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CEER Roadmap to 2025 Well-Functioning Retail Energy Markets

2022 Self-Assessment Status Report

Retail Markets Roadmap Work Stream
of the
Customers and Retail Markets Working Group

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INFORMATION PAGE

Abstract

In 2015, the Council of European Energy Regulators (CEER) developed a strategic high-level position paper outlining a framework for 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 "*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 "*CEER 2017 Handbook for National Energy Regulators – How to assess retail market functioning"*.

Since then, CEER published three self-assessment status reports on the annual activities of the Roadmap carried out by NRAs in 2018, 2019 and 2020 respectively. This document is an updated fourth edition of the status report on the year of 2021 which, together with previous editions, describes the national progress on establishing "competitive, reliable and innovative retail energy markets that benefit consumers by 2025".

CEER will continue to monitor the progress of retail energy markets and encourage NRAs to identify the challenges in their respective countries to develop potential solutions on how to improve national retail energy market functioning.

Target Audience

European Commission, gas/electricity consumers, consumer representative groups, gas/electricity industry, 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 2020 Self-Assessment Status Report, 23 February 2022. Ref: C21-RMR-26-04-01
- CEER Roadmap to 2025 Well-Functioning Retail Energy Markets 2019 Self-Assessment Status Report, 2 November 2020. Ref: C19-RMR-11-04;
- CEER-BEUC 2030 Vision for Energy Consumers: Let's Aspire!, 13 October 2020
- CEER Roadmap to 2025 Well-Functioning Retail Energy Markets 2018 Self-Assessment Status Report, 30 October 2019. Ref: C20-RMR-11-04-01
- Roadmap to 2025 Well-Functioning Retail Energy Markets, 9 February 2018, Ref: C17-SC-59-04-02
- CEER 2017 Handbook for National Energy Regulators - How to assess retail market functioning, 24 January 2017. Ref: C16-SC-52-03
- CEER draft Handbook on Harmonised definitions of retail market metrics: Evaluation of Responses, 24 January 2017. Ref: C16-SC-52-05
- 2017 Handbook for National Energy Regulators: Pilots, 24 January 2017. Ref: C16-SC-52-04
- CEER Position Paper on well-functioning retail energy markets, 16 October 2015. Ref. C15-SC-36-03
- A 2020 Vision for Europe's energy customers – Joint Statement CEER/BEUC,13 November 2012, updated June 2014

CEER webpage on the Roadmap to 2025 well-functioning retail energy markets
https://www.ceer.eu/web/portal/roadmap-to-2025

External documents

- "A Bridge to 2025 Conclusions Paper", ACER Conclusions Paper attached to Recommendation No 05/2014, 19 September 2014. Retrieved from: 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

TABLE OF CONTENTS

List of tables

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*"[1], while the process of performing a self-assessment is described in the "*Roadmap to 2025 Well-Functioning Retail Energy Markets*"[2]. In accordance with these two CEER reference documents, each NRA determines the relevant market[3] in its national context and chooses the methodology for the calculation of individual metrics. Therefore, the data and gap-analyses presented in this report are not comparable across countries and cannot be used for benchmarking.

This is the fourth status report done by CEER, with the present report based on data from the self-assessment performed in 2021 in 23 European countries. The main purpose is to share experiences and showcase the progress in establishing well-functioning retail markets towards 2025.

The report is based on national data for 2021. However, CEER believes that the dramatic increase in electricity and gas wholesale prices in the second half of 2021 and into 2022[4], as well as the national measures taken to mitigate the impact of those increases, will have an impact on how individual countries perform according to the 25 metrics in the 2017 CEER Handbook.

Previous status reports, covering data on the years from 2018 to 2020, have focused on results and gap-analysis for individual metrics. Ideally, NRAs would self-assess their national energy markets by analysing all 25 metrics and identifying how they influence each other.

The result of this review shows that all metrics from the Handbook are used in the self-assessment of national markets. However, they are still used to differing degrees within each country and across countries, with the metrics on the market concentration and availability of access to independent and verified price comparison tools (PCTs) being the most commonly used metric, with the percentage of consumers having access to online historical consumption information being the least used[5].

In addition, a few countries are undertaking the analysis of each key property individually (each key property being measured by several metrics) setting the national objectives, undertaking the gap analysis and the overall assessment their national retail market functioning.

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[1] 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
[2] Roadmap to 2025 Well-Functioning Retail Energy Markets, 9 February 2018, Ref: C17-SC-59-04-02 https://www.ceer.eu/1518
[3] By relevant market it is understood the consumer segment that will be assessed in a given metric.
[4] Further information regarding the price developments in 2021 has been published separately in a note on ACER's website.: https://www.acer.europa.eu/events-and-engagement/news/europes-high-energy-prices-acer-looks-drivers-outlook-and-policy
[5] Not all metrics in this year's questionnaire had a question of whether a metric is used or not as it's quite clear from the previous questionnaires that some metrics such the existence of regulated prices and switching rates are widely used.

As pointed out in previous reports, there are various reasons why this is the case. Firstly, there are differences in the definitions of some metrics from country to country. Secondly, not all NRAs can legally set national targets for individual metrics with respect to the gap-analysis. Thirdly, as retail markets still differ significantly between countries, each country has its own local/national circumstances taken into consideration when assessing the functioning of the retail market. For that reason, all metrics may not be relevant to their markets. For example, some metrics are not relevant either because the market does not offer a given service or because the market has already overcome and embedded a particular aspect, rendering monitoring of the metric unnecessary.

However, CEER encourages all NRAs to continue monitoring and self-assessing their retail markets and to make the necessary improvements on individual metrics, key properties and overall functioning of national retail markets. In turn, this will also help NRAs with monitoring and market analysis, thus increasing their knowledge of national markets. In order to facilitate well-functioning retail energy markets in all CEER countries by 2025, NRAs are also encouraged to have a discussion with national policy makers and consumer protection authorities about the goals of well-functioning energy retail markets. As in many countries, the responsibility is split between different public bodies, it is important for them to cooperate.

CEER believes that ongoing and future changes in European energy markets, like the integration of renewable energy sources into the energy system, may lead to a greater relevance of less commonly used metrics today. CEER encourages all NRAs to analyse the interdependencies of metrics and their mutual impacts, as well as to perform gap-analyses for key properties.

CEER will report on successive self-assessments, with the next one planned to be carried out in 2024 followed by a final assessment in 2025.

1 Introduction

The Council of European Energy Regulators (CEER) strives for the establishment of well-functioning retail markets and a long-term energy transition for sustainability and climate neutrality.

In 2015, CEER developed a strategic high-level Position Paper[6] that described the key characteristics of well-functioning energy retail markets and introduced a framework to evaluate the functioning of retail energy markets. In 2017, CEER published a Handbook for National Energy Regulators[7], which contains 8 key-properties and a total of 25 metrics (see Table 1 below).

KEY PROPERTY	Metric #	HARMONISED DEFINITIONS OF METRICS
I Low Concentration within a relevant market	1	Herfindahl-Hirschman Index
II Low market entry barriers	2	Time needed and cost of accessing well-functioning wholesale markets and licencing/balancing regimes
	3	Percentage of consumers connected to "bundled" DSOs
	4	Percentage of consumers with regulated energy prices
	5	Number of common standards for consumer data & for DSO-supplier contract or existence of data hub
	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
III Close relationsship between wholesale markets and retail prices	7	Correlation between wholesale and retail energy prices
	8	Mark-up between wholesale and retail energy prices
IV A range of offers, including demand response	9	Availability of a variety of pricing and billing options
	10	Availability of value added services for implicit demand response and self-generation
	11	Availability of online offers
	12	Availability of contracts guaranteeing the origin of energy
	13	Availability of explicit demand response offers
V High level of awareness and trust	14	Percentage of consumers knowing they can switch supplier
	15	Percentage of consumers who know that DSOs are responsible for the continuity of supply and, where applicable, of metering
	16	Percentage of consumers trusting the energy market
VI Availability of empowerment tools	17	Percentage of consumers having access to at least one independent and verified PCT
	18	Percentage of consumers having access to online historical consumption info
	19	Percentage of consumers having access to standardised supplier switching process (and its duration)
VII Sufficient consumer engagement	20	Supplier switching rate
	21	Percentage of inactive consumers
	22	Percentage of prosumers
VIII Appropriate protection	23	Time between notification to pay and disconnection for non-payment
	24	Percentage of disconnections due to non-payment
	25	Percentage of suppliers using min standards for key info in advertising and bills

Table 1 - Key properties and metrics in the CEER 2017 Handbook for National Energy Regulators

All 25 metrics in the Handbook are related to each other and each one is important to a well-functioning retail market. They are supposed to be interpreted as a whole.

The handbook was followed by a Roadmap[8] in 2018 that described the process of energy national regulatory authorities' (NRAs') self-assessment of these metrics. CEER Members and

[6] CEER Position Paper on well-functioning retail energy Markets, Ref. C15-SC-36-03, https://www.ceer.eu/1258
[7] CEER 2017 Handbook for National Energy Regulators - How to assess retail market functioning, Ref: C16-SC-52-03; 24, https://www.ceer.eu/1256
[8] Roadmap to 2025 Well-Functioning Retail Energy Markets, Ref: C17-SC-59-04-02; 9, https://www.ceer.eu/1518

Observers have self-assessed their energy retail markets. The collected data was then summarised on the CEER webpage on the Roadmap to 2025 well-functioning retail energy markets.[9].

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. This self-assessment and gap analysis exercise is recommended to be repeated annually.*
>
> *Based on the result, the NRA formulates recommendations and monitors the implementation of those recommendations, i.e. 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 work is that there are still very few CEER Members that have carried out and shared a gap-analysis for all of the 25 metrics included in the self-assessment procedure. There seem 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. Moreover, not all aspects covered by the 25 metrics are yet a reality in all markets, such as demand response, prosumers and dynamic price contracts.

CEER sought to widen the concept of gap-analysis in 2020 and 2021, from focusing on concrete officially approved figure-based objectives to improvements of individual metric-results, in order to keep the momentum in the progress towards well-functioning retail markets by 2025. Where it is not within the NRA's mandate to set goals, market monitoring may be expanded and dialogue with relevant decision-makers developed.

1.2 Key properties and key principles

CEER believes that it is important to continue the self-assessment of the 25 metrics in the Handbook. CEER also believes that the self-assessment, as described in the 2018 Roadmap, can be further developed. For instance, in 2021 CEER asked NRAs to self-assess groups of metrics whereas in 2022 NRAs were asked to self-assess the eight key properties and evaluate how metrics, within the key properties, are related to and affect each other.

The ultimate goal of the self-assessment exercise is for each participating NRA to evaluate if their country has a well-functioning retail market, and if not, what actions could be taken to improve the functioning of national markets.

[9] CEER Roadmap to 2025 Well-Functioning Retail Energy Markets https://www.ceer.eu/web/portal/roadmap-to-2025

In the framework of this self-assessment, NRAs are guided by the two following principles defined in CEER's Position Paper on Well-Functioning Energy Retail Markets of 2015:

- **The first principle** is that competition and innovation are fundamental to well-functioning retail markets. The key properties for competition and innovation relate to the supply side of the market, where a competitive pressure encourages suppliers to offer lower prices and to create innovative products that meet the changing needs of consumers in order to avoid their customers switching to better deals with competitors.

- **The second principle** concerns consumer involvement. For retail markets to function well, consumers must be adequately involved in market activities. Therefore, this principle focuses on consumers' experiences of interacting with the retail market and their ability to navigate within it. Well-functioning markets need to benefit society as a whole, particularly by ensuring that vulnerable consumers are not disadvantaged or overlooked. Therefore, the protection and empowerment of all customers should be an essential pillar of the market.

In addition, NRAs when performing the self-assessment exercise are also guided by the *CEER-BEUC 2030 Vision for energy consumers*[10]. In this vision, the fundamentals and importance of well-functioning retail markets and a just transition towards sustainability and climate neutrality are defined through six timeless and universal principles; affordability, simplicity, protection, inclusiveness, reliability and empowerment (ASPIRE principles).

1.3 Methodology

The present paper was drafted on the basis of responses collected through the 2022 CEER Roadmap questionnaires for electricity and gas open to CEER Members and Observers[11] in the period from 8 July to 28October 2022. Most CEER Members responded to the electricity Roadmap questionnaire, namely 22[12] out of 30, and more than half responded to the gas Roadmap questionnaire as well, namely 17[13] out of 30.

Throughout the report, statistics on the number of NRAs using the metric, performing a gap-analysis of the metric and of a given key property are based of the declarations of the respondents. Statistics on the number of NRAs using the metric are not reported (see grey cells in tables) for those metrics already reported by the ACER-CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2021[14].

[10] Published 2020 https://www.ceer.eu/1932
[11] https://www.ceer.eu/eer_about/members
[12] Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Estonia, France, Hungary, Iceland, Italy, Lithuania, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Spain, Sweden, Great Britain (GB; the coverage excludes Northern Ireland, which is regulated separately, and therefore, the data/discussion is for GB rather than for the entire United Kingdom)
[13] Austria, Belgium, Croatia, Czech Republic, Denmark, Estonia, France, Hungary, Italy, Lithuania, Netherlands, Poland, Portugal, Romania, Slovenia, Spain, Great Britain (GB; the coverage excludes Northern Ireland, which is regulated separately, and therefore, the data/discussion is for GB rather than for the entire United Kingdom)
[14] https://www.acer.europa.eu/sites/default/files/documents/Publications/MMR_2021_Energy_Retail_Consumer_Protection_Volume.pdf

1.4 Objective and outline of the paper

The main objective of the present Status Report is to summarise the fourth round of self-assessments, showcase the progress made in establishing well-functioning retail markets by providing the status-quo in 2021 for the 25 metrics and share experiences between NRAs, as well as other stakeholders.

2 Key Property I: Low concentration within a relevant market

The Herfindahl-Hirschman Index (HHI) measures the degree of concentration in a given market. Based on the European Commission's guidelines, 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 market share of 100%.

