



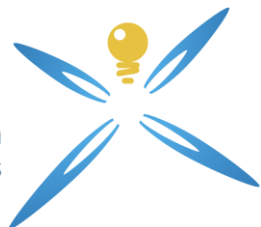
CEER
Council of European
Energy Regulators



REPORT

Transparency and Comparability in the Retail Market

28.04.2026



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CEMP

Ref: C26-CEMP-168-02

28.04.2026

Information page

Abstract

This CEER document aims to identify the challenges to transparency and comparability of energy market offers when presented to consumers in different formats (contract terms, comparison tools, intermediary platforms, websites), as well as to provide guidance on how to ensure that consumers are properly empowered to make the best choices.

Understanding this growing complexity is essential for consumers to make the best choices. Therefore, in addition to presenting the current market challenges, this document proposes alternatives to minimise the risks associated with these challenges and gives examples on good practices regarding some of the issues raised. To this end, the document also presents some examples of good practices related to transparency and comparability of offers in the energy sector.

Target audience

National Regulatory Authorities, energy suppliers, consumer representative groups and other interested parts.

Keywords

Transparency; comparability; energy offers; price taxonomy; bundled offers; intermediary platforms; price comparison; comparison tools; consumer empowerment.

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Related documents:

- [Guidelines of Good Practice on Future Proof Comparison Tools for the Energy Sector](#), August 2022, Ref: C22-CEM-147-03
- [Beyond the Crisis: Consumer protection and market measures for better functioning markets](#) September 2024

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Executive Summary

Background

As energy retail markets become more complex, offering more options to consumers, comparability between different offers becomes more difficult. Consumers face difficulties in identifying the best option for them, especially when considering various types of electricity price offer (fixed-price, dynamic price, indexed-price).

This can lead to misinformed decisions or less than ideal decisions when choosing an energy offer. On the other hand, these difficulties can also lead consumers simply to not make any choice, because they do not feel completely aware of the terms of the offers presented, preferring to leave their existing contracts untouched and not make any changes because they do not trust the change or do not feel comfortable with it.

Objectives and contents of the document

This report aims to identify the different challenges faced by consumers when comparing energy offers, especially in terms of prices and price types, and presents some guidance on how these challenges can be tackled. This report also presents some good practices for some of the challenges identified, that are already in place in some Member States.

Brief summary of the conclusions

Energy markets are becoming increasingly complex, offering consumers more options, but also making it harder to compare services and choose suitable energy offers.

Considering this, providing reliable, transparent and comparable information is essential so that consumers can understand different contract types such as fixed, indexed and dynamic pricing. Comparison tools (CTs) are a fundamental tool to help consumers evaluate offers, but comparing different pricing structures and forecasting consumption costs can be difficult. In addition, changing consumption patterns and needs, including electric vehicles, solar panels and batteries, make predicting energy use more complex.

Market uncertainty, contract duration, termination fees and the possibility of unilateral contract changes can reduce consumer confidence.

The emergence of bundled services and intermediary platforms add more options, but also contribute to increasing complexity and may lack sufficient regulation and transparency.

Regulators and improved comparison tools are crucial to enhance transparency, adapt to evolving consumer behaviours and support informed decision-making in energy markets.

1. Introduction

This document arises in a context where the types of offers presented to energy consumers are proliferating, in different formats (in-person, online, by telephone) and where the characteristics of the offers are becoming more complex, especially with regard to the types of prices available (fixed, indexed, dynamic, etc.). Energy services are no longer the only services targeted in the context of contracting, with offers presenting different additional services, whether related (electric vehicles, installation of solar panels) or unrelated (health insurance services, technical assistance services for equipment) to the supply of energy.

At the same time, new contracting modalities are emerging in the market, with the appearance of intermediary platforms that take over the management of energy contracts on behalf of consumers, removing them from direct negotiation with energy suppliers.

Understanding this growing complexity is essential for consumers to make the best choices. Therefore, in addition to presenting the current market challenges, this document proposes alternatives to minimise the risks associated with these challenges and gives examples on good practices regarding some of the issues raised. To this end, the document also presents some examples of good practices related to transparency and comparability of offers in the energy sector.

1.1 Objective

This paper aims to contribute to improved transparency and comparability of energy contracts for consumers across Europe. The main objective of the document is to identify the different challenges faced by consumers when comparing offers, but also to provide the market (and consequently, consumers) with appropriate tools to tackle these challenges.

1.2 Relevance

As energy markets evolve rapidly with increasing decentralisation, digitalisation and decarbonisation, consumers face a growing variety of complex contract types. This means that it is crucial to provide consumers with knowledge and tools that help them to compare different offers (not only prices, but also the different price structures – fixed or variable) to ensure that they make the choices that best suit them.

1.3 Approach

This paper identifies and discusses key challenges and recommendations in comparing energy contracts across European markets.

1.4 Taxonomy of pricing structures in energy markets

The liberalisation of retail energy markets has introduced significant dynamism over time on the way supply contracts are designed. Given that energy is a homogeneous commodity, differentiation cannot occur at the product level. As a result, suppliers have had to compete along alternative dimensions to attract consumers and distinguish themselves from one another. One such dimension is the pricing structure. In liberalised markets, a broad range of offers has emerged, as different pricing structures reflect different allocations of the risk associated with price volatility and wholesale market signals between suppliers and consumers. Furthermore, recent and upcoming challenges related to the development of renewable production and the use of heat pumps and electric vehicles (EVs) are calling for more diversified price structures in order to adjust to system needs, and reward flexible consumption. Recognising the diversity of pricing structures and their specific characteristics is essential for understanding how, and to what extent, transparency and comparability can be ensured for consumers.

More specifically, with reference to the pricing structure and the price level determined by the supplier, supply contracts can generally be categorised into fixed-price and indexed-price types. In the case of **fixed-price contracts** the key feature is that consumers know the price in advance, before entering into the contract. Combined with a fixed-term duration, as defined in Article 2(15a) of Directive (EU) 2019/944, as amended by Directive (EU) 2024/1711, the supplier guarantees that the price remains “unchanged for the duration of the contract” or, in any event, for a well-defined period (e.g., one year). Under such contracts, any variation in the energy unit price may only arise from elements beyond the supplier’s control, such as grid fees, taxes or levies, meaning that the unit price for the relevant period is known to the consumer in advance. In the more “extreme” case in which a fixed-price contract includes only a single unit-price component linked to consumption, thereby excluding any flexible element such as time-of-use pricing, the contract can be referred to as a **flat-price contract**. In this case, no flexibility signal is provided, irrespective of the time of day when energy is consumed.

By contrast, **indexed-price contracts** (also commonly known as **variable price contracts**) include at least one unit-price component that fluctuates according to market conditions, typically linked to wholesale electricity or gas prices. The reference period for these indexed prices may vary, with common intervals being monthly or quarterly averages.

Both fixed-price and indexed-price contracts may also incorporate **time-of-use pricing** (which may also characterise network tariffs, in addition to supply prices, and independently thereof), whereby prices vary depending on the time of day and/or day of the week. The hours with different pricing are set in predefined blocks and may even be chosen by the consumer. Under such schemes, lower prices are generally applied during off-peak periods (e.g., night-time, midday and afternoons (i.e., solar hours), weekends, or public holidays), while higher rates prevail during peak demand hours (e.g., daytime on weekdays, especially morning and evening peak hours). In more extreme cases, suppliers may even offer energy free of charge during specific hours of the day to strengthen incentives for shifting consumption to periods of lower market demand.

A combination of fixed and indexed pricing elements can also be found in so-called **hybrid (or mixed) pricing** structures. In such cases, the application of different price components may depend on consumption thresholds or specific time periods. For instance, consumers may be charged a fixed price up to a certain level of consumption, beyond which an indexed price applies (an approach that can serve to incentivise energy savings). Alternatively, fixed prices may be applied during specific periods (e.g., off-peak hours), while indexed prices are used during on-peak periods. Finally, some offers may apply a fixed price until a certain month, after which an indexed price applies.

A specific form of indexed pricing is the **dynamic electricity price contract** (or real-time pricing contract), as defined primarily in Article 2(15) of Directive (EU) 2019/944. Under this type of contract, the price paid by the consumer directly reflects fluctuations in spot market prices, including “in the day-ahead and intraday markets, at intervals at least equal to the market settlement frequency.” This implies that electricity prices may vary on at least an hourly basis up to 15-minute intervals, encouraging consumers to adapt their consumption patterns in response to price signals in order to benefit from lower rates. Dynamic pricing contracts are therefore targeted towards more active and responsive behaviour from consumers, namely consumers who are aware that, under such contracts, they can effectively influence the prices ultimately reflected in their bills, including through automation (e.g., smart EV charging). These contracts may be regarded as an intensified form of time-of-use pricing, where instead of prices varying at fixed and relatively infrequent intervals (e.g., peak vs. off-peak), they change continuously in line with day ahead or intraday wholesale market dynamics. With 15-minute metering, price peaks may be limited in time and can be easily avoided. Similarly, to conventional indexed prices, dynamic pricing contracts may include surcharges on top of the wholesale price.

