



ASSOCIATION
négaWatt

Revision of the European electricity market design

Contribution of the négaWatt Association

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Summary

As announced last September by the European Commission, the **revision of the electricity market design** was presented on Tuesday **14 March 2023**, after a **public consultation** phase to which the **négaWatt Association** contributed and is outlined here.

While this revision especially aims to **stabilise power prices** and ensure **security of supply** in the Union at a time of major **crisis**, the **overall objectives** of energy policies must not be put aside and in particular **carbon neutrality, peace/security issues and social justice**.

Since 2018, the **négaWatt Association** has been working, with a network of some twenty European partners, on a **fair and ambitious energy transition scenario for Europe: CLEVER (a Collaborative Low Energy Vision for the European Region)**. In this model, an **integrated and balanced electricity market is made** necessary by a strong development of **renewable capacities** combined with increased needs for **interdependence**, despite lower increases in electricity production and consumption levels than in most scenarios.

From this perspective, stimulating **long-term contracts** can help **stabilise prices for consumers while ensuring investments**. However, in order to achieve these objectives, their implementation must respect certain conditions, limit the **risks of default** by the various players and clarify who is responsible for them. Two contract systems are being discussed, and their compatibility must be ensured:

- **PPAs** (Power Purchase Agreements) are mainly intended for large consumers but could be developed for **intermediate consumers or even small consumers** via their suppliers or energy communities. For this to happen, clear rules are needed to mitigate and **spread the risks between** the buyer and the producer. In addition, changes in public procurement rules should enable local authorities to access these contracts with local producers.
- **CfDs** (Contracts for Difference) put the risk on the public authorities; this kind of contract for capacity deployment should only benefit **renewable energies sources** (RES). To protect against the volatility of short-term markets, the compensation mechanism should not be indexed to the spot price but to actual sales, nor should it be financed directly by consumers' electricity bills.

Finally, other mechanisms must accompany long-term contracts to ensure **consumer protection**, such as **local energy sharing** schemes or **appropriate supplier rules**. Targeted schemes for **vulnerable consumers** are also essential to achieve the objectives of the reform.

Introduction

The **energy supply and price crises** that the European Union has been experiencing since the autumn of 2021 and their **economic and social consequences** have led to multiple **emergency interventions**, both at Member State and Community level.

Now, a **revision of the texts governing the internal electricity market is being considered**. It was the subject of a **public consultation** which ended on 13 February 2023 and to which the négaWatt Association contributed. The revision proposal was then officially published on **14 March 2023** by the European Commission.

In this context, the négaWatt Association wishes to recall that the European electricity market is part of a **wider policy**, with objectives inspired by the **Sustainable Development Goals** as defined by the UN, in particular:

- **Carbon neutrality**
- **Peace and security**
- **Social justice**

The **organisation of the electricity market** must therefore contribute to the achievement of the **overall objectives** but cannot be sufficient. It must not hinder the transition or **reinforce inequalities between consumers**.

In its contribution to the debate on the revision of the European electricity market, the main lines of which are summarised in this document, the négaWatt Association proposes to **clarify the issues and needs of the various players**, before returning to the **main provisions envisaged** by the European Commission.

It is indeed regrettable that the debate that is opening focuses on **tools**, without addressing the fundamental question of the **objectives** pursued. Any structural revision should be subject to an in-depth analysis: **objectives, means and impact study**.

Context

The current debate on the revision of the electricity market is part of a perspective of **massive electrification of uses**, currently based on **fossil fuels**: mobility, heating, industrial production. However, it is important to remember that the **level of electricity consumption** is the first parameter determining both the capacity to achieve **carbon neutrality** and **100% renewable energy sources**, and the level of **consumer bills**.

The négaWatt Association has been involved for several years in various European projects and networks. In particular, a **European energy transition scenario (CLEVER¹)**, developed with 24 partners from 20 European countries (18 EU members, the United Kingdom and Switzerland), has been published on June 2023. Developed through a bottom-up and co-constructed approach, starting from **national scenarios** then aggregated into a **European vision**, the trajectory described contains at its heart assumptions of **demand reduction**.

