Winter Outlook 2026–2027

Country Comments



entsoe

European Network of Transmission System Operators for Electricity

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Country Comments

ENTSO-E Mission Statement

ENTSO-E – the European Network of Transmission System Operators for Electricity – brings together 40 electricity Transmission System Operators (TSOs) from 36 countries. ENTSO-E members are responsible for the secure and coordinated operation of Europe's electricity - system. Together, they operate a system of around 500,000 km of power lines – the largest interconnected electrical grid in the world – and serve about 520 million citizens.

Electricity is not merely a market commodity, it is an essential service, and TSOs are fully regulated public service entities whose work is essential to powering Europe. The grid is the backbone of the electricity system and has extended over the whole Continent, beyond the borders of the EU. TSOs working together guarantee a functioning infrastructure that makes the trade of electricity possible, contributes to decarbonisation goals, and ensures a reliable and efficient power supply for all members of society.

These shared public service responsibilities need close cooperation beyond national borders, which led to the creation of ENTSO-E. Today, the association serves two main complementary purposes:

1. **Cooperation of European TSOs**

   The foundations of this cooperation date back to the 1950s with the creation of electrical synchronous areas and interconnections, which laid the groundwork for today's interconnected European power system. TSOs established associations to work together on their own mandates and missions, that came together into what today is ENTSO-E. The European electricity system is one of the most stable and reliable grids in the world and is supported by the cooperation and coordination of TSOs both within the European Union and closely interconnected European countries. ENTSO-E strives to build consensus for decision-making amongst its member TSOs as this forms the strongest foundation for cooperation.

2. **Fulfilling EU legal mandates**

   With the adoption of the Third Energy Package in 2009, ENTSO-E's role was formally recognised by European institutions. ENTSO-E was granted legally mandated tasks to further develop the European interconnected grid and to facilitate the integration of European electricity markets. These mandates cover a large spectrum of tasks, including system operation, system development, market integration, information technologies, R&D and innovation.

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Introduction

This document includes individual country comments on the expected adequacy situation or specific operational conditions during the coming season.

Comments on the expected adequacy situation and additional information are presented to provide more background information about the particular power systems, which might not always be represented in pan-European adequacy models.

Countries only provided comments if there was relevant information to be reported.

Albania

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No adequacy issues are expected for Winter 2026-2027.

Austria

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Hydropower production undergoes since more than 6 months (with brief exceptions) a stressed situation, with run-of-river generation currently at historically low levels in Austria. The prolonged “Dunkelflauten” experienced during the previous winter, characterized by low wind speeds and limited solar irradiation, also highlight the risks associated with weather-dependent generation. At the same time, gas storage levels in Austria and Europe are comparatively low for the beginning of the winter season, currently standing at around 67% and 70%, respectively.

The occurrence of an unfavourable combination of factors could therefore put pressure on the Austrian electricity system. These factors include extreme weather conditions, particularly low precipitation and prolonged “Dunkelflauten“, unplanned outages at key gas-fired power plants or limited gas availability.

Although no adequacy issues are currently noticed, the risks outlined above warrant a very close monitoring of resource availability throughout the winter.

Belgium

Winter Outlook 2026-2027

Following the first phase of their lifetime extension works, Tihange 3 and Doel 4 nuclear reactors (2 GW) are expected to return to service in early November, increasing Belgium's generation margin and strengthening the domestic supply position.

In parallel, additional battery energy storage systems (BESS) contracted through the CRM mechanism will continue to be commissioned throughout the winter, further enhancing available capacity. The second and currently last large gas-fired power plant initially expected to enter service last year is also expected to begin its testing phase by the end of the coming winter.

Under severe winter conditions with low wind generation, Elia expects import needs to remain around 3 GW. These requirements can be covered by the available cross-border capacity, and no significant adequacy risks have been identified.

Bosnia and Herzegovina

Winter Outlook 2026-2027

No adequacy issues expected for Winter 2026-2027.

Bulgaria

Winter Outlook 2026-2027

The continued expansion of photovoltaic generation and battery energy storage systems has further increased the flexibility of the power system. The installed photovoltaic capacity in Bulgaria has already exceeded 7 GW, while battery energy storage capacity has surpassed 5.6 GW. Although PV generation is naturally lower during winter months, BESS facilities are expected to contribute to balancing operations, congestion management and the provision of ancillary services, thereby improving overall system adequacy.