Table 1. **Taxonomy of pricing structures in retail energy supply contracts**

Contract type		Time-of-use pricing contract
Fixed-price contract		The unit price set by the supplier (either fixed or indexed) may vary depending on the time of day, day of the week and/or season, in predefined blocks or according to blocks chosen by the consumer. Time-of-use pricing can be applied to both fixed-price contracts (when time-of-use prices are known in advance) and indexed-price contracts (when time-of-use prices are linked to wholesale prices or other indices).
	Flat-price contract	
Indexed-price contract		
	Dynamic price contract	
Hybrid contracts		

It is evident that different pricing structures may be designed to target distinct consumer profiles (e.g., active versus passive consumers, type of appliances and their use, or prosumers and energy sharers versus traditional consumers). At the same time, each pricing model may require specific transparency measures to ensure that consumers are adequately informed. Moreover, ensuring comparability across offers becomes particularly challenging when price structures differ significantly, such as in the case of fixed price versus dynamic pricing contracts.

2 Key Challenges for Contract Comparability

2.1 Price Comparison Challenges

Energy contracts are characterised by several dimensions that may be of interest to consumers and can pose challenges regarding transparency requirements and the comparison process. Yet even the most immediate comparison dimension – price – may present challenges for consumers seeking to assess and compare different offers. For most consumers, price remains one of the main, if not the primary, factor in the decision-making process when choosing an energy contract. Ultimately, what matters to them is the amount they will pay on their energy bill. However, the heterogeneity and complexity of available offers make meaningful comparison along this dimension particularly challenging.

On the one hand, transparency challenges arise from new pricing formulas in the energy contracts offered to consumers, e.g. dynamic price, hybrid prices, flexibility services; hence challenges resulting from the intrinsic nature of the price itself. In addition to the prices set by suppliers, network and grid charges are becoming increasingly complex, to better reflect underlying grid costs. As a result, situations in which suppliers apply fixed-price arrangements while network operators implement dynamic or time-of-use grid charging structures are becoming increasingly prevalent. The analysis in this section, however, is focused on prices set by suppliers. On the other hand, consumers' traditional consumption patterns are changing with growing investments in residential solar panel installations, electric vehicles, heat pumps, home batteries, energy sharing mechanisms and energy management systems, which ultimately need to be considered when evaluating the type of offers best suited to their needs.

These complexities limit consumers' capacity to take well-informed decisions and pose further difficulties in comparing available offers. This is particularly relevant given that the ability to compare complex products must be developed and supported over time, while retail energy markets appear to be among the most complex environments in which to undertake such comparisons. By contrast, other liberalised sectors, such as mobile telecommunications and banking, while also growing in complexity, have retained a relatively higher degree of product comparability. Energy literacy remains, instead, limited, and consumers often encounter difficulties in understanding even basic concepts, such as units of energy measurement, or in associating consumption with everyday activities. Consequently, transparency and comparability measures are most effective in a context where consumers possess at least a minimum level of understanding of energy market functioning and pricing dynamics.

Challenges related to the nature of price structures

The energy cost (i.e., cost determined by the supplier for the energy delivered) in retail offers typically consists of two components: a unit price (depending on consumption) and a fixed monthly or annual charge. By combining these elements with their expected consumption, consumers can estimate their overall expenditure. While fixed monthly or annual charges are relatively straightforward to compare across offers, variable/indexed prices are more complex. In indexed or dynamic pricing contracts, the unit price (or, at least, a part of it) cannot be known in advance, as it usually depends on wholesale market developments. In time-of-use contracts, unit prices are known, but they vary according to the time of day, day of the week or even the season. This diversity raises a fundamental question: how can consumers determine which offer is most advantageous for them by comparing unit prices?

Comparability is relatively straightforward when offers belong to the same category. For example, it is easy to identify which of two flat-price contracts (e.g., offer A versus offer B), or which of two time-of-use contracts with identical time bands (e.g., offer C versus offer D), is more advantageous by directly comparing their unit and fixed charges. By contrast, comparing a flat-price contract (offer A) with a time-of-use contract, with fixed prices for the different time periods (offer C) is more complex, as the final bill depends on how the consumer's consumption is distributed across different time periods and averaging across time-of-use pricing might result in a wrong estimation of the final price. An even greater challenge arises when comparing either of these with an indexed contract (offer E), since in the latter case the unit rate cannot be known in advance and instead varies automatically according to wholesale market developments and a predefined frequency.

Therefore, in certain cases, direct comparison of unit prices is not possible and, if attempted, may even result in misleading conclusions. Consumers can, however, still seek to compare offers by relying on alternative tools and indicators, provided that they are able, prior to comparison, to assess whether comparing substantially different offers is useful, having regard to their own needs and their ability to manage more complex or effort-intensive contractual arrangements. For instance, yearly expenditure estimates computed on the basis of past consumption and historical price data may provide useful insights when comparing offers, as they allow consumers to understand how their energy bill would have evolved under each offer. Also, estimates of monthly or annual future expenditure can serve as a useful tool for assessing the economic convenience of different offers, and are commonly employed in publicly owned or publicly certified price comparison platforms across Europe. To generate such estimates, information on a consumer's monthly or annual consumption is required. Consumers can typically rely on historical consumption data which, although not perfect, provide a reasonable basis for the calculation. Nevertheless, even this tool may introduce biases when actual spending depends on the consumption profile. While consumers may know their total annual consumption, they may lack detailed information on how that consumption is distributed across time periods (as required for evaluating time-of-use offers) or across individual hours (as required for assessing dynamic pricing contracts). Furthermore, forecasting the expenditure associated with offers whose prices are based on wholesale futures indexation or on day-ahead indexation can be challenging, as price estimates may be unavailable or insufficiently reliable in the context of a highly volatile market. Forecasts can also not capture consumers' future consumption needs, which can vary (upwards or downwards) for a number of reasons (changes in weather, new household devices, energy efficiency investments, etc.), as discussed in the next section.

Even when comparing offers of the same type, knowledge of the unit price and one's own consumption profile may not suffice to achieve a clear and comprehensive evaluation. Indexed price contracts, for example, can be based on different time windows over which the unit price is calculated from wholesale markets (e.g. one month, three months). A longer averaging window typically results in greater price stability, whereas shorter windows expose consumers more directly to volatility, leading to potentially significant differences in spending if wholesale markets are expected to fluctuate strongly. Similarly, the comparability of time-of-use contracts depends heavily on how time bands are defined. Rates may vary seasonally, between weekdays and weekends or public holidays, and across multiple periods within a single day; the use of historical price data can clearly illustrate seasonal and intra-day price variations, thereby providing relevant information for consumers using specific applications. The widespread deployment of smart meters enables ultra-precise consumption measurements, further expanding the range of possible pricing schemes. As a result, additional dimensions must be considered: not only the unit prices themselves, but also the specific time intervals to which they apply, adding further layers of complexity to the consumer's search and evaluation process. Even in the case of relatively straightforward offers, such as fixed-price contracts, certain features may make comparison more challenging; for example, differences in the duration of price guarantees or the presence of specific discounts whose application is subject to particular conditions.

This heterogeneity in offer characteristics raises important questions about consumers' ability to make efficient comparisons, to the extent that, in some cases, it is legitimate to ask whether comparison is even meaningful. When offers share the same pricing structure, or when suitable proxies such as estimated annual spending allow for a proper comparison, comparative analysis can provide useful insights. However, when offers differ too substantially from one another, pursuing direct comparison may no longer be appropriate.

In this context, transparency must be regarded as the primary objective. Consumers should be provided with all the information and tools necessary to understand an offer's price structure, to assess whether it is suitable for their needs and personal characteristics (e.g., risk aversion or the ability to monitor consumption), and to determine whether it is too complex relative to the time and effort they are willing or able to devote.

Comparability follows from transparency. When consumers have a clear understanding of an offer's features, they are better able to judge whether comparisons across different offers are meaningful. Furthermore, comparison tools can assist consumers in identifying which offers best meet their needs, provided that such tools do not generate misleading results, for instance, when hourly consumption data are unavailable and a comparison is made between a fixed-price and a time-of-use offer.

However, the challenges of comparison do not arise solely from the intrinsic characteristics of the offers themselves, but also from consumers' consumption patterns. In fact, the economic convenience of a given offer may depend, for example, on the consumer's ability to shift consumption across time periods, as well as on whether they own solar panels or participate in energy-sharing schemes.

