis is explained in the pilot.

This metric is interlinked with metric 6 on the availability of time-of-use metering and with metric 9 on the existence of different pricing options. The British NRA collected only some of the data related with implicit demand response because the smart meter roll-out has not been completed yet. Once full small meter deployment is attained, the collection of this information will become more structured and systematic.

For 2018, most smart tariffs on offer were still static, typically involving cheaper tariff rates during pre-determined periods of time. In Great Britain and in Luxembourg, the current main barriers for suppliers in offering smart tariffs, with dynamic pricing, relate to the fact that very few smart meters were fully interoperable and adapted to the current settlement rules.

The British NRA concludes for 2018 that customer engagement with these tariffs can be challenging, as clauses around price calculation, data protection and contract termination tend to be especially complex.

The Clean Energy Package places the consumer at the centre of the energy market and of the energy transition, and thus the development of the current metric will have to be crucially monitored in order to understand the degree of consumer "activation" in the energy market.

### 5.2.1 Pilot: Sweden – Metric 10

#### Quantification & Results

<sup>53</sup> Law 3468/2006 was specified to the Ministerial Decision 15084/382-05.03.2019

<sup>54</sup> Great Britain, Luxembourg and Sweden.

Swedish electricity household customers have been able to opt for hourly metering in order to choose an hourly contract since 2012. A significant number of suppliers offers these contracts<sup>55</sup>, but the demand is still low. In 2013, only about 0.2% of customers had signed an hourly contract.

### Gap-analysis

The Swedish NRA Energimarknadsinspektionen (Ei) believes that it would be beneficial both for individual customers, and for the electricity system as a whole, if the share of customers on hourly contracts increased.

With that goal in mind, Ei started to discuss in 2018 how to compare hourly contracts via the NRA's comparison tool<sup>56</sup>. In February 2020, the secondary legislation<sup>57</sup> was changed so that from May 2020 all suppliers that offer hourly contracts to household customers have to report and update prices and terms to Ei. From May 2020, Ei displays and compares hourly contracts via the comparison tool.

Ei believes that there are many benefits with more flexible consumption. These benefits were described by Ei in a report to the Swedish government 2017<sup>58</sup>. Many of the benefits are also recently described in the CEER-report *Recommendations on Dynamic Price Implementation*<sup>59</sup> published in March 2020. For example:

- Dynamic (in Sweden hourly) price contracts could be economically beneficial for customers who can adjust their consumption in response to price signals;
- Customers could benefit from lower margins applied to contracts based on these spot-related prices;
- Hourly contracts may enable customers to participate in demand response, either individually or through aggregation; and
- Dynamic price contracts will give market participants a price signal that reflects the scarcity on the market used for reference.

In a study published by Ei 2013<sup>60</sup>, Ei concluded that there were a number of reasons for the low interest among customers for hourly contracts. For example, that suppliers do not market these contracts and that no comparison tool compares them, leading to the fact that customers do not consider these contracts when they make switching decisions.

When introducing the contracts to the NRA's comparison tool, the biggest challenge was to decide how to display the price. Sweden price information law, together with secondary legislation from the Swedish Consumer Agency, state that the price for an electricity contract shall be presented as an effective unit price per kWh, with all fixed and variable costs included (except the cost for distribution).

Ei decided that hourly contracts should be presented as a span of two effective unit prices, one for the cheapest hour previous month and one for the most expensive hour previous month. Ei had the following reasons for that decision:

- A month can have up to 744 different hourly prices. Effective unit price must show the total price and include the spot-price. To choose one of these hours or an average of all hours would not reflect the different prices that occur every month. With a span Ei meets the legal requirements and to show the price in a more honest way; and

<sup>55</sup> In 2016 approximately one third of all 120 suppliers on the market offer hourly contracts.

<sup>56</sup> [www.elpriskollen.se](http://www.elpriskollen.se)

<sup>57</sup> EIFS 2020:1

<sup>58</sup> Measures to increase demand side flexibility in Swedish electricity system - Abbreviated version Ei R2017:10 [https://www.ei.se/Documents/Publikationer/rapporter\\_och\\_pm/Rapporter%202017/Ei\\_R2017\\_10.pdf](https://www.ei.se/Documents/Publikationer/rapporter_och_pm/Rapporter%202017/Ei_R2017_10.pdf)

<sup>59</sup> Ref: C19-IRM-020-03-14

<sup>60</sup> EiR 2013:05

- A span differentiates hourly contracts from other contracts on the comparison tool and signals that the benefit and potential of the contract very much depend on each customer's ability to move load from expensive hours to cheaper hours.

The introduction of hourly contracts to the NRA's comparison tool is also in line with Article 14 in the Clean Energy Package that has to be implemented on 1 January 2021.

A detailed description of hourly contracts in Sweden was published in the CEER-report *Implementing Technology that Benefits Consumers in the Clean Energy for All Europeans Package*<sup>61</sup>, in July 2019.

### 5.3 Metric 11: Availability of online offers

Online offers are products that provide consumers with, for example, savings or discounts for managing accounts online, and for subscribing to online billing.

The CEER Roadmap questionnaire identified the following questions to determine whether online offers are available:

- Are offers comparable online and/or through digital applications for all of the country's customers?
- Can contracts be signed online through the comparison tool or otherwise for all of the country's customers?
- Is management of energy contracts online and/or through digital applications available to all of the country's customers?
- Are bills available online?
- Is customer service available through online channels?

As of 2018, almost all NRAs reported that they have some sort of online offers in their national energy market<sup>62</sup>, while 19 NRAs used this metric.

Differences, however, persist across countries. For instance, in Croatia in 2018, offers were not comparable online and/or through digital applications and consumers could neither manage their energy contracts online nor receive their bills online. The existence of online contracts related only to the availability of customer service through online channels.

In Cyprus, where, in addition to customer service through online channels, online bills are available only at the request of the consumer.

The majority of NRAs reported to CEER that contracts cannot be signed online through the price comparison tool (PCT) or otherwise. In Finland and in Sweden, the NRAs noted that some commercial comparison tools (CTs) provide the functionality to sign a contract online whereas the NRA's CT does not provide such functionality.

Additionally, some CTs publish offers up to a certain threshold of consumption level per year. Many CTs remain accessible only to household consumers. As such, this metric is interlinked with metric Number 17 on the percentage of consumers having access to at least one independent and verified CT and Number 18 on the percentage of consumers having access to online historical consumption data.

<sup>61</sup> Ref: C19-IRM-16-04, 22 July 2019

<sup>62</sup> For a comparison between 2017 and 2018 of the total number of online offers provided in MSs for electricity and natural gas, please refer to Figure 30 at page 47 of the Monitoring report on the Performance of European retail Markets in 2018, Ref: C19-MRM-99-02.

For example, in Denmark, customers with an annual consumption up to 100,000 kWh can compare offers on the online PCT Elpris.dk. A comparison of number of CTs and their functionalities is presented in the “ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2019”<sup>63</sup>.

Finally, in Malta, the NRA reported that consumers cannot compare offers online as there is only one supplier. However, consumers can apply for additional services provided by the supplier and by the DSO using an online application, since the DSO is also the supplier.

In some countries, the availability of offers online is a legal requirement. For instance, in Poland, all electricity suppliers selling electricity to final consumers are legally obliged to publish on their websites.

Four NRAs<sup>64</sup> have done a gap analysis. They conclude that online offers are a sign of product differentiation and innovation in the market and an element that facilitates the customer’s ability to compare and assess tariffs available in the market.

#### **5.4 Metric 12: Availability of contracts guaranteeing the origin of energy**

This metric monitors the degree of transposition of the New Renewable Directive, i.e. “Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources” (Text with EEA relevance), whose deadline for transposition is set on 30 June 2021<sup>65</sup>. No other CEER publication covers this data.

In particular, Article 19 of Directive 2018/2001 - *Guarantees of origin for energy from renewable sources*, specifies how suppliers can guarantee the origin of energy.

Since the Recast of the Renewable Directive has been in effect from 24 December 2018, and given that the current status-report relates to 2018 situation, it is understandable that some NRAs did not have quantitative data for the year 2018.

As of 2018, 15 NRAs reported to CEER that they have used the metric.

There is a distinction between “green offers”, already accounted for in Metric 9 on the availability of pricing and billing options and counted annually in the CEER Monitoring Report on the Performance of European Retail Markets<sup>66</sup>, and “offers guaranteeing the origin of energy”.

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<sup>63</sup> <https://www.ceer.eu/national-reporting-2020>

<sup>64</sup> Denmark, Great Britain and Luxembourg

<sup>65</sup> [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2018.328.01.0082.01.ENG&toc=OJ:L:2018:328:TOC](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.328.01.0082.01.ENG&toc=OJ:L:2018:328:TOC)

<sup>66</sup> For a comparison between 2017 and 2018 of the total number of green offers provided in MSs for electricity and natural gas, please refer to Figure 30 at page 47 of the Monitoring report on the Performance of European retail Markets in 2018, Ref: C19-MRM-99-02

A “green offer” is based on the supplier’s statement that the offer takes into account the renewable production that the supplier purchases. A “contract guaranteeing the origin of energy” is based on the disclosure statements of the national competent authorities, whose role is to verify such suppliers’ statements with proofs that the volumes supplied to the final consumer, who for instance subscribed to a “green offer”, match the corresponding volumes of renewable energy produced.

Additionally, a contract guaranteeing the origin of energy allows consumers to be sure that there is no double-counting of the same volumes produced to different end consumers. Thus, a contract guaranteeing the origin of energy can identify the origin of the energy consumed in terms of specific energy sources, and even country of production, and can link the energy production to the final customer.

It is to be noted that according to Directive 2018/2001, Member States may decide to guarantee also non-renewable sources. Some countries already apply the principle of full-disclosure, and thus not only do they guarantee the origin of renewable energy but also the origin of non-renewable energy. In this way, it is possible to identify the precise percentage of each energy source used in the total volumes supplied to end-consumers in a given year.

Another point of attention is that according to Article 19 of Directive 2018/2001, Member States can guarantee the origin, not only of electricity and natural gas, but also of hydrogen, heating and cooling.

Some NRAs indicated that they can quantify the number of contracts with renewable electricity, without informing the end consumer on the actual contribution of the precise renewable sources. For instance, Croatia and Ireland reported that they can classify electricity products as being “green”. In such circumstances, consumers, even if they receive a green product from their supplier, do not know if it comes from wind, hydropower or solar power. In Finland, the NRA may start a separate investigation to find out whether guarantees of origin have been issued. However, the Finnish legislation does not require consumers to be informed about the precise renewable energy source.

Results differ across countries: France reported that in 2018 for a baseload type of client having a consumption of 2400 kWh/year, there were 30 available green offers which represented 66% of the total offers on that market. In the Netherlands, 87% of contracts guaranteed the origin of the energy supplied and 90% of suppliers offered contracts guaranteeing the origin of energy in 2018. The Netherlands introduced the obligation of full disclosure on suppliers in January 2020.

In Norway, the NRA reported that in 2018, around 20% of all offers available on the PCT are certified as renewable. In Slovenia, the share of contracts guaranteeing the origin of the energy was 5-10% and those contracts were offered by 15-20% of suppliers. In Spain in 2018, 54% of all offers were “green” offers and 28 suppliers offered “green” products in the market. In the UK, the share of “green” offers reached 34% of all available offers.

Other NRAs informed CEER that in 2018, consumers could receive disclosure statements from their suppliers informing them about the share of individual renewable sources employed within the supply of the green product. For instance, the Danish NRA mentioned that “climate products” are offered by electricity suppliers on, for example, the online PCT Elpris.dk, which enables customers to make a climate conscious choice about which electricity contract to sign. Approximately 53% of all products offered at the Danish CT Elpris.dk are climate products (as of December 2018). The number of suppliers offering climate products was 20 (as of December 2018).

The Greek NRA reported that the Greek Guarantees of Origin Registry has been operating since 2010, in full compliance with the previous Renewable Directive 2009/28/EC, supported by an information system that provides security and traceability for all transactions performed. However, after almost a decade of operation, guarantees of origin are not widely used in the country and there are very limited international exchanges. The Greek NRA is of the opinion that as of 2018 the guarantees of origin trade in Greece was extremely limited and not organised. It mainly existed on a bilateral confined basis between producers/suppliers and was accessible to a very limited number of end users.

Four NRAs<sup>67</sup> have done a gap analysis. For instance, the NRA of Belgium, CREG, informed CEER that in Flanders the number of green contracts offered to consumers (meaning the number of contracts guaranteeing energy from renewable resources) is being monitored by checking the system of guarantees of origin. A system of full disclosure is not in place as of 2018.

In Luxembourg in 2018, 44.5% of the supplied electricity volumes to end-consumers, household and non-household, was not certified in terms of its origin and thus was disclosed to consumers through the national residual mix, which provides for the decomposition of such remaining (non-certified) volumes between fossil and nuclear sources.

## **5.5 Metric 13: Availability of explicit demand response offers**

Within Key Property IV, Metric 13 is the one that seemed the most difficult to quantify. As of 2018, seven NRAs reported to have used the metric.

Out of the NRAs that submitted information on whether explicit demand response opportunities were available to CEER, only three were able to quantify the capacity/volume made available through the use of explicit demand response contracts in 2018.

For instance, the Danish NRA reported that explicit demand response opportunities were available in Denmark only for non-household customers and that approximately 690 MW was made available through the use of explicit demand response.

Similarly, the Spanish NRA reported that in 2018, explicit demand response opportunities were available for industries and the capacity made available through the use of explicit demand response amounted to 5,200 MW.

