

Weekly Summary

Economics of Climate Change

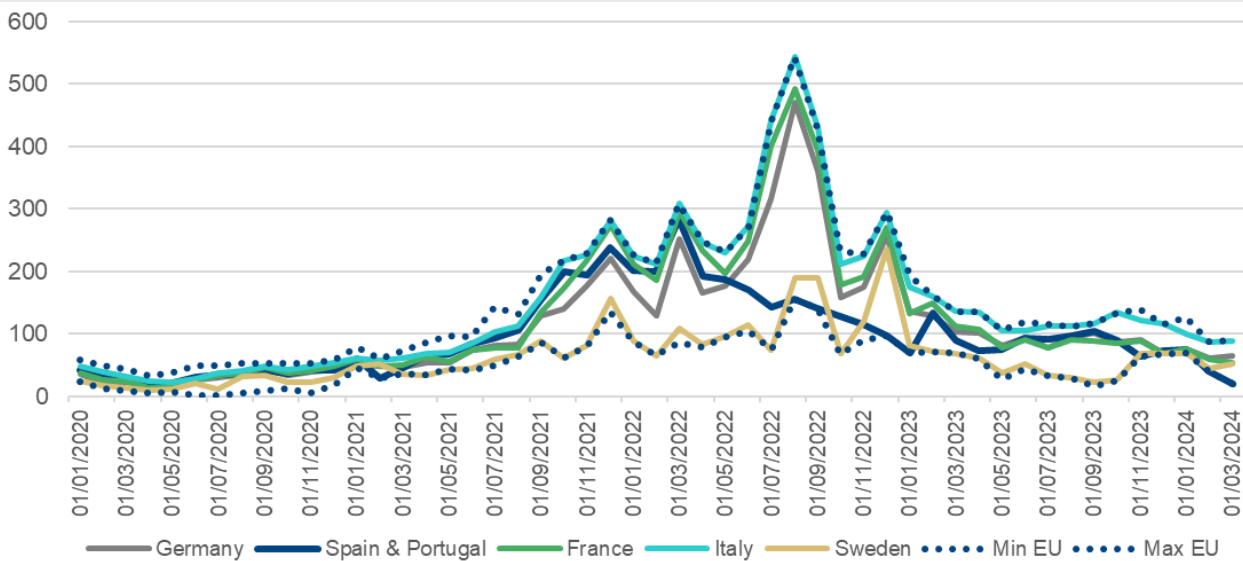
April 19, 2024

Electricity bills fall, but less than wholesale prices

European retail electricity prices are decreasing, albeit less dramatically than wholesale prices. In Spain, wholesale prices dropped by 46% in February compared to the previous month, and 49% in March, while retail prices fell only 5% in February and rose 7% in March. These fluctuations were influenced by tax changes, adjustments in regulated electricity tariff, and fixed prices, which experience a pass-through effect with some lags.

In Europe, average wholesale electricity prices continue at low levels, with Spain recording the lowest prices, which have been on a downward trend since February: 6 EUR/MWh in the first half of April, 20 EUR/MWh in March and 40 EUR/MWh in February. This decline in electricity prices is underpinned by market fundamentals, such as reduced gas prices, tempered demand, and increased production from renewable and hydroelectric sources (see Figure 1).¹

Figure 1. **EU WHOLESALE ELECTRICITY PRICES (EUR/MWH). SPOT MARKETS. 2020-2024**



Source: BBVA Research based on data from OMIE and EMBER.

Decreases in wholesale prices do not necessarily translate into similar falls in retail prices, where other factors come into play. Retail prices consist of the cost of energy and additional charges, such as delivery, purchase costs, and taxes. Additionally, the energy cost varies depending on the rate plan each customer has chosen, particularly whether it is variable (regulated market) or fixed. Hence, prices generally include access fees for network maintenance and taxes, and they differ in the way the cost of energy is calculated. (see **Box 1**).²

1: See [Stabilizing Skies: Europe's Wholesale Electricity Prices Find Calm After the Storm](#). BBVA Research, March 22, 2024.

2: See [Electricity Market Reform in Europe](#).

Box 1. Wholesale and retail electricity prices

The wholesale electricity market significantly influences retail electricity prices across the EU, with retail prices including additional charges such as delivery, purchasing costs, and taxes. Retail prices generally consist of access fees for grid maintenance and taxes, but they vary in how the energy cost itself is calculated.