Challenges related to consumption habits

Energy consumers are becoming increasingly diverse in terms of consumption habits. Within this diversity lie large differences in preferences and expectations. Traditional consumers generally seek simplicity, wanting offers that are easy to comprehend and compare, while more active consumers tend to demand a lot of information and options, seeking flexibility. Even within the category of active consumers, important distinctions can be observed: for example, those participating in energy-sharing schemes have needs that differ from consumers who are looking for a contract that best suits the costs related to charging their electric vehicle, and these differences further contribute to the overall complexity of the market.

It is becoming more and more difficult to offer one-size-fits-all solutions tailored for both perspectives. Different types of consumers expect different grades of complexity when comparing energy contracts.

The biggest challenge for comparison tools with the new developments in the energy market is the fact that consumers' energy off-take is becoming much more unpredictable. Where previously a certain average off-take volume and a standardised consumption profile could be assumed, there are now many more individual factors having an influence, e.g.:

- Existence of a PV installation with or without storage;
- Technical equipment of the household with potential for time-shifting usage (e.g., heat pump, electric vehicle, dishwasher, washing machines);
- Technical support through smart software solutions, like energy management systems (EMS), that adapt consumption to (financially) optimal times;
- Third-party behaviour: in cases involving energy sharing or aggregators, consumers are also dependent on the behaviour of other participants in the system;

- Multiple contracts, such as EV-specific charging tariffs, home battery optimisation contracts, peer-to-peer energy sharing, etc.

All these factors make it nigh on impossible to make a full estimation of the impact on the consumption volume and profile. Consumption behaviour will increasingly depend on instantaneous events such as weather, day ahead and intraday energy prices and even grid balancing and grid congestion (cf. flexibility).

For certain features influencing prices in energy contracts, the complexity of forecasting becomes so hard that at some point, the only thing left might be transparency and trying to explain as best as possible what the offered services in the energy contract entail. All this, keeping in mind the risk of information overload, and consumers opting out.

In order to provide the best possible guidance to different types of consumers when comparing energy contracts, a comparison tool can ask users a few questions to gain insight into their preferences and situation. A first set of questions should be basic and relate to the consumer and consumption data. However, considering the increasing complexity of both price offers and types of consumers, these are no longer sufficient. Other questions may concern the degree of risk aversion, willingness to change consumption behaviour, etc. The presence of certain assets (e.g., solar panels, charging station, heat pump, etc.) may also determine whether certain energy contracts are suitable for the user or not. Being able to answer these questions assumes the ideal of a well-informed consumer. However, when it comes to more detailed information, this assumption may not hold true for all consumers. To ensure that using a comparison tool is a positive experience, and helps the consumers to save money, some level of support is needed.

Depending on the answers provided by a consumer using a comparison tool, corresponding filters can refine the contract offer to suit the consumer's needs. For example, energy contracts that allow optimisation of the energy cost through flexibility from the consumer, will be more tailored to owners of certain assets, such as electric vehicles or controllable heat pumps, and may be less suitable for consumers without such assets. It is up to consumers to choose an offer that fits their needs, but a comparison tool can guide them in this and can help them choose a contract that entails the right level of exposure to flexibility signals.

For consumers who prefer simplicity and are not looking for complex pricing structures, a comparison should ideally show the prices of the contract (unit prices or prices per month or per year), together with the main contract terms and conditions. This type of consumer may benefit most from a contract that offers a good price, but that is straightforward and that requires little effort on the part of the consumer. Examples of such contracts are fixed-price contracts and indexed-price contracts. Also, certain time-of-use or hybrid contracts can be easy to understand and straightforward to use by consumers.

For consumers who indicate that they are willing to change their consumption behaviour or for users who want to be provided with as much information as possible by the comparison tool, a different presentation of the prices and terms and conditions of a contract may be more appropriate (e.g. price formulas, descriptions of flexibility offered). These types of consumers may benefit from contracts that offer more flexibility options in order to save money and to optimise their energy usage. Examples of such contracts are dynamic contracts, time-of-use contracts or energy contracts with control of certain assets for offering external flexibility.

In any case, a comparison tool should take the user's individual consumption pattern into account as much as possible. This can be done by providing the option to use the user's own (historical) quarter-hourly data (preferably at least one year's worth of data), or by using specific pre-determined profiles (consumption and injection) tailored to different types of consumers (e.g. household size, type of residence, with or without solar panels, with or without charging station, with or without heat pump, etc.). The comparison tool allocates the appropriate profile, based on the data and answers given by the consumer on the questions asked at the start of the comparison. These profiles may be developed in-house or provided by a third party (e.g., NRAs, network operators, supplier associations) and should be available for consultation in a transparent way.

The advantage of using own (historical) data is that the consumer's existing behaviour can be included in the price comparison. The advantage of using predefined profiles is that they can simulate an expected profile when investing in certain assets. However, behavioural change driven by a price signal, as in dynamic contracts, is difficult to simulate in advance. A comparison based on historical consumption patterns can show an "AS IS" situation, whereby the consumer can be advised that they can reduce their bill by changing their behaviour (or increase it if they do not adjust their behaviour correctly according to price signals).

The energy contracts shown in the comparison must always be presented along with the advantages and disadvantages of each corresponding price. The results must also be filterable to allow adaptation to additional consumer preferences, such as contract period or product characteristics (e.g., green energy vs. conventionally produced energy).

Ultimately, it is up to the consumer to decide which contract or price best fits his or her individual optimisation goals. Additional services, bundled offers, or other contractual features may further influence their decision.

2.2 Market Uncertainty and Security

As markets evolve and various factors come into play — such as internal factors involving the volatility that renewables bring, as well as external factors like the impact of international conflicts and pandemics on stability — prices become subject to intense volatility. This contributes to uncertainty and a fear of change in consumer behaviour. In fact, energy prices can fluctuate significantly, and many consumers are reluctant to take risks by choosing indexed-price or dynamic offers because they do not want their energy costs to depend on uncertain market developments, even though offers of this type could represent significant savings.

Furthermore, the need to stay informed about the factors that determine energy prices (and to do so regularly in order to avoid sudden changes) can make it difficult for consumers to opt for solutions that require greater involvement in the sector or, at the very least, constantly monitoring of price fluctuations on platforms and websites that may not even be targeted at consumers.

On the other hand, the fact that offers have become so different from one another makes it very difficult to compare. Although some 'year-spend' prediction mechanisms may help consumers understand their annual consumption and consider this when comparing offers, it may still not be easy to understand how to compare a fixed-price offer with a dynamic or indexed-price one. Consumers can easily become confused when analysing the volume and diversity of offers, which may lead them to forgo comparison and supplier switching altogether.

Because of these circumstances, consumers often choose not to adopt the offer that best suits their profile, as they lack the confidence to make different choices in volatile markets or are unwilling to be as active as the markets demand.

The ability of consumers to identify the energy contract that best meets their needs is also influenced by the duration of the contract to which they have subscribed. As switching-related fees are not permitted in contracts aimed at consumers, except in the case of fixed-term, fixed-price contracts (Article 12(2) and 12(3) of Directive (EU) 2019/944 and Article 12(3) of Directive (EU) 2024/1788), in theory consumers can easily move between different offers. Once the 24-hour supplier-switching rule is implemented across Europe, they will also be able to subscribe to new offers quickly in order to benefit from immediate economic savings, for example, by switching from a fixed-price to an indexed-price offer when spot market prices are expected to be lower in the next months. Currently, most energy contracts offered to consumers in Europe, especially fixed-price ones, have a duration of at least 12 months. More complex contractual arrangements, however, may extend over longer periods, such as those associated with Power Purchase Agreements (PPAs).

Early termination fees may, however, still be applied in the case of fixed-price offers. In practice, such fees can lock consumers into their contracts and prevent them from taking advantage of potential savings available on the market. From the seller's perspective, early termination fees serve to protect against the risk of having to resell energy at higher prices once consumers leave. For consumers, however, they effectively act as a switching cost, potentially limiting their ability to exercise choice in a liberalised market. Similarly, termination fees may also be linked to the presence of bundled products or services, whose duration may or may not overlap with the duration of the energy price.

At the same time, many contracts allow sellers to unilaterally change contractual conditions, including the price, thereby introducing an element of uncertainty for consumers. Although suppliers are required to provide consumers a summary of the key contractual conditions prior to the conclusion of any contract (Article 11(1) of Directive (EU) 2019/944 and Article 10(3) of Directive (EU) 2024/1788) and to provide adequate notice of any intention to modify contractual conditions and to inform consumers of their right to terminate the contract upon receiving such notice (Article 11(4) of Directive (EU) 2019/944 and Directive (EU) 2024/1788), consumers nevertheless bear a non-monetary cost associated with this possibility. Recent legislative developments have set the duration of certain types of contracts. Under Directive (EU) 2024/1788, suppliers offering fixed-price, fixed-term electricity contracts are required not to unilaterally modify the terms and conditions and not to terminate such contracts before they reach maturity. This provision clearly helps consumers by giving them certainty regarding the minimum duration of a contract before they sign it, making it easier to compare different offers and to plan both their consumption habits and their spending.