As displayed in the ACER-CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2021, in most of the respondent countries, the HHI for the household segment shows a decreasing trend. The HHI for the year 2021 ranges between 687 and 10,000 in electricity and between 1,259 and 9,990 in gas.

Metric n° and name		Nr of NRAs using the metric		Nr of NRAs completing the metric gap- analysis	
1	Herfindahl-Hirschman Index (HHI)			7	4

Table 2 - Metrics used in the self-assessment of key property I "Low concentration within a relevant market"

Source: CEER questionnaire 2021

2.1 Metric 1: Herfindahl-Hirschman Index (HHI) & Key Property I Overall Assessment

Market shares can be calculated from consumed volumes, the number of customers or metering points. The results provided by NRAs have also shown that all these methodologies are used across EU Member States (MS) and other CEER countries, namely metering points for households and volumes for commercial consumers and that NRAs use different definitions of relevant markets for their calculations.

The Czech NRA (ERU) explained that it regularly monitors the HHI index (both countrywide and by specific DSO areas) by number of metering points. The resulting market concentration is higher when computed at DSO-area level than from a countrywide view. There are three regional DSOs in the country; each is vertically integrated with the incumbent supplier having dominant market position. From a countrywide point of view, the situation looks much more competitive.

In Cyprus, until 2020, there was only one active electricity supplier. In 2021, there were two new entries, resulting in a total number of three active suppliers. However, only the dominant supplier is active in the household market. Therefore, the Herfindahl-Hirschman Index (HHI), based on volume, for the household market is 10,000 whereas the Herfindahl-Hirschman Index (HHI), based on volume, for the non-household market is 9,602.

In Portugal, the HHI index was used for gas markets, based on volume and on metering points. The HHI was computed both for the total market and for specific segments: households, SMEs, Industrial and large consumers. In the gas market, the HHI is also computed for each DSO.

Gap analysis

In 2021, seven and four NRAs performed a gap analysis of this metric in their self-assessment for electricity and gas, respectively.

In Great Britain, market concentration in both domestic electricity and gas retail energy markets fell significantly in the years following the Competition and Markets Authority (CMA) Energy Market investigation concluded in 2016. However, the exit of a large number of domestic suppliers in 2021 (the number of active suppliers in the domestic retail market halved from 52 to 26) has contributed to further changes in the structure of the domestic retail market and the increase in market concentration, measured by the HHI index. Therefore, both domestic markets, electricity and gas, continue to be considered concentrated under the CMA's market investigation guidance. A higher market concentration suggests larger suppliers have more market power when setting prices and the quality of service they provide. However, the NRA (Ofgem) does not anticipate – in line with the CMA's guidelines – that there will be a substantial lessening of competition but continues to monitor closely how competition evolves in the market.

The Polish NRA (URE) stated that the target for the HHI level is not specified – the goal is to keep the HHI level as low as possible. However, NRA decisions do not affect this level. Extending the HHI calculation to defined narrower areas has not been considered so far.

The Italian NRA (ARERA) pointed out that a proper gap analysis is not possible in this metric. The energy retail activity is characterised by relevant economies of scale. Consequently, identifying ex-ante the optimal level of the HHI is extremely complex. Moreover, the Italian NRA does not have the competence to determine the structure of the market. Hence, it is not possible to identify and implement effective actions aimed to cover the eventual gap. ARERA calculates the HHI both in terms of points of delivery and in terms of energy provided. Moreover, the calculations are based on data aggregated by corporate groups. The HHI is calculated at a national level from the geographical perspective and by distinguishing between customer types: household, non-household in low-voltage (LV) and non-household in medium-voltage (MV). It is also worth noting that the NRA does not have the competence to define the relevant market for antitrust purposes.

The Slovenian NRA (AGEN) stated that since electricity and gas markets in Slovenia are liberalised, they do not have proper leverage to influence HHI values, while in Malta, the retail market is not open to competition due to a derogation granted under Article 66 of Directive (EU) 2019/944.

Alternative methodologies for quantification

Several NRAs also use other measures to analyse concentration in energy retail markets.

In Lithuania, the NRA (VERT) has no obligation to use and measure retail market concentration by through the Herfindahl–Hirschman index (HHI). Moreover, assessments on market concentration are not carried in a yearly basis but rather in an ad-hoc manner, according to needs. The market concentration assessment is carried following a request from (i) the state or municipal authorities, (ii) interested parties, (iii) or at the initiative of the NRA at least every five years, or after receiving a complaint from electricity consumers about possible abuse in the relevant market.

The Austrian energy regulator (E-Control) uses a concentration ratio (CR3 or CR5)[15] when 100% of market shares are available, while the Belgian NRA uses the number of suppliers. In Spain, the NRA (CNMC) also uses the number of suppliers with a market share >5% in terms of volumes, and the number of suppliers with a market share >5% in terms of consumers. The Italian NRA also uses CR1, CR2 and CR3 indexes, calculated both according to delivery points and the energy provided. CR1 and CR3 are also used by the Portuguese NRA, while in Norway the NRA also uses market shares.

In Great Britain, Ofgem uses measures of the combined market share of large suppliers – CR6 and CR7 – and market shares by supplier size described as follows:

- Large legacy suppliers – market share of at least 5% since privatisation;
- Large other suppliers – market share of at least 5%, having increased from below 5% at the time of privatisation; and
- Medium suppliers – with market shares of at least 1% but less than 5%.

The Lithuanian NRA uses a methodology based on market research rules[16] to calculate market concentration. The aim of those rules is to create preconditions for the formation of effective competition in the natural gas and electricity markets and to prevent the abuse of significant influence by the parties in the natural gas and electricity markets.

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, any market barriers need to be mitigated as much as possible. Five metrics have been used to measure market-entry barriers.

Metric n° and name		Nr of NRAs using the metric		Nr of NRAs completing the metric gap-analysis	
2	Time needed and cost of accessing well-functioning wholesale markets and licencing/balancing regimes	6	5	1	0
3	Percentage of consumers connected to “bundled” DSOs	15	6	1	0
4	Percentage of consumers with regulated energy prices			4	2
5	Number of common standards for consumer data and for DSO-supplier contract or existence of a national data hub	12	8	2	1
6	Availability of time-of-use metering and, where applicable, additional fee paid by the				1

[15] The concentration ratio is calculated as the sum of the market share percentage held by the largest specified number of firms in an industry. The concentration ratio ranges from 0% to 100%, and an industry's concentration ratio indicates the degree of competition in the industry.
[16] IX-884 Republic of Lithuania Law on Energy (lrs.lt)

Metric n° and name		Nr of NRAs using the metric		Nr of NRAs completing the metric gap-analysis	
	consumer to be able to have time-of-use price vs. traditional metering			2	

Table 3 - Metrics used in the self-assessment of key property II "Low market-entry barriers"

Source: CEER questionnaire 2021

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 6 NRAs for electricity and 5 NRAs for gas. In the majority of countries, procedures exist to access either a national or regional wholesale market. It can take up to three months to gain access. Some countries require a supplier licence, while in other countries suppliers must obtain a supply authorisation. In most markets, it is possible for market participants to become a Balance Responsible Party (BRP), which takes up to four months.

Quantitative highlights

In Lithuania, suppliers are required to register in CEREMP[17] and to acquire a supply licence from the NRA. Furthermore, suppliers must enter into a balancing agreement with TSOs or a BRP and into an exchange market participant agreement (if it plans to trade on an exchange).

In Hungary, there is no specific legislation. Access to the wholesale market is governed by the Commercial Code (Rules of the TSO) and the HUPX Market Rules[18]. In Iceland, there are no formal written rules, but sellers and producers need to establish a 'procedure' to access the national wholesale market. On the other hand, in Italy, firms must sign a contract with the TSO in order to have access to the wholesale markets and become a BRP.

Similarly, in Slovenia in order to gain access to national or regional electricity wholesale markets, a company must become a member of the Slovenian balance scheme. Companies do not need to obtain any license and there is no distinction from the regional to the national level. The full procedure can be found at https://www.borzen.si/en/Home/menu2/Power-Market-Operator/Balance-Scheme/Balance-Group-Establishment.

The costs considered to access wholesale electricity markets vary from country to country. For example, in Slovenia, a bank guarantee of 50 000 euros must be paid to the Electricity Market Operator as a pre-condition to become a BRP. In the gas sector, a financial guarantee depending on the quantities of natural gas transferred, is constituted with the TSO.

Gap analysis

[17] Centralised European Register of Market participants: https://www.acer-remit.eu/portal/european-register
[18] Hungarian Power Exchange Market Rules: https://hupx.hu/en/trading/regulations/market-rules

Some countries undertake a gap analysis regarding this metric, namely Great Britain, Sweden and Slovenia.

In Great Britain, the NRA did not raise any significant issues related to this specific metric, as it believes that market entry barriers are already low and that wholesale electricity markets are working reasonably well. The number and diversity of participants in wholesale markets limit the opportunity for generators to exert market power or accumulate excessive profits. As a result, suppliers can access a range of products in wholesale markets. Ofgem's Electricity Balancing Significant Code Review (EBSCR)[19] led to a number of changes in imbalance price calculation with further changes made also to the electricity cash-out regime. If a market participant generates or consumes more or less electricity than contracted for, they face the cash-out price for the difference set only by the last 1 MWh.

The Swedish NRA (Ei) has no competence in this regard, as the balancing market is the responsibility of the Swedish TSO Svenska Kraftnät, while in Great Britain Distribution System Operators (DSOs) are fully unbundled from suppliers.

The Slovenian NRA stated that it has not undergone a gap analysis of this metric as there are no other costs, aside from a bank guarantee, to access a national wholesale market, and the exact time to gain access to energy procurement in a national wholesale market is a maximum of 1 month after the Market Operator has received a complete request for becoming a BRP.

3.2 Metric 3: Percentage of consumers connected to "bundled" DSOs

Bundled DSOs and suppliers acting mutually to attract consumers might prevent new actors from entering the market, for example by taking advantage of the DSO's direct access to all customers or the often-strong local brand of the supplier that is vertically integrated with the bundled DSO. Therefore, a sufficient level of unbundling between suppliers and associated DSOs must be ensured in order to create a level playing field in retail energy markets. However, the existence of bundled DSOs does not immediately presuppose a problem; nevertheless, it is an indicator that calls for deeper analysis. CEER analyses this metric exclusively in the current Self-Assessment Status Report.

Quantitative highlights

Only six NRAs[20] have used this metric in their self-assessment, as in many countries there are no bundled DSOs. Depending on the national market's circumstances, the main reasons for having bundled DSOs, reported by the six responding NRAs, is that they are either the result of a derogation from EU rules or the result of the EU's unbundling exemption provision for DSOs with less than 100,000 customers.

In electricity, the number of suppliers bundled with DSOs (and DSOs with suppliers) ranges from 1 in Cyprus and Malta, 3 in Iceland, 10 in Portugal, 14 in Italy, 65 in Estonia, 137 in France and 179 in Poland. The situation in gas is similar, with equivalent numbers of 22 in Estonia, 24 in Portugal, 57 in Slovenia, 21 in Croatia and 80 in Lithuania.

[19] https://www.ofgem.gov.uk/energy-policy-and-regulation/policy-and-regulatory-programmes/electricity-balancing-significant-code-review-ebscr
[20] E-Control (Austria), CERA (Cyprus), EV (Finland), MEKH (Hungary), NVE-RME (Norway), Ei (Sweden).

Gap analysis

Only one NRA preformed a gap analysis for this metric. Most NRAs do not have competence over DSO unbundling. Moreover, in many countries DSOs are fully unbundled and thus a gap analysis is not required, including when the country only has one DSO.

3.3 Metric 4: Percentage of consumers with regulated energy prices

The "ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2021[21]" covers the existence of price intervention in electricity and gas markets, thus the current section will not report any quantitative data.

In the context of the adoption of the Clean Energy Package, the purpose of this metric is to measure the impact of price interventions with the ultimate goal of having prices set by the market, which contributes to removing barriers to entry for new suppliers and to creating a level playing field between competing actors[22].

According to the Electricity Directive (2019), regulated prices will only be allowed under certain circumstances[23] for a limited time, and under specific rules that will be followed-up by the European Commission between 2022 and 2025. 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.

Quantitative highlights

Based on previous surveys, this metric was used by the majority of NRAs in their self-assessment, with the percentage of customers on regulated prices varying from 0 to 100 percent. There are also social tariffs for vulnerable customers, as well as ex-ante and ex-post regulation. In markets with social tariffs, approximately 5 to 20 percent of customers have such tariffs.

Gap analysis

However, with regard to the gap analysis only a handful of NRAs responded that such analysis is being undertaken (i.e., four for electricity and two for gas). This is mainly due to the lack of regulated prices in many MS.

In Great Britain, the Domestic Gas and Electricity (Tariff Cap) Act of 2018, hereafter the "Tariff Cap Act", required Ofgem to put in place a price cap on default (or standard variable) tariffs. This was due to widespread concern that the market was not working as well as it should for

[21] https://www.acer.europa.eu/sites/default/files/documents/Publications/MMR_2021_Energy_Retail_Consumer_Protection_Volume.pdf

[22] 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.'

[23] 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.

consumers on these tariffs, who were 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.

The Default Tariff Cap came into force on 1 January 2019 – a temporary cap on standard variable tariffs and fixed term default tariffs. In August 2022, Ofgem announced[24] the Default Tariff Cap will be updated on a quarterly basis rather than every six months. In accordance with the licence requirements, Ofgem will now run an update process four times a year to ensure the Default Tariff Cap reflects changes in the cost of supplying energy more quickly.

In Belgium, certain categories of households are considered to be vulnerable and may benefit from the status of "protected customer" under certain conditions, while in Slovenia, price regulation is applied only to the price for supply of last resort.