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<sup>67</sup> Belgium, Great Britain and Luxembourg

In Slovenia, the TSO (ELES) auctions balancing & reserve market products covering manual frequency restoration reserve (mFRR) and automatic frequency restoration reserve (aFRR) that can be provided also by prequalified aggregated demand response portfolio of flexible resources. Below are the quantities allocated to the aggregated demand response providers over recent years:

- 2018: 20 MW mFRR
- 2019: 2 MW aFRR, 27 MW mFRR

According to terms and conditions for balancing service providers on the ELES balancing market, all types of customers (and also households with smart meters) can participate (aggregated in the balancing service provider resource portfolio). However, household customers have so far participated in these services in pilot projects only<sup>68</sup> based on the NRA's Research & Innovation incentive scheme. The commercial participation of households in explicit demand response (including balancing markets) is foreseen in the upcoming years based on the emerging aggregation business model involving storage<sup>69</sup> combined with RES as well as by participating in emerging local flexibility markets<sup>70</sup>.

The Greek NRA reported that explicit demand response opportunities were available only for industrial and other large consumers.

In Ireland, the explicit demand response offers were available mainly for industrial and commercial users, while explicit demand response opportunities have become more widely available through the increased participation of Demand Side Units (aggregators) in the market. There are currently technology trials underway to facilitate to expand demand response offers to residential customers. In 2018, the Irish NRA did not monitor explicit demand response offers in the non-domestic segment in terms of their capacity/volume.

In Great Britain the availability of explicit demand response offers was limited to customers that are half-hourly settled, i.e. to those customers who had meters that record electricity use on a half-hourly basis and for whom these half-hourly readings are used to determine the volume of electricity attributed to their supplier in each settlement period. This means that explicit demand response offers were not yet available to households in 2018.

Remaining NRAs who submitted data to CEER reported that explicit demand response is new in the national market and that for 2018 they had nothing to quantify or to assess, as they had no data available.

No NRA could make a gap analysis on this metric with the data at its disposal for 2018.

## 6 Key property V: High level of awareness and trust

In well-functioning retail markets, there is a high level of awareness so that consumers engage and are able to increasingly trust the market.

*Table 7 Metrics used in the self-assessment of key property V "High Level of awareness and trust"*

<sup>68</sup> <https://www.eles.si/en/nedo-project>

<sup>69</sup> <https://www.tesla.com/powerwall?redirect=no>

<sup>70</sup> <https://www.current-news.co.uk/news/piclo-announces-first-international-flexibility-trial-joining-slovenian-consortium>

Metric n° and name		Number of NRAs using	Number of NRAs completing gap-analysis
14	Percentage of consumers knowing they can switch supplier	13	2
15	Percentage of consumers who know that DSOs are responsible for the continuity of supply and, where applicable, of metering	10	1
16	Percentage of consumers trusting the energy market	12	2

### **Metric 14: Percentage of consumers knowing they can switch supplier**

NRAs are responsible for informing consumers about their rights in the energy market. With the new provisions of the Clean Energy Package, consumers will see their rights as actors of the energy market increasing. No other CEER publications cover this data.

In order to identify which aspects of the market design are still unknown to consumers, NRAs need to conduct consumer surveys on the retail energy market. The results enable NRAs to assess the degree of awareness of energy consumers in order to fill the existing gaps with more targeted communication activities.

One of the pillars of market liberalisation is the free choice of suppliers for all consumer segments. This metric measures the degree of awareness about the consumer right to switch supplier.

In 2018, 13 NRAs informed CEER that they have used this metric. In the context of NordREG's Retail Market Working Group, the NRAs in Denmark, Finland, Norway and Sweden conducted a joint electricity customer survey in 2018. Approximately 1,500 respondents in each country participated in the survey.

In Slovenia during 2019, the Energy Agency conducted a survey among customers in the retail market. The survey conducted in Slovenia had similar questions to those of NordREG's survey. It is therefore possible to compare the results of the two different consumer surveys conducted in 5 countries:

<b>Questions</b>	<b>Slovenia</b>	<b>Denmark</b>	<b>Finland</b>	<b>Norway</b>	<b>Sweden</b>
% of the respondents believe that the choice of electricity/gas supplier is determined by the geographical area, where one lives	30.4%	25%	19%	26%	27%
% of the respondents who believe every household can choose its electricity supplier.	82.3%	89%	94%	93%	87%

% of the respondents who can state the name of three electricity suppliers (i.e. their own supplier and two other suppliers).	25%	19%	65%	51%	51%

In Ireland, the NRA conducts an annual survey<sup>71</sup> for households and SMEs. The 2019 survey looked at: external switching rates, understanding of energy market offers, triggers and barriers for switching, experience of the switching process, switching considerations and future intentions – factors that could increase switching, and the impact of different external variables on switching (e.g. accommodation, education, socio-economic status).

The Irish NRA finds that electricity and gas switching rates peak among the 25-64-year-old age group, and also among middle socio-economic status cohorts. People living in the capital city are more likely to have switched electricity versus those living outside the capital city, while there is no regional difference in switching gas. Original incumbents remain strongly present in consumer minds in Ireland, but newer entrants into the energy market are becoming better known among consumers. For residential customers, the electricity incumbent has the highest spontaneous awareness at 80% amongst electricity suppliers, with awareness of the next two suppliers at 54% and 53%. For SMEs, the electricity incumbent has the highest spontaneous awareness at 73% amongst electricity suppliers, followed by 57%, 52% and 51%.

Since the Latvian gas market opening in April 2017, the incumbent's total sale to non-household users has dropped significantly. The NRA concludes that commercial consumers are gradually becoming more aware of the possibility to change supplier.

Two NRAs made a gap-analysis of this metric<sup>72</sup>. The British NRA monitors consumer awareness and has seen that the awareness of the ability to switch is improving. It assessed the metric by stating that *“Consumers’ awareness of alternative options is a prerequisite for their engagement in the market which in turn incentivise the rivalry and drives the competition between suppliers. It shows a good progress with regards to the national objective in this area.”* In Luxembourg, the NRA concludes that the results of the first consumer survey made in 2019 show that household consumers welcome energy market liberalisation, i.e. the free choice of suppliers, however, very few among them let the competition between suppliers play in practice and thus very few consumers take advantage of market competition 12 years after market liberalisation. The Institut Luxembourgeois de Régulation (ILR) recommends consumers check regularly energy products available in the market in order to subscribe to the offer that best reflects consumer choice. ILR envisages to use the results of the consumer survey for future communication activities targeted to energy consumers.

The gap-analysis of France is presented in the pilot below.

### 6.1.1 Pilot: France – Metric 14

#### Quantification & Results

<sup>71</sup> [https://www.cru.ie/document\\_group/ceer-consumer-survey/](https://www.cru.ie/document_group/ceer-consumer-survey/)

<sup>72</sup> Great Britain and Luxembourg.

In order to participate actively in the market, the consumer needs to have some knowledge of the market opening and the options that are available in terms of offers, suppliers and switching processes.

The French energy regulator CRE is not monitoring this indicator but is using the data from the Energy Ombudsman that runs annual surveys, and is responsible for the public PCT and acts as the single point of contact for customers in France.

The survey is based on a questionnaire asked to a representative sample of households (in terms of gender, age, location, income). In 2019, the survey was run by telephone in September with a representative sample of 1,301 households. The only question that was asked in the survey, as in the previous years, was “Do you know that it is possible to change your supplier in gas/electricity?”

In 2019, the answering options were modified, from “yes/no” in previous years, to “yes/I do not want to/I cannot/I do not know”. The change was done because of the household customers’ mistrust. Because of a massive telephone canvassing by suppliers, household customers are becoming more suspicious regarding this kind of surveys by telephone, which then affect their answers. Household customers answer “no”, which sometimes mean “Yes, I can, but I do not want to”. Because of the change of answering options in 2019, the results are not fully comparable with previous year’s results.

In the last survey from autumn 2019, the results show that the awareness of the ability to change supplier is rising overtime for both electricity and gas, especially in the last two years. The results show that 87% of both electricity and gas household consumers know that they can change supplier. As explained previously, with the modified answering options showing more objective results, the 87% in gas are divided into 57% “yes” answers (53% in electricity) and 30% “Yes, but I do not want to” answers (34% in electricity). Only 9% of the customers do not know that they can switch supplier in electricity, whereas 4% of them did not know what to answer. The data is similar in gas with 8% of the customers that do not know that they can switch supplier and 5% who did not answer.

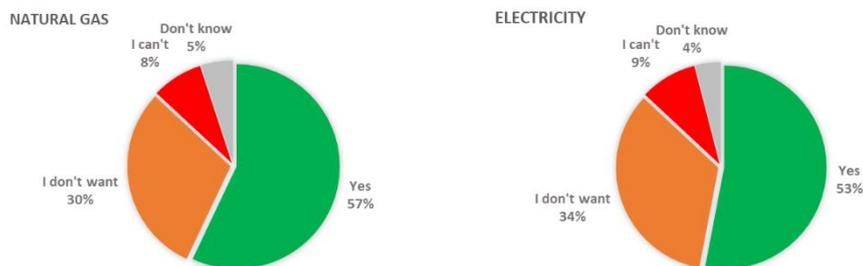


Figure 10 Percentage of households knowing they can change supplier in France

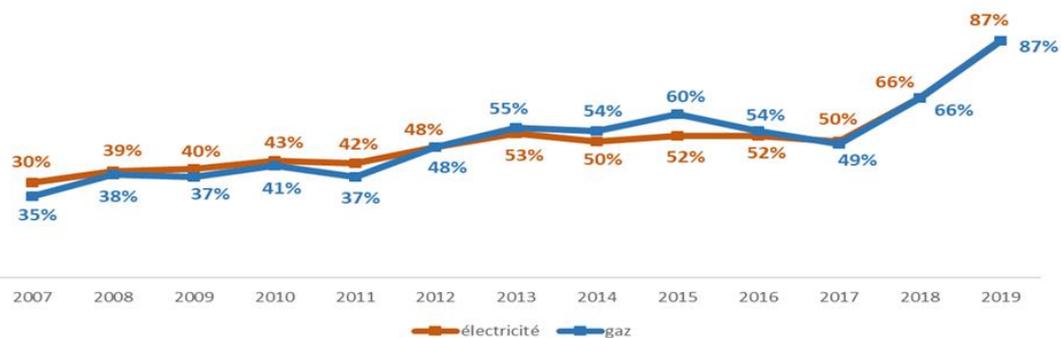


Figure 11 Percentage of households knowing they can change supplier in France over time

CRE is using this data each year and publishes it in its Retail Market Monitoring report, in order to enrich its report with more data on customers and obtain a full picture of the state of the retail market. CRE is monitoring the evolution of this percentage over time. CRE has published the results of the survey since the first edition of the Retail Market Monitoring Report in 2012/2013. The data is available from the Energy Ombudsman since 2006.

#### **Gap-analysis**

CRE does not have the competence to set national objectives. This metric is used to measure the awareness of consumers. This is necessary for the consumers to be engaged in the market and participate actively, which can boost competition between suppliers and drive the market forward.

## **6.2 Metric 15: Percentage of consumers who know that DSOs are responsible for the continuity of supply and, where applicable, of metering**

Consumer awareness is about the distinction of the role of DSOs and the role of suppliers is key for the activation of consumers in the energy market and for enabling consumers to take benefits of the new provisions of the Clean Energy Package. No other CEER publications cover this data.

If consumers are to become more active in wholesale energy markets by choosing dynamic products, or are expected to change their consumption patterns by consuming energy when it is cheaper and producing and storing their own renewable electricity through the installation of photovoltaic panels, the use of an electric vehicle and the adoption of in-house storage devices, such as batteries, it is expected that at least the fundamentals of the commensurate energy market design are widely known in advance of all these new developments.

DSOs' responsibility for continuity of supply and, where applicable, of metering are to be found among such fundamentals of the energy market design.

In 2018, 10 NRAs used the metric. As already mentioned in the previous metric, in the context of NordREG's Retail Market Working Group the NRAs in Denmark, Finland, Norway and Sweden have conducted a joint electricity customer survey in 2018. Approximately 1,500 respondents in each country participated in the survey. In Slovenia, during the year 2019 the Energy Agency conducted a survey with similar questions. It is therefore possible to compare the results:

<b>Questions</b>	<b>Slovenia</b>	<b>Denmark</b>	<b>Finland</b>	<b>Norway</b>	<b>Sweden</b>
% of the respondents who believe that if you switch to another supplier, your meter must be changed.	12.6%	8%	3%	4%	6%
% of the respondents believe that if you switch to another supplier, you will experience more power cuts.	4.7%	8%	10%	5%	11%

% of the respondents who believe that if you switch to another supplier, the new supplier will be in charge of meter reading.	55%	45%	57%	43%	53%
% of the respondents who can quote the name of the company that operates [power lines/gas pipes] to your home.	70%	15%	60%	71%	68%

In Ireland, the NRA conducts an annual survey for households and SMEs. The 2019 survey showed that 62% of residential electricity customers and 82% of SMEs know that the DSO is responsible for repairing power failures. The last survey also showed that 79% of residential electricity customers and 55% of SMEs customers wrongly believe that their supplier, rather than the DSO, reads the meter. Finally, the survey showed that 63% of residential electricity customers and 83% of the SMEs think that the maintenance of the grid is the responsibility of the DSO.

One NRA submitted a gap-analysis on the metric that is represented in the pilot here below.