Therefore, when comparing offers, consumers must consider not only the duration of the contract (or of its economic conditions in the case of open-ended contracts) but also any clauses that effectively enforce, extend, or otherwise influence that duration, such as renewal clauses.

2.3 Additional Services and Bundled Offers

The increasing complexity of energy markets is not only reflected in more innovative and convoluted pricing structures. The inclusion of various services in energy contracts, such as the purchase of heating and cooling equipment, solar panels, electric mobility solutions, as well as the provision of services such as electrical repairs, insurance, healthcare plans, and home renovation or even telecommunications, make comparability of offers even more challenging. In fact, it may not be easy for consumers to compare all the conditions and services included in contracts. There are also some offers that include energy-related bundled services, such as aggregation and consumption automation and management.

These circumstances can be reasons to create barriers to transparency and, consequently, to supplier switching. Such difficulties may also result in consumers not taking any initiative.

It is also important to highlight that, in some cases, the price of bundled products becomes too expensive for consumers when the energy service is terminated.

In other cases, contracts for solar panel feed-in are only offered in combination with an offtake contract. Cheap offtake contracts combined with poorly priced feed-in contracts have also been observed. This might lead to situations where consumers do not choose (or change to) the best offer because they are not completely aware of the offer's implications.

Another aspect to consider is that bundled products are typically offered by large, dominant companies in some Member States, who use their existing sales structures across different markets. In this regard, bundled products may also harm consumers indirectly by reducing competition and enabling dominant companies to exclude competitors from the market and charge higher prices.

This situation, however, does not imply that the increasing availability of offers and related services is inherently bad for consumers or even not useful for them. In fact, most of the time, the inclusion of bundled products or services provides advantages, such as new and more efficient ways of consuming energy (with relatively 'short pay-back time' smart charge or smart heat devices, for instance), discounts, simplified billing (even if the bill becomes more complex when it covers multiple services), and consolidated customer support for different services under a single company.

The challenge is precisely to make the different options available in a transparent and comparable way, bearing in mind that consumers are not always fully aware of all the items included in the contract terms. In addition, it must also be ensured that any additional service is suitable for the consumer subscribing to it. In fact, if a consumer signs up for a service that he or she won't use or doesn't know how to use, no matter how good the offer may be, it won't be adequate for that consumer.

Given this context, National Regulatory Authorities (NRAs) should promote the dissemination of information regarding the specific characteristics of the different types of offers, including:

- Clear information on the separation of the services included in the contract and the independence between them.
- Distinct presentation on the bill of services contracted, allowing consumers to choose to pay for them separately.

2.4 The Role of Intermediary Platforms

Aside from the additional services and bundled offers proposed by suppliers, the emergence of intermediary agents and/or platforms also brings new challenges, considering that, in some cases, consumers give intermediaries the power to contract services on their behalf, services that consumers ultimately pay for. It is relevant to highlight that these platforms can provide comparison between offers and can also facilitate switching suppliers.

Although these emerging actors might represent a relevant valuable support for consumers in managing their energy services contracts, it is essential to ensure that consumers are protected from misleading practices. In this regard, intermediary platforms play a relevant role when collecting and providing information to consumers about market offers and available options, but also about the platform's identification (separation between the platform and the energy supplier), the services provided by it and the role they play regarding the contract management.

One of the new challenges posed by these models is that the platforms are not consistently transparent regarding the way they are financed or sponsored. In addition, there may be algorithms that favour sponsored suppliers, or hide pre-selected offers, meaning that the results may not show consumers the best options, which contributes to increasing the lack of transparency. Since the regulatory framework targets only energy suppliers, it becomes difficult to ensure that these business models meet transparency requirements.

The lack of clarity regarding the role of the NRAs or other authorities in overseeing the activities of intermediary platforms activities may also be one of the reasons why consumers do not trust their operation.

In this regard, NRAs should help clarify the roles of the various energy actors, including promoting transparency among intermediary platforms through eventual cooperation with the entities responsible to oversee their activity.

3 Towards Improved Comparability

The European Union's vision for a competitive, consumer-centred internal energy market hinges on one fundamental principle: the empowerment of the final customer. An empowered consumer is an informed one, capable of navigating the complexities of energy offers, making choices that align with their needs, and driving competition through active participation. However, the recent energy crisis, characterised by unprecedented price volatility and aggressive market practices, revealed the vulnerabilities in the relationship between suppliers and consumers. It exposed how unclear contracts, difficult to understand terminology and inconsistent presentation of information can disempower consumers, leaving them susceptible to financial shocks and misleading terms. In the wake of this situation, the need to forge a more transparent and uniform contractual landscape across Europe has never been more urgent.

This chapter explores the option of standardising energy contract information across the EU. Our focus is twofold: first, to identify the essential contract elements that demand a uniform presentation to facilitate true comparability for consumers, regardless of their Member State. Second, to establish minimum standards for clarity in both the presentation of these contracts and the marketing materials that precede them.

Informed by the experiences of NRAs and previous CEER recommendations, we will examine successful case studies from Member States like Portugal, Italy and Greece, which have either established standardised pre-contractual information templates or, in the case of Spain, have regulated the necessary pre-contractual information. By examining these models and integrating insights from extensive consumer studies, this chapter will lay out a comprehensive blueprint for reform. The goal is to move beyond a fragmented patchwork of national rules towards a harmonised approach that could ensure that every European consumer receives contractual information that is clear, comparable and transparent, thereby fostering trust and enabling active participation in the energy market of the future.

To further empower consumers, the chapter explores recommendations for evolving comparison tools (CTs) from simple ranking interfaces into comprehensive decision-support systems. As market complexity grows with the proliferation of dynamic tariffs, automation-enabled flexibility and sustainability attributes, traditional comparison models are becoming insufficient. We analyse how next-generation tools can bridge this gap by adopting "layered transparency", presenting essential trade-offs clearly while offering deeper detail on demand, and by integrating behavioural insights that account for uncertainty and risk. Drawing on updated 2022 CEER guidelines and advanced case studies from Flanders (VNR), Sweden (Ei), Portugal (ERSE) as well as Greece (RAAEY), we highlight the need for tools that utilise deep data integration and asset-based profiling (e.g., for EVs or solar panels) to provide personalised, realistic scenarios rather than relying solely on historical averages.

Crucial to this transformation is the enhanced role of NRAs. Beyond traditional supervision, NRAs must actively safeguard consumer outcomes through systematic monitoring, including price comparison websites algorithm regular audits and "mystery shopping" exercises to ensure transparency, compliance and impartiality. The chapter argues that NRAs are uniquely positioned to certify reliable tools and spearhead educational campaigns that help consumers interpret complex signals like price volatility and automation requirements. By fostering cross-border learning and enforcing rigorous standards for exhaustiveness and independence, NRAs can build a resilient, consumer-focused energy market grounded in trust and informed choice

3.1 Standardising Consumer Contracts in the EU Energy Sector: Ensuring Transparency and Uniformity

3.1.1 Identifying Common Contract Elements for Uniform Presentation

To achieve a truly integrated and competitive European retail energy market, consumers must be able to compare offers from different suppliers using coherent criteria. This is impossible when key contractual information is presented inconsistently, hidden in the details, or described using different terminology. The foundation for harmonisation already exists within Article 10(3) of the Electricity Directive, which mandates a minimum set of information that must be included in every consumer contract. Building on this legal requirement and drawing from best practices observed in countries like Portugal, Italy and Greece, we can identify a core set of elements that could be uniformly presented across the European Union to tackle the barriers identified in Chapter 2.

However, given the diverse regulatory environments, market designs and consumer realities across Member States, a fully standardised pan-European template would be difficult to implement and may not adequately reflect national specificities. Instead, a common set of guiding principles and standardised core elements could encourage the creation of nationally-tailored templates. When developed at the national level, while adhering to a shared EU structure, these templates can ensure both coherence in consumer information and flexibility to accommodate local market conditions.

1. Supplier and Offer Identification:

- **Supplier Details:** The legal name, address and contact information of the supplier must be prominently displayed. This is a basic but crucial element for accountability.
- **Offer Identification:** Each offer should have a clear commercial name and a unique identification code. This allows for easy reference and tracking, particularly within Comparison Tools (CTs).

