

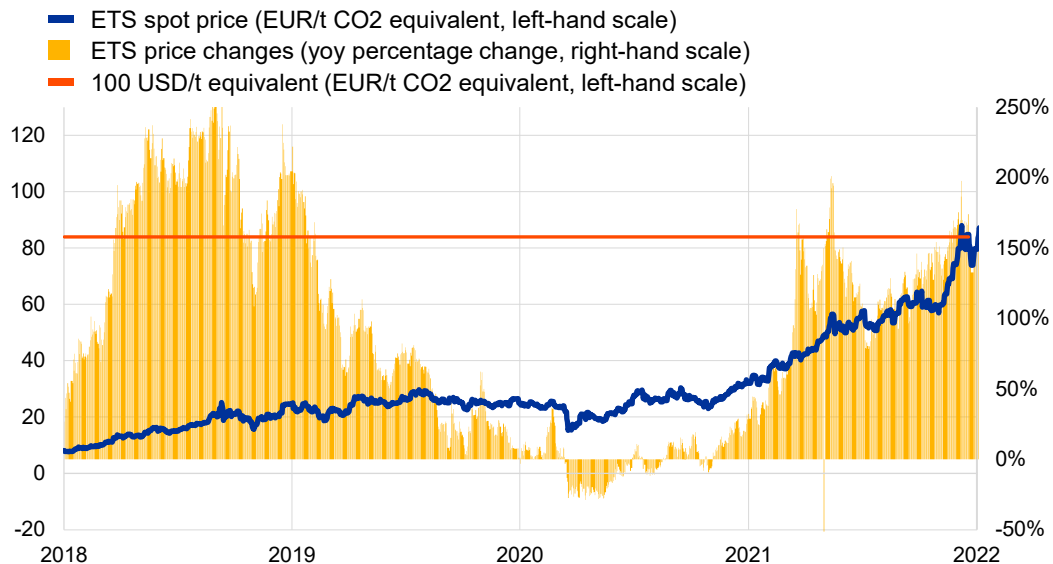
Looking through higher energy prices? Monetary policy and the green transition

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*Remarks at a panel on "Climate and the Financial System"
at the American Finance Association 2022 Virtual Annual Meeting,
8 January 2022*

EU carbon price increased sharply in 2021, accelerating the green transition

Emissions Trading System (ETS) spot price developments (units in legend)