### 6.2.1 Pilot: Luxembourg – Metric 15

Quantification & Results
<p>In September and October 2019, ILR conducted a survey among Luxembourg residents. 1,212 households took part in the survey whose purpose was to analyse the level of knowledge and understanding of the electricity and natural gas markets.</p> <p>The sample consisted of 1,035 households living in a municipality connected to the natural gas network and 177 households living in a municipality not-connected to the natural gas network, which enabled ILR to have a better picture over energy market trends throughout the whole of Luxembourg<sup>73</sup>. The respondents were aged 18 or above and involved in the household's choice of energy supplier and payment of energy bills for a given household.</p> <p>Concerning the role of suppliers and the role of distribution system operators (DSOs) in the energy market, for the majority of the respondent household consumers the distinction of these two different roles was still confusing in 2019. In particular, the notion of distribution system operator is not obvious: 20% of the respondents did not provide any reply on the questions related to distribution system operators, 10% of the respondents mentioned actors that existed before market liberalisation, 10% of the respondents indicated that the network system operator supplies energy. Thus, by the end of 2019 more than 8/10 consumers are not able to mention the name of their network operator and more than 7/10 consumers do not know the responsibilities of DSOs.</p> <p>These results were gathered either per telephone or over an online platform through the following open questions:</p> <p><i>In your opinion, what tasks is the network operator responsible for? On what occasion (s) would you think of contacting it? Do you know the name of your network operator?</i></p>

<sup>73</sup> More details on [ILR communications](#)

Among the main tasks of network operators, only 20% mentioned “network maintenance”, which could be considered as being related with “continuity of supply”; 2% of the respondents mentioned “installations and connections” and 3% mentioned “other tasks”. Thus, it could be concluded that as of October 2019, the responsibility of “metering” by DSOs was known by 5% of the respondents.

Concerning the reasons for contacting the DSO, 34% of the respondents would contact the DSO in case of breakdown, 11% would contact the DSO for questioning the invoice (even though in Luxembourg suppliers are the single point of contact for household consumers, who receive an integrated bill), and 3% expressed that they would prefer not to engage in any contact with the network operator.

The results of the survey show that household consumers are favourable towards market liberalisation in the electricity and natural gas sectors in general, which has been in place in Luxembourg since 2007 through the free choice of supplier by all consumer segments. However, very few among them utilise their choice of suppliers in practice, and thus very few consumers take advantage of market competition.

### Gap-analysis

An ILR objective would be that all consumers know that DSOs are responsible for the continuity of supply and of metering.

The survey was conducted among household consumers only. It is therefore not representative for all energy consumers. ILR interprets the findings in the following way: by the end of 2019, more than 80% of household do not know who their network system operator is, and more than 70% do not know what the main tasks of the DSO are.

More communication activities shall be conducted not only by the regulator but also by other stakeholders, such as by municipalities, who are the first point of contact for newly arriving residents. They could provide leaflets and brochures in which the energy market is explained, by providing the website of the online CT, the contacts to the NRA and if possible, explaining briefly the roles of the different energy actors present in the municipality. Real estate agencies, who often administer on behalf of expats many administrative procedures, such as electricity and natural gas supply contracts, could direct newcomers towards the regulator website for information on the energy market, and the tools provided to the regulator to energy consumers: the online CT, the telephone Energy Infoline, and the mediation service (in case of disputes with suppliers and system operators).

Distribution system operators themselves could engage in more communication actions on their role in the energy market in order to enhance the visibility of the different tasks for which they are responsible. For instance, during the connection process they could inform customers about the possibility to check online past consumption data either by email or over a personalised profile online on their websites.

It is important to demonstrate how the NRA is educating the consumers through its publications, press releases and other communication activities. It is part of the metric, making communication campaigns in order to increase consumer awareness.

## 6.3 Metric 16: Percentage of consumers trusting the energy market

This metric provides insights on whether consumers believe that they are getting a fair price after market liberalisation and how do they perceive the energy sector in comparison to other regulated activities, such as the telecommunication sector or postal services, that also went through the similar process of market liberalisation. No other CEER publications cover this data.

In 2018, 12 NRAs used the metric. In the context of NordREG, the NRAs in Denmark, Finland, Norway and Sweden have conducted a joint electricity customer survey in 2018. In August 2018, NordREG asked 6,000 customers (1,500 in each country) the same questions. Only respondents that were responsible for the choice of electricity supplier were allowed to answer. The survey covered the current metric 16, as well as the metrics 14 and 15, previously analysed.

In order to quantify this metric, the following customer categories have been applied by NordREG:

- Active customers: Consumers who have signed an electricity contract during the last 12 months.
- Inactive customers: Consumers that have neither switched nor compared contracts but have remained passive in the electricity market during the last 12 months.

Questions	Denmark	Finland	Norway	Sweden
% of active customers who trusted the information and advice from sellers.	45%	70%	63%	59%
% of inactive customers who would trust the information and advice from sellers (in the near future)	17%	52%	42%	46%

In Slovenia, the NRA made a consumer survey in which it defined three questions which represent the consumer opinion of the retail market. The table below represents the quantification of the metric by the Slovenian NRA:

Questions	Slovenia
1. Do you think that there are enough electricity suppliers in the Slovenian retail market that are competitive and therefore less likely to abuse market power?	61.4% of the respondents said Yes, 18.5% of the respondents said No, 20.1% of the respondents has no opinion
2. Do you think that electricity suppliers in the Slovenian retail market are sufficiently informing their customers about offers, additional services, and innovations in the retail market?	38% of the respondents said Yes, 38.6% of the respondents said No, 23.4% of the respondents has no opinion
3. Do you think that electricity suppliers in the Slovenian retail market provide competitive prices to their customers?	37.8% of the respondents said Yes, 38.2% of the respondents said No, 24.0% of the respondents has no opinion

In France, the NRA reported that 60% of the respondents to the consumer survey made by the Energy Ombudsman trusted the energy market in 2018.

In Ireland, the 2019 survey measured overall supplier satisfaction. The results reported by the NRA for 2018 are as follows: 88% overall supplier satisfaction for residential electricity and 82% overall supplier satisfaction for small and medium sized enterprises SMEs. 35% of residential electricity customers and 29% of SMEs electricity customers “like the service they receive from their current supplier”, and 9% of residential electricity customers “prefer to remain with an electricity supplier that they trust”.

Similarly, in Spain, the NRA reported that 39.5% of consumers were satisfied in 2018 with their electricity supply, of which 5.1% very satisfied and 34.4% satisfied.

In the Netherlands, the NRA reported that in 2018 15% of consumers trusted the energy market.

In Great Britain, the NRA reported that a survey<sup>74</sup> conducted between April and June 2018 shows that domestic consumers’ trust in the energy market was generally high and has continued to rise over time. The NRA believes that high consumer trust in the energy supplier is a positive outcome and shows a good progress with regard to the national objective in this area. 73% of British domestic consumers say that they trust their energy provider to treat them fairly, 73% say that their supplier provides clear and helpful information, and 65% have trust in their supplier to charge them a fair price.

In Luxembourg, the NRA conducted a consumer survey and on the basis of the results gathered made a gap-analysis for the current metric:

Through the consumer survey on energy market awareness conducted end of 2019 among household customers, ILR asked the following question: "In comparison to suppliers in other services such as telecommunications, postal services, etc..., would you consider that energy suppliers' services are overall rather better performing or less performing?" The answers show that 24% of the respondents believe that services of energy suppliers are better than those provided by suppliers in other services, against 11% who stated that services of energy suppliers are worse than those provided by suppliers in other services. 65% of respondents did not have an opinion.

It is not straightforward to find out whether consumers trust the energy market. However, through a consumer survey it is possible to obtain some insights into consumers' perception. Through the question on the satisfaction with the current supplier that was posed in the framework of ILR consumer survey, results show that 97% of electricity household customers indicated that they are satisfied with their current electricity supplier (of which 45% are very satisfied) and 98% of natural gas customers indicated that they are satisfied with their current natural gas supplier (of which 44% are very satisfied). Answers provided in the satisfaction question are a good proxy to judge the trust of consumers in the energy market and to understand the reason behind low switching rates.

The current metric is therefore interlinked with metric 20 – Supplier switching rate.

### 6.3.1 Pilot: Spain – Metric 16

<b>Quantification &amp; Results</b>
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<sup>74</sup> 'Consumer Engagement Survey 2019'

The “CNMC Households’ Tracking Survey” is a survey of consumers in Spain with a periodicity of six months. The results are published by the Spanish National Commission of Markets and Competition (CNMC)<sup>75</sup>

Its aim is to gather information about consumption and spending patterns, habits and perceptions of residential consumers. The information gathered spans several of the sectors monitored by the CNMC: energy (electricity and natural gas), telecommunication, audio-visual services and the postal sector.

The survey is the result of retrieving information directly from a representative sample of households and individuals living in Spain.

The procedure works as follows: every six months, a representative sample of households complete a postal/web survey and, every six months, they send in bills for electricity services. In every wave of the survey, around 75% of the sample remains constant (consumers get a small gift for the participation in the survey). This information, once processed, makes up the CNMC Households’ Tracking Survey.

The survey includes questions about the reasons for dissatisfaction with the services: whether they are expensive, lack of clarity in the invoices, lack of information about the supply and contractual conditions, lack of quality of service (i.e., disruptions of supply), poor customer service, etc.

Presented here are some examples of the issues covered by the survey:

1. Overall satisfaction level. This indicator measures the overall level of satisfaction among consumers, comparing different sectors. As observed in table below, most clients are satisfied with the offered service.

**Table 8 Table showing overall satisfaction levels in different sectors**

	Unsatisfied	Satisfied
<b>Electricity</b>	15.5%	43.9%
<b>Natural gas</b>	12.5%	49.6%
<b>Telephone line</b>	14.2%	48.9%
<b>Internet line</b>	14.9%	49.8%

Source: CNMC Households’ bill tracking and survey Statistics. Second Semester 2019

When looking into the reasons behind dissatisfaction in the energy field, consumers reported being unsatisfied firstly because they found services expensive, followed by due to lack of billing clarity and lack of information regarding contractual conditions:

**Table 9 Table showing reasons for dissatisfaction**

	Expensive	Lack of billing clarity	lack of information regarding contractual conditions	Low supply quality	Improper payment	Poor customer services
<b>Electricity</b>	93.5%	43.5%	33.6%	18.8%	11.7%	24.9%
<b>Natural gas</b>	89.8%	39.1%	32.9%	10.5%	14.7%	22.6%

Source: CNMC Households’ bill tracking and survey Statistics. Second Semester 2019

2. Understanding of complaint procedures. 29.1% of respondents replied they do not understand how to settle a complaint against their supplier in the case of natural gas, whereas 32.0% chose this option in the case of electricity. The results show that this issue has not improved, since the situation remains very similar to how it was in 2018.

<sup>75</sup> <http://data.cnmc.es/datagraph/index.jsp>

In relation to this question, just 4.6% of electricity respondents and 5.1% of natural gas respondents presented complaints against their energy suppliers in the second semester of 2019. The majority of complaints were related to billing issues (between 56-68%).

Many of the indicators will be monitored over time, enabling the calculation of market trends, but there is also a possibility to introduce changes in the questions over time, depending on market developments and CNMC's information needs.

### Gap-analysis

The objective of these questionnaires and analyses is to detect possible market failures and areas of improvement, but without fixing specific targets.

## 7 Key property VI: The availability of empowerment tools

The aim of consumer empowerment is to enable consumers to effectively engage with the market. Three metrics are used to measure the availability of empowerment tools.

**Table 10 Metrics used in the self-assessment of key property VI "The availability of empowerment tools"**

Metric n° and name	Number of NRAs using	Number of NRAs completing gap-analysis
17 Percentage of consumers having access to at least one independent and verified PCT	15	6
18 Percentage of consumers having access to online historical consumption information	10	5
19 Percentage of consumers having access to a standardised supplier switching process (and its duration)	15	5

### 7.1 Metric 17: Percentage of consumers having access to at least one independent and verified CT

This metric is used to measure whether consumers can identify the best offer in the market. If consumers can correctly estimate available savings, they can make better decisions to either switch to a better offer or stay with their current deal. An independent and verified CT<sup>76</sup> is a powerful empowerment tool to make comparisons easier for consumers<sup>77</sup>. A comparison of number of CTs and their functionalities is presented in "ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2019"<sup>78</sup>.

In 2018, 15 NRAs have used this metric as a part of their self-assessment. Belgium, Denmark, Finland, Netherlands, Norway, Portugal, Spain and United Kingdom all quantify the metric with 100%.

<sup>76</sup> The previous status report used the term "Price Comparison Tool". The current report refers to "Comparison Tool" as such tool enables to compare energy products not only in terms of price but also in terms of other features, such as the environmental impact of the energy product.

<sup>77</sup> Comparison tools for energy must meet a number of minimum requirements as listed in article 4 of the Electricity Directive of the Clean Energy Package.

<sup>78</sup> <https://www.ceer.eu/national-reporting-2020>

The Irish NRA additionally explains that three price comparison websites have been independently verified and accredited. Everyone with internet access has access to these price comparison websites. Sweden quantifies the metric with 98% and states that the number of citizens that have access to the internet is 98%. The rest can access the Internet through libraries, the internet cafés etc. The Swedish telecom agency is working towards a 100% fulfilment rate.

A big improvement has been reported from Slovenia. According to Energy-Law (EZ-1), the comparison tool of the Energy Agency had been limited to compare only so-called regular offers since April 2014. The utility of this was very low. Following the changes made in the Energy-Law (EZ-1) in June 2019, the Agency regained the authority to provide comparisons of all energy price offers for household and small business customers. This will largely increase the transparency of the retail market.

Six NRAs also did a gap analysis. Denmark states that the objective of 100% of household customers having access to at least one independent PCT has been reached. The Finnish NRA maintains the independent and reliable PCT for all consumers and other specified small-scale electricity users.