First CLEVER results:

- Greenhouse gases (GHG): net **carbon neutrality in 2045**, -92% net emissions in 2040², -65% min in 2030 /1990.
- Renewable energy sources (RES): **100% of the electricity mix in 2050**, 80% in 2040, 42% in 2030.
- Energy Sovereignty: reduction of **imports** from 9,000 TWh in 2015 (11,000 TWh with uranium) to **120 TWh in 2050**.

In the CLEVER scenario, **carbon neutrality** is therefore **achieved before the middle of the century**, with a **European convergence of per capita emission levels** (equity principle).

The overall **energy consumption** level is reduced by **55%** in 2050 compared to 2020 (56% in buildings, 71% in transport, 37% in industry).

The **final consumption of electricity** increases on average by only **22%** in 2050 compared to 2015 with the electrification of uses and large differences according to the countries and their initial level of consumption, thanks to the mobilisation of the potential of **sufficiency**.

As for **total electricity production**, it increases by **79%** in 2050 compared to 2015, which is a much lower growth rate than in many scenarios (from 100 to 150% for 1.5LIFE and 1.5TECH).³

In this contribution, the négaWatt Association proposes to apply its usual approach: starting from the needs of the various stakeholders to reconcile sometimes contradictory objectives.

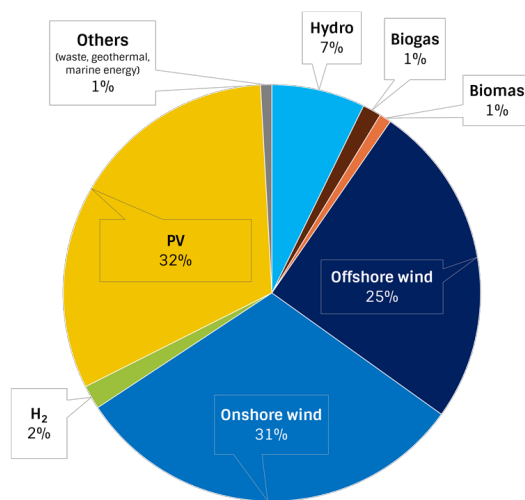
¹ www.clever-energy-scenario.eu

² 92% does not include emissions from international maritime transport ("bunkers"). The net emission reduction in 2040 modelled in CLEVER when international maritime transport is included is 89%.

³ 1.5TECH and 1.5LIFE are the two scenarios from the European Commission's long-term strategy "[A clean planet for all](#)" that achieve the goal of net zero emissions. The former is based mainly on technological solutions, the latter on a change in consumer choices and a circular economy.

CLEVER: challenges for the electricity sector in a 100% renewable Europe

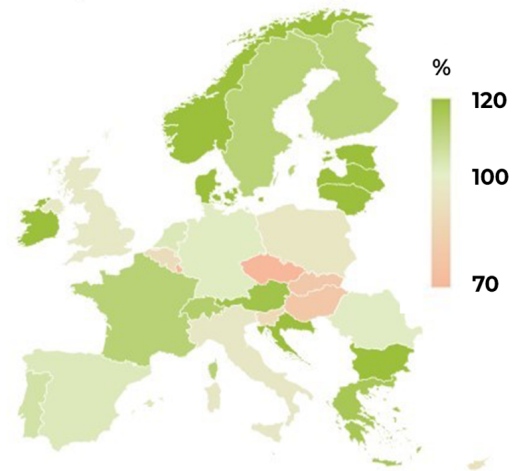
The **electricity mix** in 2050 in the CLEVER scenario is based on three main sources (**wind, solar, hydro**), supplemented by sources that are not used very much in terms of volume but are essential for the **balance of the system (H₂, biogas)**.



Electricity mix in 2050
Source: CLEVER

Solidarity and interconnections are essential to pool resources.

For example, France will be able to export about 50 TWh of electricity to its neighbours in 2050.