In Lithuania, the NRA is in the process of deregulating the electricity market (supply side) and collects statistics on how many consumers have chosen independent suppliers and how many remain in the regulated market or with the SOLR. In Sweden, the government's existing mechanism for price regulation (on SOLR contracts) is proposed to be taken away with the implementation of the Clean Energy Package (CEP).

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

The purpose of this metric is to monitor the easy access to information on the part of suppliers, aggregators and other third parties in the retail market. The lack of access to consumer data is a barrier for new actors.

Quantitative highlights

The metric is used by 12 NRAs for electricity and eight NRAs for gas. In this year's self-assessment, six NRAs[25] have reported that they have some sort of national data hub or other centralised data solution in place.

In Slovenia, the implementation of a national energy data hub is still ongoing. Currently, consolidation and optimisation activities are being performed in order to provide B2B (business-to-business) services through a single access point served by the new CEEPS portal[26]. For B2C (business-to-consumers) services are available via the mojelektro.si portal[27] to all distribution network users equipped with smart meters (more than 88% of all network users were equipped with smart meters in 2021). CEEPS and mojelektro.si have been implemented and managed by a consortium of all five distribution companies (DSOs) operating in Slovenia (developed in the context of SEDMp project[28]). The DSOs formally joined the SEDMp project in 2020. Some modifications in data processing and central management under auspices of the DSOs are still needed in order to develop the current systems into a centralised data hub by means of a centrally planned architecture.

[24] Ofgem confirms changes to the price cap methodology and frequency ahead of new rate to be announced later this month | Ofgem
[25] Belgium, Croatia, Denmark, Italy, Netherlands and Norway
[26] Slovenia's B2B national energy data hub login website: https://ceeps.informatika.si/login
[27] Slovenia's B2C national energy data hub login website: https://mojelektro.si/login
[28] https://www.sedmprocess.org/

Gap analysis

Gap analysis of this metric is undertaken only in a couple of countries, two in electricity and one in gas. Their respective 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 and for contracts between the DSO and the supplier.

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

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.

The Electricity Directive that came into force in July 2019 states that to promote energy efficiency and empower final customers, MS should recommend that electricity undertakings and other market participants optimise their use of electricity, e.g. via the introduction of smart metering systems[29]. The Directive also states that MS 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 to conclude a dynamic electricity price contract with at least one supplier, and with every supplier that has more than 200,000 final customers.

Quantitative data on this metric is reported in the *"ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2021"* which found that in 2022, in twelve countries, the rollout rate of electricity smart meters has reached 80% or higher.

The rollout of smart gas meters is very limited. A detailed overview of the roll-out of smart-meters in individual MSs is available in the ACER/CEER report[30].

Quantitative highlights

In Great Britain, smart meter roll-out is ongoing[31], with "Time-of-use metering" available at no additional fee. As smart meters can record energy consumption every half-hour, they are capable of enabling half-hourly settlement. Market-wide Half Hourly Settlement (MHHS) means suppliers will face the true costs of serving their customers, incentivising the development of new products (including tariffs) and services, which reward customers for

[29] 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). Retrieved from: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32019L0944
[30] MMR_2021_Energy_Retail_Consumer_Protection_Volume.pdf (europa.eu)
[31] At the end of March 2022, 45% of all domestic meters operated by large energy suppliers were smart in smart mode (41% for gas and 48% for electricity). For further details please refer to: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1077592/Q1_2022_Smart_Meters_Report.pdf

shifting their consumption to times when electricity is cheaper to generate and transport, thus improving the efficiency of domestic electricity supply.

In April 2021, Ofgem indicated its expectation for industry to implement MHHS by October 2025. Since then, Ofgem has put in place robust governance arrangements that place strong incentives on industry to ensure that implementation happens in a timely and effective manner. Ofgem estimates that its chosen option for MHHS will deliver net benefits to energy consumers in Great Britain in the range of £1,559m-£4,509m over the period 2021-2045.

In Slovenia, time-of-use (ToU) metering is available based on Peak (06:00-22-00 workdays) and Off-peak (22:00-06:00 workdays, weekends, holidays) differentiation for network charges and energy supply as well. All customers are metered using ToU tariffs (network charges and energy charges), while the billing is per ToU or uniform tariff. All meters support at least 2 types of tariffs – peak/off-peak, while all smart meters installed (approximately 88% of all meters at distribution level) support many more. ToU metering is available for all households on the Slovenian market, i.e., regardless of whether they have a smart meter or a traditional meter.

Gap analysis

Gap analysis of this metric is undertaken only in a couple of MSs, two in electricity and one in gas as this metric does not seem to pose an issue in most countries.

3.6 Key Property II – Overall Assessment

Only a few NRAs reported that they have done an analysis for Key Property II (four in electricity and two in gas), with several providing further comments on results of their analysis.

The Dutch NRA's view is that there are fairly low barriers to enter the wholesale market, and to become a Balancing Responsible Party (BRP). In addition, there are also no barriers to the B2B market. Moreover, a licencing regime exists for retail markets. This has been put into place in order to ensure a level of consumer protection. Taken together with the 0% of bundled DSOs as well as the 0% of consumers with regulated prices, it is reasonable to conclude that the Dutch (retail) market is fairly accessible and open. Competitiveness is encouraged in the form of the existence of many active players, and prices are regulated by the market. The high percentage of time-of-use metering gives consumers access to online historical consumption data, which gives them better insight into their usage and prices and thus more economical choices. The fact that there is a developed central national data hub enables a fast-switching process. This allows consumers to switch swiftly based on their aforementioned insights.

In conclusion, in the Dutch market there are low market entry barriers and there is a developed system to enable fast switching and insight into consumption. This supports a competitive market[32].

In Great Britain, DSOs are fully unbundled from suppliers with no detriment to market functioning. The current data exchange system remains in place, with smart meter roll-out and work on a centralised data hub is ongoing. Based on extensive engagement and analysis, Ofgem concluded that the current supplier hub model is not fit for purpose for energy

[32] In 2022, the ACM made the conditions to obtain a supplier's licence stricter. These stricter financial and organisational conditions were established in response to the energy crisis.

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 that outlined the vision for the future to ensure that it can better serve customers by enabling innovative business models and propositions, while ensuring future customers are appropriately protected – regardless of their level of engagement. In the future "smart metering world", data communications will be coordinated centrally, through a regulated entity – the Data Communications Company (DCC). The DCC will act as a conduit for passing the data from the meter to entities requesting data. However, third parties will only be allowed access to the data that the consumer has consented to.

Ofgem continues to undertake annual reviews into whether the conditions are in place for effective competition in the domestic retail market, namely that the requirements of the Tariff Cap Act are appropriately met.

The Tariff Cap Act does not define effective competition, nor is there a generally accepted definition in relevant policy frameworks or academic literature. Therefore, Ofgem developed a definition a public consultation procedure, in 2019[33]. The framework has four key components: a definition of effective competition[34] 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.

As already pointed out above, the great majority of NRAs do not undertake the analysis of Key Property II. Some of them provided further explanations for this absence.

The Swedish NRA pointed out that it cannot influence all parts of this Key Property, as some aspects are out of the NRA's control. Ei (Swedish NRA) does not advocate for regulated prices in Sweden. In Sweden, there are regulated standards for suppliers, customers and third parties to access consumption data, but they have not implemented an electricity hub. However, this may potentially be implemented in the future. Today, customers may demand hourly metering free of charge, given that they have an hourly priced contract with a supplier. These smart meters may affect the interest for dynamic prices.

In Malta, due to derogations granted under Article 66 of Directive 2019/944, the electricity retail market is not open to competition in Malta and therefore the NRA does not undertake this analysis.

The Slovenian NRA explained that since they do not have data for all metrics, they cannot provide information on what happens to the quantification result of one metric when the results of other metrics are changing.

[33] https://www.ofgem.gov.uk/publications/framework-conditions-effective-competition-domestic-supply-contracts
[34] In its assessment framework, 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, thereby driving competition between firms to win and retain customers. Ofgem expects effective competition to deliver fair outcomes for consumers in terms of what matters to them.

4 Key Property III: 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 the close relationship 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.

Metric n° and name		Nr of NRAs using the metric		Nr of NRAs completing the metric gap-analysis		Nr of NRAs completing the key property gap-analysis	
		Electricity	Gas	Electricity	Gas	Electricity	Gas
7	Correlation between wholesale and retail energy prices	11	6	2	2	5	2
8	Mark-up between wholesale and retail energy prices	9	5	1	2		

Table 4 - Metrics used in the self-assessment of key property III "Close relationship between wholesale markets and retail prices"

Source: CEER questionnaire 2021

4.1 Metric 7: Correlation between wholesale and retail energy prices

Quantitative highlights

Great Britain provided quantitative results for the household segment. Ofgem tracks ongoing trends in wholesale costs, network costs and the charges to suppliers associated with government environmental and social programmes[35], which are essential components in setting the price cap level for customers on default tariffs. The cap level for the sixth period (1 April 2021 to 30 September 2021) for dual fuel customer increased by 9% since the previous update, to £1,138 and for further 12% to £1,277 in the seventh price cap period (1 October 2021 to 31 March 2022). Wholesale costs were the main driver for these increases, as they increased by £221. This is based on the direct fuel cost allowance[36] for the forthcoming period, calculated based on forward energy contracts during the observation window.

The Netherlands also provided quantitative data for the household segment. Retail prices are sent to ACM by suppliers at least once a year and on the day of the price change, consisting solely of contestable charges. 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" over a period of time. This purchasing day is dependent on the start date of delivery of the product by the supplier. The margin and various costs are

[35] Renewables Obligation (RO); Contract for Difference (CfD); Feed-in Tariffs (FIT); Energy Company Obligation (ECO); Warm Home Discount (WHD); Assistance for Areas with High Electricity Distribution Costs (AAHEDC) and Green Gas Levy (GGL)
[36] For details see, Chapter 2 at: Appendix 4 - Wholesale costs (ofgem.gov.uk)

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

However, wholesale markets have been very volatile in the past year, making it more cumbersome to model the wholesale prices during the crisis. Therefore, ACM can determine the correlation between wholesale and retail energy prices but cannot accurately interpret the underlying reason behind these numbers. In 2021 for the household segment, the correlation between wholesale and retail energy prices calculated by ACM was as follows:

- 1-year fixed contracts: 0.98
- 3-year fixed contracts: 0.99
- 5-year fixed contracts: 0.97
- Variable contracts: 0.99

Norway computed a correlation of 0.96 for household consumers having a consumption level of 15,000 kWh or over per year and 0.98 cents/kWh for non-household consumers, having a consumption level of 20-499 MWh/year.

Sweden computed a correlation of 0.95 for household consumers having a consumption level of 20,000 kWh/year for those with variable price contracts.

Slovenia's result for the household segment is 0.51 as correlation coefficient over a three-year time window, comparing the monthly average retail and the monthly average wholesale energy prices.

Cyprus explained its methodology for computing the reference electricity wholesale price of Cyprus, which consists in considering the conventional generation price incurred by the incumbent and adding the allowed revenues.

Belgium commented that an updated publication[37] is offered to consumers on the component "energy price" of the final retail bill.

Denmark concludes that both for the household and non-household segments for the 2021 there was no close relationship between wholesale and retail energy prices.

Gap analysis

Great Britain provided a gap-analysis of the metric for the household segment. In Great Britain, broad correlation between wholesale and retail energy prices were observed especially for short-term fixed tariffs and were less clear for standard variable tariffs.

A combination of lower supply of gas imports due to global recovery, especially increased demand from Asia and protracted cold spells over last winter and into spring, have led to lower-than-normal amounts of gas left in storage across Europe. Continued low imports and the need to re-fill these gas storage sites for the next winter drove gas demand and forward. Wholesale

[37] https://www.creg.be/fr/consommateurs/prix-et-tarifs/comment-est-compose-le-prix-de-lenergie

electricity prices have also been pushed up by higher gas prices and an increase in prices for carbon allowances.

Sweden commented that it cannot perform a gap analysis on this metric because prices are set by suppliers in a competitive market and thus, they are outside of the NRA's influence.

Slovenia reported that no fixed benchmark was set as a national goal, so every increase in correlation is perceived as a positive trend. In 2021, however, there was a slight decrease in this metric (from 0.54 to 0.51, as a three-year correlation).

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

Quantitative highlights

The computation of the mark-up is not performed by all NRAs. ACER-CEER estimate a mark-up for all EU MS, which is published in the Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets, Energy Retail and Consumer Protection Volume[38].

Instead of the mark-up, the Belgian NRA publishes an analysis of the evolution of the energy component of the retail price[39].

The Lithuanian NRA reported that mark-up is not computed nor published as it is considered to be a confidential information for the supplier.

In Malta, since all electricity retail prices are regulated for all consumer segments and thus are not linked to wholesale prices, no mark-up is computed either.

In the Netherlands, the mark-up measures whether consumers are paying a fair price and the margin is not (too) high. In the Netherlands, the most common contract types are one-year or three-year fixed price contracts or variable price contracts. Dutch NRA ACM has used retail prices of suppliers for the period of 2020-2021. The retail prices are sent to ACM by suppliers at least once a year and on the day of the price change, consisting 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" over a period of time. 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. With the increase of the availability of variable price contracts and the decrease of the availability of fixed-price contracts, it is difficult to draw a comparison in the differences in mark-ups. ACM has calculated them but cannot accurately determine the underlying interpretation behind the numbers. For 2021, the mark-ups in the Netherlands for household consumers are the following: for 1-year fixed contracts 0.047, for 3-year fixed contracts 0.040, for 5-year fixed contracts 0.036, for variable contracts 0.666.

[38] For the year 2021: https://www.ceer.eu/documents/104400/7517827/ACER-CEER+Annual+Report+on+the+Results+of+Monitoring+the+Internal+Electricity+and+Natural+Gas+Markets+in+2021/44783ab3-410c-1560-319f-664677d934e0

[39] CREG publication: www.creg.be/fr/consommateurs/prix-et-tarifs/comment-est-compose-le-prix-de-lenergie

Norway reported a household segment mark-up of 1.07, cents/kWh, consumption level: 15,000 kWh or over and a non-household segment mark-up of 0.51, cents/kWh, consumption level: 20-499 MWh.