In Great Britain, the NRA observed a continued upward trend in each of these measures over time. Furthermore, their consumer engagement survey found that 64% of consumers who switched or compared offers in the last 12 months found out about their deal through an online PCT website, which was a big increase from 55% in 2018.

The Luxembourg's NRA concluded that in terms of volumes of supplied energy in 2018, household consumers represented only 14.3% of all electricity volumes and 36% of all natural gas volumes supplied. Since small business consumers represent an important share of all consumers in terms of metering points and especially in terms of volumes supplied in both electricity and natural gas sectors, in the future the NRA foresees to add offers for this category of customers in the PCT (by end of 2020). In countries where the NRA is running (operating) its own PCT there is no need for a verification scheme, as the NRA is already verifying the data inputted into the PCT, i.e. the verification scheme is implicit. As such, the only existing PCT in Luxembourg is independent and verified.

## **7.2 Metric 18: Percentage of consumers having access to online historical consumption information**

This metric is used to measure whether consumers can access their consumption data through online tools. Having such access to accurate historical consumption data enables consumers to compare alternative offers and make informed choices. Online access seems the most convenient way to access consumption data when required, especially in cases of large amounts of data, e.g. hourly billing<sup>79</sup>. No other CEER publications cover this data.

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<sup>79</sup> According to article 20 (a) of the Electricity Directive, validated historical consumption data must be made easily and securely available and visualised to final customers on request and at no additional cost.

Ten NRAs use this metric in their self-assessment. The level of detail of the data is split into annual (most prevalent), monthly, daily and hourly data. Norway states that all consumers have access to their own historical consumption data back to February 2019 through a data hub. The level of detail is hourly. Croatia, Finland, and Netherlands quantify the metric as 100%<sup>80</sup>.

Five NRAs did a gap analysis. Denmark states that the objective of 100% of household customers having access to online historical consumption data on an hourly basis coincides with the legal obligation of DSOs to install smart meters no later than the end of 2020 (metric 6). All household customers will have access to historical hourly consumption data at least by the end of 2020, if not sooner. The Finnish NRA reports that all consumers have the availability of annual, monthly, daily and hourly data already. In Sweden, the target for the implementation of a national data hub and a supplier centric model is the fourth quarter of 2022 or beginning of 2023. By then, customers will be able to access data more easily. They add that most suppliers and DSOs offer this already today. In Luxembourg all consumers have access to historical consumption information by law.

In Luxembourg, ILR does not have completeness of data to evaluate in 2018 how many consumers had requested an online access to their historical consumption data nor how many days did it take on average to get such an access.

Not all DSOs monitor the number of requests for historical consumption data as part of a DSO service quality questionnaire. Data quality on this metric varies among DSOs.

### **7.3 Metric 19: Percentage of consumers having access to a standardised supplier switching process (and its duration)**

This metric is used to measure the availability of a standardised supplier switching process for consumers and informs NRAs how/if to improve the existing switching process. No other CEER publication cover this data.

In 2018, 15 NRAs used this metric in the assessment. Almost every NRA using this metric has concluded that all consumers have access to a standardised supplier switching process. The duration of the switching process is not always measured and varies also depending on the type of consumer.

Five NRAs have performed a gap analysis. In this context, Sweden states that there is already today a standardised switching process which will be improved even further when the data hub and supplier centric model is in place (Q4 2022 or beginning of 2023).

## **8 Key property VII: Sufficient consumer engagement**

A well-functioning market is one in which an adequate number of consumers engage with the market. Three metrics are used to measure sufficient consumer engagement.

***Table 11 Metrics used in the self-assessment of key-key property VII “Sufficient consumer engagement”***

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<sup>80</sup> Only for access to annual usage data, to which consumers have access through their (past) suppliers.

Metric n° and name	Number of NRAs using	Number of NRAs Completing gap-analysis
20 Supplier switching rate	19	4
21 Percentage of inactive consumers	13	2
22 Percentage of prosumers	12	2

## 8.1 Metric 20: Supplier switching rate

CEER's annual "*Monitoring Report on the Performance of European Retail Markets*"<sup>81</sup> published data on the switching rates at the national level for both household and non-household markets.

The supplier switching rate, which is directly linked with the level of market competition (given that the switching rate affects the market share of competing companies and thus puts competitive pressure on energy suppliers) is used to measure the active engagement of consumers in the energy retail market. In addition to this external switching, renegotiated contracts (internal switching) could also be measured as those consumers who actively decide to renegotiate their contracts with their current supplier, and so also put competitive pressure on their energy supplier.

Most NRAs use this metric (with the exception of countries where switching is not an option, for example Malta and Cyprus with only one supplier). Switches are usually measured within different relevant markets (for example electricity, gas, household consumers, SMEs) and there are big differences between segments and countries. Within the segment of household consumers switches for electricity range from 0.1% to over 20% annually.

Seven NRAs have also measured renegotiations of contracts, either through data from suppliers, or indirectly through consumer surveys. For households, the results range from 1.2% to 27% for renegotiated electricity contracts.

Four NRAs<sup>82</sup> have done a gap analysis.

In Finland (with a switching rate of 11% for households), the NRA set the objective of 14% for 2019 and onwards. Measures taken by the NRA to increase the switching rate include a newly launched PCT (November 2019) and an updated website (summer 2019).

The Swedish NRA believes that the proposed implementation of a national data hub and a supplier centric model in 2022 probably will increase switching rates. Customers will switch suppliers more easily when their personal data is available for the supplier in the data hub. Inactive customers (on default contracts that have not made an active choice) will also be forced to make a choice of supplier and contract, which will increase switching rates.

<sup>81</sup> Ref: C19-MRM-99-02

<sup>82</sup> BE, FI, LU, NL and SE

In Ireland, the regulator monitors the number of switches on a monthly basis and believes that switching information is critically important in monitoring the effectiveness of competition, the level of customer engagement in the market and the choices available to customers. Competition in the electricity and gas markets is driven by engaged customers that look for suppliers offering attractive products and tariffs.

To assist customer participation in the energy market, the regulator in 2017 introduced changes to the Supplier Handbook which sets out obligations on electricity and gas suppliers. These changes included requirements for suppliers to display an Estimated Annual Bill in their marketing and advertising, to give customers 30 Days' Notice prior to the end of the customer's fixed-term contract and to issue an annual prompt to customers who have been on the same tariff for three years or more (highlighting the availability of alternative tariffs).

To promote customer engagement in the energy market, the CRU also ran a customer engagement campaign in 2018, encouraging energy customers to "Switch On" to their rights, their savings and to energy safety. It is hoped this encourages customers to switch supplier, to avail of better deals. The CRU is currently running another campaign promoting the engagement of customers.

In 2018, the number of supplier switches increased in Belgium. This is explained in by the fact that the Belgian energy market is not only dynamic at the level of the clients but also by the many movements which have taken place at the level of active suppliers. In 2018, the market was affected by several customer acquisitions following bankruptcy or acquisitions of certain suppliers.

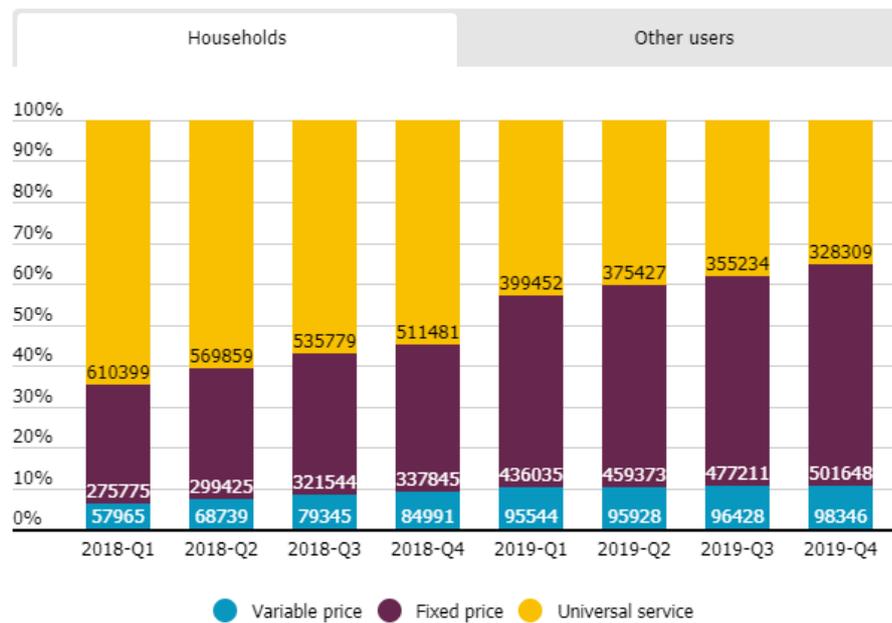
The British NRA believes that Great Britain has a relatively high switching rate and trends show good progress with regard to the national objective of high consumer engagement. In GB, the external switching rates continued to increase and reached 20.4% in electricity (April 2019). The renegotiation rate is 30.5% in domestic electricity market in 2018, which are high rates compared with other utility sectors and retail energy markets around the world.

A new law was recently adopted in Georgia in order to develop competition where consumers can choose or change suppliers. According to the Georgian NRA, the country does not have a competitive market yet and customers are not able to switch suppliers, but the ambition is to change the situation.

### 8.1.1 Pilot: Latvia – Metric 20

Quantification & Results
<p>When liberalising the electricity and gas markets, it was decided in Latvia to open the market in a way to protect the interests of the most vulnerable households. The solution provided was Universal Service served by the incumbent supplier for all those households, which had not chosen any other product by the time when market was liberalised. Similarly, in gas a public trader was nominated to serve customers unwilling to respond to new market conditions.</p> <p>As the Universal Service is typically more expensive compared to other products offered in the market, there is hardly any economic motivation to pick it from the viewpoint of a typical user. Therefore, we can assume Universal Service to represent inactive consumers.</p> <p>The data necessary to estimate the share of Universal service comes from quarterly reports on relevant market data which are submitted by suppliers.</p>

According to data, Universal Service was second most popular choice (35.37%) in 2019 Q4. The most popular choice was fixed price contracts (54.04%), and the least attractive to households – variable (spot) price contracts (10.59%).

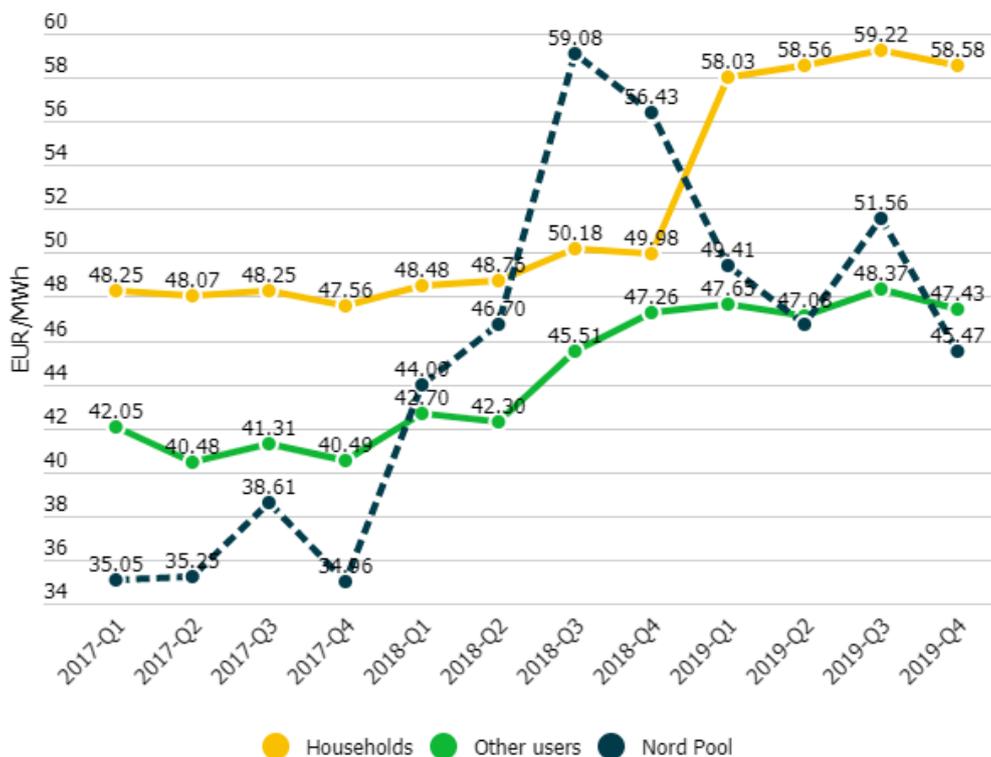


**Figure 12 Shares of contract types in households' sector in Latvia**

Considering that gas market was opened more recently, and the setting is different (e.g. regulated tariffs coexist with market price) the focus is broader – showing main price in global markets and the effect on local markets. For more details on gas market infographics, please visit Latvian NRA PUC's website: <https://www.sprk.gov.lv/events/dabasgazes-cenas-sogad-turpinaja-butiski-samazinaties-iequivumi-ari-majsaimniecibam>

### Gap-analysis

The NRA holds a neutral position in this matter and respects consumer preferences, thereby, there is no national objective set in this case. Nevertheless, in general it seems that a significant proportion of consumers overpay for electricity because of insufficient market knowledge (see Chart 2). It is also widely agreed that market opportunities are enabled by higher consumer education on market issues and especially involvement. Therefore, the NRA would like to see an increase in the share of variable (spot) price contracts.