Coal-fired power plants and other conventional thermal generation sources continue to face significant financial challenges, primarily due to the high cost of carbon emission allowances and unfavorable market conditions. As a result, the availability and market participation of part of the conventional generation fleet remains uncertain. Under these circumstances and considering the fast-growing market share of BESS, Bulgaria is expected to become a net importer of electricity during the winter months, as was the case during the winter of 2025/2026.

The Bulgarian power system is expected to maintain secure operation and preserve its capability to contribute to regional electricity exchanges throughout the winter season. However, during periods of high demand and prolonged cold spells combined with limited availability of conventional generation could lead to scarcity situations.

Croatia

Winter Outlook 2026-2027

No adequacy issues are expected for the winter 2026/2027.

Cyprus

Winter Outlook 2026-2027

As there are no interconnections to rely upon in case of emergency due to Cyprus being an isolated island, there is a probability that adequacy issues could arise through the coinciding of unplanned outages and unfavourable weather conditions.

More specifically, (according to the TSO's Adequacy Assessment Study), covering the period from November 2026 to April 2027, there is a potential risk of adequacy shortfalls during specific time intervals, particularly during evening peak hours, amounting to approximately 4 hours in total. Under extreme weather conditions, cyclic load shedding may be necessary if the available reserve capacity is insufficient to meet FCR and FRR requirements.

While available generation capacity should satisfy demand under normal or mild weather conditions, operating margins will remain extremely tight. Consequently, there may be insufficient replacement reserve capacity to cover any potential loss of the largest generating unit at the Vasilikos Power Station in the event of an outage.

It should be noted that these results are based on the data and assumptions used in the Study and therefore constitute estimates. As such, they may vary, depending on actual system conditions during operation (e.g. actual demand levels, availability of generation units, etc.).

Czech Republic

Winter Outlook 2026-2027

No adequacy issues are expected for Winter 2026-2027.

Denmark

Winter Outlook 2026-2027

No adequacy issues are expected for Winter 2026-2027.

Energinet follows the weather situation as this can have an impact on the European system.

An error was identified in the data submission of production capacities, resulting in last year's assumptions for thermal generation, batteries, and renewable capacities being carried forward instead of being updated to the latest expectations. The resulting differences have been investigated and assessed to be minor. Energinet concludes that they do not affect the overall conclusions of the Winter Outlook 2026/2027.

The ENS observed in Denmark in the report results does not raise concerns from a system operations perspective, as it is negligible in magnitude and results from a coincidental overlap of random outages on two interconnectors and a relatively large power plant in a period with high demand and no power generation from renewable energy sources.

The model outcome should be interpreted as a probabilistic risk assessment, indicating only a very low likelihood of stressed adequacy conditions.

Estonia

Winter Outlook 2026-2027

No adequacy issues are expected for Winter 2026-2027.

Finland

Winter Outlook 2026-2027

Compared to previous winter, there are few changes in the Finnish power system in terms of production capacity and demand. Wind power capacity continues to grow, although the pace of expansion has slowed, and there has been an increase of approximately 300 MW during the past year. In contrast, solar capacity has increased rapidly, doubling from 1000 MW to 2000 MW over the same period. In addition, thermal production capacity will increase by 565 MW for a limited period, as Meri-Pori condensing power plant enters the market for January and February 2027 before it will be permanently close. During the past years, the plant has served as reserve capacity for severe disturbances and emergency situations. No nuclear maintenance is planned for the winter period, however, the output of the Olkiluoto 2 nuclear unit will continue to be limited by 155 MW as a precautionary measure to mitigate the risk of generator rotor failure. Furthermore, electricity demand is expected to grow in Finland over the coming years, with a small rise in baseload already anticipated for the upcoming winter.

France

Winter Outlook 2026-2027

A very low risk of adequacy issues is expected in France for Winter 2026-2027. The balance between electricity supply and demand is considered favorable. Throughout 2026, France continues to benefit from its high low-carbon generation, extending the positive trends already observed in past years, and is expected to remain a major exporter during the winter.

Although the heatwaves affected nuclear availability this summer, nuclear generation remained high and availability during the winter is only expected to be slightly below the levels of the last five years.

Renewable capacities continue to expand with a slight slowdown. Increases in wind and solar capacity in 2026 further enhance security of supply. By the end of the summer, hydro reservoir levels were at historical low levels because of the drought conditions over the summer.

Gas stocks, on the other hand, remain within the seasonal average in France, providing an additional buffer in the event of local tensions.

