

Regional analysis

Energy costs for households

**Energy prices for households rising
throughout Adria region**

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Highlights – energy costs for households

Prices of electricity and gas for households in the region vary due to economic development level of each country, as well due to unique means of production/import, costs of production, transmission (in case of electricity specifically), distribution, subsidies and some specific factors, such as weather conditions, especially regarding Croatia, where hydro energy accounts for more than 50% of electricity production (but elsewhere in Adria region hydro participates significantly).

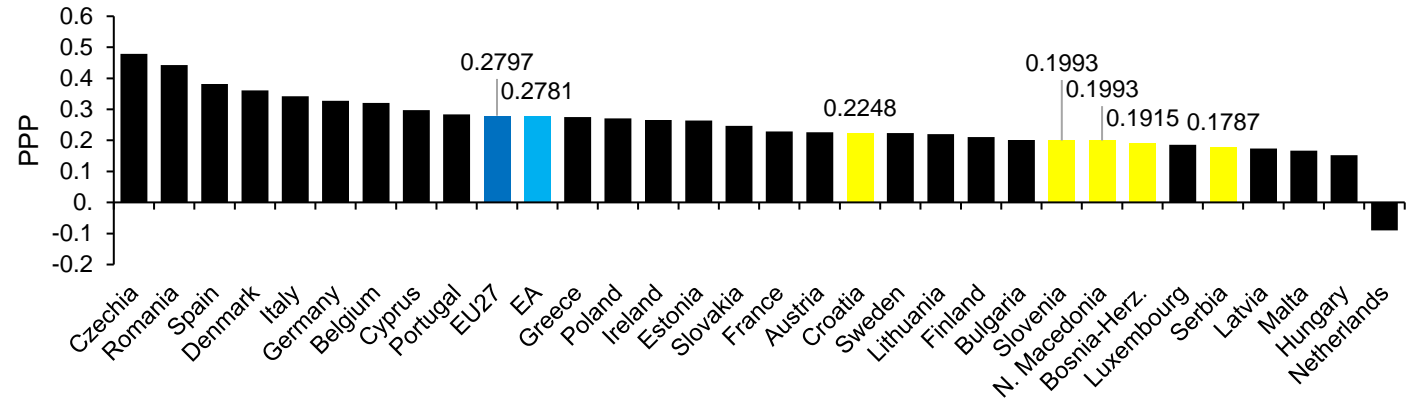
In this report, for electricity and gas we observe price comparisons using purchasing power parity standard (PPP), as to remove all price and purchasing power differences and to get better understanding where each country stands out on this subject. Also, we observe prices with all taxes and levies included and for the average range of household consumption of the each of the energy used in a year.

On a PPP basis, prices of electricity in 1H2022 were lowest in Serbia (0.1787 €/kWh), even though electricity import prices were among the highest in the region (recently, Gov't decision to offer discounts to households that cut their consumption should help stabilising price-growth impact), closely followed by Bosnia and Herzegovina (0.1915), Slovenia and N. Macedonia (both by 0.1993; in the case of Slovenia, Gov't strongly supported households by reducing excise duties by as much as 50%), while that of Croatia (0.2248) are somewhat above the Adria region average level of 0.19872 €/kWh, which this year is strongly influenced by drought conditions, thus raising production costs.

Prices of gas, on the other hand, were highest in N. Macedonia (0.2548 €/kWh) – the most on the continent as a whole (given the troubled political landscape throughout the year, low production/high level of imports), while in the rest of the region was lower than versus EU27 average (0.0870). Thus in Bosnia and Herzegovina and Slovenia were 0.0843 and 0.0815 €/kWh, respectively, and in Croatia and Serbia were at 0.0634 and 0.0618 €/kWh, respectively. Both latter mentioned countries fared well, given the highly developed infrastructure and good support from respective governments, while additional factor for Croatia is LNG terminal, presenting as a „jackpot” investment before the energy crisis began and now supports the overall economy by providing stable and abundant gas amounts for both households and companies (with the planned upgrade to extend its reach to the region).

