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HIGH-PRICE PERIODS IN SUMMER 2026: WAS AUGUST REALLY THE MOST CRITICAL?

In Hungary, the first week of August was widely regarded as the most critical period of summer 2026. An even more intense heatwave developed than the one experienced in June, while the output of the Paks Nuclear Power Plant had to be curtailed due to the low water level of the Danube. The combination of high temperatures, rising electricity demand and declining nuclear generation pointed to a significant risk of market tightness.

Electricity prices, however, paint a more nuanced picture. Prices are a useful indicator of system tightness, as high price levels generally occur when available generation capacity and import opportunities are constrained. Our analysis of electricity prices shows that the genuinely critical periods occurred not in August, but earlier, in late June and early July.

PRICE DEVELOPMENTS

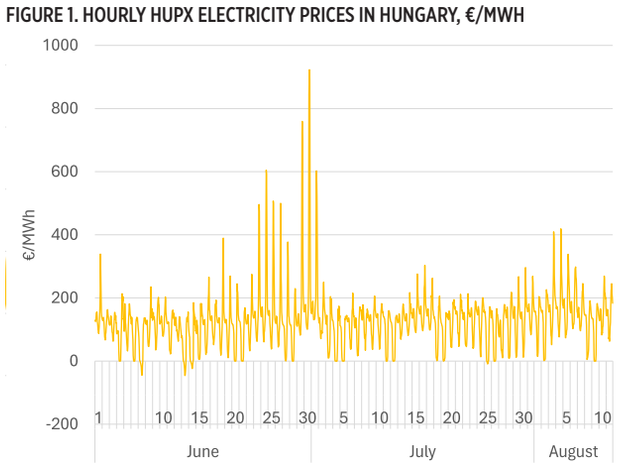
For our analysis, we selected three weeks in 2026 during which electricity market conditions were particularly tight. For comparison, we also included a high-price period from summer 2024. This allows us to illustrate how regional electricity market dynamics have changed over the past two years and to identify the different factors underlying high prices.

The analysis therefore focuses on the following weeks:

- 22–28 June 2026
- 29 June–5 July 2026
- 3–9 August 2026
- 15–21 July 2024

Having identified the critical weeks, we examine the times of day when market conditions were tightest. Hourly prices reveal a clear pattern: the highest prices typically occurred in the evening, between 20:00 and 21:00.

FIGURE 1. HOURLY HUPX ELECTRICITY PRICES IN HUNGARY, €/MWH



Source: EMBER

This period coincides with a rapid decline in solar generation and the evening demand peak, when the system increasingly relies on dispatchable generation and imports. Examining these evening hours therefore provides insight into the contribution of different generation technologies and cross-border trade to maintaining the balance between supply and demand.

Regional price levels during these critical hours reveal markedly different market conditions across the four weeks.

During the 2024 heatwave, prices in Western Europe remained relatively moderate, while the South-Eastern European region became effectively disconnected from western markets in terms of prices. High prices were therefore primarily a regional phenomenon.

The high-price periods in 2026, by contrast, followed a different pattern. In late June and early July, high prices were not confined to South-Eastern Europe: Germany, Czechia and Slovakia also experienced substantial price increases on several

TABLE 1. REGIONAL HOURLY WHOLESALE ELECTRICITY PRICES DURING THE SELECTED PERIODS, 20:00–21:00 CEST (UTC+2)