The outlook for this winter therefore appears slightly less favorable than last year's primarily due to the low hydro reservoir levels and the remaining uncertainty regarding the nuclear availability.

Nevertheless, the risk for security of supply in France remains very low for the incoming winter. While situations requiring emergency or backup resources cannot be entirely excluded, they are highly unlikely. Only extremely adverse scenarios such as a rapid rise in demand, delays in nuclear unit restarts, combined with a severe cold snap, or significant import restrictions, could trigger the need for such measures.

RTE is closely monitoring all parameters contributing to security of supply in France

Germany

Winter Outlook 2026-2027

Non-market resources

Based on the knowledge at the time of data collection, the German non-market resources contain:

- Capacity reserve: Since 1 October 2026 and until 30 September 2028, a total contracted capacity of 1.3 GW of power plants is available for unforeseeable demand balancing events. These power plants must be available within 12 hours and can also partially be used to resolve grid congestion.

- Grid reserve: This is used to resolve congestions and contains different types of power plants in Southern and Western Germany. It comprises a total capacity of 9.0 GW. Secondary to capacity reserve, it can also maintain generation adequacy.

- Special network equipment power plants: These are fast-starting gas-fired power plants with an overall capacity of 1.2 GW, primarily intended to restore grid stability after a disturbance in the transmission grid. Secondary to the grid reserve, they can also maintain generation adequacy.

Parts of the aforementioned non-market resources primarily have a different purpose than coping with resource adequacy risks, such as congestion management. Therefore, non-market resources might already be partly exhausted for their primary purpose and unavailable for resource adequacy purposes.

In accordance with the German coal phase-out legislation, Germany has transferred a first power plant unit (Jänschwalde A) into the state of "extended decommissioning (zeitlich gestreckter Stilllegungsbetrieb)" since the beginning of 2026. The capacity of 465 MW can be activated 10 days in advance, if the supply situation should make it necessary. Operationally, the block thus plays no role within the framework of the enumerated non-market resources and would require an activation e.g. motivated by the Seasonal Outlook. At the end of 2027 and 2029, further units will follow into the "extended decommissioning" state.

Load

The forecasted gross electricity consumption for 2026 in Germany was estimated to be 521 TWh and for 2027 523 TWh (net electricity consumption – excluding power plant self-consumption: 497 TWh and 499 TWh respectively). This represents a slight increase compared to the 517 TWh in 2025, as reported (at the time of data collection) in preliminary publications by the German Association of Energy and Water Industries (BDEW). Monthly updated BDEW data on 2026 electricity demand development compared with the previous year support the assumed modest increase in demand. The net peak demand is 82.4 GW for winter 2026/27. The load can still be classified as relatively moderate, and no critical load-driven deterioration of the resource adequacy situation is expected.

Additional remarks on the German data collection

The pumped-storage power plants (PSPs) of the Kraftwerksgruppe Obere Ill-Lünersee (turbine capacity: 2.2 GW; pumping capacity: 1.4 GW) – which are installed in Austria but assigned to the German control block, remain in the German dataset. For the same reason, the Kühtai pumped-storage power plant and Silz storage power plant (total turbine capacity: 0.9 GW; total pumping capacity: 0.38 GW) are also included in the German dataset.

Compared with the winter outlook 2025/26, the installed solar capacity was reported in DC rather than AC this time. This initially results in an apparent increase in installed capacity of around 24 GW. After appropriate conversion and correction, the actual increase compared with the previous winter outlook amounts to around 13 GW (DC).

Gas storage levels in Germany are currently significantly lower than in comparable periods of previous years. Based on the latest forecasts of the DVGW (Deutscher Verein des Gas- und Wasserfaches e.V.), the overall target of a fill level of about 70 % by the target date 1 November will not be met.

Security of supply continues to depend on the interaction of pipeline imports, storage, LNG imports, infrastructure and demand, according to statements from the Bundesnetzagentur. The authority is continuously monitoring the situation and evaluating it with a particular focus on the requirement for storage levels to be 30% on 1 February 2027. According to the national regulator's current assessment, the risk of a gas supply shortage remains low. The German TSOs will closely monitor the situation during the upcoming winter.

Great Britain

Winter Outlook 2026-2027

Great Britain's National Energy System Operator (NESO) published the Electricity Winter Outlook 2026/27 Report on 23 October 2026. Our analysis indicates that margins will be adequate and within the Reliability Standard. The base case margin for Winter 2026/27 is 5.9 GW (representing 9.5% of average cold spell peak demand), with an associated loss of load expectation (LOLE) below 0.1 hours. This remains in line with margins forecast in recent winters.