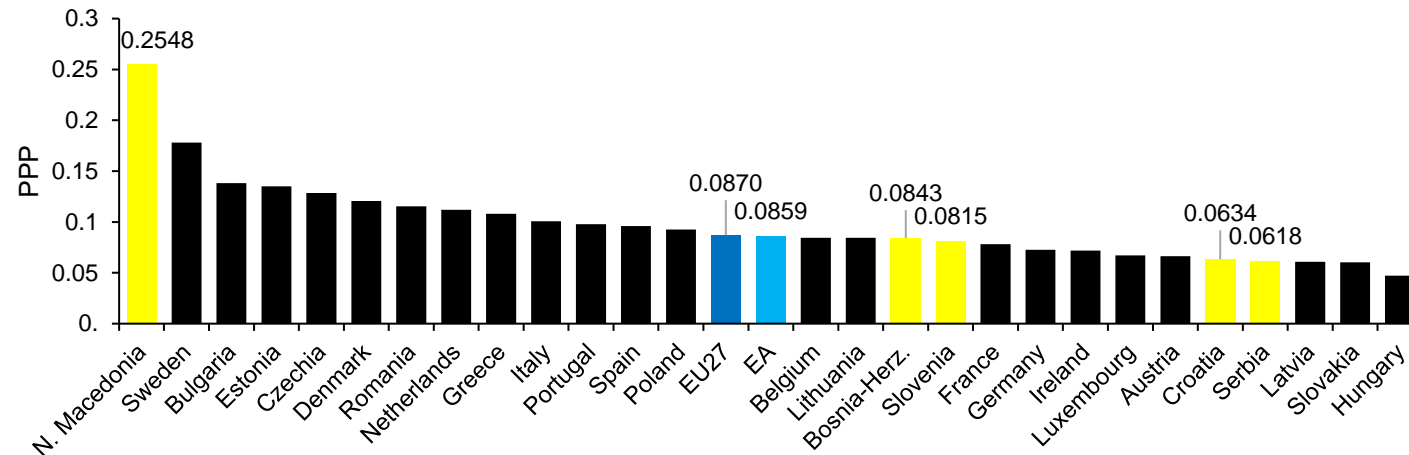
Price of electricity for households in 1H2022, in PPP, all taxes and levies included, 1000kWh-2500kWh consumption range

Source: Eurostat



Price of gas for households in 1H2022, in PPP, all taxes and levies included, 20GJ-200GJ consumption range

Source: Eurostat



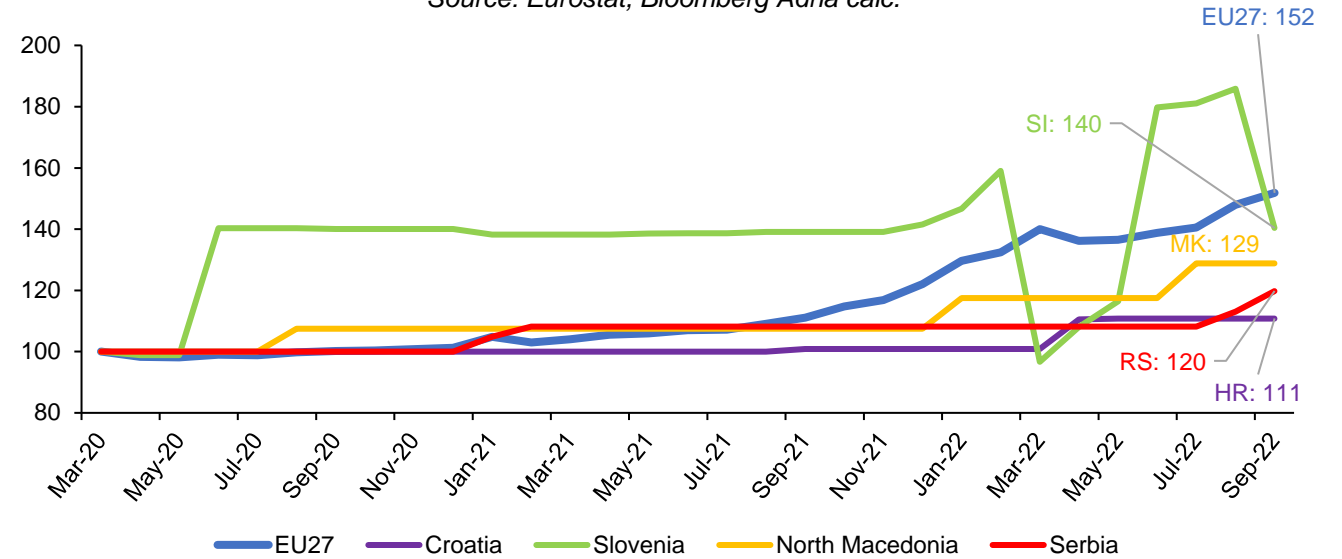
Highlights – energy costs for households

All countries, though, fared lower versus EU27 average of 0.2797 €/kWh for electricity and of 0.0870 €/kWh for gas (N. Macedonia excluding), as mostly in the more developed countries on the continent, regulations tend to allocate costs (valid for both electricity and gas) more to the household side rather than corporate sector (Netherlands' case regarding electricity prices is specific, given that their government strongly supports households with subsidies and allowances, thus resulting with „negative” price of electricity). Additionally, governments in the Adria region tend to regulate energy costs to households more than other countries in Europe, as a shield against price volatility and to preserve social cohesion, given the overall lower development level.