The Portuguese NRA reported a household segment mark-up of 14.4 €/MWh (average 2019-2021) and a non-household segment mark-up of -1.2 €/MWh (average year 2019-2021). For the energy component of end-user prices, information comes from prices sent by electricity suppliers; the electricity wholesale prices come from electricity spot and futures prices in Portugal.

Gap analysis

The British NRA (Ofgem) concluded that in a well-functioning competitive retail market, one would expect that over time competitive pressure would promote efficiency and limit the scope for excess profits. The primary aim of the default tariff cap is to protect consumers on default tariffs from being overcharged and ensure they pay prices that more closely reflect the underlying costs of supplying energy. Ofgem believes that the price cap provides an additional incentive for suppliers to improve their efficiency.

The lower margins in recent years may be attributed in part to increased competition, while profitability has also seen a fall since the introduction of the default tariff cap in 2019. Under the default tariff cap suppliers are incentivised to become more efficient and can no longer recover any losses or low margins on fixed tariffs through default tariff consumers. However, a supplier's overall profitability is affected by their overall efficiency and pricing decisions across the range of products they offer, including fixed tariffs that are outside the scope of the default tariff cap.

4.3 Key Property III – Overall Assessment

Some NRAs commented that the information provided to consumers about the energy component of the retail price should also inform about the underlying wholesale prices in both spot markets and forward markets. Furthermore, the analysis on the correlation between wholesale and retail energy prices conducted by NRAs should include the data collection and assessment of the costs and quantities relating to the average price risk-hedging portfolio of suppliers.

Thus, in addition to the ACER methodology, some NRAs already use other portfolio procurement strategies for the computation of the reference wholesale price, whereas for the reference retail price, apart from the Eurostat prices for specific consumer segments, they also use data provided directly by suppliers via comparison tool price data. Some NRAs do not collect data related to Key Property III because the supplier's margin is considered a commercial secret. Eurostat prices are mainly used by NRAs to check retail prices in other MS in order to make comparisons on how much more or less consumers in the national market are paying in respect to consumers in other countries and with regard to the average in the EU.

<u>The Dutch NRA assessed Key Property III as follows:</u>

With the unpredictability in wholesale markets, it is difficult to determine a stable relationship between wholesale markets and retail prices. Many suppliers currently only offer contracts with

variable prices. ACM observed that the prices of these variable contracts are being adjusted more often than in past years. On the other hand, many consumers with fixed-price contracts will most likely keep them for the long term, as the prices of these (already signed) contracts do not react to changes in wholesale markets.

ACM also collects information on the average cost components of total retail prices. Over the past period, they have seen a large increase in the share of wholesale prices within the total retail prices. This can be explained by the price increase on the wholesale market, which suppliers are passing on to consumers.

The Swedish NRA assessed Key Property III as follows:

Prices are not regulated by the NRA. However, Ei sees a high correlation between retail prices (on variable price contracts) and wholesale prices (0.95).

The Slovenian NRA assessed Key Property III as follows:

AGEN analyses and reports on a yearly basis on the relationship between wholesale markets and retail prices. In 2021, the correlation metric fell slightly, due to the sharp increase in wholesale prices, especially in the second half of the year. Retail prices did not respond right away. Suppliers were struggling to adjust promptly to this price increase mostly because of fix-priced contracts in the household retail market. Variable price contracts are limited to bigger industrial consumers and are not included in AGEN's metric.

The procurement of energy and the hedging strategies seem to have varied a lot among suppliers. While some suppliers publicly promised not to increase retail prices for some time (e.g., over the winter, until spring), others with more exposure to short-term wholesale prices were struggling to survive, and some left the market. The quickly rising prices in wholesale markets also led to negative mark-ups in the last four months of the year, leading to an unusual, slightly negative, overall yearly mark-up. For the retail energy component price, only the average household customer's (DC[40] Eurostat consumption band) effectively billed price for the electricity component is used. Wholesale price is computed according to Annex 6 of the ACER/CEER MMR, applying the simplified hedging strategy for the energy costs that suppliers incur. This hedging strategy is based on the procurement of the combination of yearly base-load forward products (77% volume), and the day-ahead products (23% volume). The starting and finishing points of energy procurement for forward products are assumed to start 18 months ahead of delivery and finish right before the delivery.

[40] Customers consuming 2,500 kWh or more but less than 5,000 kWh.

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

Metric n° and name		Nr of NRAs using the metric		Nr of NRAs completing the metric gap-analysis	
		Electricity	Gas	Electricity	Gas
9	Availability of a variety of pricing and billing options	14	9	2	3
10	Availability of value-added services for implicit demand response and self-generation	8	2	1	/
11	Availability of online offers	10	9	1	2
12	Availability of contracts guaranteeing the origin of energy	10	3	1	/
13	Availability of explicit demand response offers	6	/	2	/

Table 5 - Metrics used in the self-assessment of key property IV "A range of offers, including demand response"

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

Metric 9 describes two ways of differentiating an offer (pricing and billing) in retail energy markets. Retailers may offer different products based on the way in which they are priced or billed. Various options of pricing and billing can present innovation in the market and create benefits for the customer. Opportunities for a variety of pricing and billing options should enable new suppliers with innovative ideas on pricing and billing to enter the market. If such opportunities are severely restricted, this might distort competition.

As regards the variety of pricing and billing options, the table below summarises the answers received from NRAs:

	Number of countries using this option in electricity	Number of countries using this option in gas
Variable price that changes 4-12 times per year	9	6
Variable price that changes more than 12 times per year	9	3
Price settled against monthly average wholesale price	11	8
Price settled against daily/weekly average wholesale price	6	4
Price settled against hourly average wholesale price	10	1
Fixed 3-11 months	9	8
Fixed 1-3 years	8	9
Mix of variable and fixed price	8	6
Pricing method varies between seasons	3	2

Table 6 - Variety of pricing options

Source: CEER questionnaire 2021

Some countries use several pricing options, others are more oriented towards the ex-ante variable price and others more towards the wholesale-based price announced ex-post, plus a

fee and/or mark-up announced ex-ante. The duration of fixed-price contracts also varies between countries, between three to 11 months. On the gas market in particular, the fixed price options are more used than the variable ones.

As for the billing options, almost all countries offer several billing options. However, the most common are debit and credit card, bank transfer and cash.

Gap analysis

Only Great Britain performed a gap analysis on this metric for both fuels.

Ofgem 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 tools provided for consumers to compare offers in the market. This approach is evolving, with more attention dedicated to new tariff developments, e.g., discounts and new bundles, etc. For Ofgem, the quantification of this metric includes a broad range of measures, among which, and most importantly, the different tariffs and payment schemes, the number of consumers on different types of contracts and the main price differences. Since the start of the gas crisis and in the market conditions present at the time of writing, the number and variety of offers available to customers (in particular those visible via suppliers' websites and price comparison tools) has significantly reduced.

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

Metric 10 corresponds 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 energy. It shows how innovative national retail energy markets are becoming. 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.

Availability of value-added services for implicit demand response and self-generation are still very low across Europe, but progress has been made when compared to previous years. Twelve NRAs responded that their markets have flexibility contracts, services or products for implicit demand response. Overall, NRAs did not have detailed data available for 2021 on value-added services or products that contribute to demand flexibility with precise consumption volumes in MWh (or equivalent units) that were stored through such services or self-generation.

However, NRAs reported the existence of the following services/products: day/night network tariffs, storage/batteries, and hourly spot prices. Twelve NRAs reported that consumers in their country access wholesale prices free of charge in order to engage in the energy market in an informed way. Prices are published transparently on websites, applications or even by public authorities such as the Central Bureau for Statistics, in countries such as Lithuania, the Netherlands, Norway and Sweden[41].

[41] In the Netherlands, suppliers offering dynamic price contracts have created an information page about these types of contracts, showcasing real-time prices.

Gap analysis

Only Great Britain performed a gap analysis on this metric for electricity. Most smart tariffs on offer tend to be static, typically involving cheaper tariff rates during pre-determined periods of time, although there are exceptions with tariffs which feature prices changing every thirty minutes to reflect variable wholesale prices. The main barriers that suppliers face in offering smart tariffs with dynamic pricing relate to the ongoing rollout of smart meters and to the current settlement rules. Moreover, customer engagement with these tariffs can be challenging, as clauses around price calculation, data protection and contract termination tend to be especially complex. Presently, Ofgem collects only some of this data but as the smart meter roll-out progresses the collection of this information will become more structured and systematic. Specific monitoring dedicated to smart metering related tariffs has started only recently and will be enhanced further as the market for these products develop.

5.3 Metric 11: Availability of online offers

The availability of different user-friendly channels through which a customer can interact with market actors is a sign of innovation in the retail market. Therefore, the purpose of Metric 11 is to monitor innovation related to the identification of different options proposed by retailers to customers (online bill, online customer service, etc.), that could be seen as a progress in the market.

However, only six countries for electricity and gas replied that customers can sign a contract online through a comparison tool. The most common reason for this is the fact that comparison tools can only redirect the customers towards the supplier's website for an online subscription when the supplier offers that possibility. On the other hand, almost all the respondent countries stated that customers have online billing and customer service available.

The Croatian NRA (HERA) is in process of developing a comprehensive comparison tool that should facilitate the comparison of all gas prices and supply market offers as well as the access to gas supplier contracts and offers.

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

Metric 12 monitors the transposition of Article 19 in the new Renewable Energy Directive[42] (Guarantees of origin for energy from renewable sources) that specifies how suppliers can guarantee the origin of energy.

Although the market for guarantees of origin (GOs) exists in all EU Member States, as it was established as an obligation in the first Renewable Directive, several NRAs[43] reported that in general, for 2021, they do not collect data on this topic.

In electricity, ten countries reported using this metric and only three in gas. For instance, in the Netherlands, for the gas market, all green contracts should have a GO in place. On the other hand, in Spain, there is no official mechanism to guarantee the origin of biogas and there are

[42] 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
[43] EV (Finland), MEKH (Hungary), ARERA (Italy), NVE-RME (Norway), URE (Poland), CRU (Ireland).

no hydrogen injection points to the gas grid. This shows that in for the gas market, in most of the countries this metric is still not relevant.

In 15 countries[44], it is possible for customers to choose their exact energy source, mainly from renewables. In eight countries,[45] electricity customers can receive a copy of the cancelled guarantees of origin, i.e. used, by their supplier for their unique consumption. However, very little data was received regarding the quantity in TWh of guarantees of origin cancelled.

In 12 countries[46] for electricity and two in gas, it is the NRA that publishes information about energy disclosure figures related to the origin of the energy consumed in the country. When the NRA does not have this role, it is usually the TSOs or the supplier that publish such information.

The possibility for consumers to compare supplier fuel mixes and product fuel mixes on the comparison tool or on other websites (like suppliers' websites) is available only in 6 countries[47].

However, it is important to note that consumers are informed about energy disclosure figures in their invoices in 17 countries in electricity[48] and five in gas[49]. In ten countries, for electricity, and one in gas (Austria), this is done via a standardised format[50].

Gap analysis

Only Great Britain developed a gap analysis on metric 12. The NRA explained that the number of tariffs labelled by suppliers as 'green' or '100% renewable' has increased significantly over the last few years, partly driven by the growing offer of electric vehicle (EV) tariffs, which are generally '100% renewable', before the number of tariffs dropped at the end of 2021. The drop is likely a consequence of the higher number of supplier exits observed in Great Britain, as well as ongoing concerns about 'greenwashing'. A government review launched in August 2021[51] is exploring the extent of this latter issue in retail energy markets and whether the current system is suitably transparent. As set out in Ofgem's decarbonisation programme action plan[52], it is important that consumers be able to trust that tariffs marketed as "green" will make positive environmental impacts on the planet, and that the environmental benefits of a particular tariff or supplier are not overstated (i.e. 'greenwashed'). Ofgem expects suppliers to be transparent about what constitutes a green tariff.

5.5 Metric 13: Availability of explicit demand response offers

Metric 13 monitors the availability of products that provide explicit demand side flexibility in the market. In explicit demand response, the "freed-up/shifted" electricity is traded in electricity markets or used for other purposes. Consumers receive specific remuneration to change their

[44] Austria, Belgium, Czech Republic, Denmark, Estonia, Spain, Great Britain, Croatia, Hungary, Iceland, Italie, Norway, Portugal, Sweden and Slovenia.
[45] Belgium, Spain, Great Britain, Hungary, Iceland, Lithuania, Portugal, Slovenia.
[46] Austria, Belgium, Spain, Croatia, Hungary, Iceland, Malta, Poland, Portugal, Romania, Sweden, Slovenia.
[47] Austria, Belgium, Great Britain, Portugal, Sweden, Slovenia.
[48] Austria, Belgium, Cyprus, Estonia, Spain, France, Great Britain, Croatia, Hungary, Iceland, Italy, Lithuania, Norway, Portugal, Romania, Sweden, Slovenia.
[49] Austria, France, Great Britain, Croatia, Hungary, Romania, Slovenia.
[50] Austria, Spain, Croatia, Hungary, Italy, Lithuania, Portugal, Romania, Sweden, Slovenia.
[51] https://www.gov.uk/government/news/government-to-tighten-rules-to-stop-greenwashing-of-electricity-tariffs
[52] https://www.ofgem.gov.uk/publications/ofgems-decarbonisation-action-plan

consumption upon request (using more or using less), e.g., triggered by the activation of energy balancing, changes in electricity prices or a constraint in the network.

In 2021, explicit demand response offers were available only in six countries with no further explanation from the respondents on how much capacity is available through the use of explicit demand response contracts, or whether it is for the household or the non-household segment. Data from 2020 showed that these offers were available only to non-household customers.