	GR	BG	RO	RS	HU	HR	SK	AT	CZ	DE
2024.07.15	600	600	714	559	700	414	440	116	210	196
2024.07.16	650	650	802	693	774	376	507	73	61	116
2024.07.17	760	760	805	576	794	435	527	69	185	177
2024.07.18	500	871	917	746	999	504	613	126	151	226
2024.07.19	654	879	879	700	811	480	497	87	97	176
2024.07.20	528	528	528	448	510	282	287	85	75	128
2024.07.21	270	270	270	198	263	166	182	90	103	127
2026.06.22	149	149	275	160	275	276	274	300	274	411
2026.06.23	183	183	493	202	496	482	503	455	513	549
2026.06.24	177	177	601	400	605	587	614	596	624	684
2026.06.25	212	212	472	182	500	334	396	239	244	264
2026.06.26	132	132	477	265	500	370	441	320	315	348
2026.06.27	140	140	374	310	377	249	296	197	180	231
2026.06.28	137	137	242	148	229	175	204	145	134	158
2026.06.29	164	164	767	455	759	583	493	246	196	327
2026.06.30	405	405	955	800	923	944	699	235	452	526
2026.07.01	191	191	519	566	563	342	369	193	160	244
2026.07.02	213	213	215	269	210	188	214	151	160	111
2026.07.03	170	170	197	169	171	160	106	139	124	128
2026.07.04	129	129	129	128	129	130	129	129	128	122
2026.07.05	137	137	143	125	142	138	145	130	131	121
2026.08.03	280	280	405	550	391	466	337	229	227	198
2026.08.04	214	214	411	475	397	456	370	251	311	239
2026.08.05	238	238	326	400	323	311	338	238	277	187
2026.08.06	255	255	302	325	298	285	313	246	258	164
2026.08.07	250	250	250	290	245	253	248	215	223	198
2026.08.08	191	191	191	176	191	190	192	191	189	181
2026.08.09	155	155	182	188	183	183	182	187	180	175

Source: EMBER

days. This suggests that tight supply conditions in South-Eastern Europe coincided with broader European market tightness, limiting the ability of western markets to provide low-cost imports. Austria, however, remained distinctly separated from neighbouring markets, with prices below those in markets to its east during several critical hours. This points to persistent cross-border capacity constraints within the region.

Developments in Bulgaria and Greece are also noteworthy. Compared with previous years, prices in these two markets tracked those elsewhere in the region much less closely, and high evening prices were less pronounced. One possible explanation is the substantial expansion of battery storage capacity in this part of the region. In Bulgaria, installed battery storage capacity increased to approximately 5 GW, a scale capable of materially moderating prices during evening peak periods.

In August, by contrast, neither Hungary nor the region as a whole experienced prices as extreme as those observed in late June. Although market fundamentals might have suggested that this period would be much more critical, prices ultimately indicated considerably less severe market tightness.

ELECTRICITY DEMAND

Before examining the generation mix, it is useful to review developments in electricity demand.

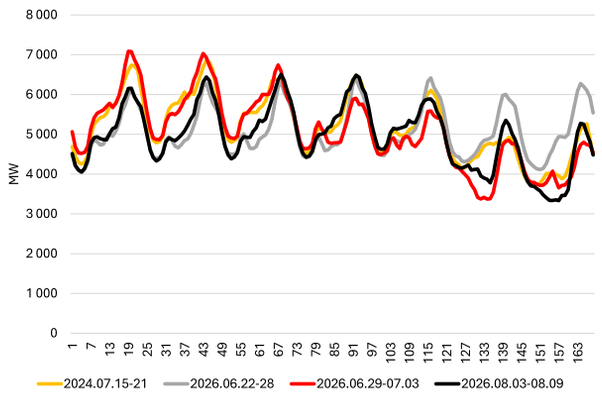
Hungarian demand profiles reveal that the highest load levels did not occur in August: the most pronounced demand peaks were recorded in late June 2026 and during the 2024 reference week.

Two factors should be considered when interpreting these data. First, the reported demand figures do not capture electricity consumption supplied by household-scale installations and other generators producing for their own use. Actual daytime electricity demand may therefore be higher than the reported values. Second, battery storage charging and discharging are already reflected in system load, making direct comparisons across periods more difficult, particularly in 2026.

As Hungarian electricity prices are also strongly influenced by market developments in neighbouring countries, examining domestic demand alone is insufficient. We therefore also analysed aggregate demand across several countries in the region whose electricity prices have traditionally moved closely together. The analysis covers Bulgaria, Greece, Romania, Hungary, Slovakia and Croatia.

