

What are the results and prospects for the low-carbon transition under geopolitical and climatic constraints ?

Takeaways from the 2022 Global Synthesis Report on Climate Action



09.03.2023

SPEAKERS



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Tania Martha Thomas • Research Officer



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The keys to the low-carbon transition are in the hands of actors on the ground. Let us unite!



Climate Chance's 3 missions



Sharing information

- The website portal
- The cartography
- The library
- The climate agenda



Analysing climate action

The Observatory of Climate Action

- Global Synthesis Reports
- Thematic Reports
- Case studies



Uniting actors

- Summits
- Coalitions
- e-Mags



The Global Observatory of Climate Action



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- **Analysing** the evolution of emissions data in all their complexity;
- **Narrating** the story of action behind the figures: public policies, business strategies, civil society initiatives...;
- **Sharing** the signals of transitions and best practices implemented on the ground.

The Global Observatory of Climate Action



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An editorial committee

- Coordination
- Writing
- Editing
- Sharing



A network of expertise

- Researchers
- Consultants
- Journalists
- Practitioners



A series of publications

- Sector-based Report
- Local Action Report
- Finance Report
- Adaptation Report
- Case studies

The Global Synthesis Report on Climate Action by Sector



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What?

A synthesis of the literature (academic papers or studies, institutional reports, press...) to "tell the story behind the figures" of GHG emissions from the six main emission sectors.

Why?

To illuminate, inspire and show the complexity of climate action at work in its economic, regulatory, geopolitical and other environments.

For whom?

A document addressed to decision-makers engaged in climate action in local authorities, companies, NGOs, financial institutions...

The 2022 Global Synthesis Report on Climate Action by Sector – 5th edition



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5 SECTORS

100+ INDICATORS

15 TRENDS

50 SIGNALS

15 CASE STUDIES

1 SPECIAL FEATURE ON CARBON OFFSETS

A collaborative project built around a network of expertise



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- **40+ contributors:** experts and practitioners from the field.
- **25** research centres, NGOs, consultancies and networks mobilised.

MOVIN'ON
LAB AFRICA



wecf
International

geres
LA SOLIDARITÉ
CLIMATIQUE
EN ACTION

GreenFlex

ecoact
an atos company

IDDRI



UCLG
United Cities
and Local Governments



CONSTRUCTION21
IMPULSER LA VILLE DE DEMAIN

cirad

AUTONOMY
FROM MOTORIST TO MOBILIST

The Observatory Team



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Antoine Gillod • Director of the Observatory



Tania Martha Thomas • Research Officer

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Our Partners



Regional Collaboration Centre – Lomé
Promoting Climate Action in Western
and Francophone Africa

Key Takeaways from the 2022 Global Synthesis Report

An overview of the evolution of energy-
related GHG emissions



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An overview of global GHG emissions