Our planning, preparations, and balancing tools will enable the reliable operation of the system under varied supply and demand conditions. We expect a sufficient operational surplus throughout winter, although there may still be tight days that require us to use our standard operating tools, including system notices. Current market submissions suggest such days are most likely in December or January, excluding the Christmas period. Our analysis suggests that imports will be available when required, and prices suggest Great Britain will typically be a net importer across electricity interconnectors this winter, although flows may be more sensitive to prevailing conditions.

Greece

Winter Outlook 2026-2027

For the upcoming Winter, there is no scheduled maintenance of generation units during high demand period (15th December to 15th February). The possibility of extension of scheduled unit maintenances within high demand period is low. The new 850MW installed capacity thermal (gas) unit continues its commissioning operation. Old lignite units are decommitted in line with the lignite phase out program. The only lignite unit remaining in operation is Ptolemaida5 in northern Greece.

IPTO is in continuous contact with the Gas Transmission System Operator to be able to initiate the switch fuel procedure in some bi-fuel units (gas to oil) in case of emergency. The operation with alternative fuel is limited to a few days and is only considered as an urgent countermeasure in case of lack of gas supply and not a continuous operation mode. Reservoir water levels are low. There are no scheduled maintenance or capacity limitations on any of the interconnection lines for the upcoming high demand period.

The renovation and equipment replacement program, aimed at enhancing resilience, has made significant progress. A small increase on consumption during the upcoming winter is expected in comparison with Winter 2025-2026 which was mild regarding environmental conditions.

The expected generation, the increase of RES installed capacity, and import capacity are sufficient to cover Greek energy needs under normal conditions, and any adequacy issues are not expected, given that Gas supplies will be continuous and redundant to cover domestic demand. However, Greek system will be highly depended on import transfers during high demand periods in combination with low-RES generation, in order not to face any adequacy issues in high demand peaks.

On the contrary, due to the high penetration of RES in both the Transmission System and the Distribution Network, during low demand days (weekends and bank holidays), it is likely that there will be RES production restraints for Balancing purposes and thus the control of the Distribution Network RES is of utmost importance.

The continuous BESS installations facilitate the increase of RES share in Greek Energy Mix, providing valuable regulation reserves and energy reserve to cover peak demand.

Hungary

Winter Outlook 2026-2027

Based on previous years' system loads and observed typical trends, such as the spread of electrification, we might reach a new peak, especially if we will experience similarly prolonged cold weather like in 2026. The continuously increasing PV generation in the Hungarian system can cause higher uncertainty in operational planning periods and real time system operation as well, which causes a higher level of reserve requirement even in the winter period. Real time balancing capacities will be further increased due to MAVIR's planned connection to the PICASSO and MARI platforms in October.

This winter period the level of maintenance is higher than usual due to postponements. However, according to our expectations the almost constantly required import will be available over the period under review. In addition, network developments are made continuously to manage higher voltage levels as well as to improve operational security.

As preparation for previous winter periods MAVIR tested the bigger gas power plants and found that while most of the gas power plants can use oil as an alternative fuel, it causes a reduction in some of their balancing capacity.

Altogether, the Hungarian power system is expected to be safe during this winter period. However, it is important to note that the oil embargo, a possible natural gas crisis as well as extreme weather conditions combined with high electricity demand could have unforeseen effects.

Ireland

Winter Outlook 2026-2027

The outlook for this winter in Ireland is improved compared to previous winters. In the last year 275 MW of new gas plant, 63 MW of new batteries and 809 MW of wind and solar generation has become operational. In addition, 649 MW of non-market Temporary Emergency Generation and 750 MW of Retained Existing Units (units that left the market but were retained as non-market resources) are also available. While the peak demand is forecast to increase this winter, it is outweighed by the increase on the generation side. The system may enter the Alert state at times, most likely at periods of low wind and low interconnector imports. There is a low probability of the system entering the Emergency state due to insufficient generation being available to meet demand.

Italy

Winter Outlook 2026-2027

Upward adequacy assessment

Import from neighbouring countries is still expected to be necessary to restore adequacy margins and to cover consumption in critical hours, but with needs close to zero.

Analyses estimate that the risk for adequacy is within standard levels.

Critical situations could happen in the unlikely case of high demand due to cold spell, low renewables and low import from neighbouring countries (or even export conditions), or if unplanned outages rate of generation units is higher than the typical values.