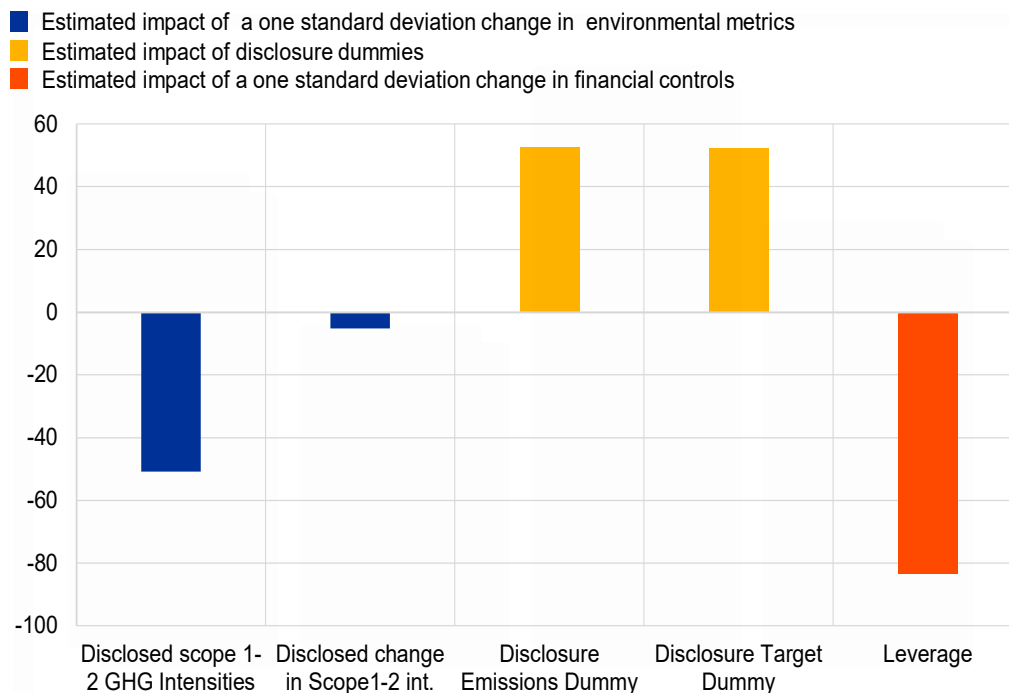


Source: Eurostat and ECB staff calculations.

Notes: Daily observations. Last observation is 06/01/2022 for ETS spot prices. The horizontal red line represents a price level of 100 USD/t CO2 equivalent (using Jan-Nov 2021 average exchange rates).

Impact of transition risk metrics on credit ratings vis-a-vis leverage

(y-axis: percentage of a credit notch)



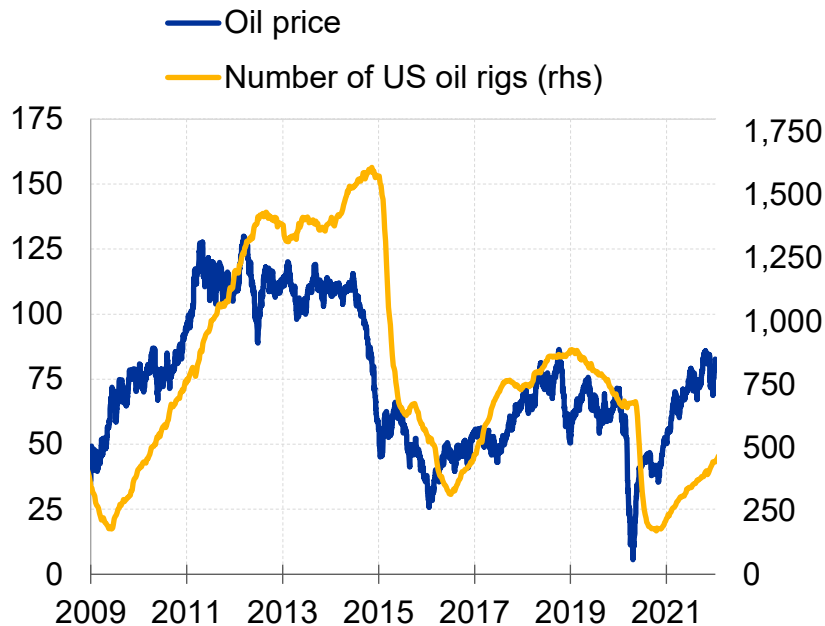
Source: Carbone, Giuzio, Kapadia, Krämer, Nyholm and Vozian (2021), "The low-carbon transition, climate commitments and firm credit risk", ECB Working Paper No 2631.

Notes: The first two columns represent the estimated magnitude of a one standard deviation increase in disclosed Scope 1 and 2 GHG intensities and disclosed changes in Scope 1 and 2 GHG intensities, respectively. The third and fourth columns reflect the impact of the decision to disclose GHG emissions and make a forward-looking commitment, respectively. The fifth column shows the impact of a one standard-deviation increase in leverage. The coefficients are obtained via a panel regression of credit ratings on environmental variables, firm-level, sectoral and country controls as well as time fixed effects. Ordered logit estimators lead to similar results.