Gap analysis

Two jurisdictions, Great Britain and Sweden, performed a gap analysis on this metric. In Great Britain, the availability of explicit demand response offers is limited to customers that are half-hourly settled, i.e., to those customers who have 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 are not yet available to households.

Currently, most customers in Great Britain are settled on a "non-half-hourly" basis using estimates of when electricity is consumed based on a profile of the average customer, because most sites do not have meters that can record consumption every half hour. To more fully realise the benefits of smart meter roll-out, Ofgem is seeking to introduce market-wide half-hourly settlement (MHHS). Ofgem's analysis, carried out before the onset of the COVID-19 pandemic, indicates that, under their preferred option for implementation, it is expected that MHHS will deliver £1.61bn to £4.56bn in net benefits to consumers. Reforming the existing electricity settlement process will attribute the costs of supply more accurately during the day, thereby incentivising suppliers to offer new products and services that will assist consumers in using electricity at times of day when it is cheaper to generate and transport.

In Sweden, DSOs believe that flexibility services will be a complement to grid expansion, allowing for more consumers to connect to the grid. Moreover, the NRA highlighted the need to clarify the responsibility framework for connection duties in case of capacity constraints.

5.6 Key Property IV – Overall Assessment

A few countries performed an overall gap analysis on Key Property IV, by analysing the different metrics together.

In Great Britain, as in most places, consumers have different preferences and energy needs: an energy market that is working well for consumers will provide a range of different products to reflect these differences. For example, an increasing number of consumers may prefer green energy tariffs or want to switch to smart tariffs. As set out in Ofgem's decarbonisation programme action plan, it is important that consumers can trust that tariffs marketed as "green" will make positive environmental impacts. It is expected for suppliers to be transparent about what constitutes a green tariff. Ofgem expects that the range of smart tariffs on offer to consumers will increase as the smart meter roll-out progresses further. Ofgem has already introduced reforms to facilitate half-hourly settlement on an elective basis for domestic consumers. Ofgem's work on market-wide half-hourly settlement builds on this, ensuring that suppliers face the true costs of serving all of their customers, incentivising the development of new tariffs and services which reward customers for shifting their consumption to times when electricity is cheaper to generate and transport. This will improve the efficiency, and therefore

competitiveness, of domestic electricity supply. It has the potential to significantly reduce costs for households that can shift their consumption to different times of the day, or households whose consumption patterns already align with the times of the day when energy is cheaper. Moreover, Ofgem would expect that the increased range of products – and innovative ways that market providers find to communicate household energy use – will help empower consumers to engage with the retail market. It is important that suppliers offering more complex tariff choices provide consumers with sufficient information – through timely, clear, and simple messaging – to make an informed choice about the tariff that best suits their energy needs.

In general, suppliers on the Dutch energy market offer a wide range of (innovative) products and services. Consumers can sign many types of contracts including contracts with dynamic pricing and self-generation options. Other suppliers also offer time-variable electricity pricing. In addition, there are many easily accessible sources of information regarding energy products and services.

The Swedish NRA (Ei) has no control over what is supplied on the market – the supply is driven by demand only. Hourly metering is technically possible, but its implementation depends on market conditions. In this sense, Ei has proposed to further study the available flexibility resources as an alternative to procurement for DSOs.

In the Slovenian electricity retail market, general accessibility of consumers to a variety of pricing and billing options is ensured. Value-added services for implicit demand response and self-generation are available for both household and non-household consumers. In addition, customers can participate in a variety of energy services and have access to a very low tariff for EV battery charging in times of energy surplus in the system.

Furthermore, a few pilot projects with critical peak tariffs for network charges are running, including a small number of customers in contained geographical areas. For non-household consumers, dynamic electricity pricing is widely available, with abundant information provided to customers. Some bigger suppliers even offer the option of signing contracts online, although only through their web page and not directly through a price comparison tool. Only a few bigger suppliers have the option of online management of energy contracts and online access to bills.

Contracts guaranteeing the origin of energy are available, but customers can only choose from renewable sources. The NRA publishes information about energy disclosure figures related to the origin of the energy consumed. Explicit demand response offers are available. Since the NRA does not have data on all metrics under key property IV, it cannot provide complete quantitative results.

6 Key Property V: High level of awareness and trust

Well-functioning markets require a high-level of consumer awareness, facilitating increased trust and engagement in energy markets.

Metric n° and name		Nr of NRAs using the metric		Nr of NRAs completing the metric gap-analysis	
14	Percentage of consumers knowing they can switch supplier	8	5	1	2
15	Percentage of consumers who know that DSOs are responsible for the continuity of supply and, where applicable, of metering	6	3	0	1
16	Percentage of consumers trusting the energy market	8	6	1	1

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

Source: CEER questionnaire 2021

6.1 Metric 14: Percentage of consumers aware of supplier switching

A precondition for consumer participation in retail energy markets is awareness and knowledge facilitating active and informed choices. This includes choosing to switch suppliers, choosing another contract with their current supplier, or deliberately staying with their current supplier. This metric focusses on supplier switching, drawing from a survey with a representative consumer sample.

Only eight countries[53] reported using this metric for the electricity sector and five for gas[54], generally in an annual-to-three-year-basis. In France, for instance, the NRA uses this metric in its publications, but it is the National Energy Ombudsman[55] that runs the survey every year. Additionally, Norway frequently runs a consumer survey, whereas in the Netherlands, such surveys are not as relevant as most consumers are aware that they can switch suppliers.

Gap analysis

Only Great Britain performed a gap analysis on this metric for both the electricity and gas sector. Croatia also performed an analysis of this metric in the gas sector.

In Great Britain, domestic consumers' awareness of their ability to switch is improving over time, with good progression towards the national objectives set in this area[56]. On the microbusiness segment, customers are generally able to negotiate bespoke contracts that suit their needs and agree competitive prices when they switch to a new supplier or sign a new contract with their current supplier. On the other hand, Ofgem's Microbusiness Strategic

[53] Austria, Denmark, France, Great Britain, Italy, Norway, Sweden, Slovenia.
[54] Austria, France, Great Britain, Croatia, Italy, Slovenia.
[55] https://www.energie-mediateur.fr/wp-content/uploads/2022/10/synthese-barometre-energie-info-2022-mediateur-national-de-lenergie-1.pdf
[56] https://www.ofgem.gov.uk/sites/default/files/docs/2019/10/cfec_decision_final_1.pdf

Review[57] has highlighted a number of areas where a lack of awareness, due to price opacity, poor practice and procedural barriers, are hampering some microbusinesses' ability to effectively engage with the retail energy market and get the right energy deal for them.

In Croatia, this metric is currently not monitored, but the NRA (HERA) has recognised the need to raise awareness among customers and has made efforts to collect relevant data. Upon completion of the public tender conducted in December 2020, HERA determined gas suppliers in all 33 gas distribution areas in the Republic of Croatia – for the period from 1 April 2021 to 30 September 2024. As a result of the tender, the public gas supply service in the Republic of Croatia in the mentioned period will be provided by 13 gas suppliers. After the selection procedure of the SOLR (supplier of last resort), end customers are further informed about the supplier switching. Information is constantly available on the HERA website, on individual suppliers' websites. The SOLR selection process and the consequent changes in market conditions are also adequately covered through media channels.

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

Metric 15 focusses on consumers' awareness of the DSO's role, in particular that of continuity of supply, independent of supplier switching. The latter is often presented as a concern by consumers, and one of the main deterrents of supplier switching. Six countries in electricity[58] and three in gas[59] reported using this indicator, but no gap analysis was performed in any of the responding countries.

6.3 Metric 16: Percentage of consumers that trust the energy market

Metric 16 on the percentage of consumers that trust the energy market measures the level of trust in the market and in the individual suppliers. Similar to metric 14, eight countries in electricity[60] and six countries in gas[61] used this metric, with the results coming either from a survey conducted by the NRA or from another authority. Among the respondent countries there is a large variance in the level of consumer trust, from 29% of consumers to 82% of consumers trusting the retail market. For instance, in France, the national survey conducted by the national ombudsman showed that 72% of electricity and gas customers trusted the energy market in 2021. The percentage is similar in Great Britain where 71% of gas customers trust the market.

6.4 Key Property V – Overall Assessment

Only two countries, Great Britain and the Netherlands did an overall gap analysis on Key Property V for both electricity and gas. Croatia performed a gap analysis for the gas sector.

[57] https://www.ofgem.gov.uk/sites/default/files/docs/2021/05/microbusiness_stratgic_review_-_statutory_consultation_final_1.pdf
[58] Austria, Denmark, Italy, Norway, Sweden, Slovenia.
[59] Austria, Italy, Slovenia.
[60] Austria, France, Great Britain, Italy, Netherlands, Norway, Sweden, Slovenia.
[61] Austria, France, Great Britain, Italy, Netherlands, Slovenia

In Great Britain, high consumer trust in energy suppliers is a positive development, showing good progress towards the national objectives set in this area[62]. Disengaged consumers are less likely to trust energy suppliers in general, and their own supplier specifically. Lack of trust may inhibit market engagement, though for those disengaged, high levels of trust may also increase inertia. Ofgem expects consumer trust to increase when price and quality of service are fairly maintained. Based on the results of the 'Consumer Engagement Survey 2020[63]', consumers' trust in the energy market is generally high and has continued to rise over time. Trust in energy suppliers is comparable to that of other regulated industries, but lower than for banks/building societies.

The overall proportion of customers reporting to be satisfied or very satisfied with their supplier was 70% in Q4 2021, down by two percentage points when compared to the previous quarter, most probably caused by the ongoing gas crises, at the time of writing. Satisfaction regarding billing reached its highest percentage in Q4 2020 (76%) and has since fallen down to 74% in Q3 2021 and 72% in Q4 2021. In particular, the proportion of customers satisfied or very satisfied with the ease of understanding their bill was also down when compared to the previous quarter, and those satisfied or very satisfied with the accuracy of their bill decreased by three percentage points to 71% in Q4 2021.

It is interesting to see that consumer trust in the energy market grew during 2021, even though prices were high and the market was extremely volatile. The Dutch NRA does not know the exact explanation for this phenomenon, but it is likely that such trust is due to most suppliers' ability to survive the crisis, which might have contributed to increase consumer trust in suppliers and the energy market as a whole.

The Croatian NRA (HERA) highlighted the necessity to raise awareness among end customers about the opportunities offered by the market, a process that already began with the implementation of the public tender, which encouraged end customers to seek more favourable offers outside those of by their incumbent supplier. To this end, customer surveys could be conducted once a year, taking into account gender, age, location, and socio-economic status. Moreover, the NRA is also developing a gas price comparison tool, covering the whole national retail market.

[62] https://www.ofgem.gov.uk/sites/default/files/docs/2019/10/cfec_decision_final_1.pdf
[63] https://www.ofgem.gov.uk/sites/default/files/docs/2021/04/consumer_survey_2020_update_on_engagement.pdf

7 Key Property VI: 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.

Metric n° and name		Number of NRAs using		Number of NRAs completing gap-analysis	
		Electricity	Gas	Electricity	Gas
17	Percentage of consumers having access to at least one independent and verified PCT	19	8	3	3
18	Percentage of consumers having access to online historical consumption information	6	2	1	1
19	Percentage of consumers having access to a standardised supplier switching process (and its duration)	17	10	5	2

Table 8 – Metrics used in the self-assessment of key-property VI "The availability of empowerment tools"

Source: CEER questionnaire 2021

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

This metric is used to measure whether consumers can identify the best offer in the market. If consumers can correctly estimate possible savings, they can make better decisions, leading to either switching to a better offer or staying with their current supplier. An independent and verified comparison tool (CT)[64] is a powerful tool in facilitating comparisons of available offers by consumers[65]. 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 2021"[66].

Ten NRAs have or are in the process of developing a CT for the electricity sector, while eight NRAs provide (or are developing) a CT for the gas market.

Gap analysis

In 2021, three NRAs confirmed having developed a gap analysis focused on electricity price comparison tools (Great Britain, Croatia and Slovenia).

In Great Britain, all customers have access to at least one independent and verified CT. In Italy and Slovenia, all customers with internet access also have access to an independent CT,

[64] 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.
[65] 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.
[66] https://www.ceer.eu/documents/104400/7517827/ACER-CEER+Annual+Report+on+the+Results+of+Monitoring+the+Internal+Electricity+and+Natural+Gas+Markets+in+2021/44783ab3-410c-1560-319f-664677d934e0

which represents the vast majority of electricity customers. An electricity price CT was created in Lithuania, and information regarding this tool is now made available through customer bills.

In most countries (eight out of ten of the responding countries), consumers find information on whether the electricity price CT complies with all the transparency criteria set by Article 14 of Electricity Directive 2019/944 on the NRA's website. That is the case, for instance, in Spain, the Netherlands[67] and Italy. One of the remaining responses was from Lithuania, in which case the CT is run by the NRA. Estonia, Malta and Poland are among the countries that do not provide a price CT yet. In Poland, a CT was launched in 2010, but it was not well adapted to changes in market development and is therefore it is currently deactivated. Work on the new CT is in progress. Finally, in Malta, there is no CT due to the existence of only one electricity supplier in the market.

As concerns gas markets, the gap analysis was undertaken by the same three NRAs that performed such analysis for the electricity sector. According to the British NRA, online price comparison continues to be the most commonly known method of switching/comparing offers in Great Britain. The consumer engagement survey from 2020[68] found that 82% of consumers are aware of comparing/switching via an online price comparison website. On the other hand, switching experiences are consistent with previous years. Price comparison websites (PCWs) are the main source used to find and compare tariffs and PCWs and direct contact with suppliers are the main switching methods. Reported sign up levels for auto switching services are, however, very low. PCWs and switching sites have significantly reduced their activity since the gas crisis started, due to lack of price differentiation and transparency across the industry.