- **Offer Validity:** The period for which the offer is valid should be clearly stated.
- **Offer conditions:** whether the offer is intended for (and may only be subscribed by) specific categories of consumers

2. Core Contractual Conditions:

- **Service and Commodity:** The contract must explicitly state whether it is for electricity (feed in and/or feed out), gas, or is a dual-fuel offer.
- **Bundled Services and Equipment:** To address the "lock-in" risks and comparability issues of bundled offers described in Chapter 2.4, the contract must explicitly list any additional services (e.g., insurance, maintenance) or equipment (e.g., solar panels). The independent termination rights for these services must be stated to prevent consumers from being unable to switch energy providers due to ancillary product ties.
- **Contract Duration:** The length of the contract term (e.g., 12, 24 months) or whether it is of indefinite duration must be clear. Crucially, the contract must clearly distinguish between the overall contract duration and the specific duration during which the price remains either fixed or indexed (e.g., a 12-month contract duration where the price is only guaranteed for the first 3 months) to prevent consumers from being misled.
- **Conditions for Renewal and Termination:** This is a frequent point of confusion for consumers. The template must clearly outline the process for contract renewal, the notice period required for termination, and whether automatic renewal clauses apply.
- **Early Termination Fees:** If applicable, the existence of an early termination fee for fixed-price fixed-term contracts must be flagged prominently. The conditions under which it applies and the method for its calculation must be explained.
- **Billing and Payment:** The frequency of billing (e.g., monthly, bi-monthly) and the available payment methods should be listed.

3. Pricing and Financial Information:

- **Price Type:** The single most important feature for most consumers is the price. The template must clearly distinguish between **fixed**, **indexed** and **dynamic** price contracts.
- **Price Breakdown:** A standardised breakdown of the price is essential for comparability. Drawing from the Italian model, this should include, but not be limited to:
 - The core energy price (e.g., €/kWh);
 - A yearly or monthly fixed charge;
 - Network costs and taxes;
 - Separate line items for any non-energy services included in bundled contracts (as highlighted in Chapter 2.3) to ensure the base energy cost remains comparable.
- **Price Indexation Clauses:** For indexed and dynamic tariffs, the mechanism for price indexation must be explained in simple terms. This includes identifying the reference market or index and the frequency of updates. To enhance transparency without overwhelming the consumer, the contract should also provide a clear, accessible breakdown of the indexation formula. Individual cost components (e.g., such as market variables, regulated tariffs and possibly supplier margins) must be explicitly defined so consumers understand how each element contributes to the final billed price. Aligning this granular contractual disclosure with subsequent billing statements will enable consumers to easily match their contract terms to the actual charges on their invoices. The Greek model's inclusion of comparative examples illustrating the cost

differences between a fixed-price contract and indexed-price contracts in the contract template is a best practice in this area.

- **Price Adjustment Clauses:** The mechanism for price adjustments (for example, in open-end contracts) must be explained in simple terms. Notably, if a contract includes clauses allowing for the unilateral revision of the price, it must not qualify or be presented as a “Fixed-Term, Fixed-Price” contract, unless that price revision is set for a strictly pre-defined moment. Additionally, the contract must clearly define the term during which fixed price or, in the case of indexed and dynamic prices, the price formulas, remain fixed. This specific period during which the price is guaranteed not to change, must be explicitly stated, particularly to clarify how it might differ from the broader overall contractual duration.
- **Discounts and Promotions:** Any promotional offers or discounts must be presented with absolute clarity, specifying their value, duration, conditions and the price that will apply after the promotional period ends.
- **Estimated Annual Cost and Forecasting:** To resolve the forecasting discrepancies for consumers whose consumption patterns are highly dynamic due to the integration of advanced technologies, as noted in Chapter 2.1, the template should preferably include an individual estimated annual expenditure. This estimate should preferably go beyond basic annual averages and utilise standardised profiles that factor in time-shifting technologies, such as EVs, heat pumps and self-generation to accurately forecast costs for the “ideal consumer” vs. “real consumer” scenarios discussed in Chapter 2.1. This allows consumers to grasp the overall financial impact of an offer beyond the per-unit price. However, mandating this presents significant practical challenges as suppliers may be reluctant to assume the risk and liability of generating such individualised forecasts. Furthermore, if suppliers are left to develop and use their own divergent forecasting models, the resulting estimates will fundamentally lack uniformity, ironically leading to incomparability across offers. Therefore, to ensure true comparability, any required expenditure forecasts must strictly rely on unified, centrally defined methodologies or standard profiles, that could be developed and provided by the NRAs, rather than proprietary supplier models.

4. Service Quality and Consumer Rights:

- **Service Quality Levels:** Any guaranteed levels of service and the corresponding compensation or refund arrangements for failure to meet them (e.g., for inaccurate billing or connection delays) must be specified.
- **Dispute Resolution:** Information on how to initiate an out-of-court dispute settlement procedure must be included.
- **Right of Withdrawal:** Consumers must be informed of their right of withdrawal, a key protection under the Consumer Rights Directive (2011/83/EU).

By ensuring that key contractual elements are presented in a consistent format and logical order across suppliers, within a common EU framework but adapted at national level, the EU can significantly reduce consumer confusion and enable genuinely informed choices.

3.1.2 Setting Minimum Standards for Clarity in Presentation and Marketing

Beyond standardising what information is provided, it is equally critical to regulate how it is presented. The pre-contractual phase is a delicate one; consumers are often faced with dense, documents filled with extensive, difficult to understand language, that obscure rather than clarify the terms of the agreement. To combat this, minimum standards for clarity and transparency must be established not only for the contract summary sheet but for all supplier communications, including advertising and marketing.

A standardised non-mandatory pre-contractual information sheet could be the cornerstone of all offers. Suppliers could provide this document to the consumer prior to the conclusion or extension of any contract. This could ensure that the consumer has a clear, comparable basis for their decision before making a commitment. This summary must be concise, written in simple, accessible language and avoid technical jargon. As CEER advocates¹, the European Commission should follow through on its plan to provide non-binding guidance, which should then be enshrined as a mandatory requirement, for a common terminology to be used in these summaries for both electricity and gas. This would eliminate ambiguity and facilitate direct comparison.

The problem of opaque information often begins before a contract is even presented. Promotional materials and advertisements frequently highlight attractive headline prices while obscuring underlying conditions or future price hikes. Furthermore, the rise of intermediary platforms introduces the specific transparency risks outlined in Chapter 2.4 regarding the neutrality of comparisons. Regulations must ensure these platforms disclose their financing models, clarify if algorithms favour sponsored suppliers, and clearly distinguish between the platform provider and the actual energy supplier. To achieve this, regulatory frameworks should mandate specific mechanisms to ensure platform transparency and neutrality. Comparison tools must explicitly state their ownership, shareholders and funding sources before any comparison results are displayed to the consumer, as outlined in Article 14 of the revised Electricity Directive. Additionally, non-objective rankings based on commercial agreements, such as sponsored contracts, must be clearly identifiable and visually separated from objective, algorithm-driven search results. Algorithmic transparency is equally critical, meaning pre-settings or filtering algorithms must be clearly explained, easily adjustable, and disclose the nature and origin of any subjective data used for rankings. Finally, NRAs or appointed competent bodies must actively monitor these platforms to ensure compliance, issuing official "trust marks" to guide consumers toward reliable and verified comparison tools.

NRAs must be empowered to enforce strict transparency criteria for all marketing communications or work closely with bodies responsible for monitoring advertising and marketing practices. Drawing inspiration from multiple regulatory practices, several principles should be universally applied:

- **Clarity in Price Communications:** When prices are advertised, the type of offer (fixed, indexed, dynamic) must be clearly stated alongside the price. For indexed offers, the conditions for price changes must be accessible. In some cases, harmonisation is also needed in terms of measurement units (€/year vs. €/month) and completeness of prices, ensuring consumers can make straightforward comparisons between offers. A notable example of visual clarity comes from Greece, where the Ministry of Environment and Energy introduced a color-coded system to categorise tariffs: blue for fixed, yellow for indexed, orange for dynamic, and a special regulated "green" tariff for easy comparison. This system allows consumers to instantly identify

¹ Beyond the crisis: Consumer protection and market measures for better functioning markets, p. 6
https://www.ceer.eu/wp-content/uploads/2024/09/Beyond-the-Crisis_Consumer-Protection-and-Market-Measures-for-Better-Functioning-Markets-.pdf

the nature of the contract, improving transparency and facilitating easier switching between suppliers.

- **Prohibition of Aggressive Practices:** As seen in the aftermath of the energy crisis, practices like pressuring consumers to accept unilateral price changes must be met with significant financial penalties, as demonstrated by the Italian Competition Authority (AGCM). Establishing a clear code of conduct for suppliers is essential.
- **Mystery Shopping and Enforcement:** The Spanish CNMC's use of "mystery shoppers" is an effective tool for assessing the reality of the consumer experience. This proactive monitoring of telephone and online sales channels allows regulators to identify and rectify deficiencies in the verbal information provided to consumers, ensuring that misleading practices are not carried out. Similar approaches are also applied in Portugal and Italy, where mystery shopping exercises are used to assess the clarity and accuracy of pre-contractual information.