**Figure 13 Weighted average prices in Latvia**

In 2019, the NRA changed the way it provides market information to raise the interest and overall knowledge. In-depth market reviews were replaced by shorter and simpler to understand summaries. Infogram was picked as the tool best serving these needs. To keep it short and simple, summaries include only the information on historical weighted average price for households and weighted average price in spot exchange, shares of different contract types and links to register of suppliers. Nevertheless, additional information on regulatory updates (e.g. new tariffs for regulated system service) might be added, if necessary.

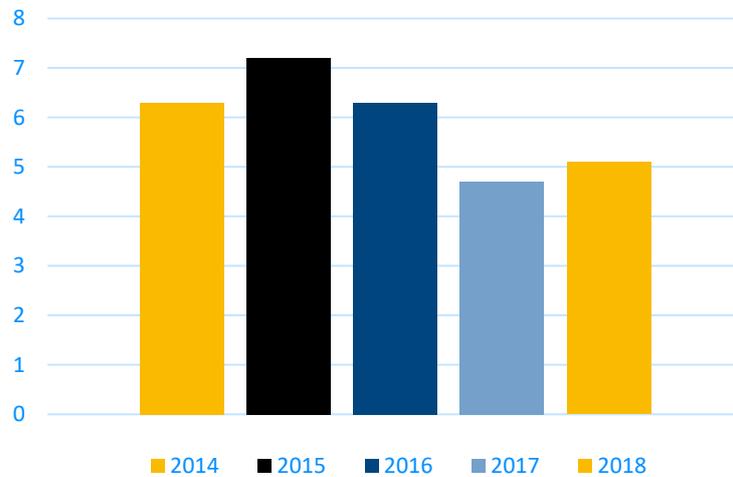
Although, it is too early to measure the effect provided by such communication, what we can see from the clicks on infographics is that the NRA is reaching a far larger audience than it did by providing long and detailed in depth reviews only. Furthermore, infographics, if complemented by a brief press release, are more appealing for online media, thus providing even more coverage. For more details on electricity market infographics, please visit our website<sup>83</sup>.

### 8.1.2 Pilot: Denmark – Metric 20

#### Quantification & Results

In Denmark, the switching rate is 5.1% for household customers and non-household customers with an annual consumption up to 100,000 kWh (2018). The switching rate is 7.3% for non-household customers with an annual consumption over 100,000 kWh (2018). The switching rate for household and non-household customers with an annual consumption up to 100,000 kWh, has remained rather constant and low from 2014 to 2018.

<sup>83</sup> [https://infogram.com/el\\_2019-q4-1h8n6myymo796xo?live](https://infogram.com/el_2019-q4-1h8n6myymo796xo?live)



**Figure 14 Development of switching rate for customers with an annual consumption up to 100 000 kWh (percent)**

Source: The Danish TSO Energinet

## Gap-analysis

### Gap analysis methodology:

The gap analysis methodology applied by DUR in the Danish retail market self-assessment is essentially determined by the scope of DUR's competence and tasks in relation to the Danish retail market for electricity.

The scope of DUR's competence and tasks in terms of the retail market for electricity are set out in the Law on The Danish Utility Regulator, the Danish Electricity Supply Act and in executive orders issued within the scope of these laws.

DUR is not the competent authority to determine national retail market objectives and how to reach them. It therefore lies outside the scope of DUR's competence to set a specific objective for consumer switching activities in Denmark.

However, pursuant to the Danish Electricity Supply Act<sup>84</sup>, it is DUR's responsibility to establish and operate an online comparison tool for electricity products offered to customers with an annual consumption up to 100,000 kWh.

The public website/comparison tool elpris.dk was established by DUR in 2016. The overall purpose of elpris.dk is to increase transparency and customer awareness with regards to products and prices on the Danish retail market for electricity, thereby enabling customers to make an informed decision about which product to choose.

However, the switching rate for household and non-household customers with an annual consumption up to 100,000 kWh has remained rather constant and low from 2014 to 2018, cf. figure above.

<sup>84</sup> Section 82 b, subsection 1, of the Danish Electricity Supply Act.

In 2018, DUR started the process of improving elpris.dk, in order for it to become a better and more active CT for customers in line with the green transition and the new requirements in the recast Electricity Directive.<sup>85</sup>

DUR has collaborated with the Danish Competition and Consumer Authority<sup>86</sup> in terms of identifying areas where elpris.dk can be improved from the view of the customer and identifying possible concrete ways to improve it. The Danish Competition and Consumer Authority has conducted a behavioural study about the customer experience of the current version of elpris.dk compared with a new prototype of the CT.

On the basis of the findings of the study and thereby on concrete evidence of customer behaviour, DUR has identified the following focus areas in terms of how elpris.dk can become a better CT:

- Improvement of how prices are shown and can be compared in particular in terms of dynamic price products. The comparison is to include the hourly prices on the power exchange NordPool and time differentiated grid tariffs;
- Enabling comparison of products based on the products' share of renewables;
- Integration between elpris.dk and the Danish data hub<sup>87</sup> enabling customers to compare products based on their own individual consumption data; and
- Enabling customers to compare products based on their own electricity bills. This comparison is to be made based on actual historical prices that is stored in the comparison tool. The comparison is intended to give the customer a good indication of whether he or she generally pays too much for electricity compared with other products that are available.

DUR expects that the improvement of elpris.dk will be a continuous process that will take place over the next few years with the involvement of relevant stakeholders.

DUR hopes that the steps taken to improve elpris.dk will make it a better CT that will support the green transition and encourage customers to be active in line with the recast Electricity Directive.

## 8.2 Metric 21: Percentage of inactive consumers

This metric measures the lack of consumer involvement in the market (inactive consumers) and helps to inform NRAs' policies aimed at improving the level of consumer engagement and stimulating competitive pressure on suppliers. No other CEER publications cover this data.

Thirteen NRAs use this metric in their self-assessment. The overall conclusion, looking at the results provided in the self-assessment, is that in most countries there are a large percentage of customers that are inactive.

Within the context of NordREG-cooperation, Denmark, Finland, Norway and Sweden in 2018 conducted a customer survey with 6,000 respondents (1,500 in each country). The level of activity was among the questions:

**Table 12 When did you last sign an electricity contract with a supplier?**

<sup>85</sup> Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU (recast).

<sup>86</sup> The Danish Competition and Consumer Authority is a government agency under the Danish Ministry of Industry, Business and Financial Affairs.

<sup>87</sup> The datahub is an IT-platform that handles data communication and business processes between market participants in the Danish electricity market. All metered data and all necessary information for settlement purposes, including balance and wholesale settlement, are collected in the datahub.

	Denmark	Finland	Norway	Sweden
During the last 12 months (%)	28	39	30	32
1-3 years ago (%)	37	35	30	32
3-5 years ago (%)	19	10	15	15
More than 5 years ago (%)	16	16	25	20

Customers were also asked when they last compared their current electricity contract to other contracts:

**Table 13 When did you last compare your current electricity contract to other contracts?**

	Denmark	Finland	Norway	Sweden
During the last 12 months (%)	33	46	44	32
1-3 years ago (%)	50	44	42	49
3-5 years ago (%)	13	8	11	11
More than 5 years ago (%)	4	2	3	8

In the self-assessment, these countries reported the following, non-comparable, figures for inactivity among electricity customers 2018 (different definitions of inactivity, measure-points in time and customer groups):

In Croatia, the share of inactive customers (not switched during the last 3 years) was 88%. In Italy, the share of households who have not switched in the last 5 years was 71%<sup>88</sup>. In Netherlands, the share of consumers who have never switched were 28% and the share of consumers who have not actively searched for better deals within the last 3 years were 44%<sup>89</sup>.

In Belgium, the number of inactive customers, supplied by the designated supplier, or by their DSO, decreased. Today, this is less than one in ten electricity customers, and about one in thirteen gas customers.

Finally, in Great Britain, 53% of the electricity customers (excluding customers on prepayment) were still on default tariffs, and around half of these customers had been on default tariffs for more than three years. Survey data in 2019 shows the proportion of consumers who recalled never switching supplier or switching just once is down to 49% from 61% in 2018 and 58% in 2017.

Two NRAs did a gap analysis.

Based on a gap-analysis, the Irish regulator introduced measures to make switching easier and customer more active. The measures are described under metric 20.

In Sweden, the NRA believes that the implementation of a national data hub and a supplier centric model late 2022 will increase customer activity.

<sup>88</sup> Based on customer surveys.

<sup>89</sup> Result of yearly energy consumer survey made by the NRA ACM.

### 8.3 Metric 22: Percentage of prosumers

This metric is used to measure the percentage of “prosumers” engaged in the market for self-consumed energy and related services<sup>90</sup>.

Twelve NRAs use this metric. Again, national circumstances lead to very different results, ranging from just above 0% to 7%, among NRAs that agreed to publish results. In most cases, data is collected from DSOs, although the Swedish NRA uses data from the Swedish Tax Authority. In Denmark, the share of installed capacity of photovoltaic installations of final household consumers for (partial) self-consumption is 3%.

Two of these NRAs<sup>91</sup> have done a gap analysis. Overall, it can be concluded that NRAs did not set a specific target. For instance, the British NRA has stated that there has been a good progress regarding the national objective of high consumer engagement, due to the increased number of consumers that have installed renewable electricity generating equipment, such as solar photovoltaic (PV) at their homes or premises. In addition, in Great Britain, there are 46,000 members in citizens energy communities.

#### 8.3.1 Pilot: Malta – Metric 22

##### Quantification & Results

The Regulator for Energy and Water Services in Malta (REWS) administers the allocation of feed-in tariffs for solar photovoltaic installations since their introduction 2010 and grant schemes on the purchase of solar photovoltaic installations for households. The feed-in tariffs rates, terms and conditions are established through the Feed-in tariffs scheme (solar photovoltaic installations) Regulations (“Feed-in Tariffs Regulations”).

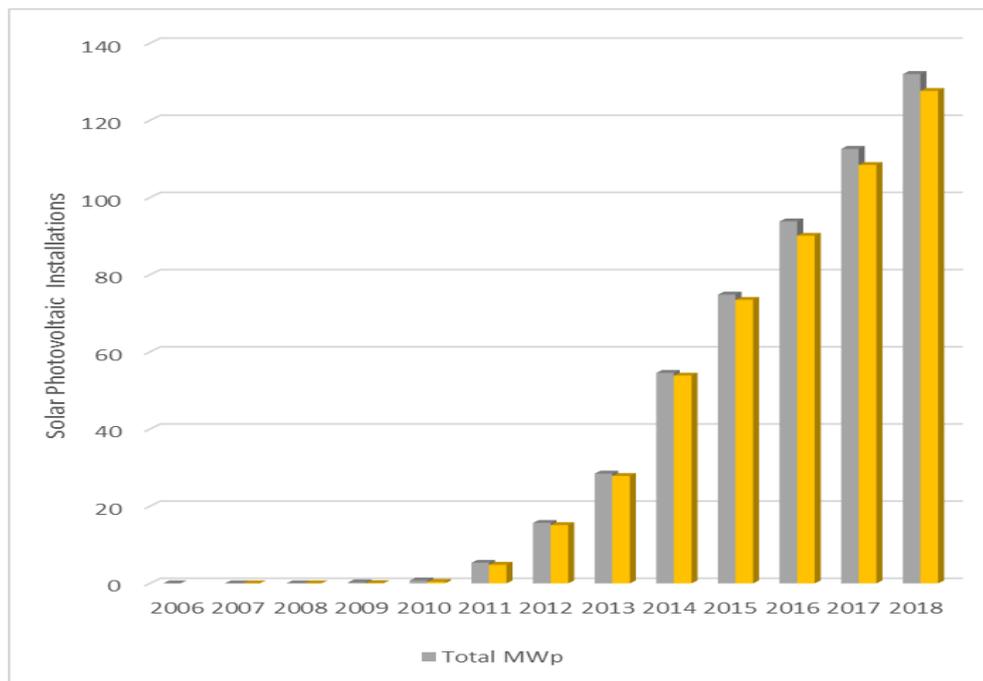
Prior to the introduction of feed-in tariffs, solar photovoltaic installations were connected on a net metering arrangement. Installations installed prior to the introduction the feed-in tariffs were given the option to switch from net metering to a feed-in tariff. The feed-in tariff is payable on the electricity generated and exported to the grid by approved solar photovoltaic installation up to a maximum number of units per annum normally calculated as kWp x 1600hrs, any units exported in excess of this amount are paid at the proxy of the market price. Prosumers may choose either to sell all the electricity produced or primarily self-generate and export the surplus not consumed on site. The electricity consumed on site is not paid the feed-in tariff.

The feed-in tariff introduced along the years differ in rate per kWh and the duration of the feed-in tariff. More information on feed-in tariffs on the history of feed-in tariff is available at <https://www.rews.org.mt/#/en/fa/32>

The feed-in tariffs regulations provide that the DSO may set off amounts due by the prosumer for the supply of electricity against amounts due to the prosumers for electricity exported by them to the grid. After two consecutive bills based on actual meter readings shown in credit, the DSO is obliged to pay the credit to the prosumer within sixty days of the date of the second scheduled bill. Normally households with a smart meter are billed on actual meter readings on a bi-monthly basis.

<sup>90</sup> In article 15 of the Electricity Directive prosumers are regarded as active customers, which are entitled to operate without disproportionate or discriminatory technical requirements, administrative requirements, procedures and charges, and who must be subject to cost-reflective, transparent and non-discriminatory network charges that account separately for the electricity fed into the grid and the electricity consumed from the grid.

<sup>91</sup> Belgium and Great Britain.