Coverage rate of national electricity production in 2050 (%).
Source: CLEVER

Issues to be addressed by the revision:

From the consumer's point of view

- **Needs:** To meet their electricity needs at the fairest and most affordable price. For most of them, the simplicity of the approach, the transparency of the offers and the stability of the prices are essential. The bill is the result of both the volume consumed and the price.
- **Constraints:** Variable, according to consumer categories. Consumption is more or less flexible: an industry has different capacities than a household. Public purchasers cannot sign supply contracts longer than 3 years, nor PPAs.
- **Expected role:** To reduce consumption through sufficiency and efficiency, to participate in the supply of renewable energy and in the flexibility of consumption, according to its capacities.

From the producer's POV

- **Needs:** To sell its supply with the best possible return on investment.
- **Constraints:** The financing of investments depends on the level of risk considered by the financing body (technological, commercial, etc.).
- **Expected role:** To invest in capacity that is compatible with climate objectives. Produce competitive and reliable electricity.

From the supplier's POV

- **Needs:** To develop sales, cover risks and generate profitability.
- **Constraints:** Balance purchases and sales as closely as possible. Suppliers to domestic consumers have no guarantee of contract duration.
- **Expected role:** To satisfy the needs of its customers at the right price and to develop offers that facilitate the achievement of objectives (green offers, flexibility). Absorb all or part of the volatility of the wholesale markets by securing its portfolio.

From the grids operator's POV

- **Needs:** To make investments profitable and cover costs. Mobilise capacities (generation, shaving) to ensure real-time balancing.

- **Constraints:** Separation of business/work areas. High expectations from public authorities and market players.
- **Expected role:** To ensure the balance of the grid, and therefore the short-term security of supply. Establish a forward-looking vision of the needs of the electricity system. Develop the infrastructures and tools necessary for the proper functioning of the system and the market.

From the public authorities' POV

- **Needs:** To implement energy and climate policies, security of supply, economic competitiveness, and protection of vulnerable consumers (households and businesses).
- **Constraints:** Responsiveness, balance of public finances, consumer pressure.
- **Expected role:** To set targets and regulate the operation of wholesale and retail markets. Protect economic actors and households.

Summary of issues :

- Achieving the **climate objectives** for electricity is not a matter of the market alone.
- Its organisation must both offer **predictable** and **sustainable economic conditions** and not discourage **consumption control** and **flexibility**. These two objectives can be contradictory.
- The smooth functioning of markets requires reconciling **divergent interests** and considering the **constraints of the different actors**.
- **Government** interventions should build **confidence** and **stability**, not the opposite.

Opinion on the main provisions envisaged

The aim of the revision is to make electricity bills independent of the short-term markets and to secure investments.

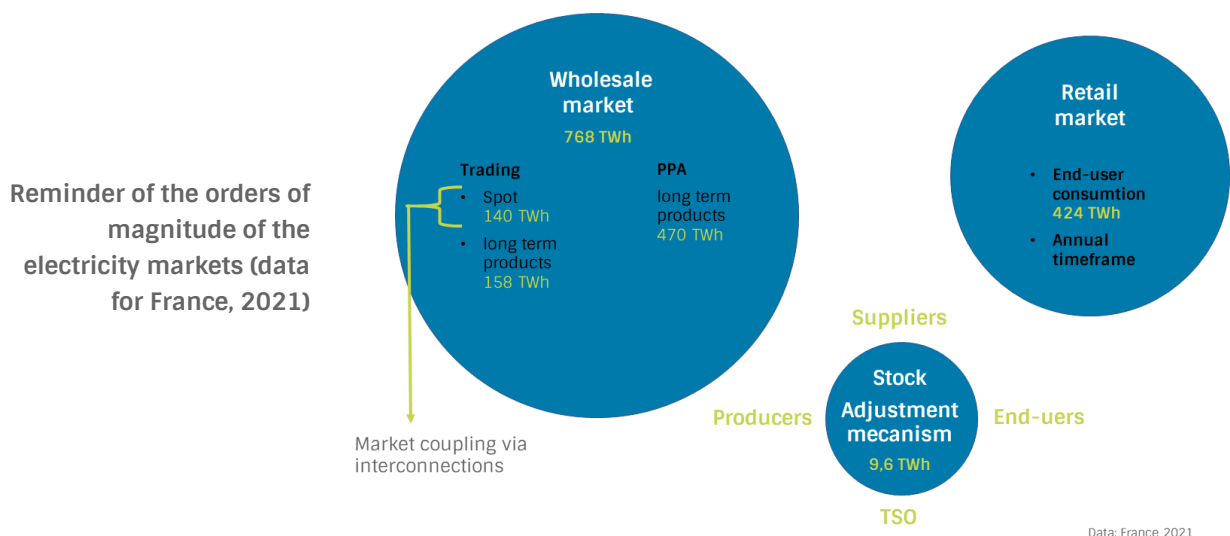
To reduce consumers' exposure to **price volatility on the wholesale market**, the European Commission is looking into various tools and provisions to steer players towards long-term **contracts**. As a preliminary point, it should be recalled that for **the structure of production costs to be reflected in consumer prices**, it is not enough for contracts to be long term but also **for them not to be indexed to short term prices**. On the other hand, market participants will naturally turn to **long-term contracts** if these **reduce their risks** and if the **regulatory framework** in which they operate is **stable**. The mitigation of volatility must be reciprocal. If a supplier signs long-term contracts now, it cannot be expected to pass on future price reductions to consumers.