The energy crisis highlighted a major point of friction: unilateral changes to contract conditions, particularly prices. The revised Electricity Directive's requirement for suppliers to notify customers of any price adjustment at least one month in advance for households is a crucial safeguard. However, some NRAs, such as the Spanish CNMC's approach,² provide a gold standard for how this information should be communicated:

- **Direct, Transparent Notification:** The communication must be a distinct document, clearly titled to differentiate it from a regular bill. Rules should also specify how such notifications are delivered to consumers, as the method of communication is key to ensuring clarity and proper awareness.
- **Clear Comparison:** It must include a simple, side-by-side comparison of the prices before and after the change.
- **Estimated Annual Cost Impact vs. Risk-Based Comparison:** Providing an estimate of the new annual cost based on past consumption can help translate abstract price changes into a concrete financial impact. This approach, however, could have limitations for indexed or dynamic contracts due to unpredictable future wholesale prices. Providing these estimates may give consumers a false impression of comparability between fixed and variable contracts. Therefore, in certain markets a more effective approach could be to advise customers to first choose a contract type based on their personal risk aversion and then encourage them to compare offers as much as possible strictly within that specific contract type.
- **Explicit Right to Terminate:** The communication must expressly state the consumer's right to terminate the contract. Consumers, however, should be also notified of possible termination fees in advance, in the case of fixed-term, fixed price contracts, if applicable.

Adopting these minimum standards across the EU would transform contract presentation from a source of confusion into a tool for consumer empowerment. It ensures that clarity and transparency are not optional extras but fundamental requirements for operating in the European energy market.

² Beyond the crisis: Consumer protection and market measures for better functioning markets, p. 30
https://www.ceer.eu/wp-content/uploads/2024/09/Beyond-the-Crisis_Consumer-Protection-and-Market-Measures-for-Better-Functioning-Markets-.pdf

3.1.3 Transparency in Termination Fees

Certain contractual elements, by their nature, are more complex and carry greater potential for consumer detriment if not handled with transparency. As detailed in Chapter 2.2, early termination fees and dynamic pricing contracts are two such areas that demand specific and rigorous standards of clarity to prevent the barriers to switching previously identified.

Fixed-price, fixed-term contracts offer consumers price security, but this security comes with a commitment. If a consumer breaks this commitment, suppliers may be permitted to charge a termination fee to cover their direct economic loss, such as hedging costs. However, as noted in Chapter 2.2, these fees can act as a significant barrier to switching when their calculation is opaque. To ensure fairness and transparency, the following principles, drawn from evolving practices in the Netherlands, Italy and Spain, could be adopted EU-wide:

1. **Absolute Pre-Contractual Transparency:** The existence of a termination fee must be clearly and prominently stated in the standardised pre-contractual summary. It cannot be buried in the general terms and conditions.
2. **Clear Calculation Methodology:** The contract must outline the exact formula or criteria used to calculate the fee. Simply stating that a fee may apply is insufficient. The Italian requirement to specify the maximum possible value of the fee provides consumers with a clear upper limit on their potential liability³.
3. **On-Demand Information:** Consumers must have the right to request and receive, at any time during their contract, the exact amount they would be charged if they terminated their contract on that day. This empowers them to make a real-time, cost-benefit analysis when considering a switch. The Dutch model, while complex, links the fee directly to the supplier's actual hedging loss, ensuring proportionality⁴. When market prices have risen, the fee is zero, reflecting that the supplier suffers no loss. This principle of "no harm, no fee" should be a cornerstone of EU policy.
4. **Inclusion in Comparison Tools:** Certified CTs must clearly display whether an offer includes a termination fee and, where possible, provide an estimate of the fee. This allows consumers to filter and compare offers based on this critical parameter.

3.1.4 Dynamic Pricing: Empowering the Flexible Consumer

Dynamic pricing contracts, where the price reflects day ahead and/or intraday wholesale market fluctuations, offer significant savings potential for consumers who can shift their consumption to off-peak hours. However, as noted in Chapter 2.1, they also introduce a new level of complexity regarding accurate price prediction and forecasting needs in addition to comparison challenges. To ensure consumers can engage with these innovative tariffs confidently, clear and continuous information is paramount.

³ Beyond the crisis: Consumer protection and market measures for better functioning markets, p. 36
https://www.ceer.eu/wp-content/uploads/2024/09/Beyond-the-Crisis_Consumer-Protection-and-Market-Measures-for-Better-Functioning-Markets-.pdf

⁴ Beyond the crisis: Consumer protection and market measures for better functioning markets, p. 35
https://www.ceer.eu/wp-content/uploads/2024/09/Beyond-the-Crisis_Consumer-Protection-and-Market-Measures-for-Better-Functioning-Markets-.pdf

1. **Informed Consent and Suitability Assessment:** Before signing a dynamic price contract, suppliers must obtain explicit consent and provide consumers with information about all the opportunities, costs and risks of these contracts. This assessment should be based on the consumer's actual consumption data (e.g., from a smart meter) where available, but should not rely solely on the current consumption profile. It should also allow for the consideration of potential flexibility resources and expected changes in consumption behaviour, such as the use or planned acquisition of technologies like electric vehicles, heat pumps, batteries, or automation-based demand response solutions. To ensure comparability, transparency and to avoid unnecessary burden on suppliers, the methodology for such an assessment, or the tool itself, could be provided or standardised by a central authority, such as the NRA, or through an independent comparison tool. Where suppliers provide such tools themselves, they should follow a common methodology to ensure that results are comparable and do not mislead consumers.
2. **Simple and Transparent Reference Price:** For simplicity and transparency, suppliers should define a reference price for each contract type offered, applicable to all customers subscribed to that contract type. This reference price should be clearly linked to the relevant day-ahead market prices. The contract must specify the reference market used, the methodology for calculating the reference price, and any additional charges or mark-ups applied by the supplier.
3. **Real-Time and Forward Price Transparency:** Consumers must have continuous, free access to the reference prices (e.g., day-ahead prices) used in their dynamic contract, through an online portal or app. This access must be available before consumption takes place, at a granularity at least equal to the market settlement period, so consumers can make timely decisions about shifting their load.
4. **Frequent and Comprehensive Billing Information:** Consumers on dynamic tariffs need frequent feedback. Billing information should be provided at least monthly. To prevent transparency issues caused by overly detailed invoices, bills must feature a simplified summary page clearly displaying the essential data such as the final unit and daily prices (€/kWh and €/day), total energy consumption, billing dates, taxes and total costs. Furthermore, consumers must have free access to an online portal or app where they can view their consumption and the corresponding prices at intervals at least as frequent as the market settlement period (e.g., hourly or every 15 minutes) before their consumption bill is issued. This allows for detailed analysis and behavioural adaptation.
5. **Honest Comparison in CTs:** Comparison tools face a challenge in accurately comparing dynamic offers against fixed-price ones, as savings may be deeply linked to individual behaviour. CTs must therefore communicate this uncertainty clearly. They should provide illustrative comparisons based on standardised consumption profiles, or on the users' own consumption data, if possible, and must explicitly state that actual costs will vary based on the consumer's ability to shift their load. Furthermore, to avoid some of the price comparison challenges of Chapter 2.1, CTs must ensure that algorithms do not hide the true cost of bundled offers or favour suppliers through unclear sponsorship deals. Visual tools, like those recommended in consumer studies, can help illustrate the potential risks and opportunities.

By shedding light on these complex but increasingly common contract features, regulators can ensure that innovation in the energy market translates into genuine consumer benefit, not consumer confusion.

3.2 Comparison tools: Recommendations for improving existing comparison tools or developing new consumer-friendly models.

3.2.1 Strengthening the rationale for next generation comparison tools

As energy retail markets evolve, complexity is no longer an occasional feature but a defining characteristic. The proliferation of dynamic tariffs, bundled services, automation enabled flexibility, and sustainability-related attributes means that the traditional role of comparison tools has become insufficient.

As mentioned in earlier chapters, consumers' ability to engage meaningfully with markets is constrained simultaneously by contract heterogeneity and by increasingly diverse consumption footprints. In such a context, comparison tools must evolve from simple transactional interfaces into decision-support systems that help consumers navigate uncertainty, anticipate behavioural requirements and accurately assess the advantages and limitations of competing offers. Traditionally, these functions have been performed by energy consultants or other specialised energy services; however, to meet the demands of a future energy market, comparison tools may need to move beyond the boundaries of their original design and begin offering the level of tailored guidance that consumers increasingly require.

Existing guidance

In 2022, CEER updated its Guidelines of Good Practice (GGP) to reflect evolving market conditions, digitalisation and consumer needs⁵. This update puts forward a set of 20 recommendations on best market practices concerning energy comparison tools, grouped into key thematic areas:

1. Independence and Impartiality

- CTs should be independent from energy suppliers or commercial interests.
- Any conflicts of interest must be disclosed clearly.
- Ranking algorithms must not be influenced by commercial payments unless transparently stated.