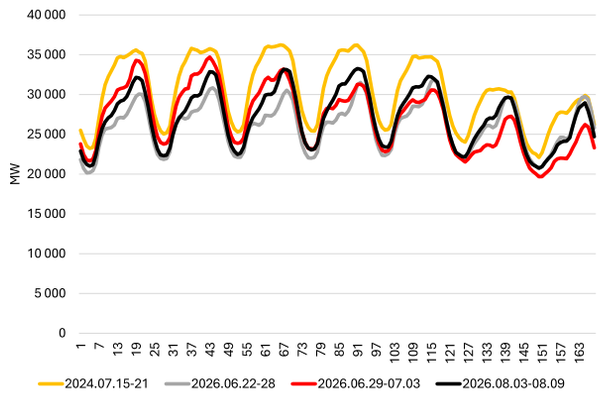
The differences are even more pronounced at the regional level. Demand during the 2024 reference period was substantially higher than during the selected weeks in 2026.

FIGURE 2. HUNGARIAN ELECTRICITY DEMAND DURING THE FOUR SELECTED WEEKS



Source: ENTSO-E Transparency Platform

FIGURE 3. REGIONAL ELECTRICITY DEMAND DURING THE FOUR SELECTED WEEKS



Source: ENTSO-E Transparency Platform

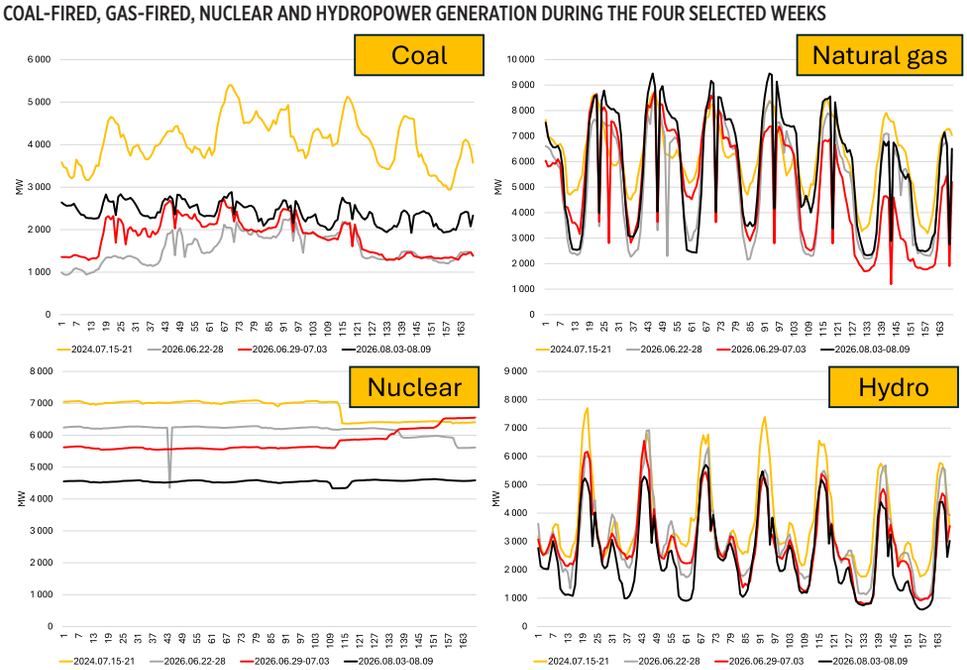
Within 2026, the highest regional demand peaks occurred in late June, consistent with the exceptionally high electricity prices observed at that time. Regional demand profiles are also considerably flatter than the Hungarian load profile. This partly reflects the natural smoothing of demand peaks across countries. In addition, Greece, Bulgaria and Romania are one time zone ahead of the other countries included in the analysis, meaning that local peak periods do not fully coincide. This geographical and temporal diversity itself helps moderate aggregate regional demand peaks.