In Croatia, consumers have access to a mobile app containing all data related to the prices of different suppliers. The app is available to all final customers on HERA's website. The app is called "iPlin"[69] and covers only information about prices of suppliers with a public service obligation, and is therefore not officially a comparison tool yet. HERA is in the process of developing a comprehensive comparison tool that should facilitate the comparison of all gas prices and gas supply market offers as well as access to gas supplier contacts. For electricity, a CT is already available[70].

In Portugal, the NRA (ERSE) provides a CT for both electricity and gas, similar to the gas and electricity switching operator, ADENE. Several private simulators are also available. In May 2022, ERSE published a comparative analysis on the quality of seven PCTs available in Portugal[71].

Country	Webportal
Austria	https://www.e-control.at/en/konsumenten/service-und-beratung/toolbox/tarifkalkulator#/
Croatia	https://www.hrote.hr/alat-za-usporedbu

[67] Having a mature comparison tool market, it is expected that most CTs available in the Netherlands comply with the transparency criteria. However, at this stage, only telecom CTs can be certified by the NRA. ACM is awaiting the implementation of Directive 2019/944 before it can certify energy CTs. When implemented, consumers will be able to check the NRAs website to verify if a given CT complies with Article 14 of the Directive.
[68] https://www.ofgem.gov.uk/publications/consumer-survey-2020-update-consumer-engagement-energy
[69] https://www.hera.hr/hr/iplin/
[70] https://www.hrote.hr/alat-za-usporedbu
[71] https://www.erse.pt/media/og4jk34f/compara%C3%A7%C3%A3o-simuladores_2022_vca.pdf

Country	Webportal
Great Britain	https://www.ofgem.gov.uk/information-consumers/energy-advice-households/switching-energy-tariff-or-supplier
Hungary	http://www.mekh.hu/a-mekh-energiadij-kalkulatora-a-legkedvezobb-tarifacsomag-kivalasztasaban-is-segit
Italy	https://www.ilportaleofferte.it/portaleOfferte/ www.arera.it
Lithuania	https://skaiciuokle.vert.lt/
Luxembourg	www.calculix.lu
Netherlands	https://www.acm.nl/nl/onderwerpen/verkoop-aan-consumenten/certificaat-voor-prijsvergelijkingssites/aan-welke-eisen-moeten-prijsvergelijkingssites-voldoen
Portugal	https://simulador.precos.erse.pt/ https://poupaenergia.pt/#/
Romania	https://www.anre.ro/ro/info-consumatori/comparator-de-tarife
Spain	comparador.cnmc.gob.es
Sweden	www.elpriskollen.se

Table 9 – Web portals of existing national comparison tools reported by NRAs in the framework of the present report

7.2 Metric 18: Percentage of consumers having access to online historical consumption data

This metric is used to measure the level of access customers have to their consumption data through online tools. Having access to accurate historical consumption data enables them to compare alternative offers and make informed choices. Online access seems the most convenient way to access consumption data when required, especially when large amounts of data are required, e.g. hourly billing[72]. No other CEER publication covers this issue.

Six NRAs[73] use this metric in their self-assessment for the electricity sector. Apart from Denmark, which analyses this metric every two years, all other respondents assess this metric on an annual basis. Sweden, Spain and Norway reported that more than 98% of consumers have access to their consumption data, which in general requires a smart meter to be installed, as well as internet access by the consumer.

The access to historical consumption data is provided by different agents: the TSO's website (Estonia), the DSO's website (Spain, Lithuania or Romania), the supplier website (Sweden) or even the NRA's website (Italy).

Croatia and Italy use the percentage of consumers as a metric for the gas sector. Both countries do it annually. In Croatia, HERA did not conduct an ad-hoc supplier and/or DSO survey, but according to the "General terms and conditions of gas supply" (Official Gazette 50/18, 88/19, 39/20, 100/21), the supplier is obliged to provide the customer with historical consumption data on a yearly basis. Historical consumption data is made available to 100% of the customers in Croatia.

[72] 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.
[73] Denmark, Spain, Italy, Norway, Sweden and Slovenia

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 on how and if to improve the existing switching process. No other CEER publication covers this issue.

At least 17 countries give customers access to a standardised supplier switching process in the electricity sector, while ten countries offer such service to customers in the gas sector.

In Great Britain, the current average switching time for electricity is 12 working days while gas averages at 14 working days. This information is collected by the NRA in calendar days. These numbers are four days below the original figures (16 for electricity and 18 for gas).

In Italy, all customers have access to the centralised switching process managed by the data hub [74], both for electricity and gas. The process takes 18 to 21 days.

The Polish NRA collects and processes data in the form of reports, as well as publications on its website. Information about the switching process is made available on the NRA's website of 11 different countries, as shown in Table 10 below. However, some countries, such as Hungary, France and Estonia make this information available through alternative channels. In Malta, there is a derogation from free choice of supplier (Article 4 of Directive (EU) 2019/644) granted by Article 66(5).

	Electricity	Gas
Consumers find the procedure about the standardised switching process and its duration on the NRA's website	Great Britain, Iceland, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Sweden, Slovenia	Croatia, Great Britain, Luxembourg, Netherlands, Portugal, Slovenia

Table 10 – List of countries where switching process is explained on the NRA's website

Source: CEER questionnaire 2021

Gap analysis

In 2021, four NRAs[75] performed a gap analysis regarding the switching process (Great Britain, Spain, Italy and Sweden) in the electricity sector, while two NRAs performed a gap analysis in the gas sector (Croatia and Great Britain). In Britain, the "Faster and More Reliable Switching Programme"[76] went live on 18 July 2022 and aims to facilitate next day switching.

Regarding the Croatian gas market, even though HERA did not conduct a survey among final customers, all information is available on HERA's website in the section "General terms and

[74] https://www.acquirenteunico.it/attivita/sistema-informativo
[75] Great Britain, Spain, Italy and Sweden
[76] https://www.ofgem.gov.uk/publications/delivering-faster-and-more-reliable-switching-proposed-new-switching-arrangements

conditions of gas supply"[77]. The Croatian Energy Market Operator implements the supplier switching process, records monthly data and reports it to the NRA. Final customers do not access the information system of the Energy Market Operator. All steps are taken through the supplier, who initiates the switching process upon request of the final customer.

The supplier switching procedure has been simplified and the duration of the procedure is four working days. HERA implements the following measures:

- Issues rules for supplier switching (General terms and conditions of gas supply);
- Continuously monitors improvements of the IT system for the implementation of supplier switching;
- Acts on complaints received by supervising actions taken by energy entities during supplier switches and issues decisions on handling complaints (binding decisions, nonbinding proposals for action, opinions), all with the aim of constantly improving and simplifying the process of switching to make it more accessible and easier for final customers.

7.4 Key Property VI – Overall Assessment

Two jurisdictions – Great Britain and Slovenia – analysed the availability of Key Property 6 for both gas and electricity. Sweden analysed its electricity sector, while Croatia analysed its gas sector.

As previously mentioned, in Great Britain, as regards the electricity sector, the 2020 consumer engagement survey found that 82% of consumers are aware of price comparison/switching via online price comparison website. The British "Faster and More Reliable Switching Programme", launched on 18 July 2022, aims to facilitate next day switching. On the other hand, in the gas sector, the switching experiences are consistent with previous years. Price comparison websites are also the main source used to find and compare tariffs, and there is a growing level of awareness of switching services. Reported sign up levels for auto switching services are, however, fairly low. Since the gas crisis began, the activity of price comparison websites was significantly reduced.

In Slovenia, there is general access to at least one independent and verified CT in the electricity sector. According to the Statistical Office of the Republic of Slovenia, 93% of households had internet access in 2021. Since the use of the independent and verified CT is free of charge, all consumers with internet access could access it. Moreover, consumption information is available[78] for all consumers with a smart meter. Approximately 82% of households have online access to historical consumption data, at least on an hourly level. Consumer access to a standardised supplier switching process is also generally available. Regarding the gas sector, most consumers do not have online access to historical consumption data, although some suppliers provide historical monthly consumption data on their web pages (using their log in credentials).

[77] https://www.hera.hr/hr/docs/SPKP/OUOP-2018.pdf
[78] https://mojelektro.si/

In Sweden, most electricity consumers have access to their historical consumption on "My page" online. There is a standardised switching process available that is specified in the NRA's regulation.

Finally, the Croatian NRA has recognised the need to raise awareness of final customers on gas market offers. Therefore, HERA is now in the process of developing a comprehensive CT.

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.

Quantification results for the metrics constituting Key Property VII for all EU MSs for the year 2021 can be found in the Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets Energy Retail and Consumer Protection Volume[79]. Thus, in this chapter, the present report will only report on the gap analyses performed by NRAs.

Metric n° and name		Nr of NRAs using the metric		Nr of NRAs completing the metric gap-analysis	
20	Supplier switching rate			4	4
21	Percentage of inactive consumers			1	3
22	Percentage of prosumers			2	0

Table 11 – Metrics used in the self-assessment of key property VII "Sufficient consumer engagement"

Source: CEER questionnaire 2021

8.1 Metric 20: Supplier switching rate

Not all NRAs monitor the renegotiation rate, i.e., the internal switching rate of consumers staying with the same supplier but changing contract (electricity or gas product). The majority of NRAs monitors only the external switching rates of consumers, i.e., the number of consumers changing suppliers.

Gap analysis

Great Britain – Ofgem

Household segment

Average annual switching rates have decreased considerably in 2021, namely 16% for electricity (20.2% in 2020) and 14.1% for gas (18.3%). This significant reduction in switching in the second half of 2021 coincided with the start of the wholesale gas crisis. As a result, the total number of switches in 2021 was down by 25% when compared to 2020 and 30% relative to 2019.

According to the "Customer Engagement Survey 2020", two thirds (65%) of consumers say they have engaged in the energy market throughout 2020. The survey data suggests a longer-term increase in supplier switching levels, as well as amongst households who have previously switched.

Consumer engagement differs significantly across consumer types. It it thus worth nothing that:

[79] https://www.ceer.eu/documents/104400/7517827/ACER-CEER+Annual+Report+on+the+Results+of+Monitoring+the+Internal+Electricity+and+Natural+Gas+Markets+in+2021/44783ab3-410c-1560-319f-664677d934e0

- The increase in switching was predominantly from switchers who have switched tariff and/or supplier previously. This implies there is a pool of consistently engaged consumers, who have realised the benefits of switching tariffs and continue to be incentivised to do so.
- While engagement increased across income groups, the level of engagement is positively correlated with gross income, suggesting that those on default tariffs may on average have lower income than those on fixed tariffs.

Microbusiness segment

The NRAs' review highlighted four main issues impacting microbusinesses' ability to browse for deals and their experience of doing so: market and contract opacity, contract complexity, data access limitations, and poor telesales practices. It also highlighted a range of issues connected to market features and broker practice which can lead to some microbusinesses overpaying when contracting for a new deal, as well as problems with the switching process, both delaying and deterring microbusiness attempts to exit their supply contact and move to a new one.

Lithuania – VERT

As Lithuania is in the process of deregulating and liberalising its electricity market, concrete conclusions about switching rates will be available after such processes have been concluded. However, for 2021, the following information is available:

- The annual switching rate in the retail market (by number of eligible meter points) was 19.20%
- The annual switching rate of household customers (by number of eligible meter points) was 2.13%
- The annual switching rate of household customers (volume based) was 13.71%
- The annual switching rate out of regulated prices (by metering point) for household customers was 21%
- The annual switching rate in regulated prices (by metering point) for household customers was 0.2%
  The annual switching rate of non-household customers (by eligible volume) was 13.17%

Slovenia – AGEN

In Slovenia the supplier switching rate for electricity has been decreasing since 2017, corresponding to 4.7% in 2021. AGEN's goal is to reverse this decreasing trend through consumer information[80], aiming to reach a rate of 8.5% of supplier switching in 2025. To this end, AGEN is working on implementing a new version of an independent and verified price comparison tool (PCT) with improved functionalities and better user interface by the end of 2022. The new PCT will be compliant with the provisions of the Clean Energy Package as well as the CEER-BEUC 2030 Vision for Energy Consumers[81]. The PCT will also promote the use of data services available in the national data hub, free of charge.

[80] Using the NRAs' communication channels and those of consumer associations
[81] https://www.ceer.eu/documents/104400/-/-/3b167ae3-9a7a-fd36-a02e-c64ad7595a51

8.2 Metric 21: Percentage of inactive consumers

This metric is not measured on a yearly basis by all NRAs. It is noteworthy that some of the figures identify the number of active consumers by deriving them from the number of inactive consumers, and this last figure may differ from one country to the other due to different national definitions. The majority of NRAs reported that they do not have a definition of inactive consumers. The reported definitions are listed in the table below.

Country	Definition of inactive customer
Denmark	An inactive consumer is defined as a consumer who has not switched supplier for at least 3 years.
Croatia	Number of consumers who have not switched supplier for the last 3 years and are contracted on the standard contract of the incumbent supplier
Sweden	A consumer who does not actively sign a contract with a supplier.
The Netherlands	A consumer that started on a fixed-term, fixed-priced contract maintaining it for five years. The consumer is then transferred to a variable price contract with the same supplier.[82]

Table 12 – Definition of inactive customers

Gap analysis

The British NRA made the following gap-analysis for the household segment:

The proportion of unengaged consumers remains high but has fallen significantly since 2018. Further progress in this area is essential as unengaged consumers are not benefitting from retail competition and are typically paying more than necessary for their energy. The proportion of inactive consumers is still high and some inactive consumers, specifically vulnerable consumers, need additional support to engage in energy markets.

The main reasons for consumer disengagement have remained similar over time, with the most common cause being sufficient satisfaction with the current supplier. For more vulnerable consumers, lower levels of confidence in engaging, perceived hassle, lower levels of trust in the market and heightened concerns about cost increases may be further barriers for engagement. In addition, current switching arrangements in the market are not working as well as they could. The current average switching time for electricity is 16 days while gas averages 18 days to complete a switch.

[82] The rates of the variable contract are generally altered twice a year, but the prices changed more often during the crisis.