Marginal price and role of the spot market

Much has been written about the **role of the marginal price in European pricing** ("merit order"). The main problem, however, is the current **structure of European electricity production**, which the short-term markets only reflect. The **spot price** is a combination of factors. The **marginal price** is a key parameter, but the **level of matching supply and demand** is also central.

While the **spot market** is essential for the **optimisation of balancing exchanges** in the physical system, it represents only a **small part of the exchanges**. Its impact on future prices is therefore a separate issue.

In a **100% RES** system, with a higher volume of **long-term contracts**, market players would adapt by developing the tools they need. **Marginal prices for the capacity useful for balancing the system** (generation, storage or shaving) could play the role that gas plays today.



Two complementary types of long-term contracts

Power purchase agreements or PPAs

The Directive 2018/2001 defines a "**renewable electricity purchase agreement**" (PPA) as "a contract by which a natural or legal person agrees to purchase renewable electricity **directly from an electricity producer**". They belong to the category of so-called **over-the-counter** contracts.

However, stakeholders generally refer to **direct long-term contracts between a producer and a consumer**. In this acceptance, PPAs may be adequate for large consumers able to cope with their inherent complexity and negotiate with the producer and balancer involved.

They seem **less attractive for small consumers** for whom **suppliers** are expected to manage the **complexity of securing a supply portfolio** and **balancing** responsibility. A supplier can play - and for some already plays - de facto the role of **aggregator of long-term supply contracts** to cover the needs of its customers.

Risk mitigation is currently the **main obstacle to the conclusion of PPAs for new capacity**: covering the buyer's default to the supplier and vice versa to secure project financing.

Without proposals on this essential aspect, the will to develop PPAs will not be enough. For example, the issue of **compatibility between PPAs and national support schemes** must be addressed: consumers must be able to benefit from **guarantees of origin**, and contracts for difference must take account of the existence of a PPA.

On the other hand, a **legal requirement** for suppliers assumes that the **conditions for feasibility** are met. If only the major players have access to it (especially as they are the only ones able to cover the risks involved), this could be detrimental.

Furthermore, **local authorities**, and more generally **public purchasers**, cannot sign contracts longer than 4 years due to **public procurement rules**⁴, nor can they choose a **local producer** (e.g. a solar or wind farm in their area). This is a **major obstacle to PPAs** but also to building strong **energy communities**.

Contracts for Difference or CfDs

The main objective is to **ensure the financing of producer investments** in capacity necessary for **climate and energy policies** by sharing (or even transferring for some mechanisms) the price **risk** to **public authorities** (usually Member States) or **consumers** through a **tax** or **contribution** on their bill. **Two-way CfDs are not enough to mitigate the impact of short-term markets on the price of electricity for final consumers.**

To have a real impact on retail tariffs, certain conditions must be met:

- **The mechanism should not be based on spot prices but on actual sales** (with an incentive to maximise them): if the compensation is calculated as the difference between the spot price and a reference income, the producer has no choice but to reproduce these conditions in the contract with the consumer/supplier to avoid bankruptcy when prices are significantly higher than the reference price

⁴ The law n° 2023-175 of 10 March 2023 on the acceleration of renewable energy production proposes an improvement on this point for France in its article 86.