2. Transparency

- CTs must clearly disclose their methodology, including how offers are ranked and filtered.
- Sponsorships or paid placements must be visibly marked.
- Data sources and update frequency should be made public.

3. Exhaustiveness and Accuracy

- CTs should cover all or most offers in the market, including those from smaller or newer suppliers.
- Information must be accurate, up-to-date, and verifiable.
- Error correction mechanisms should be in place.

4. Clarity and Comprehensibility

- Information should be presented in plain language, avoiding technical jargon.
- CTs should highlight key contract terms, such as duration, exit fees, and renewable content.

5. User-Friendliness and Accessibility

- CTs must be easy to navigate, with intuitive interfaces.
- They should be accessible to all consumers, including those with disabilities.
- Mobile compatibility and multilingual support are encouraged.

6. Consumer Empowerment

- CTs should educate users about their rights, switching processes, and energy efficiency.

⁵ [Guidelines of Good Practice on Future-proof Comparison Tools in the Energy Sector](#).

- They should offer personalised results based on user preferences and consumption patterns.
- Feedback mechanisms should be available for continuous improvement.

7. Security and Data Protection

- CTs must comply with GDPR and ensure secure handling of personal data.
- Users should be informed about how their data is used and stored.

8. Monitoring and Oversight

- NRAs or designated bodies should monitor CTs regularly to ensure compliance.
- A certification or labelling scheme could help identify trustworthy CTs.
- Complaint handling procedures should be established.

3.2.2 NRAs experiences with Comparison Tools

Building on these CEER recommendations, the next section examines European best practices in comparability. It highlights current experiences of NRA-led CTs across different EU countries, focusing on the approaches adopted in the Flemish region, Sweden, Portugal and Greece, recognising their strengths and highlighting their challenges.

NRAs across Europe have implemented CTs to foster transparency, consumer empowerment and competitive retail energy markets. These tools aim to provide accurate, comprehensive and user-friendly comparisons of contract offers, supporting informed decision-making and promoting competition. The examples illustrate diverse innovative approaches - ranging from advanced data integration and scenario simulation in Flanders (VNR), to promoting flexibility through contract design in Sweden, and implementing time-of-use tariffs in Portugal.

Flemish Experience - VNR's V-test®

Approach:

VNR's **V-test®** is a regulator-led CT that offers deep integration with the distribution system operator (DSO) database, **Mijn Fluvius**, via API. This link works for both digital and classic meters and for electricity and gas. Users create a profile in **Mijn V-test®**, approve a mandate for data access, and can then download consumption and injection data for personalised comparisons. The mandate is valid for three years and requires renewal thereafter.

Once connected, the tool calculates annual costs for all available contracts based on actual consumption data. For users without detailed data or with classic meters, comparisons rely on the Estimated Annual Volume (EAV) provided by the DSO. Advanced users can upload CSV files to simulate alternative scenarios, such as adding solar panels or electric vehicles, by adjusting their consumption patterns before uploading.

The V-test® supports fixed, indexed, time-of-use (ToU) and dynamic tariffs. If 15-minute electricity data or hourly gas data are available (and activated in Mijn Fluvius), the tool uses these granular profiles; otherwise, it applies standardised load profiles. These 15-minute electricity data is also used for estimating the yearly cost of dynamic tariffs. Users can also compare their current contract against all offers by entering supplier details and contract information.

The calculation methodology combines unit prices, price formulas, indexation parameters, futures price publications and historic data to estimate costs in a similar way for all contracts, weighted by load profiles or user-specific data.

Key Lessons:

- **Strengths:** High technical accuracy and personalization through DSO integration; strong independence as regulator-led; ability to handle granular data for dynamic pricing.
- **Challenges:** Managing creative pricing structures and bundled flexibility services; providing clear guidance for users without detailed data; balancing complexity for “invested” users with simplicity for “pragmatic” users; improving transparency on filtering logic and coverage.

Swedish Experience - Ei's Approach to Dynamic Contracts**Approach:**

The Swedish NRA, Ei, operates a comparison tool that emphasises transparency and consumer empowerment in the context of dynamic pricing. The tool compares contract types - fixed price, monthly average spot, and dynamic - while clearly explaining why comparisons should only occur within the same category. Dynamic contracts are presented as an opportunity for consumers to influence their energy costs through flexible consumption and during 2026, the NRA will develop a functionality to include automation services such as smart EV charging and heating. Initially, dynamic prices were displayed as a range (cheapest to most expensive hour) plus add-ons and taxes, signalling behavioural impact. However, increased market volatility led Ei to adopt a simpler method: showing the previous month's average spot price plus add-ons. Looking ahead, Ei plans to enhance personalization by asking users about assets like EVs, heat pumps, or PV panels and highlighting suppliers that offer automation services.

The tool also provides educational content on contract benefits and switching processes, aiming to promote demand response and flexibility in line with market objectives.

Key Lessons:

- **Strengths:** Strong focus on consumer education and flexibility; clear segmentation of contract types; proactive adaptation to market volatility.
- **Challenges:** Current price display does not fully reflect the benefits of dynamic contracts; and personalization features are still under development.

Portuguese Experience - ERSE's Time-of-Use Tariff Comparison**Approach:**

The Portuguese NRA, ERSE, operates a CT that focuses on **time-of-use (ToU) tariffs** for both regulated network charges and energy components. Consumers can compare offers with one, two, or three time periods (simple, bi-hourly, and tri-hourly), reflecting different pricing structures for peak, off-peak and intermediate hours. The tool provides annual cost estimates based on consumption distribution and supplier strategies, helping users understand how their usage patterns affect competitiveness.

ERSE complements the comparison tool with market monitoring, tracking the number of offers and contracts in each category and publishing insights on consumer choices. Despite the availability of multi-period offers, household consumers predominantly select simple tariffs, indicating a need for stronger consumer education on the benefits of ToU pricing.

Key Lessons:

- **Strengths:** Comprehensive coverage of ToU tariffs; integration with regulatory monitoring, ensures transparency and market oversight.
- **Challenges:** Low uptake of multi-period offers among households; complexity of ToU pricing requires clearer communication and educational efforts; personalization based on actual consumption patterns could be enhanced.

Greek experience - Energycost.gr Approach:**Approach:**

The Greek Regulatory Authority for Energy, Waste and Water (RAAEY) has developed and operates energycost.gr, a PCT launched in December 2020 and upgraded in April 2024. The platform serves household and commercial consumers, comparing all electricity and natural gas tariffs available in the Greek market.

A distinctive feature is its support for bundled products combining electricity and gas services, allowing users to evaluate integrated offers alongside single-service contracts. Users input monthly consumption in kWh and apply filters including supplier, tariff type (special, fixed, variable), and discount conditions.

The tool displays standing charges with conditional discounts, final supply prices, discount prerequisites (timely payment, direct debit, dual-service subscriptions), contract duration and total monthly charges. All charges are reduced to a single final price in €/kWh for simplified comparison. All published prices are verified by RAAEY to ensure accuracy.

Key Lessons

- **Strengths:** Strong regulatory oversight with mandatory price verification; comprehensive bundled product comparisons; transparent presentation of conditional discounts with clear qualification requirements; comparison using historical data; coverage of both residential and commercial segments.
- **Challenges:** Excludes non-price benefits such as promotional offers and insurance programmes; complexity in discount structures may confuse users, no DSO database integration for automatic consumption data, tool architecture will need enhancement to support future dynamic pricing products.

3.2.3 Next-generation comparison tools and role of NRAs

Bringing together the above insights, the development of next generation comparison tools must acknowledge three essential realities:

- The market is becoming more complex, not less.
- Consumers' ability to engage varies widely and is increasingly shaped by behavioural factors.
- Transparency and comparability must be re-engineered, not merely updated.

Embedding transparency as a structural principle

Transparency must remain the defining pillar of any future-oriented comparison environment. Yet transparency cannot be understood narrowly as “more information”, as this risks overwhelming consumers and eroding trust. Instead, transparency should be seen as the structured distillation of contract characteristics, where essential information is clearly signposted and supplementary detail is available on demand, all of it presented in ways that spotlight trade-offs rather than obscuring them.

Building on the reasoning of chapter 2, a next generation tool should enable consumers to grasp not only what an offer includes, but why and how its particular price formation mechanism might matter to them. This implies:

- Clear articulation of the elements that drive cost variability such as update frequency, pricing windows, time differentiated rates or flexibility incentives.
- Consistent explanations of which data is required for a meaningful comparison and why estimates may carry different levels of confidence.
- Mechanisms that prevent misleading comparisons when the underlying pricing principles differ too substantially

The tool should present layered transparency, i.e., a core set of essential information for all consumers, and additional layers that become visible only when relevant to the user's context or preferences.

