Capgemini

WORLD ENERGY MARKETS OBSERVATORY | GLOBAL FINDINGS

Managing successive energy crises while accelerating energy transition

24TH EDITION | 2022

Balancing the fight against climate change with energy security.

In 2020, Covid-19 lockdowns triggered historical drops in GHG emissions and energy demand.

-4% 2020 global energy consumption

-5.8% 2020 GHG emissions

GHG

+4.6% 2021 global energy demand

more than offsetting the 4% contraction in 2020

Recent economic growth erased the 2020 energy consumption and carbon emissions decreases.

+5% **2021 GHG emissions**

approaching the 2019 level

At the end of 2021, the world experienced its first energy crisis. Europe was particularly hard hit, prompting calls for market reform.

€150 /MWh **Average gas price in Europe**

+4.6% **Global natural gas consumption in 2021**

+2X the decline seen in 2020

€500 /MWh **Peak electricity spot price in Europe**

5X **Growth rate of ETS allowances prices**

€17/tCO2 in Q1 2020
vs €90/t Q4 2021

The Russian invasion of Ukraine endangers EU security of energy supplies.

Russian gas accounted for:

45% EU gas imports

40% EU gas consumption

Disruption had a huge impact on prices:

€225 /MWH **peak gas price** (March 2022)

$130 /BL **peak oil price**

30%

EU metallurgical coal imports

60%

EU thermal coal imports

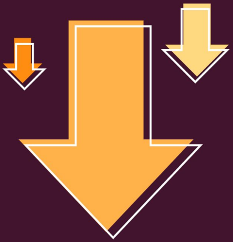
5X growth in coal prices to $250/t

Most dependant countries

Germany | Italy | Austria

Slovakia | Hungary

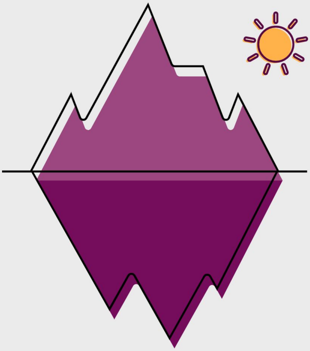
The H2 2022 economic and financial crisis may reduce energy demand and decrease the tension on energy supply.



Inflation rates reached a 40-year high at the end of 2021 and first half of 2022.

High energy prices, especially in Europe, are driving inflation. Since energy demand is correlated to economic growth, demand could decrease, and energy prices could fall – helping to avoid supply issues this winter.

The climate crisis remains pressing, but the world’s attention has been deflected.



+2.7°C

Projected temperature rise
by the end of the century
if current trends continue…

…to keep global warming below the recommended 1.5°C this century, GHG emissions would need to be halved in the next eight years.

Utilities need to accelerate energy transition through increased investments in renewables, nuclear and low-carbon technologies.

Stimulus plans to accelerate energy transition and mitigate Russia-Ukraine war include:

Fit for 55:
Plan to reduce EU greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels and to achieve climate neutrality in 2050

REPowerEU:
Plan to address the double urgency of ending the EU's dependence on Russian fossil fuels and tackling the climate crisis

Inflation Reduction Act:
The biggest climate package in U.S. history, the bill invests more than $360 billion in energy and climate change programs over the next decade

As European countries attempt to lessen their dependency on Russian fossil fuels, they must be careful not to become critically dependent on Chinese resources and components, such as solar panels, metals, and rare earths, that are needed to advance energy transition plans.

The energy crisis had different impacts on energy players.

Oil Majors took advantage of rising oil and gas prices and made windfall profits in the second quarter of 2022.

Some Utilities took advantage of the rise in energy prices and published strong results… but others suffered.

Some European energy retailers were bankrupted, including over 30 in the U.K. alone.

WORLD ENERGY MARKETS OBSERVATORY

BALANCING THE FIGHT AGAINST CLIMATE CHANGE WITH ENERGY SECURITY

Access all the WEMO 2022 highlights, expert perspectives and key recommendations.

In this year's World Energy Markets Observatory, we see how the latest waves of disruption are impacting energy security and affordability, while also jeopardizing climate change plans. Emerging technologies and new use cases across the energy value chain, including green hydrogen, CCUS, storage, and e-mobility, will play a critical role in helping the world maintain security while also working towards a net zero future."

Colette Lewiner
Energy and Utilities senior advisor at Capgemini

Our analysis in this year's World Energy Markets Observatory underscores the need to balance the two equally important imperatives of security of energy supply and the fight against climate change by combining a long-term vision and pragmatism in the design and implementation of the corresponding policies."

Philippe Vié
Group Vice-President Energy and Utilities sector at Capgemini

ABOUT WEMO

The World Energy Markets Observatory (WEMO) is Capgemini's annual thought leadership and research report created in partnership with De Pardieu Brocas Maffei, Vaasa ETT, and Enerdata, that tracks the development and transformation of electricity and gas markets in Europe, North America, Australia, Southeast Asia, India, and China. Now in its 24th edition, the report focuses on the triggers and impact of several successive energy crises, including the Covid-19 pandemic, Russia-Ukraine war, and inflation consequences, most notably for Europe. As in years past, the latest edition of WEMO also includes in-depth coverage of: commodities markets; climate change and regulatory policies; energy transition and related technologies; infrastructure and adequacy of supply; supply and final customer; transformation; financials; and the Oil & Gas industry's shift from fossil fuels to low carbon (route to net zero).