CHANGES IN THE GENERATION MIX

Understanding the high-price periods requires an examination of generation from different technologies across the four selected periods.

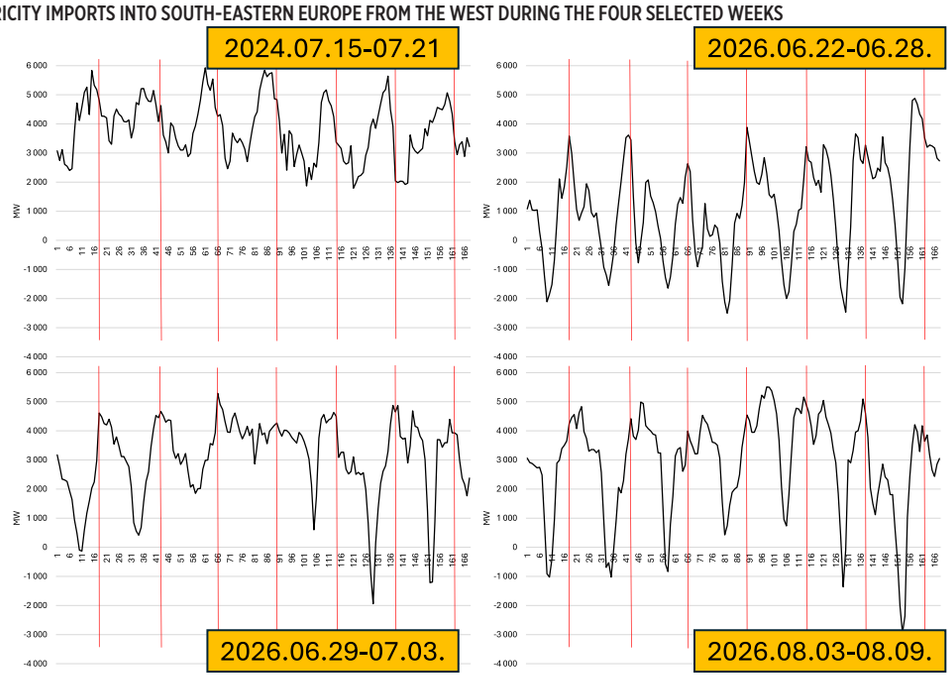
- The role of coal-fired generation in the region's electricity system continued to decline. Although it still contributed to meeting demand during certain evening peak periods, its influence on regional prices diminished compared with previous years.
- Gas-fired power plants continued to play a key role in providing system flexibility during periods of high evening prices. Prices rose rapidly when gas-fired generation reached its capacity limits.
- Nuclear power continued to supply a substantial share of the region's baseload demand, although output varied considerably across the periods examined. In August, reduced availability at the Paks and Cernavoda nuclear power plants resulted in particularly low nuclear generation.
- Hydropower output depended heavily on hydrological conditions. Low river flows constrained the availability of flexible generation in several countries, increasing the system's reliance on imports.

FIGURE 4. REGIONAL COAL-FIRED, GAS-FIRED, NUCLEAR AND HYDROPOWER GENERATION DURING THE FOUR SELECTED WEEKS



Source: ENTSO-E Transparency Platform

FIGURE 5. NET ELECTRICITY IMPORTS INTO SOUTH-EASTERN EUROPE FROM THE WEST DURING THE FOUR SELECTED WEEKS



Source: ENTSO-E Transparency Platform

THE ROLE OF IMPORTS FROM WESTERN EUROPE

Imports from Western Europe played a particularly important role in late June and early July. The data suggest that regional price movements during these periods were driven not only by the region's own fundamentals but also by tight supply conditions in Western European markets. This marks a significant difference from 2024, when South-Eastern Europe behaved more like a separate price area and transmission bottlenecks emerged primarily during high-price periods. In 2024, although imports from Western Europe were substantial, they typically peaked a few hours before regional prices reached their highest levels. This suggests that the region had limited scope to draw on additional western imports during the critical evening hours. This is particularly noteworthy given that, in 2024, prices in Western Europe remained considerably lower than those in South-Eastern Europe.