- **CfDs should not prevent the producer from signing a long-term contract with a consumer or supplier:** the fixed price and the guarantee of origin are essential assets in this perspective.
- The CfD system should not be financed directly from consumers' electricity bills.

Another point is of crucial importance: **who bears the risk?**

Support schemes have so far been dedicated to the development of **new capacities** in **emerging technologies** or those considered **uncompetitive**, with a rather limited volume. They have historically been criticised as a **risk to public finances**.

The recent price crisis has seen a complete reversal of the situation, with producers contributing to the public budget (through CfDs or the contribution on infra-marginal rent). It would be problematic to look at this situation and bet on a high average market price for the next decades or limited volatility. In case of **low prices** - as in recent years around 40 €/MWh - or **high volatility** from one year to the next, the **public counterpart** (be it a MS, a dedicated fund...) would bear a **high risk**. The risk is of course proportional to the volume of production covered and the reference prices.

It should be remembered that 5 years ago, the key issues were **negative prices** and missing money, and that in a system with a high share of low marginal price production, **prices** would probably be quite **low** with **short-term volatility**.

Only technologies needed in a 100% RES scenario, such as CLEVER, should receive some form of public support. Other technologies should be excluded:

- **Fossil fuels** for obvious **climate** reasons.
- **Nuclear power**, because it would be very damaging to jeopardise public funding for a **non-emerging**, historically **highly subsidised**, and **uncompetitive technology**, which is very expensive and is in any case **supported by the state**.

The main **risk** of applying CfDs on a large scale is to put **public finances at risk** while **discouraging direct long-term contracts**: if the risk is mainly borne by public authorities, hedging strategies will inherently lose their appeal.

Finally, the idea of imposing CfDs would be surprising: either the producer needs them and asks for them, or it does not. If not, this is clearly an **attempt to infringe his rights**. If a public authority considers that some actors are enjoying **excessive windfall profits**, the problem should be addressed through **taxation**.

Role and protection of consumers

Energy sharing

Energy sharing schemes (**collective self-consumption** in France) could usefully be defined at **European level** to facilitate the development of new production facilities under **less competitive conditions at local level**.

However, the **use of grids** should be taken into account in an appropriate and proportionate way. This is a question of **solidarity** and **fairness**: people or companies who cannot afford to invest in production capacity should not pay for the grid for others.

Offers and contracts

Suppliers tend to offer products that they consider **attractive to consumers** and **affordable** for them. **Fixed price contracts** exist (or were offered before the crisis). To have longer-term fixed price contracts, consumers will have to **share some of the risk with the supplier** through a potentially higher tariff when the market is low and a restriction on their freedom to change.

Very often, **consumer rights** are **not fully enforced due to** a lack of information and enforcement capacity rather than legal loopholes.

Prudential obligations of suppliers

The prudential obligations of suppliers are currently partially covered by the **financial provisions** necessary to enter the market, notably **balancing**. The **licensing of suppliers** could be strengthened but should not become a **barrier to entry** for cooperatives, communities or innovative projects. Here again, strengthening regulatory obligations is not useful if no one can control.

Regulation of retail prices and support for vulnerable consumers

It is very difficult to define what a **basic energy need is**, as it does not depend solely on the consumer in many cases (e.g. electric heating for tenants). **Price regulation** or any kind of intervention should be **fair** and therefore based on the **level of vulnerability** and not only on consumption. **Furthermore, the only really effective tools in the long term are policies to reduce consumption.**

To avoid consumers being left without a supplier and thus without access to electricity, **common rules** are absolutely necessary and should cover the **way in which suppliers of last resort are selected** as well as the **supervision of** these offers to avoid abuse.