Oil production is responding more slowly to rising oil prices

Oil price and US shale production

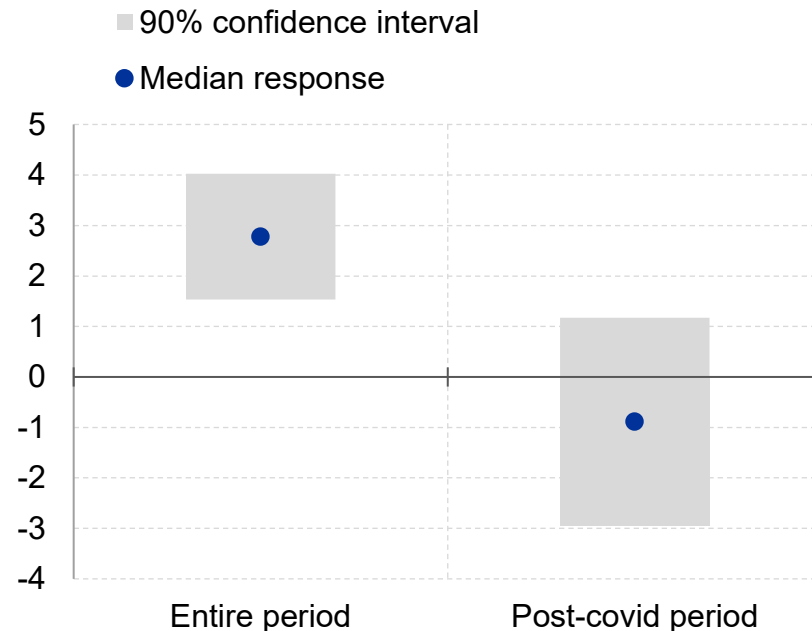
(lhs: USD per barrel, rhs: number of oil rigs)



Sources: Bloomberg and Baker Hughes.
Latest observation: 06/01/2022 (oil price), 31/12/2021 (rig count).

Response of world crude oil production three months after oil demand shocks

(percent)

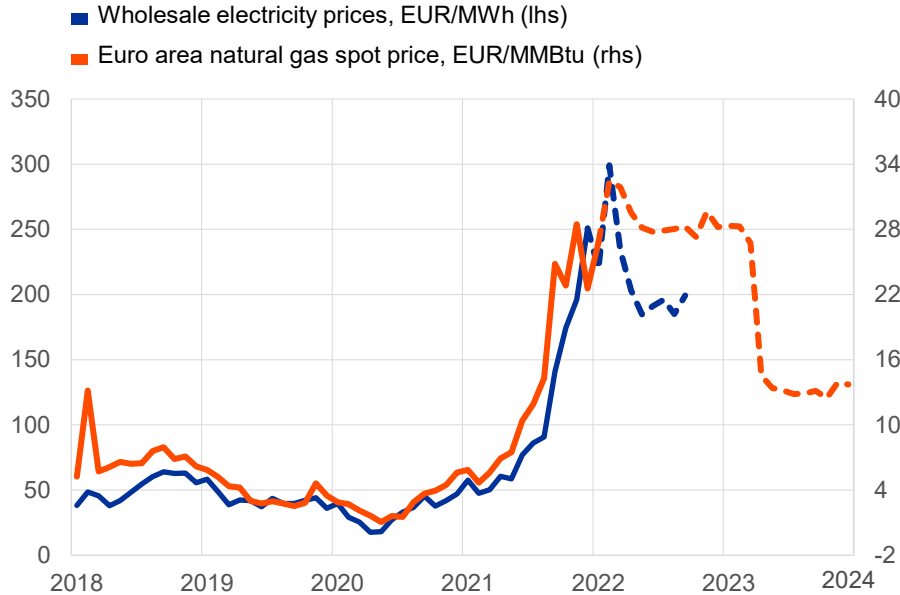


Sources: Bloomberg, Refinitiv, IEA and ECB staff calculations.
Notes: "Entire period": 06/2015 – 08/2021, "Post-covid period": 06/2020 – 08/2021.
Latest observation: August 2021.