Postponement and/or cancellation of power plant and grid element maintenances could be used as countermeasures.

In addition, improved regional coordination processes (including regional weekly adequacy assessment – Short Term Adequacy and Critical Grid Situation processes) will support the definition of proper and efficient countermeasures in case the risk of incurring critical situations will be detected at short term horizon.

Over time, the Capacity Market mechanism has contributed to enhancing adequacy margins. However, if this mechanism does not continue in the future, a decline in thermal capacity could be expected, with potential consequences for adequacy.

Generation capacity in Italy
In the last year renewable generation capacity increased by nearly 7,3 GW.

Currently the total amount of installed renewable (wind, solar and hydro generation) is around 83 GW and has exceeded thermal capacity, that stands at about 64 GW. Moreover, since last year, a small increase in utility-scale storages was registered, bringing the total capacity to about 1,9 GW.

Downward regulation assessment

The worst weeks for downward regulation are expected to be the last week of December and the first week of January, characterized by several public holidays, and the end of the winter period, due to typical decrease of load and increase of renewables. To guarantee system security, Terna could adopt enhanced coordination with neighboring TSOs and special remedial actions, such as the curtailment of renewable generation. Further special actions, such as application of allocation constraints to transmission capacity, could be planned in cooperation with neighboring TSOs.

Latvia

Winter Outlook 2026-2027

No adequacy issues expected for Winter 2026-2027

Lithuania

Winter Outlook 2026-2027

At the beginning of this winter season net generating capacity in Lithuania will be 8995 MW. Most noticeable changes can be seen in renewable energy sources generation. Wind net generating capacity has increased by 45% and solar by 16%, compared to last year winter season. These numbers will be rising through winter and all the way to the beginning of the next year, due to the rapid growth of solar power and additions of new wind parks. Starting October 20th until November 25th Lithuanian PP G9 (444 MW) will be in maintenance. Also, Lithuanian PP G7 (287 MW) will continue to be in maintenance up early February 2027.
In order to ensure isolated operation in 2026, if necessary, Litgrid has production availability reserve of 1280 MW.
Gradual growth of national consumption is expected, but no adequacy or downward regulation issues are expected for the coming season.

Luxembourg

Winter Outlook 2026-2027

No adequacy issues expected for Winter 2026-2027

Malta

Winter Outlook 2026-2027

The peak demand and its duration in Malta are lower in Winter than in Summer, since demand is mainly driven by cooling. Generation plant's performance also improves at lower temperatures. IC1, the interconnector connecting the island with the European grid through Sicily is planned to be disconnected end of March, to allow works related to a second interconnector IC2, during which Malta will be operating in island mode.

In case demand exceeds the available generation capacity and to support the grid during island mode, Malta has an additional 235MW of emergency gasoil-fired plants that can be dispatched when necessary.

Simulations for the Winter Outlook 2026-2027 showed elevated levels of EENS and LOLE under scenarios which did not consider emergency reserves. This risk was largely mitigated with the introduction of emergency reserves. However, some residual unserved energy remained. The occurrence of ENS was also exacerbated due to high forced outage rates on thermal power plants assumed in the study. Upon further evaluation, the forced outage rates will be revised in future studies to better reflect historical data.

Moldova

Winter Outlook 2026-2027

Moldova's power system continues to face significant challenges in covering electricity demand during peak hours. Due to constraints in natural gas supply, MGRES continues to operate with only limited generation availability. Electricity purchases from MGRES remain unavailable for the right-bank of the country.
A small amount of BESS has now been installed in Moldova, but the currently installed storage capacity is not sufficient to cover Moldova's need. Further integration of BESS remains important for covering demand during evening peak hours and would allow to use excess of electricity from renewables during day hours and off-peak hours possibility of import. However, during winter the contribution of solar generation will become limited due to shorter daylight hours and lower solar irradiation.

The deficit is expected to be addressed primarily through imports via the RO–MD and UA–MD interconnections, when capacity is available from the Ukrainian side. The granted NTC on the RO–MD remains limited. The capacity reallocation mechanism continues to play an important role in increasing the commercial import capacity available to Moldova.
The mechanism of reallocation will become less efficient after the expected launch of intraday allocations on UA-SK, UA-HU, and UA-RO borders. During winter, limited availability of imports from Ukraine with insufficient capacity on the RO–MD interconnection could create difficulties in covering peak demand.