37.06 GtCO₂
emitted in 2021 – **a record.**
([Enerdata](#))



GHG emissions
in 2021 exceeded
2019 levels
by 0.9%



OECD countries' GHG
emissions in 2021
were 4.6% lower than
in 2019



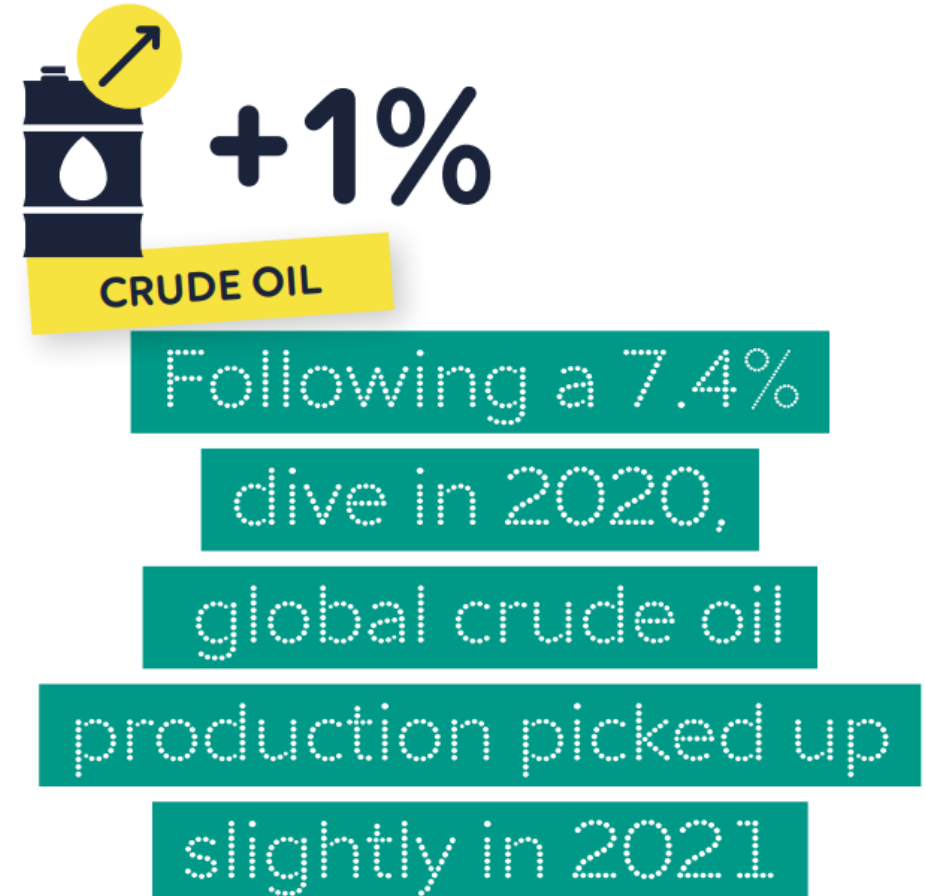
Emissions from
BRICS in 2021
exceeded
2019 levels
by 5.7%

Faced with the explosion in demand, the use of fossil fuels outstrips the boom in renewables



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- **+5.8%** in primary energy demand, with fossil fuels representing **82% of primary energy use** ([BP](#)).
- **14.8 GtCO₂** of emissions from **coal** in 2021 (+5.7% more than in 2020), accounting for **40% of the global increase in emissions**.
- **7.8 GtCO₂** of emissions from **gas** (+5.11%), with an increased demand in all sectors
- **10.1 GtCO₂** of emissions from **oil** in 2021, with demand staying below pre-pandemic levels ([Enerdata](#)).



Faced with the explosion in demand, the use of fossil fuels outstrips the boom in renewables