There are two primary retail pricing mechanisms. The dynamic pricing system, like Spain's regulated market, frequently adjusts prices based on the wholesale market's supply and demand, leading to rapid and significant price changes for consumers. This system, where the energy term can constitute almost 50% of the bill, quickly reflects wholesale market fluctuations. In contrast, the fixed price systems offer stability with set prices for electricity during the contract period, typically revised annually.

Moreover, **dynamic pricing typically results in lower average prices but requires consumers to tolerate price volatility**³. This uncertainty impacts decisions about energy spending and contract choices. The extent of retail price volatility, which influences consumer price index (CPI) calculations, varies based on the population percentage under each pricing system, with countries like Estonia, Sweden, and Spain having significant numbers on dynamic pricing.

There are also hybrid options like critical peak pricing, which charges more during peak demand, and smart time-of-use tariffs that vary prices throughout the day. These models aim to balance cost and risk, offering different benefits and challenges for consumers navigating the electricity market.

Retail electricity prices in Spain

In Spain, the pass-through of wholesale price movements to retail prices is greater than in other economies. Around 35% of the Spanish households are adhered to dynamic pricing system VPSC⁴, a proportion higher than in other European countries, which partly explains the greater pass-through of wholesale price movements to retail prices. Furthermore, the share of electricity in the Spanish household consumption basket (4.1% versus 3.1% in the Eurozone) is also greater than in its neighbors, which explains why rises in electricity prices have a higher impact on Spanish inflation than in other European economies, such as Germany or France.

The structure and functioning of the retail market also impacts electricity prices. Spain and Portugal, despite having the same wholesale market (MIBEL)⁵, differ in terms of retail market structure -more than 80% of Portuguese households use fixed price systems, compared to approximately 65% in Spain-. In Spain, although a reform has been introduced in January 2024, the price fluctuates daily partly based on day-ahead electricity prices, while in Portugal the price is set annually by the market regulator, with quarterly reviews if wholesale prices deviate from the forecasts. As a result, **the transmission of wholesale prices to retail electricity prices is much faster in Spain than in Portugal**, both for price increases and decreases.

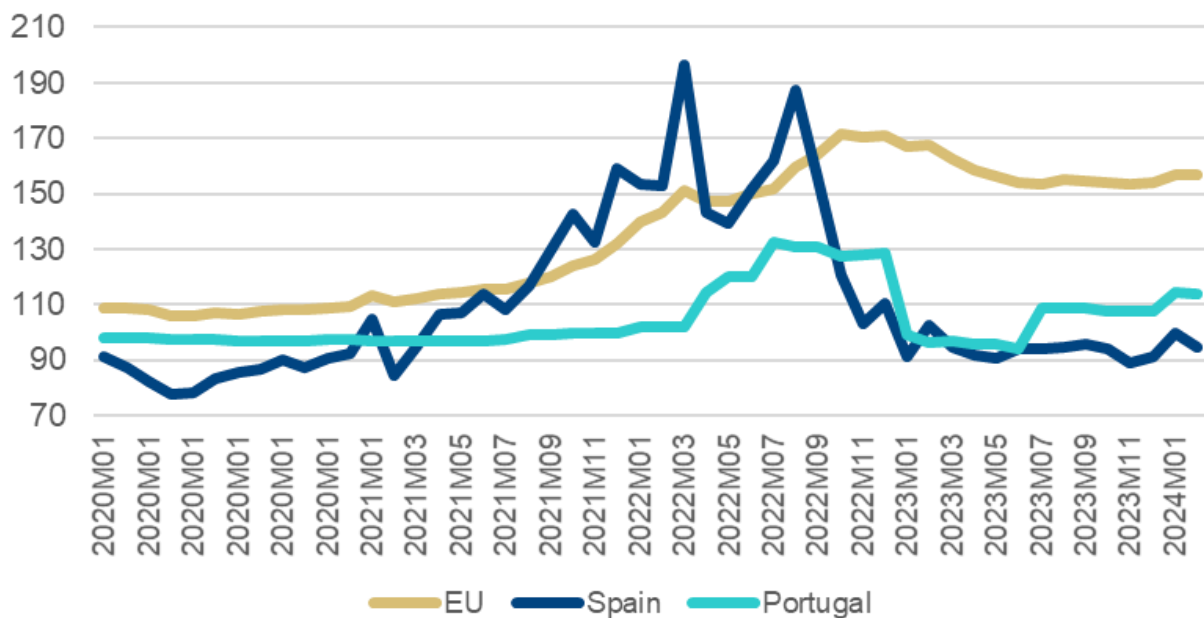
3: These contracts provide lower volatility at a premium cost, representing a trade-off between price stability and level.

