Low water levels on the Rhine and Danube put the European economy under pressure

Coface

The historically low water levels in the Rhine and the Danube are disrupting freight transport, compromising certain energy infrastructure and exacerbating pressures on several European industrial sectors. Whilst water levels are expected to remain low in the short term, their effects could persist over the coming months and affect growth in the most vulnerable economies.

Key figures

- **8 cm**: the water level of the Rhine at Kaub fell to just 8 cm on 18 August, well below the 78 cm threshold at which navigation becomes restricted and the previous all-time low of 25 cm recorded in 2018.
- **20%**: at the start of August, barges on the Rhine were carrying only around 20% of their usual load.
- **72%**: the share of European inland waterway transport accounted for by the Rhine (60%) and the Danube (12%).
- **Up to -0.4 points of growth**: during the previous major episode of low water levels in 2018, Germany's real GDP growth was reduced by 0.3 to 0.4 points.

European rivers at historically low levels

For several months now, Europe has been experiencing exceptionally hot and dry conditions, which have significantly reduced the flow of many rivers. The consequences are particularly evident on the Rhine and the Danube, two strategic waterways for the continent's transport and economic activity. The water level of the Rhine reached a new all-time low in early August at the Kaub gauging station in Germany, whilst several sections of the Danube in Hungary and Romania have also recorded levels never seen before.

Beyond the environmental issue, this situation is now having tangible economic effects. Low water levels are directly affecting the movement of goods, the operation of certain energy facilities and, by extension, the activity of industrial sectors that depend on this infrastructure.

A logistical crisis threatening supply chains

Although inland waterway transport accounts for only a small proportion of European freight transport, it plays a strategic role in several countries through which the Rhine and the Danube flow (5.4% of freight in Germany and up to 19.2% in Romania).

The potential for switching to other modes of transport remains limited. A river vessel can carry nearly 2,000 tons of goods, compared with up to 1,500 tons for a freight train and just 25 tons for a tanker lorry.

The consequences of low water levels are already evident, both in terms of the volumes transported

and transport costs.

In early August, **some barges sailing on the Rhine were only able to carry around 20% of their usual capacity**. On certain sections of the Danube, operators have also had to reduce their loads – by up to 40% on the Romanian section of the river.

During the previous major drought in 2018, the cost of river transport rose by a factor of 2.5 for dry bulk and up to 4.5 for liquid bulk, due to loading restrictions and surcharges imposed by operators.

Energy sector also under pressure in Central Europe

The consequences of the drought are not limited to transport. The **Danube also plays a vital role in cooling certain nuclear power stations**. In Hungary and Romania, low river levels have already disrupted operations at the Paks and Cernavodă power stations, which are the sole sources of nuclear power in their respective countries and account for around 40% of Hungary's electricity generation and 20.5% of Romania's.

To compensate for the fall in production, **operators must import electricity or rely on gas-fired power stations, which are more expensive**. Whilst there is no immediate risk of widespread power cuts, this situation nevertheless drives up energy bills and exacerbates tensions on regional markets. In Romania, for example, imported electricity costs 2 to 2.5 times more than domestically generated electricity.

The Hungarian and Romanian governments have, moreover, already taken measures to temporarily reduce electricity consumption by certain major industrial consumers, to ease the pressure on the system. **These reductions particularly affect energy-intensive industries such as the automotive, chemical and construction materials sectors**, and are expected to weigh on industrial activity in August.

The German chemicals sector on the front line

The German chemicals sector, which is largely concentrated along the Rhine, is one of the sectors most dependent on river transport.

The BASF site in Ludwigshafen illustrates this vulnerability: situated south of the critical point at Kaub, it carries around 40% of its freight by river barge. A further deterioration in low water levels could cause further **disruption to links with the major ports of Amsterdam, Rotterdam and Antwerp**, which are essential to its supply chain.

This blow comes at a time when the **German chemicals industry is already weakened by high energy costs and a loss of competitiveness**, with production having fallen by around 20% since 2018.

The European economy's growing vulnerability

In the short term, hydrological forecasts predict only a limited improvement in the situation. On the Rhine, the seasonal period of low water levels usually lasts until autumn, suggesting that disruptions are likely to continue in the coming weeks. More broadly, declining snow cover, retreating glaciers and an increase in extreme heatwaves could make such events more frequent in the future.

This situation highlights the need for businesses and public decision-makers to integrate climate risks more fully into their logistics, industrial and energy strategies. For businesses reliant on inland waterway transport, the challenge now goes beyond the ad hoc management of a single drought episode: it raises the question of supply chain diversification and their capacity to absorb more frequent climate-related disruptions.

> The low water levels in the Rhine and the Danube show that extreme weather events are no longer just an environmental issue. They are becoming an economic factor capable of simultaneously affecting logistics, energy and industrial activity.
>
> The current situation is all the more worrying as it has occurred earlier and with greater intensity than in 2018, against a backdrop of weaker European growth.

explains Eve Barré, economist at Coface.