Montenegro

Winter Outlook 2026-2027

No comments received from the TSO. No adequacy issues are expected for Winter 2026-2027 according to the outlook.

Netherlands

Winter Outlook 2026-2027

No adequacy issues expected for Winter 2026-2027. However, we monitor the fill levels of the gas storage facilities, these remain behind compared with other years. This is because gas stocks were very low following a cold winter, and, given the high gas prices, the market is waiting for them to be restocked.

Northern Ireland

Winter Outlook 2026-2027

The current outlook for Winter in Northern Ireland remains positive and dispatchable generation margins are achievable. There is a concern that plant subject to Annual Run Hour Limitations (AHRL) may be required to operate outside their annual limits due to the hours remaining for this year. With all large generation available, normal operating conditions should persist throughout the rest of the winter period.

The subsequent loss of any large generation may lead the system into alert state at times, however there is a low probability of the system entering emergency state due to insufficient generation being available to meet demand.

North Macedonia

Winter Outlook 2026-2027

No comments received from the TSO. No adequacy issues are expected for Winter 2026-2027 according to the outlook.

Norway

Winter Outlook 2026-2027

The Winter 2026/2027 season is not expected to present adequacy issues in Norway. Reservoir levels in southern and mid-Norway remain low (NO1, NO2, NO3 and NO5). Since week 28, these levels have been at their lowest recorded point in the past three decades. By contrast, reservoir levels in Northern Norway (NO4) are still well above the historical median. Further increases in reservoir storage may still occur throughout the autumn, and snow reservoirs could accumulate during the winter if precipitation is above average. By week 43 the situation has due to rainfall improved, especially in NO3 and NO5. Should a hydropower shortage occur in Norway during the winter, increased import-capacity is now (since 2021) available. The import is however depending on the market prices, which might be high in Europe the coming winter. If adequacy challenges in Norway, these are more likely to occur in the spring 2027, prior to the snowmelt.

New demand in the connection-queue (data centers, hydrogen etc.) has not increased as rapidly as anticipated, which has levelled out the pressure on the existing generation system the coming winter compared with earlier forecasts.

Poland

Winter Outlook 2026-2027

In Poland the unfavorable hydrological conditions described in the summer adequacy report remain largely unchanged in Autumn. River levels remain exceptionally low, with the water level in the Vistula River being particularly important for the Polish generation adequacy. Continued low water levels are causing substantial capacity limitations at some large thermal power plants equipped with open-circuit cooling systems, located in the Central-East / South-East part of Poland. This leads to a considerably lower availability from their installed capacity of 4.6 GW.

During periods of low wind generation and high demand, imports become crucial for maintaining generation adequacy, particularly in the evening hours, when PV infeed is negligible. If imports are insufficient and other remedial measures cannot restore the power balance, PSE may need to resort to announcing the “scarcity event”, obliging all parties with contracted obligations on Capacity Market to provide their resources to the power system. These obligations are applicable for all contracted resources, meaning that all generators and all DSR units must react adequately (it is thus non-selective).

The latest weather forecasts indicate that dry conditions are likely to persist throughout the second half of autumn and into early winter, making significant improvements in hydrological conditions unlikely.

PSE has also identified an additional adequacy risk for winter 2026/2027. A prolonged period of severe cold coinciding with exceptionally low river levels could cause rivers to freeze, potentially leading to further operational restrictions at thermal power plants.

Winter Outlook simulations do not show adequacy issues, as mentioned above conditions / risk scenario have not been included in the Winter Outlook 2026/2027 report – there are many variables that influence the level of hydrological / environment constrains in thermal power plants with open-circuit cooling system, which makes it difficult to precisely translate current weather scenarios conditions used in simulations to the scale of unavailable capacity.

Portugal

Winter Outlook 2026-2027

Although the security of supply indicators presented in this report do not, overall, identify any risks to the Portuguese power system, it should be noted that, as illustrated in Figure 21, under normal conditions Portugal relies on imports from Spain to cover approximately 21% of its electricity needs. This share may increase under conditions of low hydropower and wind generation.

With regard to hydropower availability, generation in the Douro basin has historically played a crucial role in ensuring system adequacy during the winter period. However, this generation is heavily dependent on water releases from Spain, the availability of which remains highly uncertain at this stage.

Some uncertainty also remains regarding the maximization of the availability of CCGT and hydro generation during winter. Therefore, TSO-REN is proposing to reschedule planned outages to a period after the winter, while their feasibility during the winter period will be reassessed closer to their scheduled dates, taking into account the prevailing system conditions.