4: Voluntary Price for the Small Consumer.

5: The Iberian Electricity Market.

Users of dynamic pricing systems are benefiting from recent low wholesale prices. In Spain, consumers on VPSC are paying in average in April approximately 100 euro per MWh (around 80 EUR if taxes are not taken into account), while those in the free market are paying approximately 120 EUR per MWh consumed or more⁶. As shown in **Figure 2**, which displays the electricity component of the HCPI (Harmonised Index of Consumer Prices), Spain has experienced a significant reduction in its retail prices, with a larger correction than in other EU countries. However, it is also evident that the retail prices remain considerably higher than the wholesale prices. This discrepancy can be attributed to two main factors. Firstly, many fixed tariffs are not benefiting from these price reductions (just as they did not suffer greatly from previous increases). Secondly, approximately 20 EUR/MWh of the cost is attributed to increasing taxes.

Figure 2. **ELECTRICITY PRICES. HCPI (2015=100)**



Source: BBVA Research based on data from Eurostat.

Regulatory changes in 2024 have significantly impacted retail electricity prices. Measures that the Spanish Government implemented in 2022 to reduce consumer electricity costs have been repealed this year.

Notably, VAT on electricity was raised from 5% to 10% in January and further increased to 21% in March. These adjustments were made as wholesale prices dropped below the government-set threshold of 45 EUR/MWh (see **Figure 3**).⁷ The Special Electricity Tax (SET) also increased in January, from 0.5% to 2.5%, and will rise to 3.8% in the second quarter. Furthermore, the prices incorporate the cost of ancillary services managed by Red Eléctrica as the system operator, along with other costs stipulated in current legislation.

These tax changes have increased electricity prices paid by consumers in the first quarter of the year, as shown in Figure 3. Indeed, in January, the Consumer Price Index (CPI) for electricity⁸ increased by 9.4% compared to the previous month, while the constant tax index grew by nearly half that amount (4.6%). Similarly, the

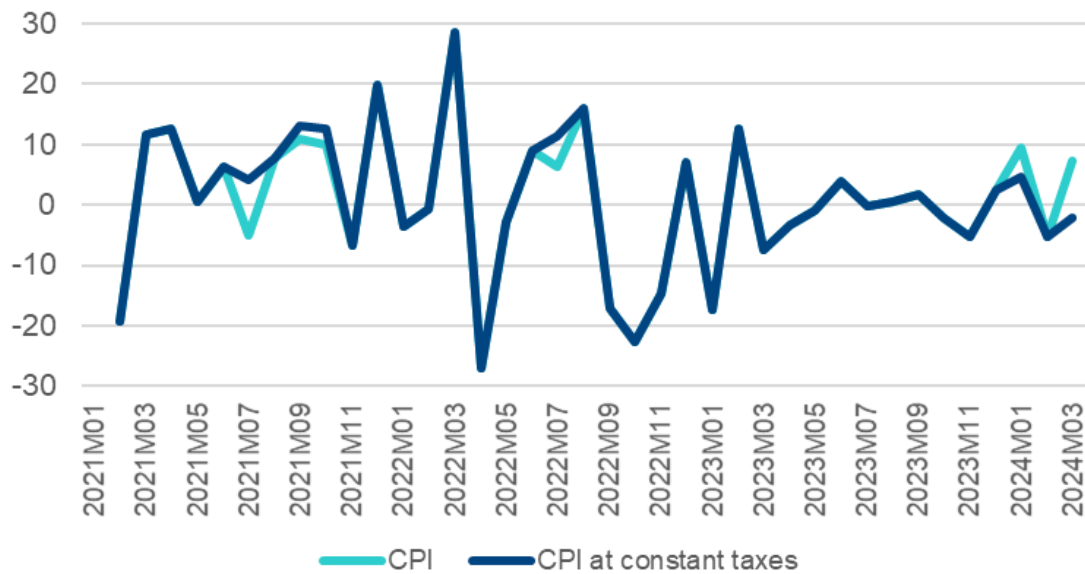
6: [Comparador de Ofertas de Energía - CNMC](#) - and [CNMC](#).