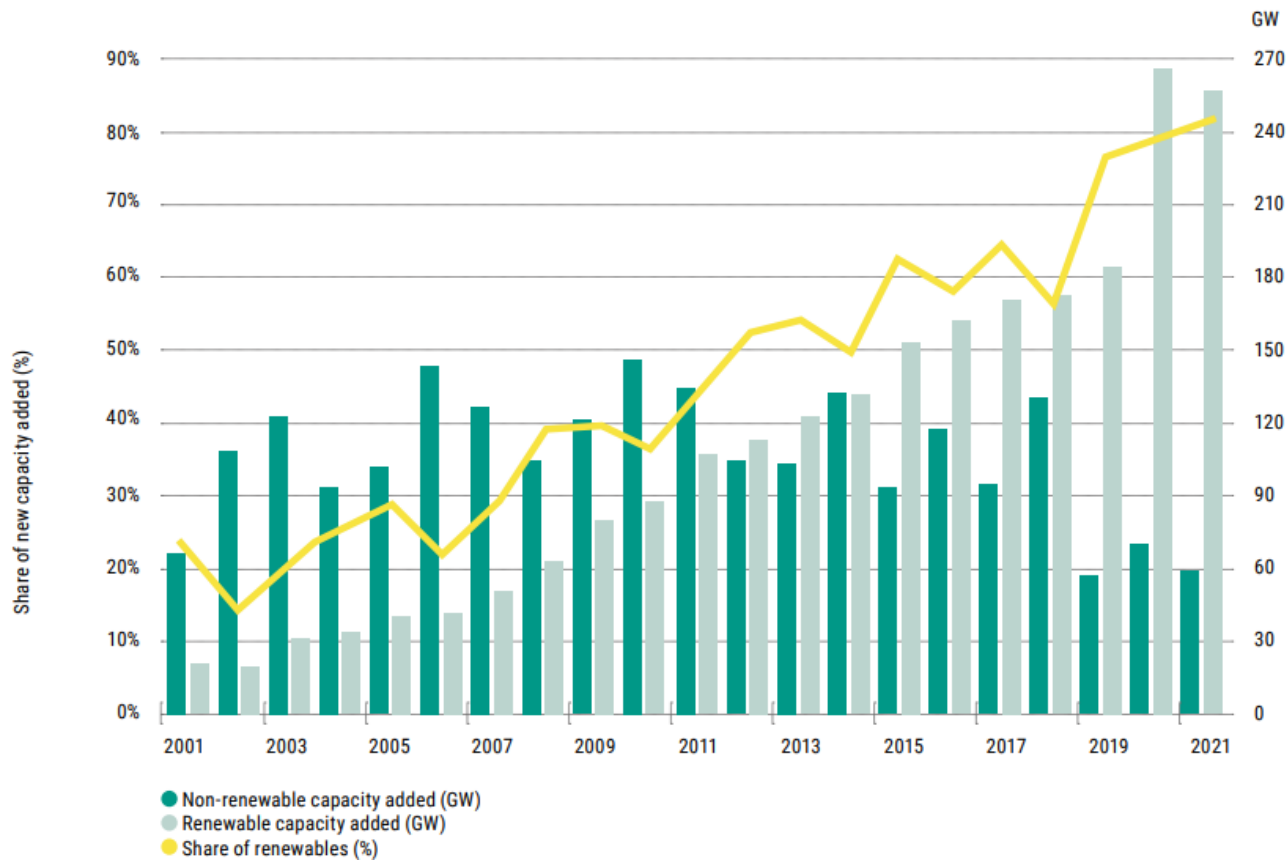


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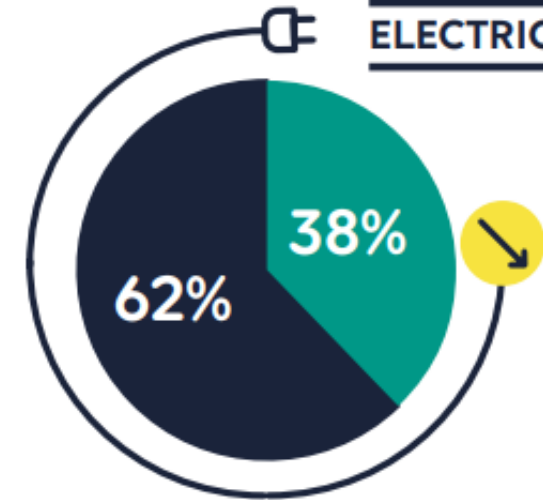
+ 260 GW of renewable capacity additions in 2021, (81% of all capacity additions) Source: [IRENA](#), 2022

RENEWABLE AND NON-RENEWABLE CAPACITIES ADDED FROM 2001 TO 2021

Source: [IRENA](#), 2021



PRODUCTION OF LOW-CARBON ELECTRICITY



Source: [Ember](#), 2022



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Trend • Africa pursues the development of renewable energy, despite certain obstacles

Despite a carbon-intensive recovery, industrialized economies are returning to their original trajectories



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Gas in the crossfire

- • **United States**: Plateaued in 2021.
- ↘ • **Japan**: -5.7% in 2020-21, reduction since the peak in 2012 (-22%).
- • **EU**: No clear transition in place.



READ MORE IN THE REPORT

Signal • University investments struggle to divest from fossil fuels

The undeniable decline of coal

- ↘ • Peaks reached in **Australia** (2009), in **the UK** (2012) and in **Japan** (2013).
- ↘ • **US, EU**: Rebounds in 2021 (+15%), but still under the 2019 levels.

Renewables are here to stay

- ↗ • Renewable electricity generation: 22.35% in **Japan** (10.08% in 2012), 20.52% in the **US** (12.69% in 2012), 37% in **Europe** (25.73% in 2012).
- ↗ • Massive investment plans: the Inflation Reduction Act, the European Green Deal...