Even though significant actions from governments in the region spurred effects on energy costs for households, it was obviously not enough, and if we look at the period from the onset of the pandemic and according to harmonised index of consumer prices, we can see prices of electricity (Adria avg. of +25%; w/o Bosnia and Herzegovina) and gas (avg. of +34%, w/o B-H) jumping across the whole region, but less so versus EU27 average (+52% and +87%, respectively).

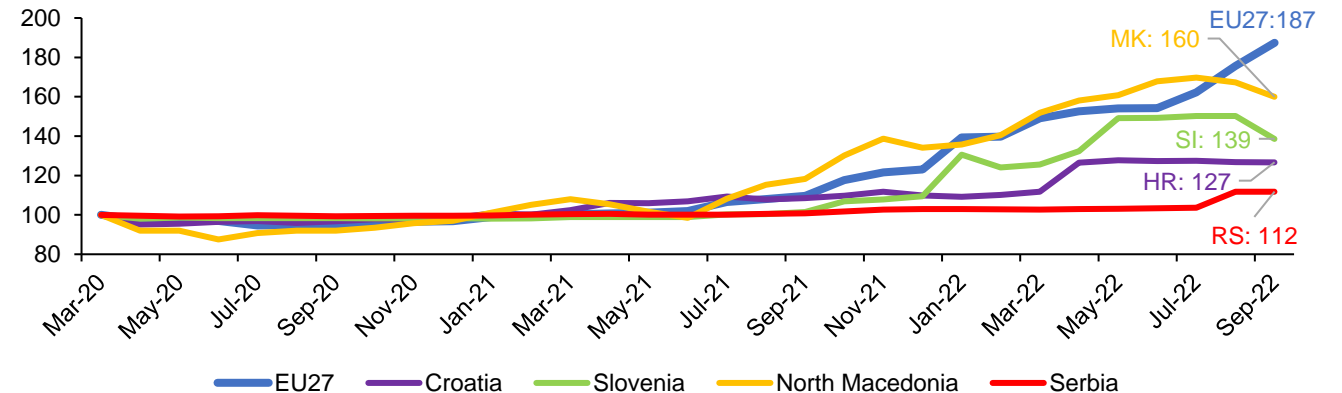
Electricity prices, HICP monthly index rebased to 2020M3=100

Source: Eurostat, Bloomberg Adria calc.



Gas prices, HICP monthly index rebased to 2020M3=100

Source: Eurostat, Bloomberg Adria calc.



Highlights – energy costs for households

Observing the **petrol price movements in the region** (Bosnia and Herzegovina excluded, given no data available) **from the onset of the pandemic (March 2020)**, we see **overall levels increasing in the range from 21% in Serbia to 42% in North Macedonia.**

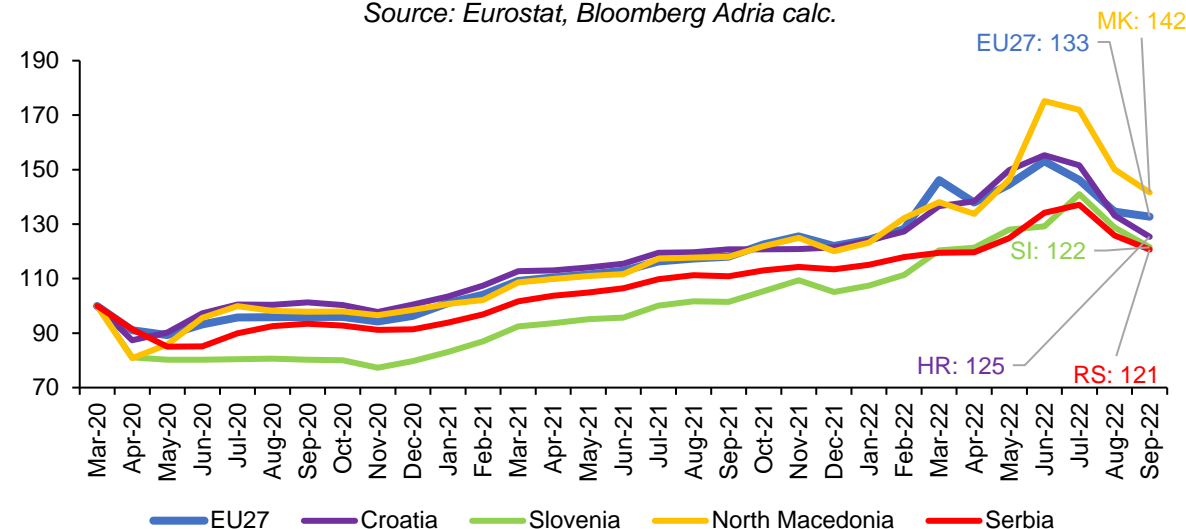
By looking at the September 2022 data in absolute terms, **price of petrol (€ per L) in N. Macedonia was the lowest, standing at 1.38 €/L**, followed by Croatia's 1.49, Slovenia's 1.50, B-H's 1.51 and Serbia's 1.53, while **EU27's average stand at 1.79 €/L (+33% since March 2020).** Given the lower (absolute) base in the N. Macedonia's case, it comes to no surprise that the strongest price fluctuations were posted in that country (as oppose the relatively close price level of the rest of the region).