7: According to the Royal Decree on urgent measures approved at the end of 2023, in 2024 electricity VAT will increase from 5% to 10%, if wholesale market prices stay above 45 euros/MWh, and to 21%, otherwise.

8: The electricity component of CPI includes, from January 2023, the regulated tariff (VPSC) and fixed market prices.

increase in VAT to 21% in March also affected electricity prices, which saw a 7.2% rise on a monthly basis. This is in contrast to a potential 2.2% decrease that would have occurred had the VAT rate remained unchanged.

Figure 3. **ELECTRICITY CPI. MONTHLY GROWTH RATES (%)**



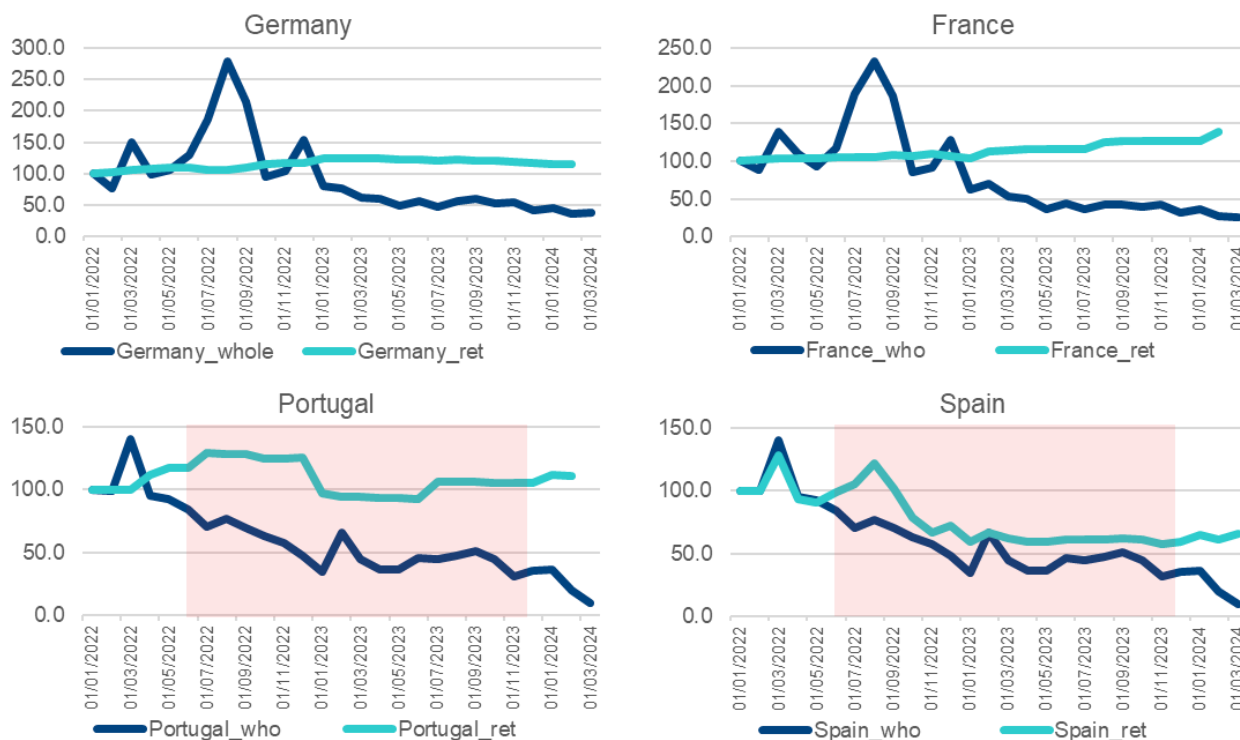
Source: BBVA Research with INE data.