**Figure 15 Total solar photovoltaic capacity installed**

Source: Analysis of REWS & DSO data

Circa 94.9% of the 27,249 installations are installed by domestic prosumers and these amount to 52% of the total installed capacity. The total MWp (FiT) shows the capacity that benefitted or is still benefitting from a feed-in tariff. The guaranteed period for the payment of the support may have expired for some of the capacities given that tariff durations range from 6 to 20 years. Where the support payment has been terminated the units exported are paid the “proxy of the market price” and prosumers are encouraged to self-generate.

Solar photovoltaic installations connected on consumption accounts are provided with a generator meter that measures all electricity generated and an import/export meter. These meters are provided by the DSO and, in general, both meters are smart meters.

The number of prosumers that are opting to primarily self-generate in view of the expiry of the feed-in tariff is on the increase.

#### Gap-analysis

REWS has not set any national target for the metric.

## 9 Key property VIII: Appropriate protection

In well-functioning retail energy markets, consumers enjoy an appropriate level of protection and there are specific measures to protect those defined as vulnerable customers. Three metrics are used to measure this.

**Table 14 Metrics used in the self-assessment of key -property VIII “Appropriate protection”**

Metric n° and name	Number of NRAs using	Number of NRAs completing gap-analysis
23 Time between notification to pay and disconnection for non-payment	13	3
24 Percentage of disconnections due to non-payment	17	3
25 Percentage of suppliers using min standards for key info in advertising and bills	12	1

### 9.1 Metrics 23 and 24: Time between notification to pay and disconnection for non-payment and percentage of disconnections for non-payment

These two metrics are also covered by “ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2019<sup>92</sup>”.

This metric is used to assess the level of protection against disconnections due to non-payment, in conjunction with metric 24 on number of disconnections for non-payment. In selected cases, suppliers and/or DSOs can disconnect consumers from electricity and gas networks. Specific consumer protection legislation foresees a number of provisions to mitigate disconnecting household consumers in cases of non-payment of bills<sup>93</sup>. However, if those consumers continue to fail to pay their bills, suppliers and DSOs can disconnect them. Most countries have installed a procedure for disconnections, which foresees a certain period between non-payment and disconnection, to settle due amounts. That is why this metric should be assessed in conjunction with the other metric on the percentage of disconnections due to non-payment.

Thirteen NRAs measure the time between notification to pay and the actual disconnection. Seventeen NRAs measure the share of disconnections due to non-payment.

In terms of the time between the notification to pay and disconnection, most countries only reported information in terms of the legal point of view. The national circumstances lead to very different results, ranging from at least 20 working days in Ireland to 2 months for most consumers to 4 months for consumers with social tariff in Spain.

In Cyprus, the share of disconnections of final household consumers due to non-payment in 2018 was 2.4%. In Denmark, electricity suppliers cannot disconnect household customers due to non-payment of consumed electricity, only due to non-payment of collateral, on which the disconnection rate corresponds to 0.5%.

<sup>92</sup> <https://www.ceer.eu/national-reporting-2020>

<sup>93</sup> The Electricity Directive (article 28 (1)) requires Member States to define the concept of vulnerable customers which may refer to energy poverty and, inter alia, to the prohibition of disconnection of electricity to such customers in critical times.

The regulator in Great Britain stated that disconnections due to debt are very rare, with just six electricity disconnections and no gas disconnections in 2018. Disconnecting a customer's energy supply should always be a last resort and avoided wherever possible. Gas and Electricity Supply Standard Licence Condition 27 prohibits suppliers from disconnecting premises solely occupied by pensioners (including if they live with children under age 18) during the winter, and requires suppliers to take all reasonable steps to avoid disconnecting premises that include any pensioners, disabled or chronically sick customers in winter. Suppliers must not disconnect anyone whose debt they have not taken all reasonable steps to recover first by using a PPM. Furthermore, Standards of Conduct require suppliers to treat each customer fairly<sup>94</sup>. The NRA expects suppliers to consider on a case-by-case basis whether it is fair to disconnect customers.

Three NRAs<sup>95</sup> have done a gap-analysis on the time between the notification to pay and the percentage of disconnection. The same three NRAs<sup>96</sup> have done a gap-analysis on the percentage of disconnections.

In Slovenia, even though there was no gap-analysis done by the NRA, they stated that it set an internal objective on national level for this metric in 2018: the share of disconnections should not exceed 1%, which was a result of long-term observation of the situation in Slovenia considering the impact of the new Energy Act.

In Luxembourg, the legal dispositions on disconnection procedure apply only to household consumers. The regulator (ILR) receives no statistical data on the number of disconnections of non-household customers or indication on the total number of vulnerable customers in the country. The NRA would favour increased harmonisation of the procedures for dealing with defaulting customers, both at the level of the suppliers and at the level of the social welfare offices. The procedure should be as long as efficiently necessary to allow the social welfare office to intervene. ILR would favour receiving more statistical data and information on procedures of the social offices and on the percentage of energy bills being paid by social offices over the total number of defaulting household consumers

Regarding metric 24, Poland stated that, in order to determine the disconnection rate due to lack of payment, the NRA conducts an annual survey among electricity and gas supplier.

### 9.1.1 Pilot: Malta – Metric 24

<b>Quantification &amp; Results</b>
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<sup>94</sup> The Standards of Conduct are set out in Gas and Electricity Supply Standard Licence Condition 0.

<sup>95</sup> Luxembourg, Great Britain and Poland.

<sup>96</sup> Luxembourg, Great Britain, and Poland.

The Regulator for Energy and Water Services in Malta (REWS) monitors the disconnection of electricity customers for non-payment. The Electricity Supply Regulations provide that the DSO may disconnect a customer if a request for payment, duly presented to consumer, is not paid within fourteen days of its presentation. However, the Customer Charter which forms part of the contract with the consumer provides that in the case of non-payment the customer would receive reminders to settle the dues and as well as a final suspension notice. There are no timeframes for the reminder and the final suspension notice. Customers that encounter difficulties to pay the bills may contact the DSO for an agreement on a payment programme. Therefore, in practice disconnection of supply occurs as a last resort. In certain instances, the DSO also resorts to reduction of service rating to avoid complete disconnection.

The REWS collects the data of disconnection for non-payment from the DSO. The data is available from 2007 and includes all disconnections for non-payment and as from 2015 onwards, it is possible to distinguish between households and non-households.

#### Gap-analysis

REWS has not presented any assessment of the result for metric 24 or a national target.

## 9.2 Metric 25: Percentage of suppliers using minimum standards for key information in advertising and bills

The purpose of this metric is twofold: firstly, it monitors the existence of minimum information standards in the country and secondly, the proportion of suppliers complying with them<sup>97</sup>. This is a complex area and when assessing the situation an NRA must be careful to obtain an accurate picture of the situation. In addition to the outcome of this metric, more background information is necessary to fully understand the situation. Most likely sources will include legislation/license conditions and research conducted by NRAs on how suppliers comply with the standards. Consumer organisations and/or alternative dispute resolution/Ombudsmen could also be a source of information.

Twelve NRAs have used this metric in their self-assessment. Usually this is done on the basis of some sort of regulation, such as a code of practice, or minimum standards as determined by law. Exact figures on the share of suppliers using these minimum standards are not always available. In some cases, NRAs conclude that having a set of rules and not having to intervene implies that all suppliers adhere to the rules. Because of these different approaches, the outcome of this metric cannot be compared between countries.

No NRA did a gap analysis in the period under review.

### 9.2.1 Pilot: Ireland – Metric 25

#### Quantification & Results

The Irish regulator (CRU) has a Supplier Handbook which contains Codes of Practice that all suppliers must sign up to and comply with. There is a Code of Practice upon Billing and on Marketing & Advertising. Each year, the CRU conducts an audit on all suppliers upon their compliance with one of the Codes of Practice. Additionally, compliance with these codes can be assessed ad hoc if the CRU is informed or notices a potential breach.

<sup>97</sup> With regards to billing, Annex I of the Electricity Directive contains minimum requirements for billing and billing information.

The CRU Electricity and Gas Suppliers' Handbook<sup>98</sup> sets out obligations on electricity and gas suppliers under the Electricity Supply Licence and the Natural Gas Supply Licence. The obligations outlined in the Suppliers' Handbook describe the minimum level of service that electricity and gas suppliers are required to adhere to in their dealings with energy customers. These rules are in place to ensure that customers enjoy a high standard of protection in the electricity and gas markets. Electricity and gas suppliers are required to comply with these obligations when preparing terms and conditions of supply, Codes of Practice and Customer Charters and conducting their electricity and gas supply business. In line with the obligations of the Supplier's Handbook, Electricity and Gas Suppliers must prepare and submit to the CRU for approval the following documents:

**Table 15 Codes for suppliers**

<b>Suppliers of Household Customers:</b>	<b>Suppliers of Non-Household Customers:</b>
Customer Charter	N/A
Code of Practice on Marketing and Advertising	Code of Practice on Marketing and Advertising
Code of Practice on Sign Up	Code of Practice on Sign Up
Code of Practice on Customer Billing	Code of Practice on Customer Billing
Code of Practice on Disconnection	Code of Practice on Disconnection
Code of Practice on Vulnerable Customers	N/A
Code of Practice on Pay As You Go (PAYG) Metering and Budget Controllers (as applicable)	N/A
Code of Practice on Smart Services	Code of Practice on Smart Services
Code of Practice on Complaint Handling	Code of Practice on Complaints Handling
Terms and Conditions of Supply	N/A

All new suppliers entering the market are required to submit terms and conditions of supply, Codes of Practice and Customer Charters to the CRU for approval in advance of publication. In addition, Suppliers are required to submit a sample copy of their customer bill and PAYG statement to the CRU for approval. Furthermore, any changes to these approved documents must be further approved in advance of publication.

Suppliers shall develop a Customer Charter, guaranteeing their Codes of Practice, setting out the services provided, and service quality levels offered. The Customer Charter must also set out compensation and refund arrangements which apply if service quality levels are not met. Suppliers shall award customers the amount of payment set out in their Customer Charter where it is found that the guarantee has been broken.

Suppliers must have at least eight service guarantees contained in their Customer Charter, arising from their Codes of Practice. As a minimum, suppliers are required to guarantee their Code of Practice on Marketing and Advertising, Code of Practice on Sign Up, Code of Practice on Billing, Code of Practice on Disconnection, Code of Practice on Vulnerable Customers, Code of Practice Pay As You Go Metering and Budget Controllers, Code of Practice on Complaint Handling and Code of Practice on Smart Services.

A minimum penalty of €30 shall apply per guarantee. This payment to the customer is in relation to the guarantee in the Customer Charter only; the customer may still also pursue a complaint with the supplier in relation to further costs associated with the impact of the failure to meet the guarantee.

#### **Gap-analysis**

The CRU conducts an annual audit on all suppliers upon their compliance with one of the Codes of Practice. Following the audit, the CRU issues each supplier with a letter detailing its findings, any identified breaches of compliance and remedial actions to be undertaken where necessary. The CRU then publishes an information paper which provides a summary of the results of the audit and sets out the remedies suppliers must implement.

<sup>98</sup> <https://www.cru.ie/wp-content/uploads/2019/11/CRU19138-Electricity-and-Gas-Suppliers-Handbook-2019-.pdf>

Where appropriate, the CRU sets out recommendations for good practice based on the audit findings which aim to further improve customer protection.

For example, a spot check of supplier's compliance with the Code of Practice on Marketing and Advertising was conducted by the CRU in March of 2019<sup>99</sup>. This spot check was specifically in relation to supplier's use of digital marketing and social media advertisements to confirm that suppliers were providing all the necessary information to consumers, in the approved formats. The results showed a high level of compliance by suppliers, though some minor issues were noted which were brought to the attention of the relevant suppliers, and the findings of the spot check were published on the CRU's website. In addition, the CRU issued a general clarification to industry regarding the use of digital marketing and the Code of Practice on Marketing and Advertising.

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<sup>99</sup> <https://www.cru.ie/wp-content/uploads/2019/06/CRU19070-Spot-Check-of-Compliance-with-the-Code-of-Practice-on-Marketing-Advertising.pdf>

## 10 Conclusions from the 8 key properties that define a well-functioning retail market

Previous CEER work on market monitoring has been guided by two high-level principles: I) competition and innovation; and II) consumer involvement in retail energy markets. These high-level principles are supported by 8 key properties (marked in bold below), which have been addressed in detail in this paper. These properties represent the desired outcomes of the key elements, which retail energy markets need to have in order to be considered to be functioning well.

Below are summarised, for each property, a number of insights and implications stemming from the information submitted by CEER NRAs in 2018 and 2019:

### 1. Low concentration within a relevant market

The information provided by NRAs shows that different methodologies are used across countries to measure concentration with calculations based on the consumed volume for commercial consumers and calculations based on metering points for households. How household consumers are defined varies either by consumption level or capacity of the connection. Data from NRAs show that the level of competition in energy retail markets varies considerably across Europe. Typically, the markets for household consumers seem to be more concentrated than the markets for commercial consumers.

Several countries have set goals and made gap-analysis for this property. Some aim for a lower concentration, while some have set a concrete target to get an HHI under 2,000 or 1,000.

### 2. Low market-entry barriers

NRAs report that the procedures to access a national or regional wholesale market can take up to three months and cost anywhere between 0 and 50,000 euros. Some markets require a supply licence, which can take a supplier up to six months to obtain. In most markets, it is also possible for market participants to acquire permission to become a party providing balancing services, which can take up to four months to obtain.

The existence of regulated prices varies across Member States. In some markets, there are social tariffs for vulnerable consumers, via ex-ante and ex-post regulation. In markets with social tariffs, approximately 5% to 20% of consumers have such tariffs.