Gas and electricity prices may stay elevated as green transition accelerates

Wholesale and future prices for electricity and natural gas in the euro area

(units in legend)



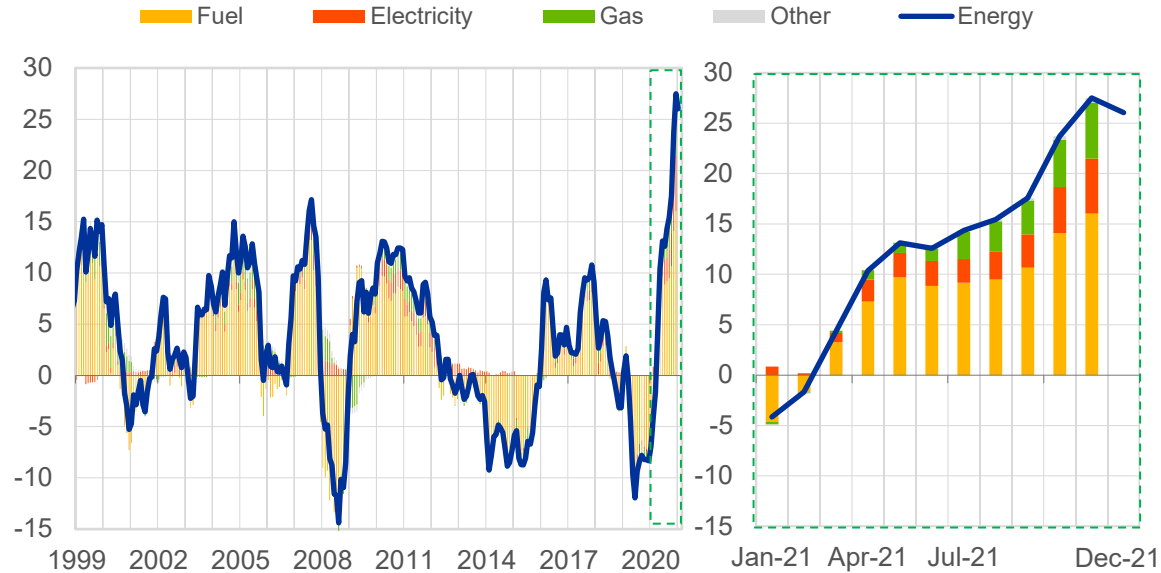
Sources: Bloomberg for electricity and gas futures, ICE for gas spot prices, OMIO, Gestore Mercati Energetici, Fraunhofer ISE and ENTSOE for wholesale electricity prices.

Note: Cut-off date for futures is 06/01/2022. Electricity wholesale prices is a weighted average of electricity prices in Germany, France, Spain, Italy and the Netherlands.

Latest observation: November 2021 for electricity wholesale prices and December 2021 for gas spot prices.

Energy price inflation reached record high in 2021

HICP energy and components (annual percentage changes; percentage point contributions)