8.3 Metric 22: Percentage of prosumers

Metric 22 is used to measure the percentage of "prosumers" engaged in the market for self-consumed energy and related services out of the total number of customers. In Article 15 of the Electricity Directive[83], prosumers are regarded as active customers, who are entitled to operate without disproportionate or discriminatory technical requirements or 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.

Some NRAs do not collect data on the number of active customers in their national retail markets as smart meter roll-out is still in progress. This is the case for the Irish NRA (CRU). Other NRAs calculate the number of active customers in the market based on the number of photovoltaic installations within households, such as the Croatian NRA (HERA), or by dividing the amount of DSO contracts with production by all distribution contracts, such as the Danish NRA (DUR).

Quantitative highlights

Quantitative results gathered through the Roadmap questionnaires concern only the non-household segment. For the household segment, the reader is invited to refer to the ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2021 – Energy Retail and Consumer Protection Volume[84]. In the present report, we report on the current definitions used by NRAs for the term "prosumer".

The table below summarises the responses received for the quantification of the non-household segment:

NRAs reporting Nr of non-household prosumers	Nr of non-household prosumers reported	Nr of non-household prosumers over total number of non-household clients
Croatia	1,058	0.07%
Lithuania	1,318	0.77%
Malta	830	1.79%
Norway	1,334	0.24%
Slovenia	1,592	1.4%

Table 13 - Number of non-household prosumers

Source: CEER questionnaire 2021

The table below summarises the responses received for the definition of "prosumer":

[83] 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). Retrieved from: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32019L0944

[84] https://www.ceer.eu/documents/104400/7517827/ACER-CEER+Annual+Report+on+the+Results+of+Monitoring+the+Internal+Electricity+and+Natural+Gas+Markets+in+2021/44783ab3-410c-1560-319f-664677d934e0

Country	Definition
Cyprus	The provisions of Directive 2019/944 have been transposed in the Law Regulating the Electricity Market of 2021, according to which, active customer means a final customer, or a group of jointly acting final customers, who consumes or stores electricity generated within its premises located within confined boundaries or, where permitted by a Member State, within other premises, or who sells self-generated electricity or participates in flexibility or energy efficiency schemes, provided that those activities do not constitute its primary commercial or professional activity.
Estonia	There is no direct definition. A prosumer is an active user of network services operated directly or through aggregation, with the ability to sell any self-generated electricity and participate in the energy market as a provider of flexibility or energy performance services.
France	French law uses the notion of "demand response", but there is no express legal definition of "prosumer". According to the Electricity Directive, in addition to selling all kinds of self-generated electricity, active costumers can operate through aggregation, participate in flexibility schemes and energy efficiency schemes, participate in an energy community, or own an energy storage facility."
Croatia	A prosumer is a consumer who self-generates electricity for self-consumption.
Iceland	Small producers who produce electricity via small windmills and waterfalls.
Italy	In Italy, prosumers are defined as all subjects who are simultaneously producers and final customers connected to the same connection point to the grid. For prosumers, electrical configurations are defined as simple production and consumption systems and can include all types of power plants (RES and not RES) and with any nominal power value.
Lithuania	Prosumers might have access to other types of renewable powerplants (hydro, biomass, biogas, wind, etc).
Malta	The concept of "prosumers" is transposed in Malta as "active customer" in Regulation 2 of Electricity Regulation S.L. 545.34. "Active customer" means a final customer, or a group of jointly acting final customers, who consumes or stores electricity generated within its premises located within confined boundaries, or who sells self-generated electricity or participates in flexibility or energy efficiency schemes, provided that those activities do not constitute its primary commercial or professional activity".
Netherlands	The following elements can be considered as presuming activities in the Netherlands: a smart meter, insight in energy use through an app, isolation, HR++ glass, smart thermostats, underfloor heating, heat pump, investing in wind/solar energy and/or in an own charging station for electric cars. There is no full definition of "prosumer".
Norway	End-users with consumption and production behind the connection point, where the amount of electricity fed into the connection point does not at any time exceed 100 kW. A prosumer may not have a facility subject to a trading license behind its own connection point, or a turnover level that requires a trading license.
Poland	According to national law, a renewable energy prosumer is an end-user who only generates electricity exclusively from renewable energy sources for self-consumption in a micro-installation. Non-household consumers can also be considered "prosumers" if electricity production is not the predominant economic activity.
Sweden	Micro production, including photovoltaic installations.
Slovenia	In addition to customers with photovoltaic installations in Slovenia the term "active customer" encompasses wider aspects in accordance with the transposition of Directive (EU) 2019/944.

Table 14 - Definition of prosumers

Source: CEER questionnaire 2021

Gap analysis

The British NRA made the following gap-analysis:

Ofgem, through the administration of the Feed-in Tariff (FiT) scheme, has an insight into the number of FiT installations by type of consumer (e.g., households, businesses, industry and community organisations) and the related installed generation capacity by technology type. Since the introduction of the (FiT) scheme in 2010, an increasing number of consumers have installed renewable electricity generating equipment, such as solar photovoltaic (PV) at their homes or premises. The UK is making good progress regarding the national objective of high consumer engagement.

8.4 Key Property VII – Overall Assessment

The following NRAs reported an overall assessment of Key property VII:

Great Britain

Household segment

Since the time of the Competition and Market Authority's Energy Market Investigation in 2016, the British national retail market has become more competitive. However, the 2021 customer engagement survey shows that 62% of consumers report to have engaged in the energy market in the past 12 months (down from 65% in 2020). There has been a drop in the number of actual switches, and a more than doubling in the number of customers that have compared prices without then going on to switch. The survey data supports other data from Ofgem in suggesting engagement levels have decreased in the second half of 2021, which coincided with the start of the wholesale gas crisis.

The main reasons for consumer disengagement have remained similar over time, with the most common cause being sufficient satisfaction with the current supplier. However, Ofgem remains concerned about the size of the disengaged population of consumers and how these consumers could be affected if the default tariff cap were lifted.

Just over half of all consumers do not engage with the market, significantly limiting their ability to protect their own interests. If the default tariff cap were lifted, it is unclear whether engagement levels across consumers on default tariffs would be sufficient to constrain the prices that suppliers set for their default tariffs. Lower confidence comparing and choosing energy offers, and lower levels of trust in the energy market may deter some consumers from engaging.

Disengaged consumers tend to prefer well known suppliers and perceive switching to be risky, possibly needing further reassurance to encourage future engagement. Increasing confidence may particularly help vulnerable consumers to engage.

Microbusiness segment

Ofgem has identified a mixed picture of consumer experience in the microbusiness segment. On the one hand, engagement levels are relatively high with around three in four microbusinesses engaging on a negotiated, fixed-term deal. Microbusinesses are able to

negotiate bespoke contracts that suit their needs and agree competitive prices where they switch to a new supplier or agree a new deal with their existing provider. Microbusinesses can access a good quality of service from the best performing suppliers and obtain valuable market insight, as well as contracting services from brokers and other third-party intermediaries who play an important role in the market.

On the other hand, microbusinesses who do not engage with the market face particularly high prices. For those that do engage in the market, too many encounter opacity, poor practice and procedural barriers that hamper their customer journey and can leave them overpaying for their energy. As many microbusinesses use brokerage services to engage with the market, the activities of a minority of brokers are causing particular harm in individual cases which can lead to a broader impact on trust across the retail market.

Ofgem's new measures involve relatively big changes to how microbusinesses can engage with the market, and to the range of options available to them.

Both segments – Switching Programme

A reliable, quick and efficient switching process is a fundamental building block of a well-functioning competitive market that provides good outcomes for consumers. It helps consumers engage with the market with the confidence that the benefits of switching to a better deal can be realised quickly and will not cause disruption to their day-to-day lives. This in turn facilitates greater competition between suppliers. The Switching Programme that went live on 18 July 2022 created the central systems and processes to enable a faster and more reliable switching experience. The changes will enable domestic and non-domestic customers to switch in only one working day, while improvements in data management will ensure less faulty switching. By improving the speed and reliability of switching, the Programme aims to increase the number of consumers who actively engage in the market and, and consequently increase market competition, leading to lower bills, better tariffs, products, and services for consumers.

The Netherlands

ACM conducts an annual consumer survey to retrieve information regarding retail market functioning. ACM has found that the supplier switching rate was 18.5% in 2021, which is slightly lower than the supplier switching rate in 2020. The percentage of inactive consumers was 23% in 2021, similar to the 24% of inactive consumers in 2020. ACM noticed a development in this metric during 2022. This year the percentage of inactive consumers was 31%.

The results of both metrics might be explained by the lack of fixed-price offers in the market, which made it more difficult for consumers to switch to another supplier. This might be the reason the percentage of inactive consumers rose in 2022.

Although ACM does not collect data on the number of prosumers, data collected on RES installations shows that 90% of households engaged in sustainable/green improvements in their residence in 2022, when compared to 81% in 2021.

Slovenia

In Slovenia, the supplier switching rate on the electricity retail market has been decreasing since 2017, corresponding to 4.7% in 2021. In the last quarter of 2021, AGEN noticed a

reversed trend, due to supplier exits and rising retail prices. There were 1.4% of prosumers in the non-household segment in 2021.

9 Key Property VIII: Appropriate protection

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

Metric n° and name		Nr of NRAs using the metric		Nr of NRAs completing the metric gap-analysis	
23	Time between notification to pay and disconnection for non-payment			3	1
24	Percentage of disconnections due to non-payment			2	1
25	Percentage of suppliers using min standards for key info in advertising and bills	9	6	0	0

Table 15 – Metrics used in the self-assessment of key property VIII "Appropriate protection"

Source: CEER questionnaire 2021

9.1 Metric 23: Time between notification to pay and disconnection for non-payment

To evaluate this metric from a practical point of view, the NRA could submit an information request to either the supplier or the regulated company (depending on the national circumstances) to assess the minimum duration from non-payment to disconnection.

In Denmark, electricity suppliers cannot disconnect household customers due to non-payment of consumed electricity. If the supplier has justified reasons to expect non-payment, the supplier can require security for the continued supply of electricity.

In Sweden, the NRA (Ei) has the right to regulate consumer disconnections but has not yet completed the regulation.

In Croatia, regulatory details are specified in the general terms and conditions of gas supply. These regulate the mutual relations between the gas supplier and the final customer, conditions for entering and the content of the contract between supplier and the final customer, the obligations and responsibilities of the gas supplier and final customer, as well as defines the time limits within which the final customer must settle the obligation, so that the supplier does not initiate the shutdown procedure. Upon written notice from the supplier for non-payment, the payment obligation is at least ten days. If the final customer fails to pay within this period, then the supplier provides a written notice to the final customer about the suspension of gas delivery - with a payment deadline of at least three days. If after this deadline the final customer does not settle the debt, then the supplier has the right to ask the DSO to suspend gas delivery.

In 2021, only three Member States (Croatia, Poland and Sweden) conducted gap analyses for electricity and one for gas (Poland).

9.2 Metric 24: Percentage of disconnections due to non-payment

Specific consumer protection legislation foresees a number of provisions to mitigate disconnecting household consumers in case of non-payment of energy bills. However, if non-payment becomes continuous, suppliers and DSOs have the right to disconnect. Most CEER countries have installed a procedure for disconnections, which foresees a certain period between non-payment and disconnection, to settle due amounts.

In Croatia, information for household and non-household disconnection rates is available for 2021. On the other hand, in Sweden, data for 2021 is not updated because it is hard to set a goal but there have not been any indications that the number of disconnections has been affected due to the COVID-19 pandemic.

In Great Britain, the number of disconnections for non-payment is generally very low continuing a long-term positive trend:

- In 2021, there were 21 electricity disconnections and 0 gas disconnections
- In 2022, there were 13 electricity disconnections and 6 gas disconnections
- No electricity or gas disconnection was recorded in Q1 2023

However, it is important to note that this does not include temporary disconnections by consumers with prepayment meters (PPMs)[85]. PPMs require consumers to pay for their energy before it is consumed, which holds the risk of customers temporarily going off supply if they do not top-up their meter before credit runs out. This is referred to as a 'self-disconnection'. Available data for PPM self-disconnections of domestic consumers with smart meters shows that this type of disconnection is much more common:

- In Q4 2022, there were 1,020,785 smart PPM customers (combined electricity and gas) self-disconnecting at least once for any period of time, of whom 689,279 self-disconnected for at least one period of >3 hours;
- In Q1 2023, there were 1,161,819 smart PPM customers (combined electricity and gas) self-disconnecting at least once for any period of time, of whom 803,993 self-disconnected for at least one period of >3 hours;
- In 2021, Great Britain completed a gap analysis for this metric in the electricity and gas sectors, and Sweden completed one for electricity.

[85] Data on disconnections for non-payment of debt as well as smart PPM self-disconnections can be found on Ofgem's website: Debt and Arrears Indicators.

9.3 Metric 25: Percentage of suppliers using minimum standards for key info in advertising and bills

Consumers need to be provided with the means of assessing market offers against each other in a transparent and clear manner. In the Netherlands, minimum standards of information are required by law. In Norway during 2021 and the spring of 2022, the NRA sent out a warning about requiring better and clearer key information on standard invoices.

In Slovenia, all suppliers were fulfilling minimum standards for key information in advertising and bills on the household and small business segment. AGEN performs occasional monitoring, with no major deviations from law EZ-1[86] reported in 2021. From 13 November 2021, a new law (ZOEE) is in place. Within the framework of the legislation, there is still a new legal act in preparation, which will define minimum standards for key information in advertising and billing.

In Lithuania, requirements for information in electricity bills are publicly available[87]. The supplier may be additionally advised to provide electronic or paper invoices to consumers. The provision of information about electricity bill payments must indicate the current actual prices, tariffs for electricity supply, transmission and related services and the consumer's actual energy consumption, which can be found in the user's payment data, for the specified reporting period. Moreover, such information must provide a comparison of the current amount of electricity consumed by the user and the amount of electricity consumed during the peak period of the year, and provide, when possible, a comparison of the consumer's electricity consumption with the average electricity consumption of the same consumer group. The commercial offers are monitored by the State Consumer Rights Protection Authority.