Several NRAs reported that there are procedures, either in place or under development, with common standards regarding the accessibility of data for suppliers and third parties. In seven Member States, there is a procedure for contracts between the DSO and the supplier where a supplier-centric model is applicable.

Regarding the availability of time-of-use metering and, where applicable, additional fees paid by the consumer to be able to have time-of-use price vs. traditional metering, NRAs report that meters for time-of-use metering are available for customers in most countries. In most of these markets, customers that have time-of-use meters do not pay any additional fee.

### **3. A close relationship between wholesale markets and retail prices**

In the “CEER 2017 Handbook for National Energy Regulators”, NRAs were invited to compare the correlation of all categories of commercialised retail products (not only the standard product by the incumbent supplier). However, not all NRAs have been able to go beyond the analysis that has already been carried out and published in national reporting<sup>100</sup>.

One of the main conclusions is that few NRAs have provided examples of mark-ups and comparisons of mark-ups for different product types. Mark-up between wholesale and retail prices is also part of the national reporting that NRAs submit annually to the European Commission, ACER and CEER<sup>101</sup>.

### **4. A range of offers, including demand response**

The majority of NRAs do not have statistical data available regarding the share of consumers on different pricing and billing options.

Whether value-added services that contribute to demand flexibility are widely available for consumers is, therefore, hard to conclude. Also, only a small number of NRAs can quantify the number of consumers who participated in implicit demand response through a contract or quantify how many consumers had contracts which include feed-in from electricity and/or gas for self-generation. Some NRAs shared details on whether there are appliances in their markets with demand response switches or other connections available on the electricity and gas markets.

The fact that no NRA was able to perform a gap-analysis on the availability of explicit demand response offers in 2019 indicates that in practice flexibility solutions are not yet available to many consumers. Most of the statistical data reporting from DSOs to NRAs did not provide for corresponding capacity/volumes being made available through such offers.

The majority of NRAs also indicate that offers are comparable online and/or through digital applications. However, few NRAs reported that the signing of contracts online through the PCT was a common practice, though management of energy contracts online and/or through digital applications is available in most countries.

Finally, many NRAs show that contracts with a specific guaranteed source of production are available for consumers in many countries, although in some countries only renewable energy sources are certified.

### **5. A high level of awareness and trust**

NRAs rely on consumer surveys to identify the metrics under this key property although not all NRAs can carry them out. Nonetheless, most NRAs do know if consumers are aware of the possibility to switch supplier through information on switching rates. However, switching rates can simply give a proxy of the numbers of active consumers, and in most countries switching rates are rather low.

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<sup>100</sup> NRAs' national reporting available on: [https://www.ceer.eu/ceer\\_publications/national\\_reports](https://www.ceer.eu/ceer_publications/national_reports)

<sup>101</sup> ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2017, Gas Wholesale Markets Volume, September 2018

Consumers' trust is another element that almost half of all NRAs assess but the metric on the awareness of consumers about the responsibility of DSOs for the continuity of supply and, where applicable, of metering is not assessed by many NRAs.

This is an alarming situation for 2018, with the transposition of the Clean Energy Package required to be in place by 2021 and some of the NRAs not having data to assess whether the transposition of previous energy legislative packages has reached consumers' awareness. The distinction between the role of the distribution system operator and the role of the supplier in consumers' awareness is key to well-functioning retail energy markets and consumer behaviour.

Since questions in consumers' surveys usually differ between countries the results will also differ, making them non-comparable. CEER recommends that NRAs align questions being posed through national consumer surveys to the ones presented in the Retail Market Roadmap questionnaire so that upcoming status-reports results can be compared better.

## **6. The availability of empowerment tools**

A majority of NRAs use the metric on the availability of price comparison tools as a part of their self-assessment of well-functioning retail energy markets. The outcome depends on whether a CT exists at all, whether consumers have access to the internet and whether the CT is state- or privately-owned.

A minority of NRAs report on the percentage of consumers having access to online historical consumption information in their assessment. Annual data is the type of historical consumption information most frequently available.

Many NRAs are able to assess the percentage of consumers having access to a standardised supplier switching process as well as the duration of that process. Almost every NRA has concluded that all consumers have access to a standardised supplier switching process.

## **7. Sufficient consumer engagement**

The switching rate is a widespread metric used by NRAs. It is measured within different relevant markets (electricity, gas, household consumers, SMEs). Given differing national circumstances, NRAs report different figures, ranging from 0% to over 20%.

Also, many NRAs measure the percentage of consumers that have never switched supplier, and have never actively searched for a better deal, by means of a consumer survey. NRAs use different sorts of questions to assess this metric.

A slight majority of NRAs also assess the share of prosumers, using data available through DSOs. The NRAs willing to publish data report prosumer shares ranging from 0% to 7%.

## **8. Appropriate protection**

A majority of NRAs measure the share of disconnections due to non-payment, while fewer NRAs also measure the time between notification to pay and the actual disconnection. Legislation concerning disconnections differs between countries.

About half of the NRAs use the metric on minimum standards for information in their self-assessment. Usually this is done based on some sort of regulation e.g. a code of practice, or minimum standards as determined by law. Actual results differ because some NRAs assume that having this legislation in place, while not receiving complaints, means that companies ostensibly adhere to the rules.

## Annex I – List of Abbreviations

Term	Definition
ACER	Agency for the Cooperation of Energy Regulators
ACM	Netherlands Authority for Consumers and Markets
aFRR	Automatic Frequency Restoration Reserve
BEUC	The European Consumer Organisation
BNetzA	Federal Network Agency for Electricity, Gas, Telecommunications, Posts and Railway (Bundesnetzagentur - BNetzA)
CEER	Council of European Energy Regulators
CEP	Clean Energy Package (Clean Energy for All Europeans package)
CERA	Cyprus Energy Regulatory Authority
CNMC	Comisión Nacional de los Mercados y la Competencia / National Commission for Energy and Prices
CRE	Commission de Régulation de l'Energie
CREG	Commission de Régulation de l'Electricité et du Gaz
CRU	Commission for Regulation of Utilities
CT	Comparison Tool
DSO	Distribution System Operator
DUR	Forsyningstilsynet - Danish Utility Regulator
EAC	Electricity Authority of Cyprus
EBIT	Earnings before interest and tax
Ei	Energimarknadsinspektionen (Swedish NRA)
ELES	Slovenian TSO
GB	Great Britain (i.e. excluding Northern Ireland)
GDP	Gross Domestic Product
GGP	Guidelines of Good Practice
HERA	Hrvatska energetska regulatorna agencija / Croatian energy regulatory agency
HHI	Herfindahl-Hirschman Index
ILR	Institut Luxembourgeois de Régulation
kWh	Kilowatt hour
mFRR	Manual Frequency Restoration Reserve
MS	Member State(s)
MWh	Megawatt hour
NRAs	National Regulatory Authorities
PCT	Price Comparison Tool
	Public Service Obligations
RES	Renewable Energy Source(s)
REWS	Regulator for Energy and Water Services
RMR WS	CEER Retail Market Roadmap Work Stream
SEDMp	Uniform system for access to metering data
SME	Small and Medium Enterprises
TSO	Transmission System Operator

## Annex II – Overview of national self-assessment 2019 – Electricity

Metric #	KEY PROPERTY	HARMONISED DEFINITIONS OF METRICS	Used by # of MS	Gap analysis by # of MS
1	<b>Low concentration within a relevant market</b>	Herfindahl-Hirschman Index	22	7
2	<b>Low market entry barriers</b>	Time needed and cost of accessing well-functioning wholesale markets and licencing/balancing regimes	11	2
3		Percentage of consumers connected to “bundled” DSOs	10	1
4		Percentage of consumers with regulated energy prices	19	4
5		Number of common standards for consumers data & for DSO-supplier contract or existence of data hub	15	4
6		Availability of time-of-use metering and – where applicable – additional fee paid by the consumer to be able to have time-of use prices vs. traditional metering	14	5
7	<b>Close relationship between wholesale markets and retail prices</b>	Correlation between wholesale and retail energy prices	13	3
8		Mark-up between wholesale and retail energy prices	13	3
9	<b>A range of offers, including demand response</b>	Availability of a variety of pricing and billing options	21	5
10		Availability of value-added services for implicit demand response and self-generation	11	3
11		Availability of online offers	20	4
12		Availability of contracts guaranteeing the origin of energy	16	3
13		Availability of explicit demand response offers	7	2
14	<b>High level of awareness and trust</b>	Percentage of consumers knowing they can switch supplier	13	3
15		Percentage of consumers who know that DSOs are responsible for the continuity of supply and, where applicable, of metering	10	2
16		Percentage of consumers trusting the energy market	13	3
17	<b>Availability of empowerment tools</b>	Percentage of consumers having access to at least one independent and verified CT	16	6
18		Percentage of consumers having access to online historical consumption information	11	5
19		Percentage of consumers having access to standardised supplier switching process (and its duration)	15	5
20	<b>Sufficient consumer engagement</b>	Supplier switching rate	20	5
21		Percentage of inactive consumers	14	3
22		Percentage of prosumers	13	3
23	<b>Appropriate protection</b>	Time between notification to pay and disconnection for non-payment	13	4
24		Percentage of disconnections due to non-payment	18	4
25		Percentage of suppliers using minimum standards for key information in advertising and bills	12	0

## Metrics used in self-assessment 2019 by respondent Member States<sup>102</sup> – Electricity

Metric #	HARMONISED DEFINITIONS OF METRICS	AT	BE	HR	CY	CZ	DK	FI	FR	GE	GB	GR	HU
1	Herfindahl-Hirschman Index	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	Time needed and cost of accessing well-functioning wholesale markets and licencing/balancing regimes	No	No	Yes	No	No	Yes	No	No	No	No	Yes	Yes
3	Percentage of consumers connected to “bundled” DSOs	Yes	No	No	Yes	No	Yes	No	No	No	No	N/A	Yes
4	Percentage of consumers with regulated energy prices	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	Number of common standards for consumers data & for DSO-supplier contract or existence of data hub	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes
6	Availability of time-of-use metering and – where applicable – additional fee paid by the consumer to be able to have time-of use prices vs. traditional metering	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	N/A	Yes
7	Correlation between wholesale and retail energy prices	Yes	Yes	No	Yes	No	Yes	No	No	No	Yes	Yes	Yes
8	Mark-up between wholesale and retail energy prices	Yes	Yes	No	Yes	No	Yes	No	No	No	Yes	Yes	Yes
9	Availability of a variety of pricing and billing options	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	Availability of value-added services for implicit demand response and self-generation	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes	Yes
11	Availability of online offers	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	N/A	Yes
12	Availability of contracts guaranteeing the origin of energy	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes	No	Yes
13	Availability of explicit demand response offers	No	No	No	No	No	Yes	No	Yes	No	Yes	N/A	No
14	Percentage of consumers knowing they can switch supplier	Yes	No	No	No	No	Yes	Yes	Yes	No	Yes	N/A	Yes
15	Percentage of consumers who know that DSOs are responsible for the continuity of supply and, where applicable, of metering	Yes	No	No	No	No	Yes	Yes	No	No	No	N/A	No
16	Percentage of consumers trusting the energy market	Yes	Yes	No	No	No	Yes	Yes	Yes	No	Yes	N/A	No
17	Percentage of consumers having access to at least one independent and verified CT	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	N/A	No
18	Percentage of consumers having access to online historical consumption information	No	Yes	Yes	No	No	Yes	Yes	No	No	No	N/A	No
19	Percentage of consumers having access to standardised supplier switching process (and its duration)	Yes	No	Yes	No	No	Yes	Yes	No	No	Yes	N/A	Yes
20	Supplier switching rate	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
21	Percentage of inactive consumers	Yes	Yes	Yes	No	No	Yes	Yes	No	No	Yes	No	Yes
22	Percentage of prosumers	No	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes
23	Time between notification to pay and disconnection for non-payment	No	No	Yes	Yes	No	Yes	No	Yes	Yes	No	No	Yes
24	Percentage of disconnections due to non-payment	Yes	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes
25	Percentage of suppliers using minimum standards for key information in advertising and bills	Yes	No	No	No	No	Yes	No	No	Yes	No	N/A	Yes

<sup>102</sup> AT – Austria, BE – Belgium, HR – Croatia, CY – Cyprus, CZ – Czech Republic, DK – Denmark, FI – Finland, FR – France, GE – Georgia, GB – Great Britain, GR – Greece, HU - Hungary

