



# Low Rhine water creates another headwind for the German economy

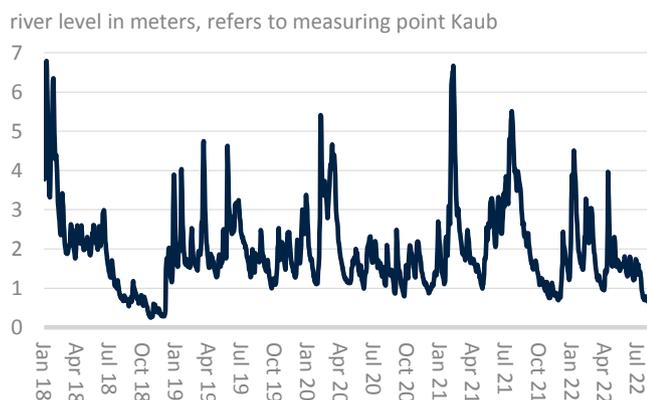
## Low Rhine water levels are a reminder of 2018 problems

The persistent drought and the resulting low water levels have exacerbated the capacity bottlenecks in German inland navigation. In 2020, 4.1% of the total volume of goods transported in Germany (4,568 million tonnes) was transported by inland navigation (rail: 7.9%, road: 80.2%). The Rhine is of outstanding importance in this context. Low water levels mean reduced carrying capacity of barges or less uploading. For the much-noted Kaub gauge on the Middle Rhine, water levels below 75 cm mean that a large container ship (class Va, 200 TEU (Twenty-foot equivalent unit), or up to 3,000 tonnes, length 110m) usually has to reduce its upload to about 30%. Kaub attracts special attention because it is centrally located in the so-called Middle Rhine rocky stretch (i.e. the navigation channel is narrow and shallow) and is not influenced by tributaries. In 2018, the standstill of freight shipping on Germany's most important waterway reduced economic growth by an estimated 0.2 pp.

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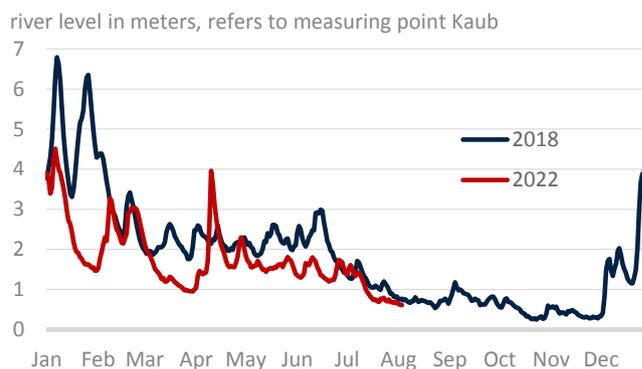
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Figure 1: Water level of Rhine river at Kaub: lows usually in autumn



Source: Bloomberg Finance LP, German Federal Waterways and Shipping Administration

Figure 2: Low water levels remind of 2018



Source: Bloomberg Finance LP, German Federal Waterways and Shipping Administration

Compared to the current headwinds, the loss of economic growth in 2018 may seem small. However, as the supply of fossil fuels is particularly important today and certain logistics routes also have to be re-organised as a result of the sanctions,




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this year's low water phase could have a more negative impact. This applies to the more difficult transport of goods itself, which can lead to reduced supplies of raw materials. But also for companies that rely on drawing water from the river for cooling purposes. Withdrawal quantities as well as the re-entry temperature of water are subject to limitations. Low water levels usually occur at the end of summer or beginning of autumn. This year problems are mounting already in July.

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## Coal-fired power plants to take over to save gas, waterways could become an Achilles' heel

In the current situation, the problem with low water is particularly pressing, as coal-fired power plants are being fired up to ensure electricity supply in the face of significantly reduced gas supplies. Much of the needed hard-coal is transported from the Dutch ports of Amsterdam, Rotterdam and Antwerp by barges. According to data from April 2022, coal, crude oil and natural gas (13.8%) and coke and petroleum products (17.7%) accounted for a large share of the goods transported by inland navigation. According to company reports, the coal reserves at most power plant sites are currently only sufficient for about one week of full-load operation.

Although the water level (3 August: 61 cm) is still quite above the lows of 2018 (minimum Oct: 25 cm), cargo ships already have to reduce the loading quantity. Therefore, transport becomes more expensive due to so-called low-water surcharges and because the cargo potentially has to be distributed over more ships. This, too, is already challenging in the current situation, as the sanctions against Russia mean that other types of freight are also competing with fossil fuels. According to press reports, more and more cargo ships are being booked in Eastern Europe to support grain transports from Ukraine (via the Danube). Considering the capacity of a typical large Rhine barge for bulk transport (3,000 tonnes, length: 110m), switching to truck transport is not a good option, as its cargo is equivalent to 150 heavy trucks (20 tons).

Another aspect concerns navigation at low water in general. If an accident were to occur under the current conditions, blocking a shipping channel, the effects would be far more severe than in normal times.

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# Appendix 1

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