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Argus Insight: Voluntary renewable power and gas markets



European Guarantee of Origin trade increases

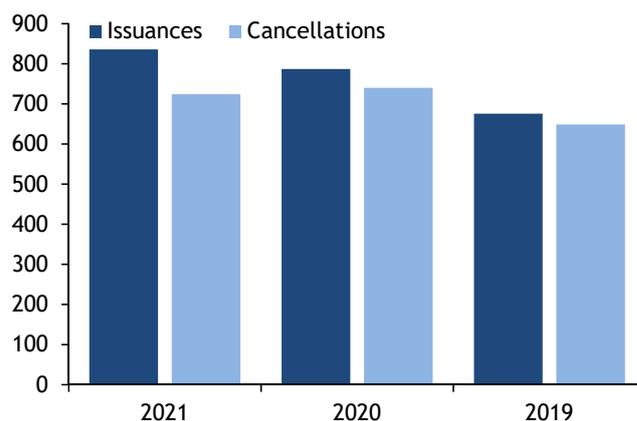
European demand for renewable-backed energy supply is supporting the growth of a traded market in voluntary renewable certificates.

European **Guarantees of Origin** (GOs) are used to identify the technology, location, production time and volume of a given unit of energy. Producers generate registry-tracked certificates in parallel with energy production, with GOs increasingly used to identify a *renewable energy premium* to the price of grid supply.

Underpinning demand are often non-energy ESG-minded businesses and their clients. Firms' energy transition commitments, mounting greenhouse gas avoidance, abatement or compensation objectives, are increasingly registered on public platforms like RE 100. Backing the net zero ambitions will often mean direct or indirect exposure to Guarantees of Origin trade, with the volume and price of certificates rising.

European GO cancellations, their effective consumption, increased to 724TWh in 2021 from 649TWh in 2019 despite weaker European electricity consumption in the wake of demand-paring social distancing measures, although cancellations slipped from a record high of 740TWh in 2020. Meanwhile, issuances, the effective generation of certificates, increased to 836TWh in 2021 compared with 675TWh in 2019 and 786TWh in 2020.

GO certificate issuances and cancellations* TWh/month



* The volume of Guarantee of Origin certificates being cancelled (or used to back energy supply) on a monthly basis based on data from the Association of Issuing Bodies (AIB)

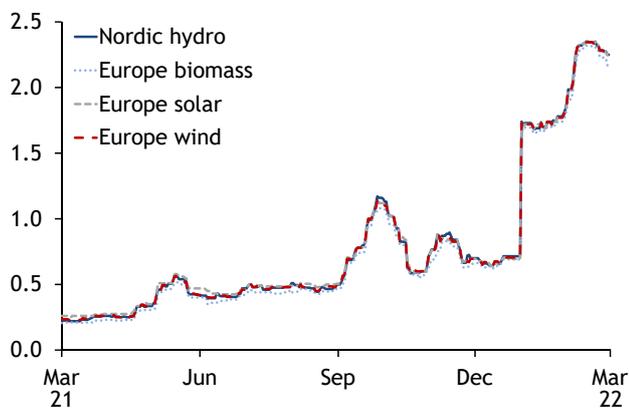
The trade in GO certificates, and Renewable Energy Guarantees of Origin (REGOs) in the UK, remains broadly over-the-counter, with market participants transacting on a bilateral basis. Exchanges are often between producers and consumers. GOs can be integrated into new and longer-term Power Purchase Agreements (PPAs), playing a role in new renewables investment.

Meanwhile, a host of trader-broker participants is actively managing GO portfolios, bringing liquidity to the market. Finally, some European member states opt for regular GO auctions, enabling certificates to change hands on a structured basis.

While certificates' technology, location and production period can be highly granular — identifying a given wind farm, for example — much of Europe's trade is coalescing around more standardised instruments for annual production periods. This enables market participants to build a view on differentials between technologies and locations, with contracts trading up to 365 days after the period of generation under European legislation. The most liquid trade is in Norwegian hydropower GOs, with Argus analysis showing around 29TWh changing hands in October 2021-February 2022, with an average transaction size of 83GWh.

Meanwhile, consumer appetite for solar and wind-backed supply puts these products at a slight premium to other technologies. Argus prices for 2022 vintage solar and wind certificates were €1.92/MWh in January-February with biomass-backed supply at €1.87/MWh and hydro at €1.91/MWh. And prices have increased from less than €0.50/MWh at the beginning of 2021, increasing the cost of green-backed electricity supply.