Romania

Winter Outlook 2026-2027

Romania enters the winter 2026–2027 season following an exceptionally prolonged period of adverse hydrological conditions. The severe drought during summer and early autumn significantly reduced water inflows and hydropower availability. At the same time, starting from August, reservoir hydro generation was extensively used during peak-demand periods to compensate for the significant reduction in nuclear generation. The combination of prolonged drought and increased use of reservoir hydro has led to a substantial reduction in hydro reserves, with energy reserves in the main reservoirs expected to be below 50% at the beginning of the winter season. This reduces the available hydro flexibility and requires careful management of the remaining water resources throughout the winter.

Electricity demand is expected to be higher than during the previous winter. Under the medium scenario, total consumption for November 2026–March 2027 is forecast at approximately 24.9 TWh, around 1.3% higher than in the previous winter, with peak demand reaching around 9.1 GW. Under a colder scenario, consumption could reach approximately 25.7 TWh, around 4.9% above the previous winter, with peak demand of up to 9.5 GW. Prolonged cold spells, particularly when combined with low wind and photovoltaic generation, could therefore place additional pressure on system adequacy.

The reduced hydro flexibility increases the importance of maintaining sufficient dispatchable domestic generation. The availability of nuclear, gas-fired and coal/lignite generation will be particularly important during periods of high demand and low renewable generation. In this context, temporary or unplanned unavailability of major generation units, such as CECC Brazi (OMV Petrom) or one or more units at Cernavodă NPP, could place additional pressure on system adequacy and operational security, particularly if occurring simultaneously with low hydro and renewable generation or limited import availability.

Natural gas availability will also need to be closely monitored, considering the potentially higher demand for both heating and electricity generation during prolonged cold periods, as well as the uncertainties affecting the European gas market in the current geopolitical context. The availability of sufficient gas-fired generation may therefore become particularly relevant during periods when other domestic generation resources are constrained.

Cross-border exchanges are expected to remain an important element of Romania’s adequacy position during the winter. The national forecast anticipates a net import position throughout the winter period, while the experience of summer and early autumn showed that Romania’s dependency on imports can increase significantly when domestic generation availability is reduced. However, high import levels require both sufficient physical cross-border capacity and sufficient energy availability in the region. Regional energy availability may become constrained by high demand or simultaneous import needs in neighbouring systems, including the Republic of Moldova and Ukraine.

In addition, several planned transmission network maintenance outages were postponed during the summer in order to preserve cross-border capacity and maximise import capability during the most critical periods. These works may need to be rescheduled during the winter, when system conditions allow, potentially reducing the available cross-border capacity during certain periods. Depending on the network configuration and regional power flows, this may also increase the risk of internal and regional congestion, particularly on the transmission corridors between Central and South-East Europe.

Overall, Romania enters winter 2026–2027 with tighter adequacy margins than under normal conditions. The combination of hydro reserves below 50%, potentially higher winter demand, the availability of major nuclear and thermal generation units, natural gas supply conditions, postponed network maintenance and the availability of sufficient regional imports will be the main factors to monitor. In particular, high import levels cannot be considered guaranteed, as their availability will depend simultaneously on physical transmission capacity, internal and regional network constraints and sufficient energy being available for export from neighbouring systems.

Serbia

Winter Outlook 2026-2027

No resource adequacy issues are expected in Serbia during winter 2026–2027. Available generation and expected import capacity should be sufficient to cover demand, including peak demand. EMS will monitor the situation, particularly during prolonged cold periods or in the event of generation outages.

Due to Serbia's position in the regional transmission network, significant transit flows are expected. These flows may change in both magnitude and direction depending on generation and cross-border exchanges in neighbouring systems. As a result, some network elements may be highly loaded even when there is no resource adequacy issue in Serbia. EMS will assess these conditions in operational planning, while the National Dispatch Centre will manage the system in real time and coordinate with neighbouring TSOs as needed. A shunt reactor is planned to be commissioned at Vranje substation during the winter to improve voltage control in the southern part of the network.

The peak demand of 6.7 GW shown for Serbia in the Winter Outlook represents a very pessimistic scenario. The expected peak demand is around 6.0 GW.

Slovakia

Winter Outlook 2026-2027

No adequacy risks have been identified for Slovakia in the Winter Outlook 2026/2027. The expected generation capacity is considered sufficient to meet the forecast peak demand throughout the winter period and to maintain an appropriate level of security of supply under normal operating conditions. During the winter period, scheduled maintenance is kept to a minimum.