In 2026, by contrast, high regional prices coincided with elevated prices in Western Europe. Nevertheless, western imports remained high during the critical hours and reached their highest levels during high-price periods. The region therefore continued to rely heavily on imports, while electricity available from western markets had become considerably more expensive.

THE ROLE OF NETWORK CONSTRAINTS

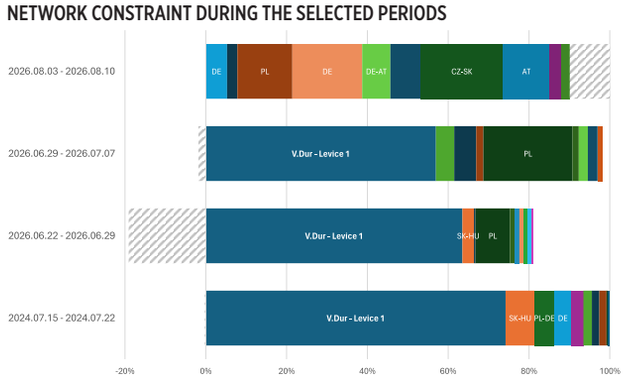
Price differences between markets are shaped by both market fundamentals and network constraints. The figure below shows how much of the Hungarian–German price spread can be attributed to individual binding network constraints during the four selected periods. Positive values indicate constraints that widen the spread, while negative values represent constraints that act in the opposite direction: by raising German prices, the latter partly offset the Hungarian–German price spread attributable to other network elements.

During the two weeks spanning late June and early July, more than half of the Hungarian–German price spread was attributable to the same internal Slovak network element: the V. Ďur–Levice 1 transmission line.[1] A similar pattern was observed in summer 2024, when the same bottleneck accounted for a substantial share of the spread. This suggests that, even when prices in Western Europe were high, network constraints within the region further limited price convergence and pushed South-Eastern European prices higher.

In August, however, the picture changed fundamentally. The contribution of the V. Ďur–Levice 1 line to the price spread largely disappeared as the main bottlenecks shifted westwards, and Slovak prices became more closely aligned with those in the higher-priced South-Eastern European region. The spread was then shaped by several geographically dispersed network constraints, primarily within the German grid, on the German–

1 For a detailed analysis of these network bottlenecks, see our earlier study: „What drives price divergence in Central and South-Eastern Europe? Evidence from flow-based market coupling":

FIGURE 6. DECOMPOSITION OF THE HUNGARIAN–GERMAN PRICE SPREAD BY NETWORK CONSTRAINT DURING THE SELECTED PERIODS



Source: JAO database

Austrian border and on the Czech–Slovak border. This further illustrates how market conditions in August differed structurally from the high-price periods in late June.

High prices were therefore shaped not only by the volume and price of imports available from Western Europe, but also by the network bottlenecks restricting their onward flow within the region. The exceptionally high Hungarian and South-Eastern European prices in late June can thus be understood as the combined effect of broader European market tightness and network constraints within the region.

ANALYSIS OF THE CRITICAL EVENING HOURS

Comparing the generation mix during the critical period between 20:00 and 21:00 illustrates that high prices were driven by several factors. Peak demand, declining solar generation, constraints on available import capacity and power plant availability jointly determined the degree of system tightness. The figure below shows the generation mix during the evening hour with the highest price in each of the four selected weeks. The main findings are as follows:

- Electricity demand varied considerably across the four hours examined. The highest level was recorded in 2024, when system load reached 36.2 GW. This was followed by the evening of 30 June 2026, with demand of 34.7 GW, while demand on 3 August was only 32.1 GW. Lower demand in August therefore partly offset the less favourable generation conditions.[2]

- Coal-fired generation was broadly similar across the three selected hours in 2026, but remained substantially below the level observed in 2024.