This metric was used by nine countries in electricity (AT, DK, ES, IS, IT, NO, PT, SE, SI) and six countries in gas (AT, ES, HR, IT, RO, SI).

9.4 Key Property VIII – Overall Assessment

Since not all NRAs were able to provide quantitative data for the metrics in Key Property VIII, an overall assessment is difficult.

Nevertheless, Austria, Great Britain, Malta and Sweden performed an analysis for Key Property VIII in electricity and Great Britain performed one for electricity and gas.

Great Britain identified some areas for concern and further improvement, such as service standards, proactive identification of customers who require additional support and a small number of escalated debt recovery processes taking place too early. Where suppliers have not made adequate efforts, countries should engage through the compliance process and take action where appropriate. To this end, the industry trade body Energy UK and energy suppliers have been attempting to agree on a set of new standards and commitments, actively supporting and promoting already existing tools. These new standards are expected to lead to the following outcomes, applicable to other countries as well:

- Consumers know that they can contact their supplier easily, and be treated fairly;

[86] http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO6665
[87] See: https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/f3575c72bb0911ea9a12d0dada3ca61b/asr (pt 20.15).

- Consumers are aware that energy suppliers will directly provide support where appropriate, or signpost to a relevant organisation who can provide such support; and
- Consumers understand that energy suppliers must take into account an individual's ability to pay their energy bill.

10 Conclusions from the eight Key Properties and the overall self-assessment on the well-functioning of retail energy markets in 2021

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 eight key properties, which have been addressed in detail in this paper. These properties represent the desired outcomes of the key elements that constitute well-functioning retail energy markets.

This section summarises the overall assessment of each key property and provides insights on the functioning of European national energy retail markets in 2021.

Key Property I: Low concentration within a relevant market

The great majority of NRAs have used this indicator in the self-assessment of their national retail markets. Market shares can be calculated from consumed volumes, the number of customers or metering points. The results analysed in this paper have shown that all these methodologies are used across MSs, with the most common ones being metering points for households and volumes for commercial consumers. In addition to the Herfindahl–Hirschman index (HHI), several NRAs use alternative measures to analyse concentration in energy retail markets such as concentration ratios.

Data from NRAs shows that the level of market concentration in energy retail markets varies considerably across Europe. Typically, household consumer markets seem to be more concentrated than markets for commercial consumers.

In 2021, seven and four NRAs undertook a gap analysis in their self-assessment exercise for electricity and gas, respectively. Following such analysis, NRAs have set goals and targets to reduce market concentration in their national markets, with some even aiming to go below 1000 to 2000 HHI.

Key Property II: Low market-entry barriers

The indicator has been used by six NRAs for electricity and five NRAs for gas. In most countries, market entry procedures exist for either or both national and regional wholesale markets. It can take up to three months to gain access. Some countries require a supplier licence, or supply authorisation. Moreover, in most markets, it is possible for market participants to become a balance responsible party, which takes up to four months.

As in many countries DSOs are unbundled, only six NRAs used the metric regarding consumers connected to bundled DSOs. Depending on the national market's circumstances, the main reason for allowing bundled DSOs, reported by the six NRAs, is either the result of a derogation from EU rules or unbundling exemptions for DSOs with less than 100,000 customers.

Across Europe, the proportion of customers on regulated prices varies widely. There are also social tariffs for vulnerable customers, as well as ex-ante and ex-post regulations. In markets with social tariffs, approximately around 5 to 20 percent of customers 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. Seven NRAs reported that 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 for time-of-use metering vs. traditional metering, NRAs reported 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.

Key Property III: A close relationship between wholesale markets and retail prices

In the context of the national transposition of the Directive on common rules for the internal market for electricity (EU) 2019/944 by the end of 2021, Article 59 describes the duties and powers of national regulatory authorities, among others of "Monitoring the level and effectiveness of market opening and competition at wholesale and retail levels, including […] the relationship between household and wholesale prices". It is understood that NRAs shall fulfil their duty of monitoring the relationship between wholesale and household prices.

The present report highlights methodologies employed by NRAs and quantitative data available for the key property on "a close relationship between wholesale markets and retail prices". Further details can be consulted in the annual national reports to the European Commission prepared by NRAs[88].

Key Property IV: A range of offers, including demand response

Most CEER countries use several pricing options, with a large variety observed in the electricity sector. In the gas market fixed-price offers are more common that variable-price offers.

Availability of value-added services for implicit demand response and self-generation is still very low across Europe, although progress is observable when compared to previous years. However, NRAs did not have detailed data available for 2021 on value-added services or products that contribute to demand flexibility with precise consumption volumes in MWh (or equivalent units) that were stored through such services or self-generation.

Although the market for guarantees of origin (GOs) exists in all EU Member States (as it was established as an obligation by the first Renewable Directive) several NRAs reported that in general, for 2021, they do not collect data on this issue.

In 2021, explicit demand response offers are available in a few countries with no further quantitative data on how much capacity is available through the use of explicit demand response contracts, or whether this is for the household or the non-household segment.

[88] NRAs' national reporting available on: https://www.ceer.eu/eer_publications/mmr_-_national_reports

Regarding the availability of online offers, almost all MS reported that customers have access to online bills and online customer service, but very few are able to sign contracts online through comparison tools as the role of CTs is mainly to compare and redirect the customers towards the suppliers' websites.

Key Property V: 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 out such surveys. Surveys for metrics 14, 15 and 16 are mainly conducted by other entities, other than the NRA. Therefore, only a few countries reported data on these metrics.

Consumer awareness of supplier switching or the role of the DSO is an important element of consumer participation and choice in retail markets. The few reported responses show that there is a high variance in trust levels across the analysed countries, ranging from 29% to 82% of customers reporting to trust their respective national retail market. The results were most positive in Great Britain and the Netherlands, while the Croatian NRA reported more efforts are needed to raise consumer's awareness about the offers available in the market.

Key Property VI: The availability of empowerment tools

The availability of price comparison tools is the most commonly used metric for evaluating well-functioning energy retail markets. Ten NRAs have or are about to have a CT available for the electricity sector, while eight NRAs provide (or are in process of providing) customers with a CT on the gas market. The CTs are either state-owned or privately-owned.

Only a handful of NRAs reported on the percentage of consumers having access to online historical consumption data, while annual consumption data is most commonly available. Access to accurate historical consumption data enables consumers to compare alternative offers and make informed choices.

Many NRAs can assess the percentage of consumers having access to a standardised supplier switching process and almost all NRAs concluded that all consumers have access to a standardised supplier switching process.

Key Property VII: Sufficient consumer engagement

The gap analysis on the metrics for "switching rate" and "inactive consumers" highlights the importance of independent and verified comparison tools available to consumers free of charge. NRAs can use their communication channels to promote the existence and the use of national comparison tools that help consumer switch supplier and actively participate in the energy market.

It is in the interest of NRAs that comparison tools provide consumers with improved functionalities and better user interface (e.g. information on consumption load curves and "read aloud" functionality) that allow for the analysis of all offers in the market. The more the comparison tool is compliant with Article 14 of the Directive on common rules for the internal

market for electricity (EU) 2019/944[89], the more likely it is that consumers will make use of the comparison tool and increase switching rates, and therefore, market competition. Some NRAs also reported that their national comparison tool(s) will also promote the use of data services available at the national energy data hub. Such developments are likely to further increase consumer engagement over time.

However, for 2021, the reported "percentage of prosumers" both in the household and non-household segments remain low. In order to increase the rate of active customers and prosumers, comparison tools could also include information on supplier offers to buy excess energy produced by active customers, not consumed in near real time (for instance in a 15-minute time frame). This would allow consumers to become aware of the monetary value of self-generation.

Key Property VIII: Appropriate protection

The percentage of suppliers using minimum standards for key information in advertising and billing is the most used metric to evaluate appropriate consumer protection.

Consumers need to be provided with means of assessing and comparing offers in a clear and transparent manner. In addition, vulnerable consumers must be protected through additional support measures, such as payment plans or subsidies. Moreover, disconnections should be used as a last resort measure only, at par with specific consumer protection provisions regulating disconnections.

Overall assessment of the roadmap towards well-functioning retail energy markets

The result of this review shows that all metrics from the CEER 2017 Handbook for National Energy Regulators – How to assess retail market functioning[90] are used in the self-assessment of national markets. However, they are still used to differing degrees within each country and across countries, with the metric on "market concentration" and "availability of access to independent and verified PCTs" being the most-commonly used metrics, with the metric on the "percentage of consumers having access to online historical consumption data" being the least used[91].

In addition, a few countries are undertaking the analysis of each key property individually (each key-property is measured by several metrics). As pointed out in previous reports, there are various reasons for why this is the case.

Firstly, countries vary in their definition of each metric. Secondly, not all NRAs can legally set national targets for individual metrics with respect to the gap-analysis examined in this report.

[89] 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). Retrieved from: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32019L0944

[90] CEER 2017 Handbook for National Energy Regulators - How to assess retail market functioning, 24 January 2017. Ref: C16-SC-52-03

[91] Not all metrics in this year's questionnaire had a question of whether a metric is used or not as it is quite clear from previous questionnaires that some metrics, such as the existence of regulated prices and switching rates are widely used.

Thirdly, as retail markets still differ significantly between countries, each country has its own local/national circumstances to consider when assessing retail market functioning. Other metrics are not relevant for all countries, either because their national market does not offer a given service or because the market has already overcome and embedded a particular aspect, rendering monitoring of the metric unnecessary.

Notwithstanding, CEER encourages all NRAs to continue monitoring and self-assessing their national retail markets and improving on individual metrics, key properties and overall functioning of national retail markets.

In order to facilitate well-functioning retail energy markets in all CEER Member Countries (MCs) by 2025, NRAs are also encouraged to maintain an ongoing dialogue with national policy makers and consumer protection authorities on well-functioning energy retail markets. As in many countries, the responsibility is split between different public bodies, it is important for these to cooperate and adequately coordinate their efforts, given that a well-functioning retail market is in the interest of all parties. The setting of national targets can contribute to facilitating an in-depth gap-analysis, which in turn can help improve market performance in a myriad of indicators, thus reaching the goal of well-functioning retail markets by 2025.

CEER believes that ongoing and future changes in European energy markets, such as the integration of renewable energy sources into the energy system, may lead to a greater relevance, in the future, of some of the less-used metrics today. CEER encourages all NRAs to analyse the interdependencies of metrics and their mutual impacts, as well as to perform gap-analyses for key properties.

Lessons learned from the whole roadmap exercise started in 2017

Significant advances in the current roadmap exercise to 2025 well-functioning retail markets have been disrupted by recent major shocks in European wholesale energy markets. European consumers have realised how energy markets can be highly volatile in times of crisis.

The well-functioning of European retail energy markets in 2021 and in 2022, has been assured either by state aid and direct financial support to end-consumers or by modifying the energy market design, rather than by following defined metrics or targets set in the gap analysis presented in this report. Most governments gave direct support to households and businesses, leaving the energy markets to work by themselves, while others made direct interventions in the functioning of energy markets.[92]

In order to reflect market and legislative developments, the metrics put forward in the 2017 CEER Handbook[93] will be reviewed and revised in the course of 2024. Thus the next edition of the Roadmap status report will reflect any changes to the metrics and Handbook.

[92] For more on this, see the ACER inventory of 400+ energy emergency measures: https://www.acer.europa.eu/news-and-events/news/acers-inventory-400-energy-emergency-measures-seeks-aid-policy-makers-going-forward

[93] CEER 2017 Handbook for National Energy Regulators - How to assess retail market functioning, 24 January 2017. Ref: C16-SC-52-03

Meanwhile, the European energy market design is currently being reviewed to make the system more robust against future shocks. Thus, the next Roadmap exercises will have not only to consider the Clean Energy Package but also upcoming packages (post-energy crisis). Furthermore, the recast of the Gas Directive will put more emphasis on consumer protection and mirror some of the retail provisions already present in the Electricity Directive, which will have to be considered in the next monitoring exercise.

Annex 1 – List of abbreviations

Term	Definition
AAHEDC	Assistance for Areas with High Electricity Distribution Costs
ACER	Agency for the Cooperation of Energy Regulators
AT	Austria
B2B	Business to Business
B2C	Business to consumer
BE	Belgium
BG	Bulgaria
BRP	Balance Responsible Parties
CEER	Council of European Energy Regulators
CEREMP	Centralised European Register of Market Participants
CfD	Contract for Difference
CT	Comparison tool
CY	Cyprus
CZ	Czechia
DC	Direct Current
DCC	Data Communications Company
DE	Germany
DK	Denmark
DSO	Distribution System Operator
EBSCR	Electricity Balancing Significant Code Review
ECO	Energy Company Obligation
EE	Estonia
ES	Spain
EV	Electric Vehicle
FI	Finland
FIT	Feed-in-Tariff
FR	France
GB	Great Britain
GGL	Green Gas Levy
GO	Guarantees of Origin
GR	Greece
HHI	Herfindahl-Hirschman Index
HR	Croatia
HU	Hungary
HUPX	Hungarian Power Exchange Market Rules
IE	Ireland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MHHS	Market Half-Hourly Settlements
MMR	Market Monitoring Report
MS	Member States

Term	Definition
MT	Malta
NL	Netherlands
NRA	National Regulatory Authority
NRAs	National Regulatory Authorities
PCT	Price Comparison Tool
PCW	Price Comparison Website
PL	Poland
PPM	Pre-payment Meter
PT	Portugal
PV	Photovoltaic
RES	Renewable Energy Sources
RO	Renewables obligation
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovakia
SOLR	Supplier of Last Resort
ToU	Time-of-use
TSO	Transmission System Operator
WHD	Warm House Discount

Annex 2 – 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.

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More information is available at www.ceer.eu.