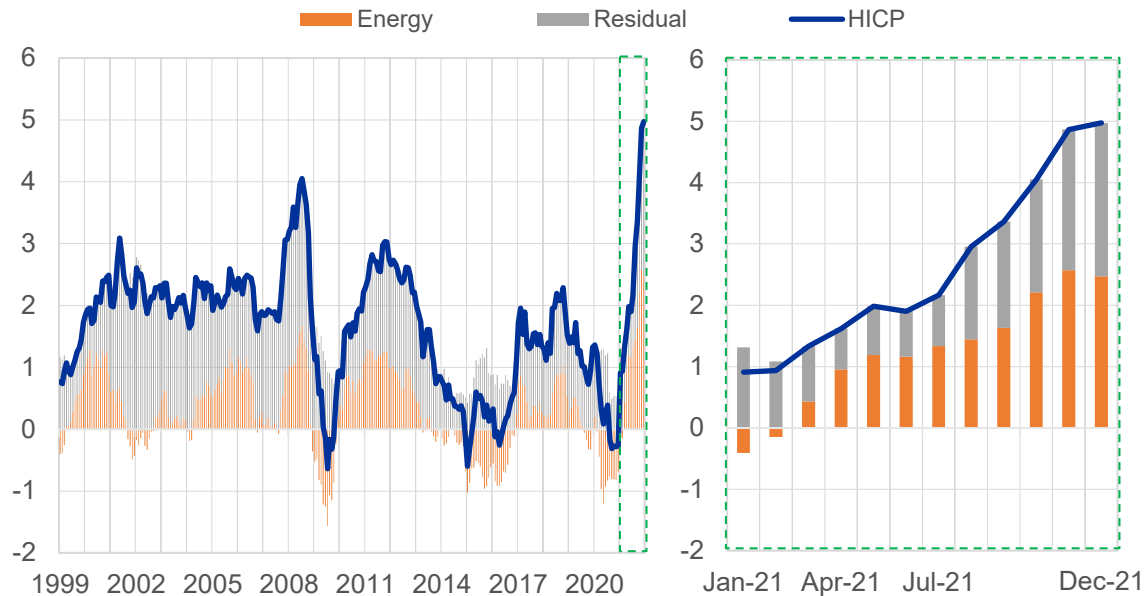


Source: Eurostat and ECB staff calculations

More than half of the recent rise in HICP inflation reflects higher energy price inflation

Energy contribution to HICP

(annual percentage changes; percentage point contributions)

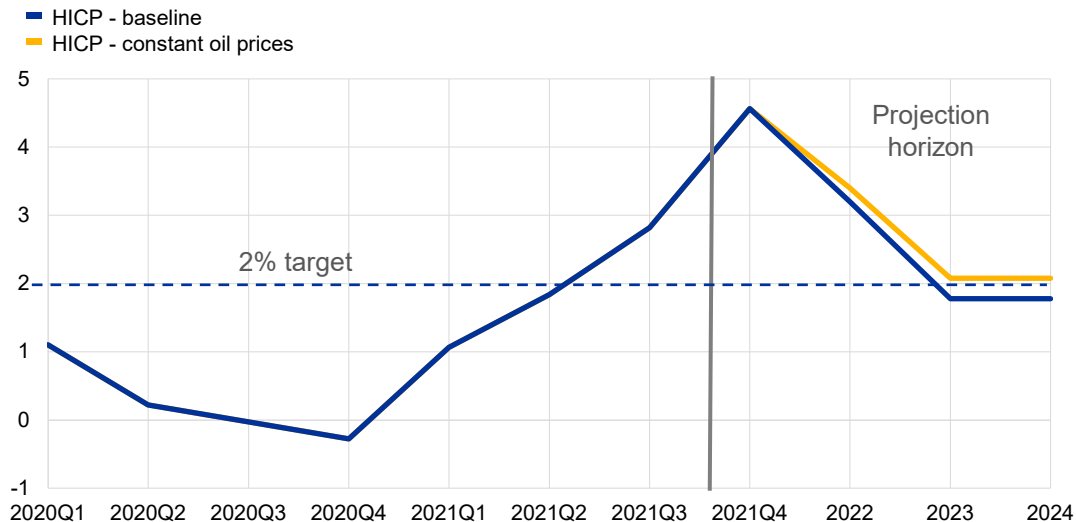


Source: Eurostat and ECB staff calculations.

Medium-term inflation projected to be near target, with upside risks from energy prices

Past and projected HICP inflation

(annual percentage changes)



Source: Eurostat, Eurosystem staff projections (December 2021) and ECB staff calculations.

Notes: Quarterly values are reported until 2021Q4, annual values from 2022 onwards. The vertical line indicates the start of the projection horizon.