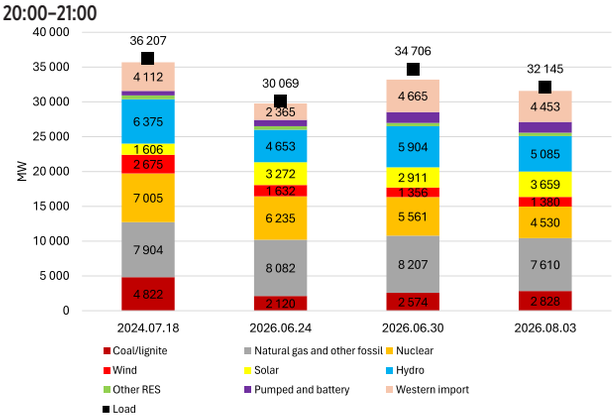
- Gas-fired generation remained high during all three critical hours in 2026, ranging from 7.6 to 8.2 GW and reaching its highest level on 30 June. This peak was almost 0.5 GW above the August level, indicating that, despite lower nuclear and hydropower output in August, gas-fired generation did not need to reach the levels recorded in late June.

- The largest differences were observed in nuclear generation. While nuclear output reached 7 GW in 2024, it declined progressively across the three selected hours in 2026. In August, reduced availability at the Paks and Cernavoda nuclear power plants brought nuclear output down to just 4.5 GW. However, this was partly offset by relatively high solar generation still available in the early evening.

- Hydropower, one of the most flexible sources of generation over the course of the day, provided between 4.6 and 5.9 GW during the selected early evening hours in 2026. Lower hydropower output in August was evident not only during the critical evening hours but also throughout the daily generation profile.

- Wind generation was considerably lower during all three critical hours in 2026 than in 2024. While approximately 2.7 GW was available during the 2024 reference hour, output ranged from just 1.4 to 1.6 GW in 2026. Low wind generation may therefore also have contributed to the system's greater reliance on dispatchable generation and imports.

FIGURE 7. ELECTRICITY GENERATION MIX DURING THE CRITICAL EVENING HOURS, 20:00–21:00



Source: ENTSO-E Transparency Platform

The comparison therefore shows that both nuclear and hydropower output were lower in August than in late June, yet this did not lead to similarly high prices. Lower regional demand and higher solar generation still available in the early evening may have been important factors behind this outcome.

The role of imports from Western Europe warrants particular attention. To assess this, it is useful first to compare prices across the four selected critical hours.

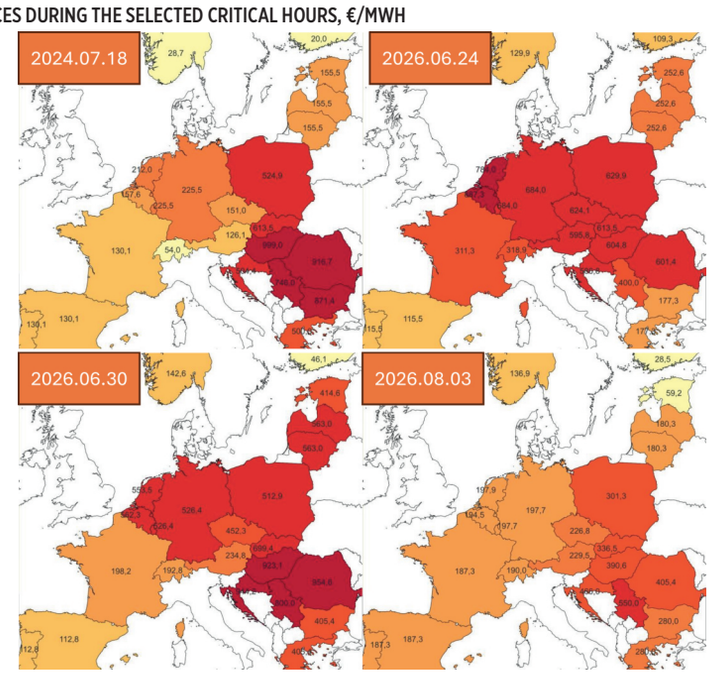
In 2024, extreme prices primarily affected South-Eastern Europe. While prices in the region ranged from 800 to 1000 €/MWh, the German price was only a fraction of this level, at 225 €/MWh. This substantial east–west price spread illustrates the separation of South-Eastern European markets from western markets at the time.