Key Takeaways from the 2022 Global Synthesis Report

A low-carbon transition under geopolitical
constraints... and climactic ones



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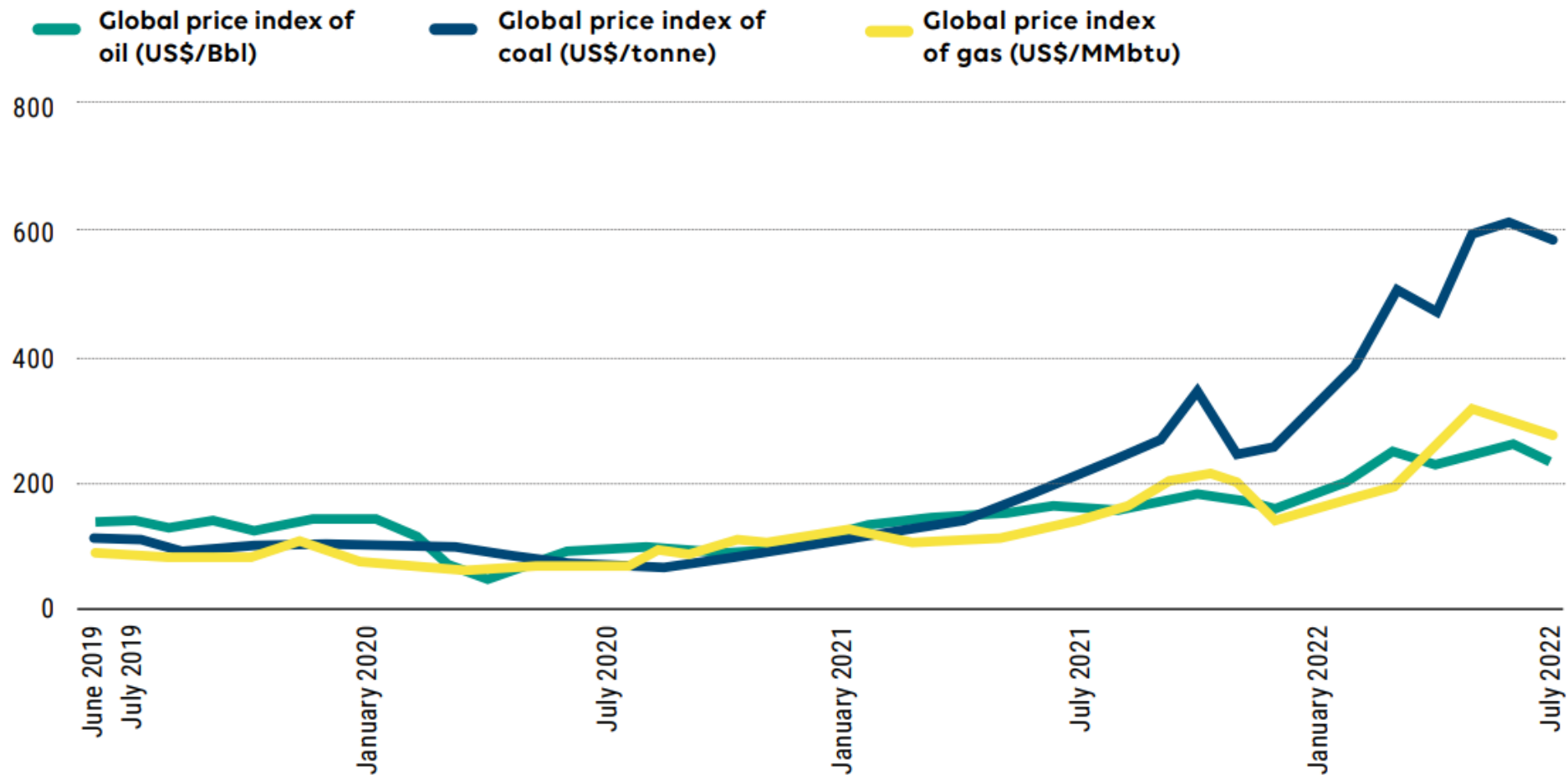
The inflation in energy prices...



