Analyses



MARCH 2022

Energy Price Development -Background and Perspectives



ENERGY PRICE DEVELOPMENT -BACKGROUND AND PERSPECTIVES

Energy Prices of Austrian Households



- Wholesale price for electricity and gas reached a record level 2021 and are not expected to fall more sharply until 2023.
- Increase in wholesale prices are only partly reflected in household prices, also because the share of energy in the retail price is only 47% for gas and 33% for electricity.
- 25% of domestic energy consumption is covered by natural gas and 17% by electricity. The share of natural gas in the energy mix has remained unchanged for two decades.
- Appropriate energy efficiency measures and an accelerated expansion of renewable energy sources will reduce net imports of oil by up to 70% by 2030 and of natural gas by more than half.
- Uncertain russian gas supply causes persistently high gas prices. Due to low inventories, supply difficulties with natural gas cannot be ruled out next winter.
- Decarbonization of the energy market causes higher energy prices.

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What happened in 2021 - short version

In 2019 and 2020, wholesale energy prices have fallen due to cheap fuel, weak demand and high energy production from renewable sources. The sometimes unexpectedly strong counterreaction in 2021 was mainly due to the rapid economic recovery and the resulting sharp increase in gas demand, which was not matched by any corresponding supply. In the EU, gas production and liquefied natural gas (LNG) imports, each 17% of consumption, have fallen and pipeline supply has not increased in 2021. Above all, Russia did not deliver more than the long-term supply contract quantities (around 45% of EU gas imports and 80% of Austrian gas imports come from Russia). In 2021, European wholesale gas prices increased by 480%. Increased LNG deliveries from the USA led to a brief easing of prices at the beginning of 2022 and the outbreak of the Ukraine crisis to a renewed price increase (chart 1).

Energy supply is disproportionately skewed towards gas

To put it simply, the prices on the electricity market in Europe reflect the costs of the power plants used to generate the additional electricity demand. Due to the relatively dry summer of 2021 and the lack of wind during this period, less electricity was generated from renewable sources and electricity demand had to be supplemented increasingly by gas power plants, which generate significantly higher production costs. In this respect, the wholesale price of gas has a direct influence on the price of electricity. In Austria, electricity production at hydropower stations fell by 5.5% in 2021 and at wind power stations it fell by 1%, while natural gas consumption at thermal power stations increased by 7.3% (S. E-Control).

So far only a portion of the higher purchasing prices incurred by energy suppliers of 330% in 2021 are being passed on to end customers: on average in 2021 electricity prices of Austrian households increased by 7%, in January 2022 by 6.2%. The delayed price adjustments are explained in part by the high number of contracts that include price guarantees and by the fact that electricity and gas prices must be announced in advance (which happened for the most part at the end of 2021). It is difficult to estimate the extent to which consumer prices in 2022 will track wholesale prices, which are expected to rise further. The share of energy in end consumer prices is 47% for gas and just 33% for electricity. In addition, the 2022 price level will be affected by the suspension of the renewables subsidy surcharge, the increase in network charges and the planned CO_2 levy from July onwards. Current gas and electricity futures prices indicate that wholesale prices are not likely to ease until Q2 2023.

Compared to the development of consumer prices and wholesale prices for gas and electricity, the price of heating oil has followed the price of crude oil almost directly in recent years.

(Euro per megawatt hour) Electricity Electr. Futures Gas Futures Gas 520 480 440 current values (7 3 2022) 400 Gas 252 €/MWh, Electricity 410 €/MWh 360 320 280 240 200 160 120 80 40 0 1.14 7.14 1.15 7.15 1.16 7.16 1.17 7.17 1.18 7.18 1.19 7.19 1.20 7.20 1.21 7.21 1.22 7.22 1.23 7.23

Chart 1: Wholesale Prices for Gas and electricity

Chart 2: Household prices for important energy sources (Consumer prices, percent change)



Source: EEX (European Energy Exchange), Refinitiv, Statistics Austria, UniCredit Research

Gas price has already risen to an all-time high in 2021

So far only a portion of the higher wholesale electricity prices are being passed on to end customers



Austria's gas consumption rose sharply in 2021

In total, around 25% of energy consumption in Austria is covered by natural gas and 17% by electricity. Since 2010, natural gas consumption has fallen slightly along with total energy consumption in Austria. However, the share of natural gas in the energy mix has hardly changed for more than two decades. First and foremost, coal and, to some extent, oil were replaced with renewable energy, especially in power generation. In 2021 gas consumption rose again by 6%.