Significant price movements, after relatively stagnating period of 2020, were especially noted in the post-pandemic recovery of demand in 2021, while **in 2022 were further boosted by geopolitical and (continued) supply-chain disruptions, closure of refineries and inflation.** War in Europe and its implications in the form of sanctions to Russian Federation (specifically to its energy sector), resulted with a lower importing level of crude oil. As a result, many countries in the continent had to look elsewhere for oil, thus spurring price growth.

Additional problem emerged in the form of diesel fuel shortages, as many of diesel-processing refineries closed in Europe in the past, and Russia was a dominant exporter to the continent, **which now presents a major issue, given that the transportation sector** (and its symbiotic connection to food price level), **highly depends on diesel fuel.** As we can see in the chart representing diesel price movements, diesel prices advanced faster vs petrol since March 2020, while also the overall trend, unlike in petrol's case, is upward, bearing in mind the facts stated above.

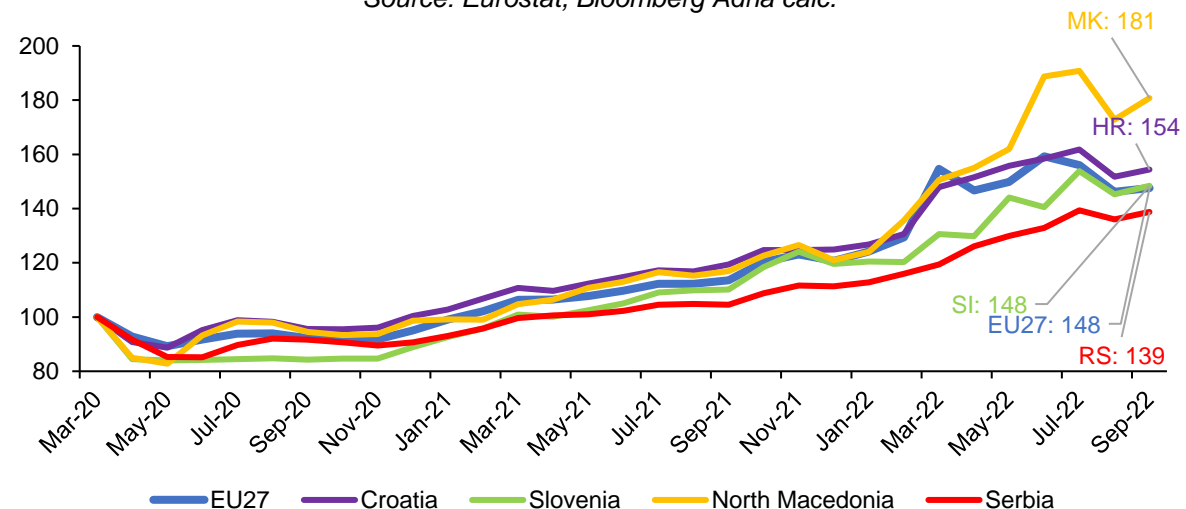
Petrol prices, HICP monthly index rebased to 2020M3=100

Source: Eurostat, Bloomberg Adria calc.



Diesel prices, HICP monthly index rebased to 2020M3=100

Source: Eurostat, Bloomberg Adria calc.