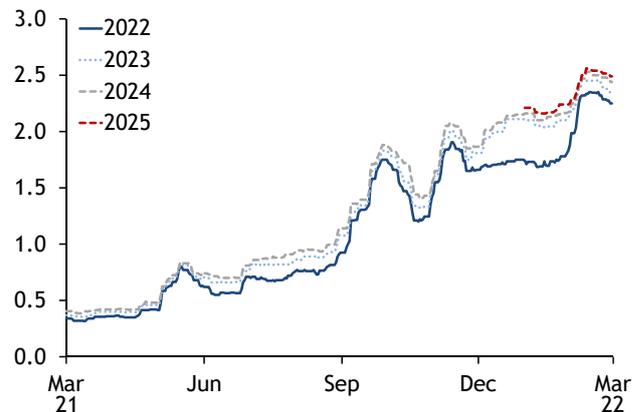
Argus GO current year prices €/MWh



And with participants trading certificates for future production vintages, Argus' prices also show a shallow contango with 2025-vintage Nordic Hydro certificates trading at a premium of about €0.25/MWh to 2022-vintage products.

Certificates continue to trade despite considerable gas and coal price volatility increasing electricity supply costs in Europe. Europe's benchmark TTF front-month natural gas price increased to €81.67/MWh in January-February from €18.81/MWh a year earlier. Coal prices rose to over \$180/t from less than \$70/t over the same period, with the cost of burning

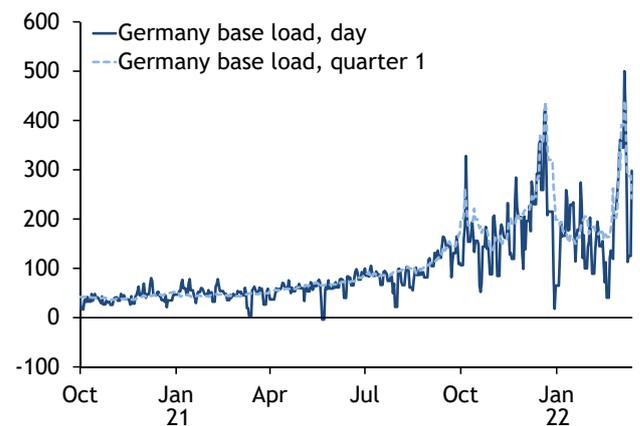
Argus Nordic hydro forward vintages €/MWh



those fuels steepened by higher European and UK emissions prices.

German average day-ahead base-load power prices increased to €153.27/MWh in January-February from €25.79/MWh a year earlier.

Germany wholesale electricity prices €/MWh



Increasing fossil fuels market volatility and uncertainty about natural gas deliverability and sustainability added urgency to the discussion on emissions-reducing gaseous alternatives. Biomethane is an available, albeit still-constrained source of alternative supply, that is already traded through national registries and gas pipeline networks. Backing the development of Europe's biomethane capacity is a parallel Renewable Gas Guarantee of Origin (RGGO) market.

European biomethane RGGO prices are considerably higher than their electricity equivalents. Argus prices show Danish certificates changing hands for €12.50-24.75/MWh in January-February, with preferred waste-backed RGGOs trading at an average premium of more than €10/MWh to crop-backed supply. Feedstock spreads in the RGGO market are the result of agricultural, food and other waste-backed feedstocks

having a higher lifecycle methane capture value than crop-backed supply, with the added benefit of lacking land-use.

The [Argus Net Zero Europe report](#) delivers renewable electricity and gas GO prices, news, analysis and other trade data, bringing transparency to Europe’s voluntary renewables market for the energy transition.

Markets covered

EU electricity Guarantees of Origin (GOs)

UK power Renewable Energy Guarantees of Origin (REGOs)

European and UK biomethane Renewable Gas Guarantees of Origin (RGGOs)

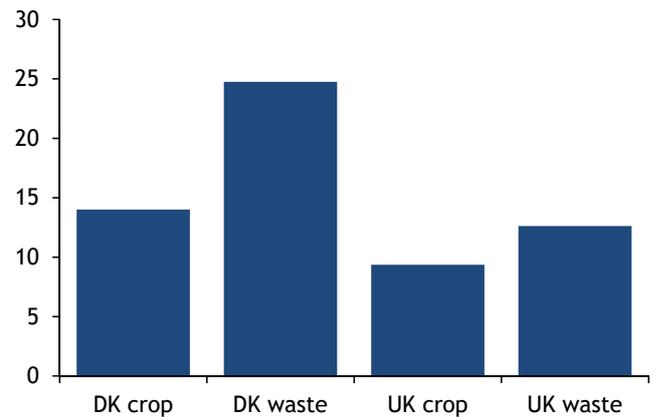
Key prices

For more information on the power and gas guarantee of origin prices, please see our key prices pages below

European [electricity](#) Guarantees of Origin

European [biomethane](#) Renewable Gas Guarantees of Origin

Renewable Gas Guarantee of Origin Prices €/MWh



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