

# **Europe's Electricity Problem is a Gas Problem, Not a Green One**

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Renewable energy has fundamentally reshaped electricity economics. Wind and solar costs have fallen by more than two-thirds over the past 15 years, making renewables the cheapest option for new electricity generation globally. As a result, renewable technologies reduce overall system costs—renewables avoided USD 467 billion in fossil fuel costs across all operations globally in 2024—and improve price stability by displacing expensive fossil fuel generation<sup>1</sup>

Yet we still too often hear the **misleading narrative that green policies are responsible for high electricity bills**<sup>2</sup>. The evidence points elsewhere: the challenge is that we are still dependent on fossil fuels and that gas still has a big impact on prices in many markets. **Gas dependency, and not green policies, is what drives electricity bills up.**

Electricity has an advantage over gas: it can be generated from domestic sources and does not have to rely on fuels. It can also be deployed fast. In 2004, renewables produced 15.9% of the electricity in the EU. In 2025, this share had already reached 47.3%<sup>3</sup>.

### **Why our electricity bill is influenced by gas prices**

A part of our electricity bill corresponds to electricity prices, set by electricity markets, which are structurally exposed to fuel price shocks. Electricity must be produced and consumed simultaneously and its price is reset every single hour. This means that when the cost of producing electricity suddenly rises (for example due to gas becoming scarce or expensive) this may have a fast impact on electricity bills, as seen in box 1.

The reason each gas crisis is translated into household electricity bills comes down to how electricity prices are set. Electricity is produced by many different types of power stations. They enter the market in order of cost, cheapest first. Renewables (such as wind and solar) have near-zero running costs because the fuel is free, so they go to the front of the queue. Gas plants burn fuel they have to buy, so they cost more and sit further back.

In the electricity wholesale market, the most expensive plant still running in any given hour sets the price paid to everyone. So if a gas plant is the last one needed to meet demand that hour, the price it requires to cover its costs becomes the market price — including for the wind farm that cost nothing to run. **This is known as the merit order**<sup>4</sup>.

As renewables grow, they push gas further back and reduce the hours it sets the price. However, in countries where gas still covers a significant share of demand the electricity price remains tightly linked to the gas price. **Gas is not the whole bill, but the part that drives it up**, this is further explained in box 2.

<sup>1</sup> IRENA, Renewable Power Generation Costs in 2024 (June 2025). [Global renewable capacity avoided USD 467 billion in fossil fuel costs in 2024; onshore wind and solar PV costs fell 67% and 56% respectively since 2010](#)

<sup>2</sup> Europe uses energy in several different ways — oil for transport, gas for heating, electricity for homes, industry and increasingly transport too. Each has its own price drivers and its own solutions. This note is specifically about electricity.

<sup>3</sup> Eurostat (2026) "2024: [Nearly 50% of EU electricity came from renewables](#)", News articles.

<sup>4</sup> Gasparella, Koolen and Zucker, "[The Merit Order and Price-Setting Dynamics in European Electricity Markets](#)," JRC (2023)

## The 2022 and 2026 Energy Crises

Fossil fuel price crisis are recurrent. Europe has experienced two major electricity price shocks in recent years. **Both were driven by gas.**

- 2022: After Russia's illegal invasion of Ukraine, Russia cut off most of its pipeline gas to Europe. Gas prices surged. Because gas plants were setting the marginal electricity price across much of the continent, electricity bills rose sharply with an annual average rising from €68/MWh in 2020 to €295/MWh in 2022 <sup>5</sup>
- 2026: The conflict in the Middle East has disrupted shipping through the Strait of Hormuz, a critical route for gas tankers. In 44 days, Europe's additional bill for fossil fuel imports rose by over €22 billion, without receiving any extra energy in return <sup>6</sup>.

**In both crises it was gas that moved, and electricity prices followed.** The EU imports around 86% of the gas it uses <sup>7</sup>, any geopolitical shock to global gas supply transmits into European electricity prices.