## Metrics used in self-assessment 2019 by respondent Member States<sup>103</sup> – Electricity continued

Metric #	HARMONISED DEFINITIONS OF METRICS	IE	IT	LV	LU	MT	NL	NO	PL	PT	SI	SE
1	Herfindahl-Hirschman Index	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	Time needed and cost of accessing well-functioning wholesale markets and licencing/balancing regimes	Yes	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
3	Percentage of consumers connected to "bundled" DSOs	N/A	Yes	No	Yes	Yes	No	Yes	No	Yes	No	Yes
4	Percentage of consumers with regulated energy prices	Yes	No	No	N/A	Yes	Yes	Yes	Yes	Yes	No	Yes
5	Number of common standards for consumers data & for DSO-supplier contract or existence of data hub	Yes	Yes	No	Yes	No	No	Yes	No	No	Yes	Yes
6	Availability of time-of-use metering and – where applicable – additional fee paid by the consumer to be able to have time-of use prices vs. traditional metering	N/A	No	No	Yes	Yes	Yes	Yes	No	No	No	Yes
7	Correlation between wholesale and retail energy prices	Yes	No	No	Yes	No	Yes	No	No	Yes	Yes	Yes
8	Mark-up between wholesale and retail energy prices	Yes	No	No	Yes	No	Yes	No	No	Yes	Yes	Yes
9	Availability of a variety of pricing and billing options	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	Availability of value-added services for implicit demand response and self-generation	No	Yes	No	Yes	No	Yes	Yes	No	No	Yes	Yes
11	Availability of online offers	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	Availability of contracts guaranteeing the origin of energy	Yes	No	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes
13	Availability of explicit demand response offers	No	No	No	Yes	No	No	No	No	Yes	Yes	Yes
14	Percentage of consumers knowing they can switch supplier	Yes	Yes	Yes	Yes	No	No	Yes	No	No	Yes	Yes
15	Percentage of consumers who know that DSOs are responsible for the continuity of supply and, where applicable, of metering	Yes	Yes	No	Yes	Yes	No	Yes	No	No	Yes	Yes
16	Percentage of consumers trusting the energy market	Yes	Yes	No	Yes	No	Yes	Yes	No	No	Yes	Yes
17	Percentage of consumers having access to at least one independent and verified CT	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
18	Percentage of consumers having access to online historical consumption information	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	Yes
19	Percentage of consumers having access to standardised supplier switching process (and its duration)	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes
20	Supplier switching rate	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
21	Percentage of inactive consumers	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes	No	Yes
22	Percentage of prosumers	No	Yes	No	Yes	Yes	No	No	No	No	Yes	Yes
23	Time between notification to pay and disconnection for non-payment	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes
24	Percentage of disconnections due to non-payment	Yes	Yes	No	Yes	Yes	Yes	No	Yes	No	No	Yes

<sup>103</sup> IE – Ireland, IT – Italy, LV – Latvia, LU – Luxembourg, MT – Malta, NL – Netherlands, NO – Norway, PL – Poland, PT – Portugal, SI – Slovenia, SE – Sweden

Metric #	HARMONISED DEFINITIONS OF METRICS	IE	IT	LV	LU	MT	NL	NO	PL	PT	SI	SE
1	Herfindahl-Hirschman Index	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	Time needed and cost of accessing well-functioning wholesale markets and licencing/balancing regimes	Yes	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes
25	Percentage of suppliers using minimum standards for key information in advertising and bills	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes

## Annex III – Overview of national self-assessment 2019 – Gas

Metric #	KEY PROPERTY	HARMONISED DEFINITIONS OF METRICS	Used by # of MS	Gap analysis by # of MS
1	<b>Low concentration within a relevant market</b>	Herfindahl-Hirschman Index	14	4
2	<b>Low market entry barriers</b>	Time needed and cost of accessing well-functioning wholesale markets and licencing/balancing regimes	4	1
3		Percentage of consumers connected to “bundled” DSOs	7	1
4		Percentage of consumers with regulated energy prices	12	3
5		Number of common standards for consumers data & for DSO-supplier contract or existence of data hub	8	3
6		Availability of time-of-use metering and – where applicable – additional fee paid by the consumer to be able to have time-of use prices vs. traditional metering	7	3
7		<b>Close relationship between wholesale markets and retail prices</b>	Correlation between wholesale and retail energy prices	7
8		Mark-up between wholesale and retail energy prices	8	3
9	<b>A range of offers, including demand response</b>	Availability of a variety of pricing and billing options	13	4
10		Availability of value-added services for implicit demand response and self-generation	3	0
11		Availability of online offers	12	3
12		Availability of contracts guaranteeing the origin of energy	4	1
13		Availability of explicit demand response offers	2	0
14	<b>High level of awareness and trust</b>	Percentage of consumers knowing they can switch supplier	8	3
15		Percentage of consumers who know that DSOs are responsible for the continuity of supply and, where applicable, of metering	4	2
16		Percentage of consumers trusting the energy market	7	3
17	<b>Availability of empowerment tools</b>	Percentage of consumers having access to at least one independent and verified CT	10	4
18		Percentage of consumers having access to online historical consumption information	3	2
19		Percentage of consumers having access to standardised supplier switching process (and its duration)	10	3
20		Supplier switching rate	15	4
21		Percentage of inactive consumers	11	4

Metric #	KEY PROPERTY	HARMONISED DEFINITIONS OF METRICS	Used by # of MS	Gap analysis by # of MS
1	<b>Low concentration within a relevant market</b>	Herfindahl-Hirschman Index	14	4
2	<b>Low market entry barriers</b>	Time needed and cost of accessing well-functioning wholesale markets and licencing/balancing regimes	4	1
3		Percentage of consumers connected to “bundled” DSOs	7	1
4		Percentage of consumers with regulated energy prices	12	3
5		Number of common standards for consumers data & for DSO-supplier contract or existence of data hub	8	3
6		Availability of time-of-use metering and – where applicable – additional fee paid by the consumer to be able to have time-of use prices vs. traditional metering	7	3
22		<b>Sufficient consumer engagement</b>	Percentage of prosumers	3
23	<b>Appropriate protection</b>	Time between notification to pay and disconnection for non-payment	9	4
24		Percentage of disconnections due to non-payment	13	4
25		Percentage of suppliers using minimum standards for key information in advertising and bills	6	0

### Metric used in self-assessment 2019 by respondent Member States – Gas

Metric #	HARMONISED DEFINITIONS OF METRICS	AT	BE	CZ	FR	GE	GB	GR	HU	IE	IT	LV	LU	PL	PT	SI
1	Herfindahl-Hirschman Index	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	Time needed and cost of accessing well-functioning wholesale markets & licencing/balancing regimes	No	No	No	No	No	No	Yes	Yes	Yes	No	No	Yes	No	No	No
3	Percentage of consumers connected to “bundled” DSOs	Yes	No	No	No	No	No	Yes	Yes	N/A	Yes	No	Yes	No	Yes	Yes
4	Percentage of consumers with regulated energy prices	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	N/A	Yes	Yes	No
5	Number of common standards for consumers data & for DSO-supplier contract or existence of data hub	Yes	Yes	No	Yes	No	Yes	N/A	Yes	Yes	Yes	No	Yes	No	No	No
6	Availability of time-of-use metering and – where applicable – additional fee paid by the consumer to be able to have time-of use prices vs. traditional metering	Yes	Yes	No	Yes	No	Yes	N/A	Yes	Yes	No	No	Yes	No	No	No

Metric #	HARMONISED DEFINITIONS OF METRICS	AT	BE	CZ	FR	GE	GB	GR	HU	IE	IT	LV	LU	PL	PT	SI
1	Herfindahl-Hirschman Index	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	Time needed and cost of accessing well-functioning wholesale markets & licencing/balancing regimes	No	No	No	No	No	No	Yes	Yes	Yes	No	No	Yes	No	No	No
7	Correlation between wholesale and retail energy prices	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes	No	Yes	No
8	Mark-up between wholesale and retail energy prices	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	No	No	Yes	No	Yes	No
9	Availability of a variety of pricing and billing options	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No
10	Availability of value-added services for implicit demand response and self-generation	No	No	No	No	No	No	N/A	Yes	Yes	Yes	No	No	No	No	No
11	Availability of online offers	Yes	Yes	Yes	Yes	No	Yes	N/A	Yes	Yes	Yes	No	Yes	Yes	Yes	No
12	Availability of contracts guaranteeing the origin of energy	No	Yes	No	Yes	No	No	No	Yes	N/A	No	No	No	No	Yes	No
13	Availability of explicit demand response offers	No	No	No	Yes	No	No	N/A	No	N/A	No	No	No	No	Yes	No
14	Percentage of consumers knowing they can switch supplier	Yes	No	No	Yes	No	Yes	N/A	Yes	Yes	Yes	Yes	Yes	No	No	No
15	Percentage of consumers who know that DSOs are responsible for the continuity of supply and, where applicable, of metering	Yes	No	No	No	No	No	N/A	No	Yes	Yes	No	Yes	No	No	No
16	Percentage of consumers trusting the energy market	Yes	Yes	No	Yes	No	Yes	N/A	No	Yes	Yes	No	Yes	No	No	No

**Metric used in self-assessment 2019 by respondent Member States – Gas continued**

Metric #	HARMONISED DEFINITIONS OF METRICS	AT	BE	CZ	FR	GE	GB	GR	HU	IE	IT	LV	LU	PL	PT	SI
17	Percentage of consumers having access to at least one independent and verified CT	Yes	Yes	Yes	No	No	Yes	N/A	No	Yes	Yes	No	Yes	Yes	Yes	Yes
18	Percentage of consumers having access to online historical consumption information	No	Yes	No	No	No	No	N/A	No	No	Yes	No	Yes	No	No	No
19	Percentage of consumers having access to standardised supplier switching process (and its duration)	Yes	No	No	No	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
20	Supplier switching rate	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
21	Percentage of inactive consumers	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
22	Percentage of prosumers	No	Yes	No	No	No	No	N/A	Yes	No	Yes	No	No	No	No	No
23	Time between notification to pay and disconnection for non-payment	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes
24	Percentage of disconnections due to non-payment	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
25	Percentage of suppliers using minimum standards for key information in advertising and bills	Yes	No	No	No	Yes	No	N/A	Yes	No	Yes	Yes	No	No	Yes	No

## Annex IV – Pilots/gap analysis published by CEER 2017-2020

Metric #	HARMONISED DEFINITIONS OF METRICS	Handbook: Pilots published in 2017	Status-report pilots published in 2019	Status-report pilots published in 2020
1	Herfindahl-Hirschman Index	Czech Republic	Luxembourg	Croatia
		France		
		Great Britain		
		Netherlands		
2	Time needed and cost of accessing well-functioning wholesale markets and licencing/balancing regimes	Netherlands		
		Sweden		
3	Percentage of consumers connected to "bundled" DSOs	Czech Republic		
		Norway		
		Germany		
4	Percentage of consumers with regulated energy prices	France	Denmark	Great Britain
		Belgium		France
				Malta
5	Number of common standards for consumers data & for DSO-supplier contract or existence of data hub	Norway		Slovenia
		Netherlands		
6	Availability of time-of-use metering and – where applicable – additional fee paid by the consumer to be able to have time-of-use prices vs. traditional metering	Netherlands	Great Britain	
		Sweden		
7	Correlation between wholesale and retail energy prices	Norway		Netherlands
		Netherlands		
		Sweden		
8	Mark-up between wholesale and retail energy prices	Norway		Netherlands
		Netherlands		
9	Availability of a variety of pricing and billing options	Sweden	France	Cyprus
		Italy		
		Great Britain		
10	Availability of value-added services for implicit demand response and self-generation	Great Britain		Sweden
11	Availability of online offers	Sweden		
		France		
		Great Britain		
		Ireland		
12	Availability of contracts guaranteeing the origin of energy	Netherlands	Luxembourg	
		Sweden		
		Great Britain		
13	Availability of explicit demand response offers	Great Britain		
14	Percentage of consumers knowing they can switch supplier	Netherlands	Ireland	France
		France		
		Austria		
		Great Britain		
		Ireland		
15	Percentage of consumers who know that DSOs are responsible for the continuity of supply and, where applicable, of metering	Austria	Sweden	Luxembourg
16	Percentage of consumers trusting the energy market	Great Britain	Great Britain	Spain
		Austria		
		France		
17	Percentage of consumers having access to at least one independent and verified CT	Netherlands		
		Sweden		
		Great Britain		
18	Percentage of consumers having access to online historical consumption information	Finland	Denmark	
19	Percentage of consumers having access to standardised supplier switching process (and its duration)	Great Britain	Great Britain	
20	Supplier switching rate	Great Britain	Finland	Denmark
		Finland		
		France		
		Sweden		Latvia

### Pilots/gap-analysis published by CEER 2017-2020 continued

Metric #	HARMONISED DEFINITIONS OF METRICS	Handbook: Pilots published in 2017	Status-report pilots published in 2019	Status-report pilots published in 2020
21	Percentage of inactive consumers	Great Britain	Ireland	
		Netherlands		
		Sweden		
22	Percentage of prosumers	Netherlands		Malta
		Great Britain		
23	Time between notification to pay and disconnection for non-payment			
24	Percentage of disconnections due to non-payment	Great Britain	Slovenia	Malta
25	Percentage of suppliers using minimum standards for key information in advertising and bills	Sweden	Romania	Ireland

## **Annex V – About CEER**

The Council of European Energy Regulators (CEER) is the voice of Europe's national energy regulators. CEER's members and observers comprise 39 national energy regulatory authorities (NRAs) from across Europe.

CEER is legally established as a not-for-profit association under Belgian law, with a Secretariat based in Brussels to assist the organisation.

CEER supports its NRA members/observers in their responsibilities, sharing experience and developing regulatory capacity and best practices. It does so by facilitating expert working group meetings, hosting workshops and events, supporting the development and publication of regulatory papers, and through an in-house Training Academy. Through CEER, European NRAs cooperate and develop common position papers, advice and forward-thinking recommendations to improve the electricity and gas markets for the benefit of consumers and businesses.

In terms of policy, CEER actively promotes an investment friendly, harmonised regulatory environment and the consistent application of existing EU legislation. A key objective of CEER is to facilitate the creation of a single, competitive, efficient and sustainable Internal Energy Market in Europe that works in the consumer interest.

Specifically, CEER deals with a range of energy regulatory issues including wholesale and retail markets; consumer issues; distribution networks; smart grids; flexibility; sustainability; and international cooperation.

CEER wishes to thank in particular the following regulatory experts for their work in preparing this report: Elsa Agua, Pamela Boeri, Mattias Johansson and Sabrina Kaeberich in the drafting team together with the reviewers Odelín Calatrava, Ljuban Milicevic and Mladena Pavlova Joveski.

More information is available at [www.ceer.eu](http://www.ceer.eu).