Additionally, the tool should provide transparency about uncertainty. Where forecast error is unavoidable, as in dynamic pricing contracts, the tool must communicate why estimates carry uncertainty and how consumer behaviour may influence outcomes. This shift is essential to maintaining trust, particularly as contract types increasingly involve elements outside the tool's control.

Personalization as a tool for comparability

The previous chapter highlights a key challenge: the growing gap between consumers' real consumption patterns and the assumptions embedded in standardised profiles.

Promoting CTs that enable paths and filters that actively guide consumers towards appropriate comparisons could help alleviate this challenge. In particular, tools should ensure that consumers:

1. do not compare offers that are too different from each other (a feature that already appears to be implemented across several countries); and
2. land on comparisons that are meaningful for them (for example, consumers not interested in flexible consumption should not be shown dynamic pricing offers).

Estimated annual spending (long the backbone of comparison tools) remains useful, but as seen in chapter 2, caution is needed to avoid over-reliance. For users with dynamic or ToU responsive appliances, personalised comparisons must reflect temporal patterns and tools should rely on well-designed proxy profiles that reflect the expected consumption associated with specific assets or lifestyles rather than relying exclusively on historical behaviour. For these dynamic or hybrid contracts, where uncertainty is intrinsic, a single spending estimate risks creating a false sense of precision.

To improve reliability, future tools should provide ranges rather than single point estimates where appropriate; attach clear confidence indicators to forecasts (see above for transparency in uncertainty); allow users to test multiple behavioural scenarios; and distinguish between predictable components (e.g., fixed charges) and uncertain components (e.g., wholesale linked variables).

This helps align consumer expectations with the inherent reality of the contract, reducing the risk of disillusionment or perceived tool failure. Further developments in intelligent profiling should also be considered. Through a small set of strategically chosen questions, targeted at assets, flexibility potential, and risk appetite, the tool could infer the appropriate comparison framework.

Supporting diverse consumer segments without compromise

One of the central themes emerging from previous chapters is the widening diversity of consumer expectations. A modern tool must provide simplicity for some users without sacrificing meaningful detail for others. The challenge is not to blend these audiences into one, but to design pathways that allow each to receive the degree of complexity they actually value.

Tools should empower all types of consumers to understand how their behaviour interacts with market conditions, without assuming they possess technical knowledge of wholesale markets.

Integrating behavioural insight into comparison architecture

Consumption behaviour is increasingly shaped by external factors such as weather conditions, spot prices, grid constraints as well as automation tools that optimise usage within consumer-defined parameters.

This requires a reconceptualization of what it means to “compare offers”.

A forward-looking tool should incorporate behavioural prompts that help users understand the actions required to benefit from specific contracts:

- Flags indicating where a contract’s value depends on automation or active engagement.
- Warnings where a user’s profile suggests that a contract type may be unsuitable or may carry significant exposure.

3.2.4 Reframing the role of NRAs in a complex market

Previous chapters have emphasised the increasing regulatory responsibility in safeguarding consumer outcomes amid complexity. Future comparison tools should therefore support, and be supported by, strong NRAs oversight.

Accountability frameworks: NRAs should pursue more systematic monitoring, including audits, mystery shopping checks, and publication of compliance reports that highlight market behaviour affecting consumer comparability.

Enhanced Consumer Education: Regulators must not only certify tools but also help consumers understand how to interpret their outputs. This includes campaigns to explain price volatility, risk exposure and behavioural requirements.

Cross border learning: Given that innovations often arise in one Member State before spreading to others, NRAs should continue to engage in structured knowledge exchange, leveraging diverse national experiences to refine common principles.

4 Conclusions and next steps

The increasing complexity of the markets is a fact. While it provides consumers with more options and a greater diversity of services and offers, it can also be overwhelming to compare different offers and service options and make a choice.

Therefore, it is essential to provide consumers with reliable and comparable information and tools on energy offers so that they are aware of their options and feel prepared to make choices that suit their needs.

To begin with, it is important to clarify that there are different types of offers. Suppliers mainly offer fixed-price, indexed-price and dynamic-price contracts nowadays, but some (hybrid) offers may include combinations of different price types regarding the consumption component and/or time-of-use pricing.

There are several factors that increase the complexity of using a comparison tool effectively. In fact, considering all the issues above, it might be challenging to use a CT. This report identifies two main challenges when using a CT. The first is related to the nature of price structure: it is relatively easy to compare offers of the same type (e.g., fixed-price vs. fixed-price), but comparing different types (e.g., fixed-price vs. time-of-use) is difficult. To achieve reliable results, it can be useful to make a forecast of monthly or annual expenditure, but it is essential to consider that historical consumption data might not be sufficiently detailed across time periods to obtain precise results. In any case, there are key dimensions that facilitate the comparison of different price types and can guide the process. Providing some guidance on how to use a comparison tool is also very important, considering that this may help to reach the optimal tariff when using a CT.

The nature of the price structure, as well as consumption habits, present challenges when consumer profiles become more diverse. The introduction of new models, such as electric vehicles, PV installations and home batteries, drives changes in consumption habits. When comparing energy offers, it becomes essential to forecast consumption data, which is complex as it depends on each consumer's specific situation (e.g., electric vehicles, PV installations, smart meter availability).

Furthermore, some consumption profiles do not allow for predictable consumption (it is not possible to predict the monthly or yearly production of a PV system, for example), and consumers' habits will depend on this factor.

Taking all this into account, the CT should be improved to identify specific consumer-related issues, such as risk profiles and the flexibility to change consumption behaviour.

In addition to complexity, there are some factors that contribute to a lack of confidence when comparing and choosing an energy offer. Market uncertainty caused by international conflicts and the pandemic do not create an environment in which consumers feel confident about taking risks or participating in volatile markets.

The duration of the contracts is also a key factor to consider when comparing offers, since early termination fees can prevent consumers from switching to a more suitable offer. Furthermore, the fact that some contracts allow the supplier to unilaterally change the contractual conditions introduces an element of uncertainty.

The option to subscribe to bundled products and energy services increases complexity, although it enables suppliers to differentiate and enhance their offerings and provides consumers with more and varied services at better prices.

Another reason for the increasing complexity is the introduction of new intermediary platforms that can act as representatives of consumers and take over the management of their energy contracts, relieving them of the complexity of comparing and choosing an offer. However, the lack of regulation of these intermediary platforms by the NRAs may contribute to a lack of transparency regarding the role of these new energy actors.

Considering all the challenges, several actions can be taken to address them and foster a more transparent retail market, while promoting reliable comparisons of offers in the energy sector.

- Uniform presentation of offers is key to providing transparent and reliable information. However, achieving full harmonisation can be complex due to differences in national market structures and regulatory frameworks. Therefore, while common principles should be encouraged, the specific implementation of harmonised formats should be left to the discretion of each Member State.
- Regarding intermediary platforms, most NRAs lack the competence to regulate their activity. Therefore, it is important to guarantee transparency in the platforms' funding models and, at the very least, to monitor their activity.
- Regarding the various marketing communication channels, it is also crucial to ensure that information is clear and to oversee market functioning.
- Termination fees and dynamic pricing should also be guided by transparent principles, such as a clear calculation methodology and on-demand access to information.
- To empower flexible consumers, it is essential to provide them with regular information on their consumption data and improve forecast consumption calculation through simple, transparent methodologies.

This highlights the need to improve comparison tools so that they can accommodate new price types and consumer flexibility and behaviour options. This would promote personalisation of the experience and ensure information is accurate for specific consumer profiles. In today's and future retail markets, pre-defined profiles no longer seem to serve the needs of all consumers. Comparison tools must adapt to changes in the market and consumer behaviour to provide reliable and realistic results that best suit the consumer. Otherwise, comparison tools will become obsolete.

NRAs have a fundamental role in promoting effective transparency in retail markets, and improving the comparability of offers is crucial to achieving this. They are in a privileged position to provide consumers with reliable information on different price types and offers. They can also demand that suppliers provide information in a transparent and comparable way, and they have the competence to oversee how the market functions. Experience shows that NRA interventions and initiatives have contributed to improving transparency and comparability in the retail market. This is an ongoing task, but much work has already been done to improve consumer protection and empowerment in the future.

Annex 1 – List of abbreviations

Term	Definition
CEER	Council of European Energy Regulators
GGP	Guidelines of Good Practice
MS	Member States
NRA	National Regulatory Authorities
CT	Comparison Tool
PV	Photo voltaic

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 38 national energy regulatory authorities (NRAs) from across Europe.

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

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

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

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

CEER wishes to thank in particular the following regulatory experts for their work in preparing this report: Helena Almeida, Jan Willem Tempelaar, Linda Shaba, Malte Luks, Marco Magnani, Mieke Langie, Tiarnán Brennan, Yuriy Bilen.

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