Highlights – energy costs for households

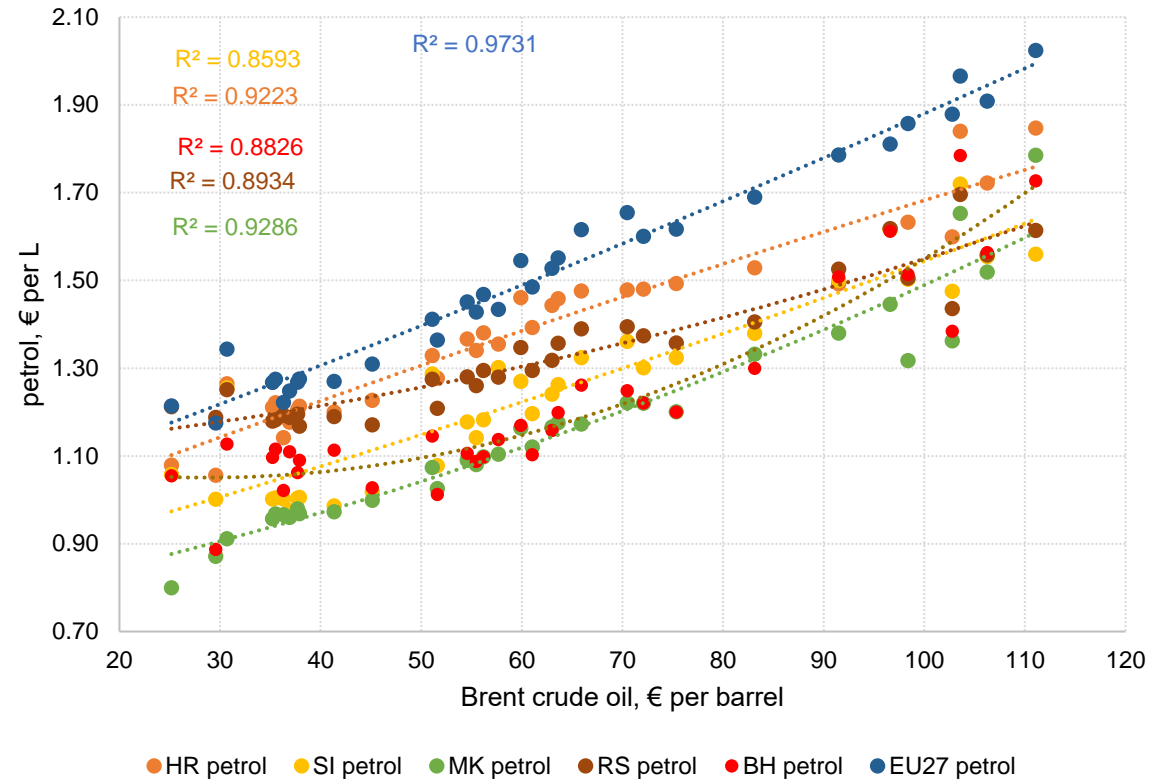
By using a simplified polynomial method, we compared monthly averages of crude oil (Brent type, in € per barrel) with unleaded petrol (95 type) prices. The results point to a **very high correlation between general crude oil price movements and gasoline prices in the region**, with the range between ca 86% in Slovenia and 93% in North Macedonia.

Even though the correlation is high, **all countries in the Adria region fall behind EU27's average of 97%**, with the possible explanation that when governments in the Adria region intervene in the gasoline prices, hoping to shield the households from energy shocks, they left behind a lag of price correction to a new crude oil price level. Additional factor is that when they set a % price cap on increase (and decrease of prices), either on weekly, bi-weekly or monthly level, gasoline price level increases by as much as the price cap allows, but when crude oil prices fall, the distributors don't lower their gasoline prices to the maximum extent available.

In EU27, given the more developed market surrounding and accompanied by lesser government interventions vs Adria region and higher competition available, petrol prices, in general, move side by side with crude oil prices – as confirmed by our analysis.

Petrol vs. crude oil price (2020M1-2022M9)

Source: Bloomberg Adria



Looking forward, we see energy costs for households to remain elevated for at least until spring 2023. Inflationary surrounding and geopolitical complications, along with non-resolved supply-chain issues, imply further energy price increases, however, overall economic slowdown (strongly driven by central banks' rate hikes), will soften demand for the commodities as a whole. Additionally, as regards gas component, overall stock levels in whole Europe are nearly full, and, along with the expected warmer winter period, should provide some relief in that department – and accordingly to the region, if there is a need for extra gas resources from abroad. Also, higher amount of expected precipitation versus this year (record drought seen across the continent) should provide support for ample electricity production from abundant hydro sources across the region, while easement of political situation in, for example, Bosnia and Herzegovina, should also drive more government aid to energy-hurting economy. Gasoline prices across the region should move along the line with crude oil price movements (as confirmed in this analysis), which we see next year on average at the 90\$ per barrel (Brent crude).

All in all, support factors are driving energy prices throughout 2022, and will continue to do so until year-end, while demand factors will strongly pull down price levels of gas, oil and electricity in 2023.

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