Of the total of 100 terawatt-hours of natural gas, a quarter were used for electricity and heat generation in power stations and in thermal power stations (11 TWh and 16 TWh). About twothirds of the gas volume was used directly for heat generation by private households (19 TWh) and commercial consumers (44 TWh). Finally, 5 TWh of natural gas was used indirectly in industrial production processes (mainly in the chemical and steel industries).

According to Environment Agency Austria, appropriate energy-efficiency measures and the accelerated expansion of renewable energy sources in Austria could reduce net imports of crude oil by up to 70% and net natural gas imports by more than half by 2030. Based on prices as at the start of March, this would equate to savings of EUR 5.4 billion on crude oil imports and EUR 6 billion on natural gas by 2030. Given the considerable dependence on Russian gas supplies in Europe, it is essentially vital that measures be implemented swiftly. This point is all the more pertinent in relation to the gas supply in Austria due to the stronger dependence on Russian gas. The main contribution to the savings in the gas sector will have to come from households and from the production sector (Chart 5).

Electricity market in Austria

The proportion of electrical energy in Austria's total energy consumption is 17%. Of the 69 TWh available in 2021, around 18 TWh each was consumed by private households and service industries, or 28 TWh in production and the rest in the energy sector. In the future v. a. the share of households in electricity consumption will increase significantly, at the same time as the declining demand for fossil fuels and motor fuels. The share of electricity costs in households that use heat pumps or an electric car is likely to be well above the 2% of an average household. Households with gas heating spent 2.4% of their budget on the gas bill in 2020, on average 0.6%.

Chart 3: Austria's natural gas balance

(in terawatt hours)



Chart 4: Austria's electricity balance



Quelle: E-Control, Statistik Austria, UniCredit Research

25% of energy consumption in Austria is covered by natural gas

Appropriate energy-efficiency measures could reduce net natural gas imports by more than half by 2030

Households with gas heating spent 2.4% of their budget on the gas bill



Storage level of gas stocks is at ist lowest level in ten years

Climate protection will make

energy more expensive

Possible failure of gas supply: Austria's stock lasts for 2 months

Since the gas supply from Russia is not secured, Europe has to cope with increasing demand for expensive and, above all, only a limited availability of liquefied gas and thus persistently high gas prices. Due to the low stock levels, supply difficulties with natural gas cannot be ruled out next winter. In Austria, gas stocks fell to 1.5 billion m³ (16.8 TWh) by the end of February, and the storage level was therefore down to 18%, one of the lowest stock levels in years. Assuming that only domestic production would be available, the country's gas supply can be maintained for around two months.Ultimately, completely replacing Russian natural gas in Europe would be a very expensive process and from a technical perspective extremely challenging if not practically impossible. This point is all the more pertinent in relation to the gas supply in Austria due to the stronger dependence on Russian gas. The short-term solution is to set up a strategic gas reserve (a gas storage law is currently being discussed). In the longer term, gas consumption in the country must be reduced faster than planned.

Decarbonisation of energy market increasingly affecting energy prices

The planned shutdown of coal-fired power stations in Europe will lead temporarily to a shortage of power station capacity and higher energy prices. In addition, CO₂ certificates will become more expensive, having already increased in price by 140% in 2021 as a result of economic growth and the expectations surrounding the 2030 climate change targets. Rising energy prices on route to climate neutrality in the EU have potential to worsen the competitive position of certain sectors and increase fuel poverty in many households. These are two considerations that require political support in relation to climate protection. That said, the energy transition does require the increase in the cost of emission certificates and fossil fuels so that investments in emission-reducing technologies pay off.

The comparison of domestic prices for the key energy sources in Austria shows that even after the suspension of the green electricity subsidy surcharge in 2022, electricity still costs significantly more than fossil fuels such as gas and heating oil (Chart 6).

Chart 5: Final Energy Consumption by Energy Source (in Austria 2019, in terawatt hours; total 317 TWh)

Gas (56 TWh) Other fossile fuels* (164 TWh) Renewables (97 TWh) 120 100 80 32 16 104 60 24 20 40 13 20 37 35 14 8 0 Private Services Production Transport Agriculture Households * Oile products, Coil, Electricity based on fossil fuels

Chart 6: Prices of Key Energy Sources in Private Households (in Austria; Eurocent per kWh, first half 2021)



Source: Eurostat, Umweltbundesamt, E-Control, Statistik Austria, UniCredit Research



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