These crises did not create the vulnerability, they exposed it. European electricity prices were already structurally higher than in the US before 2022, largely because European gas is more expensive. The crises shone a light on a problem that had been building for years.

## Breakdown of the Electricity Bill

The price of the electricity is not the only thing we pay for in our bills. Grid costs, taxes and other costs are also included and their weight varies between Member States and type of consumers (households or industry). The average EU electricity bill breaks down as follows <sup>8</sup>:

- **The cost of generating the electricity – more than 56%: the dominant item**, driven by gas-linked wholesale prices.
- Grid charges – 18%: the cost of the infrastructure that delivers electricity to homes and businesses. This is a component governments can act on directly.
- Taxes and levies – 15%: government charges on electricity consumption. Like grid charges, this is also within government control.
- Carbon costs – around 11% on average: the smallest component, and lower in countries where

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<sup>5</sup> Agency for the Cooperation of Energy Regulators (ACER), [Key developments in EU electricity and gas markets: 2026 Monitoring Report](#), 2026

<sup>6</sup> VDL Statement – €22 billion / 44 days European Commission, ['Statement by President von der Leyen on the impact of the situation in the Middle East on the Euro...](#), 13 April 2026.

<sup>7</sup> European Commission (Eurostat), [Natural gas supply statistics, Statistics Explained](#), updated August 2025

## Renewable energy reduces exposure to gas price shocks

Comparing countries with different electricity mixes shows how renewables help soften the impact of gas price volatility. In Spain, which has invested heavily in wind and solar, gas set the electricity price in only 15% of hours at the beginning of 2026. In countries still heavily reliant on gas generation, such as Italy, that figure reached 89%<sup>9</sup>. Both pay exactly the same carbon price.

**The difference in bills is explained mainly by how much gas remains in the generation mix and how often it can set the price of electricity.**

Renewables vary with the weather, but that variability is forecastable and can be managed through storage, grid interconnections, and flexible demand. Gas price volatility is a different kind of problem: a conflict thousands of kilometres away can double the price overnight. The choice is between forecastable variability and uncontrollable geopolitical price shocks.

## Fixing the problem, not just managing the crisis

There are different measures that can be implemented. Below are some examples:

- **Short term** — reduce electricity taxes and levies. At 15% of the average bill, taxes on electricity are directly within governments' control. In many Member States, electricity is taxed far more heavily than gas.
- **Medium term** — more renewables, better grids, long-term contracts. More renewables directly reduce the hours gas sets the wholesale price. In 2024 - 2025, 1,700 GW of renewable energy and hybrid projects were waiting for grid connections: fixing this is essential<sup>10</sup>. Long-term contracts for clean electricity protect consumers from gas market swings and provide stable prices.
- **Structural** — end the gas dependency, and plan for it properly. The EU's import dependency of 85.6% reflects a major shift since 2022, with Norway replacing 30% of lost Russian gas. Yet even without Norwegian supplies, dependency would remain near 47%<sup>11</sup> meaning electricity prices will always be one geopolitical shock away from spiking. Reducing that dependency through electrification, energy efficiency, and homegrown clean energy is the only lasting solution, but it requires planning the whole system, not just responding to the last crisis. Storage, grid expansion, interconnection, and demand flexibility must be planned and built together, at scale, with decisions taken now for the system Europe needs in the future. Every year of delayed investment means higher exposure to the next shock. Two crises in four years have shown the cost of that delay.

<sup>8</sup> VDL Parliament speech — bill breakdown European Commission, ['Speech by President von der Leyen at the European Parliament plenary debate in preparation of the ...'](#), 11 March 2026.

<sup>9</sup> Ember — Spain/Italy gas hours Ember, ['Latest energy shock reminds Europe of its risky gas reliance'](#), 17 March 2026.

<sup>10</sup> European Commission, Impact Assessment Report: European Grids Package, SWD(2025) 2000 final (2025).

<sup>11</sup> European Commission (Eurostat), [Natural gas supply statistics, Statistics Explained](#), updated August 2025