Other taxes, such as the Electric Production Tax (EPT), will see a gradual increase throughout 2024⁹, although it does not have a direct impact on electricity bills. Additionally, a **new methodology for calculating the regulated tariff VPSC was introduced at the start of the year**. This new approach aims to index the tariff to forward energy market prices to reduce its volatility. The production costs are composed of the hourly prices from the day-ahead energy market, operated by the Iberian Electricity Market Operator (OMIE), and an adjustment cost that is indexed to the prices of the energy futures markets and will increase year after year.¹⁰ Consequently, **the link between wholesale prices and consumer electricity prices under the regulated tariff VPSC will progressively diminish**, with futures markets influences set to represent 25% in 2024, increasing to 40% in 2025, and reaching 55% from 2026 onwards.

9: EPT from 0% to 7% (3.5% in first quarter, 5.25% in second and third, 7% in fourth quarter).

10: As of January 1, 2024, a new pricing system was implemented: 75% of the price is determined by the daily market, with the remaining 25% distributed among the monthly, quarterly, and annual futures markets. In January 2025, the share allocated to the daily market will decrease by 15 points, adjusting to 60% for the daily market and 40% for the futures market. By January 2026, the calculation of the PVPC (Regulated Voluntary Price for Small Consumers) will take on its final format, with 45% dependent on the daily market and the remaining 55% divided among the three other markets.

Figure 4. **ELECTRICITY HCPI AND WHOLESALE ELECTRICITY PRICE (JAN 2022 = 100)**



Source: BBVA Research with Eurostat data. The graph uses a red shaded area to visually depict the duration of the Iberian exception's activation. The shaded portion marks the timeframe within which specific measures were in effect. For more information: See [Stabilizing Skies: Europe's Wholesale Electricity Prices Find Calm After the Storm](#). BBVA Research, March 22, 2024.

In summary, European retail electricity prices have been decreasing in 2024, particularly in Spain, but at a much slower pace than wholesale prices (see Figure 4). For context, after a 3% month-over-month increase in January, wholesale prices in Spain dropped by 46% and 49% in February and March, respectively. In contrast, the evolution of retail prices saw a 9% monthly increase in January, a 5% decrease in February, and another 7% increase in March (4%, -5%, -2% excluding taxes). With taxes on electricity increasing after significant cuts made in response to the energy crisis triggered by the war in Ukraine, along with annually adjusted fixed rates and variable rates where wholesale prices are becoming less influential, this trend could have been expected and will continue to impact in the coming months. **Just as fixed prices were less affected by the rises in 2022, they are now decreasing less significantly.** Therefore, the stability provided by fixed pricing now delays reductions in anticipation that all tariffs, including fixed ones, will gradually decrease further as more renewable sources enter the mix in the wholesale market (as reviewed a few weeks ago). **The dance between price stability and volatility often sways both in favor and against consumers.**

Highlights of the Week

- **Global | JPMorgan warns of need for ‘reality check’ on phasing out fossil fuels.** JPMorgan has advised that transitioning from fossil fuels to renewable energy will take much longer than anticipated, possibly generations, due to current economic pressures such as higher interest rates, inflation, and geopolitical conflicts.
- **Global | The legal battles changing the course of climate change.** Climate litigation is rising globally, highlighted by landmark cases like the Urgenda lawsuit, which have forced governments and corporations to take more stringent environmental actions.
- **Global | Negotiators seek money for climate action at spring meetings** World Bank becomes focal point for efforts to raise up to \$9tn a year to fight global warming.
- **Europe | Climate change is coming for our incomes, study warns. Which countries will lose out the most?** In Europe, southern countries like Spain and Italy will bear the brunt of declining incomes, while Arctic-adjacent nations could benefit.
- **Europe | New regulation to end the false sustainability of SMEs** A new European Regulation will penalize erroneous information about the sustainability of companies.
- **Europe | Adapting to climate change needs LIFE long commitment and community** A LIFE project integrated education and training across France for those managing natural sites.
- **Spain | Spanish drought pits tourists against locals in contest for water.** Spain's severe drought prompts regional water restrictions, with Catalonia limiting hotel usage and Andalusia allowing hotel pools but restricting private ones. The issue highlights the tension between water conservation and tourism, crucial to Spain's economy.
- **Colombia | Brazil and Colombia are curbing destruction of Amazon rainforest.** In 2023, Brazil and Colombia significantly reduced deforestation, with a 23% decrease across South America compared to the previous year. This improvement aligns with the environmental policies of Presidents Lula and Petro, highlighting a hopeful trend despite ongoing challenges.

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