On 24 June 2026, by contrast, prices also rose significantly in Western Europe, with the German price exceeding the Hungarian price. This was also reflected in the region's import position: imports from Western Europe amounted to just 2.3 GW during this hour.

On 30 June, the European electricity market was considerably more fragmented. Germany recorded a relatively high price of 526 €/MWh, while prices in France, Switzerland and Austria remained around €200/MWh. South-Eastern Europe was also divided: prices in Hungary, Romania, Serbia and Croatia ranged from 800 to 900 €/MWh, while those in Bulgaria and Greece were "only" around 400 €/MWh. Rapidly expanding battery storage capacity may have contributed to the more favourable conditions in the latter two countries, although detailed data on actual battery discharge are unavailable. Meanwhile, imports from Western Europe rose to almost 5 GW.

2 However, it is important to note that the treatment of battery energy storage in ENTSO-E data is not uniform. While in some countries (such as Croatia and Romania) the operation of the storage is directly reported in the data, in other countries the effect of charging or discharging may be reported in the consumption data, distorting their interpretation.

FIGURE 8. HOURLY ELECTRICITY PRICES DURING THE SELECTED CRITICAL HOURS, €/MWH



Finally, on 3 August, prices were considerably more moderate. The Hungarian wholesale electricity price approached 390 €/MWh, with higher prices recorded only in Romania, Serbia and Croatia. Greece and Bulgaria again diverged from this regional pattern, with prices of approximately 280 €/MWh. Meanwhile, the German wholesale electricity price remained below 200 €/MWh.

Comparing the four critical hours shows that price levels were determined not only by high regional demand or low generation availability, but also by conditions in Western European markets when the region faced these constraints. In late June, tight supply conditions in South-Eastern Europe coincided with high Western European prices on several occasions, while in August, a more favourable external market environment may also have helped moderate prices.

CONCLUSIONS

The experience of summer 2026 shows that the August heatwave and the decline in nuclear generation did not produce the tightest market conditions. Prices had already reached their highest levels in late June and early July, when high regional demand and low evening renewable generation coincided with less favourable conditions in European electricity markets. In August, by contrast, lower nuclear and hydropower output was partly offset by lower demand and higher solar generation still available in the early evening.

However, the situation in 2026 was not simply a price shock spilling over from Western Europe. In late June, western markets also experienced high prices, leaving South-Eastern Europe reliant on substantial imports in an already tight European market. Yet the large price differences within the region suggest that network bottlenecks amplified this effect. During several critical hours, prices in Hungary, Romania, Serbia and Croatia rose well above those in both western markets and Bulgaria and Greece. High prices may therefore have resulted from the combined effects of external market tightness and transmission constraints within the region.

The periods most exposed to high prices are increasingly concentrated in the evening, when solar generation declines rapidly while demand remains high. System flexibility should therefore be strengthened through several complementary measures: expanding wind generation and battery storage, encouraging demand-side flexibility through demand-side management (DSM), and alleviating network bottlenecks.

A key lesson from summer 2026 is that the risk of high prices depends not on the absence of any single capacity resource or technology, but on the combined availability of flexible domestic generation, storage, demand-side response and import opportunities during critical hours. Alongside strengthening system flexibility, addressing network bottlenecks is essential, as these can materially restrict the flow of cheaper electricity within the region and amplify the impact of external market shocks on domestic prices. Reinforcing Slovakia's internal grid is particularly important for Hungary. During the high-price periods examined, the V. Ďur–Levice 1 network element repeatedly accounted for a substantial share of the Hungarian–German price spread. This suggests that alleviating this bottleneck and related constraints in the Slovak grid could materially improve access to Western European markets for both Hungary and the wider region.