Consumer price expectations hit record high in 2021

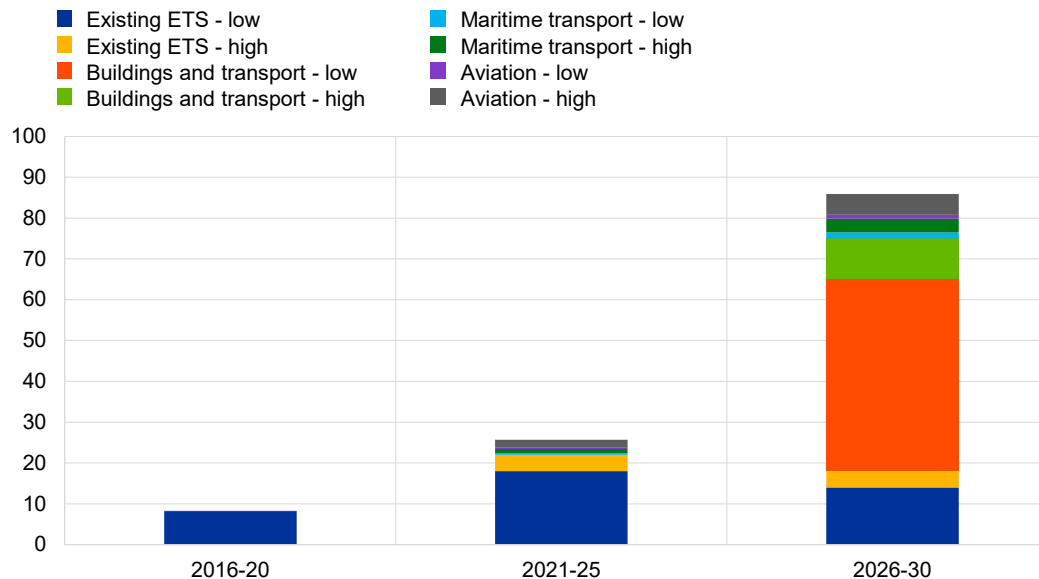
Euro area expected consumer price trends over next 12 months (percent balance)



Source: European Commission

Revenues from higher carbon price are expected to increase measurably

Average expected annual revenue from ETS auctions in the EU (EUR billion)



Source: ECB calculation based on European Commission impact assessments.

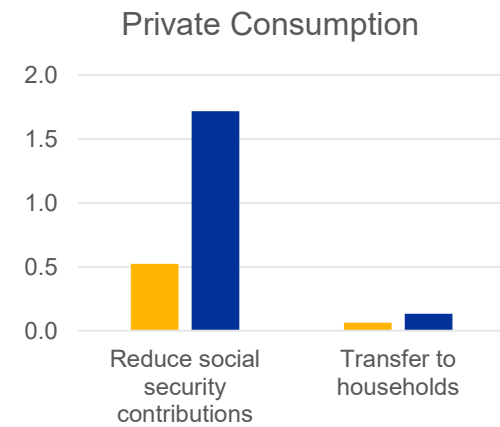
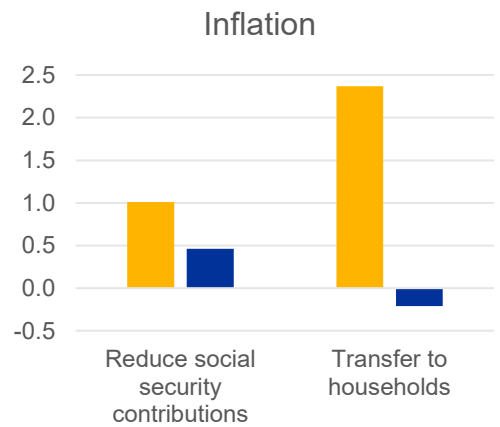
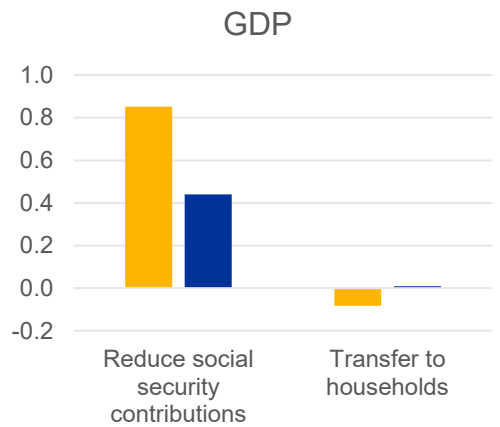
Note: Low stands for the lower bound of the estimates, high indicates the additional revenue for the upper bound of the estimates.

Energy transition does not necessarily weigh on growth and inflation in the medium term

Impact of energy transition

(% deviations from baseline, EUR 50 per CO₂ ton, with border carbon adjustment tax)

■ Medium-term impact
■ Long-term impact



Source: Estrada, A. and Santabárbara, D. (2021), "Recycling Carbon Tax Revenues in Spain. Environmental and Economic Assessment of Selected Green Reforms", Banco de Espana Working Paper No 2119.

Thank you for your attention!