On the generation side, a new nuclear unit (Mochovce 4), has been added to Slovakia's generation portfolio and has undergone the required commissioning process. Following nuclear fuel loading, which commenced on 29 June 2026, and the successful completion of all necessary tests, including a 144-hour trial run, the unit entered the commissioning phase in October 2026. During this phase, its electrical power will be gradually increased to 438 MWe by the end of 2026. The electric power of the new nuclear unit will be 471 MWe.

On the consumption side, an upward trend is expected following the resumption of aluminium production at the Slovalco aluminium factory, (where operations had been suspended since 2022 due to high electricity prices). Electricity consumption of this factory is projected to increase gradually and reach approx. 100 MW by the end of 2026.

Slovenia

Winter Outlook 2026-2027

Looking ahead to the upcoming winter, the generation outlook is expected to be more favourable than during the summer. NEK is expected to remain available throughout the winter period, with its next planned outage scheduled for spring 2027.
For TEŠ 6, commissioning tests are planned to start in mid-October following the extended overhaul and turbine repair. Even if the unit is not immediately available at the beginning of November, this is not expected to create a significant adequacy concern, as electricity demand is typically lower during the early part of the heating season. In addition, the primary role of TEŠ under the current framework is related to securing district heating supply and TEŠ 5 can replace TEŠ 6 for that role.
Hydrological conditions have already started to improve compared with the summer drought, and we expect a gradual recovery of hydro generation during the winter period. Based on the current outlook, we therefore expect hydro availability to be broadly supportive through the winter, although actual production will remain dependent on precipitation, temperatures and inflow conditions.

Overall, with NEK available, improving hydro conditions and the expected gradual return of TEŠ 6, the generation capacity for the upcoming winter is expected to be sufficient to meet the demand.

Spain

Winter Outlook 2026-2027

Despite the results of the reference scenario in this report, there's a risk to experience scarcity events during the next winter period. A combination of various aspects could develop into the aforementioned events:

- The high level of CCGT unavailability experienced recently during the last months and not considered in the winter outlook data collection. There are several long-duration forced outages, partial power limitations and use constraints in place affecting to CCGT plants. It's likely that high CCGT unavailability will continue/increase during the next months.

- Spanish load has significantly increased, and it's expected that it continues increasing in the next months.

- There is an increasing concern about long periods with low renewable infeed and low temperatures (i.e. dunkelflaute), which can affect to big areas in Europe.

- Hydro reserves (51% at mid- October) are currently at a higher level than the mean reference value of the last ten years. However dry weather conditions have been observed during the last months and hydro reserves could drop if that situation continues.

Sweden

Winter Outlook 2026-2027

No load loss is expected for the winter 2026-2027, given normal operating conditions. However, analyses indicate that a strategic reserve is necessary to ensure compliance with the reliability standard also during periods of system stress, such as cold spells, unexpected outages, or other circumstances leading to unusually high demand and limited available resources. Svenska kraftnät is conducting the procurement of a strategic reserve for the winter period from 16 November 2026 to 15 March 2027. This winter, Svenska kraftnät signed agreements for a strategic reserve totaling 330 MW.

Hydropower reservoir levels in Sweden are below the seasonal normal, with Swedish reservoirs currently filled to around 70% compared to a typical level of approximately 80%. While this situation is not currently assessed as a risk for resource adequacy for the coming winter, it could become a concern if similar conditions persist over multiple years. The lower reservoir levels, coupled with low gas storages in Europe will likely lead to higher than usual electricity prices during the winter.

While several transmission corridors, including internal connections between Swedish bidding zones and cross-border links with Finland, Norway, and Denmark, will face temporary capacity constraints at the beginning of the winter season, these outages are expected to have a limited impact as they occur during a period when import requirements are typically low.

Switzerland

Winter Outlook 2026-2027

No adequacy issues are expected for Winter 2026-2027.

Ukraine

Winter Outlook 2026-2027

After more than four years of relentless missile strikes on the electricity infrastructure by Russia, the reliability indicators for the winter of 2026–2027 reveal modest concerns. Despite these devastating circumstances, the Ukrainian power system is expected to remain adequately robust. Thanks to the Ukrainian Armed Forces and the dedicated efforts of Ukrainian power engineers, the system continues to meet demand. With its integration into the Continental European Power System, Ukraine's grid demonstrates strong resilience and is likely to face adequacy challenges only as a result of missile strikes by Russia.