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GLOBAL PRICE INDEX FOR COAL, GAS, AND OIL, JUNE 2019 – JULY 2022

Source: [Climate Chance](#), base on data from the [IMF](#), 2022



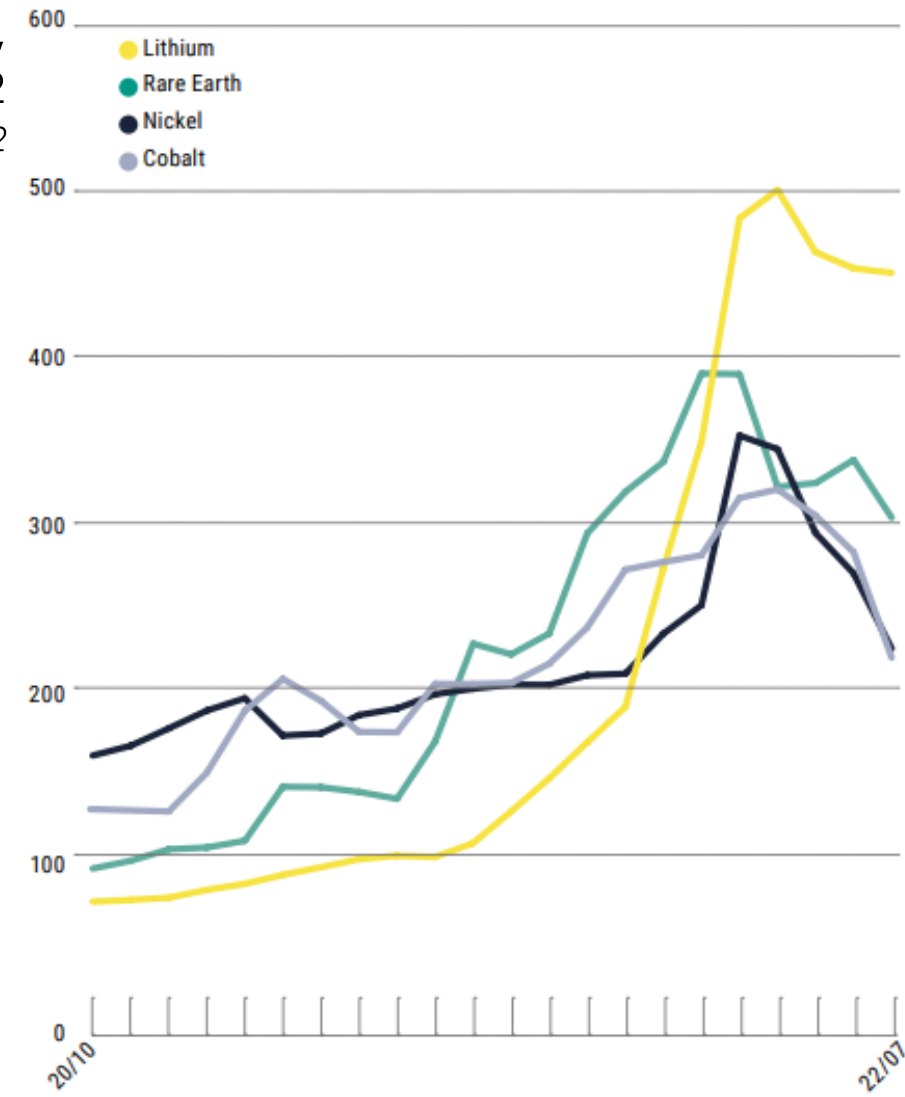
... added to the inflation in prices of metals strategic to the transition



PRICE INDICES (BASE : 100) FOR SELECTED METALS,
OCTOBER 2020 - JULY 2022

Source: [IMF Energy Transition Metal Index, 2022](#)

- **Inflation** in the price of strategic metals: lithium x 4, cobalt x 2, nickel x 2.
- **Impact:** Photovoltaic cells and wind turbines (+10~20%) ; lithium-ion batteries **+52%** between December 2021 and April 2022 ([BNEF](#)).



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Case Study • Alsace • Towards a Made-in-Europe production of low-carbon lithium with the EuGeLi project

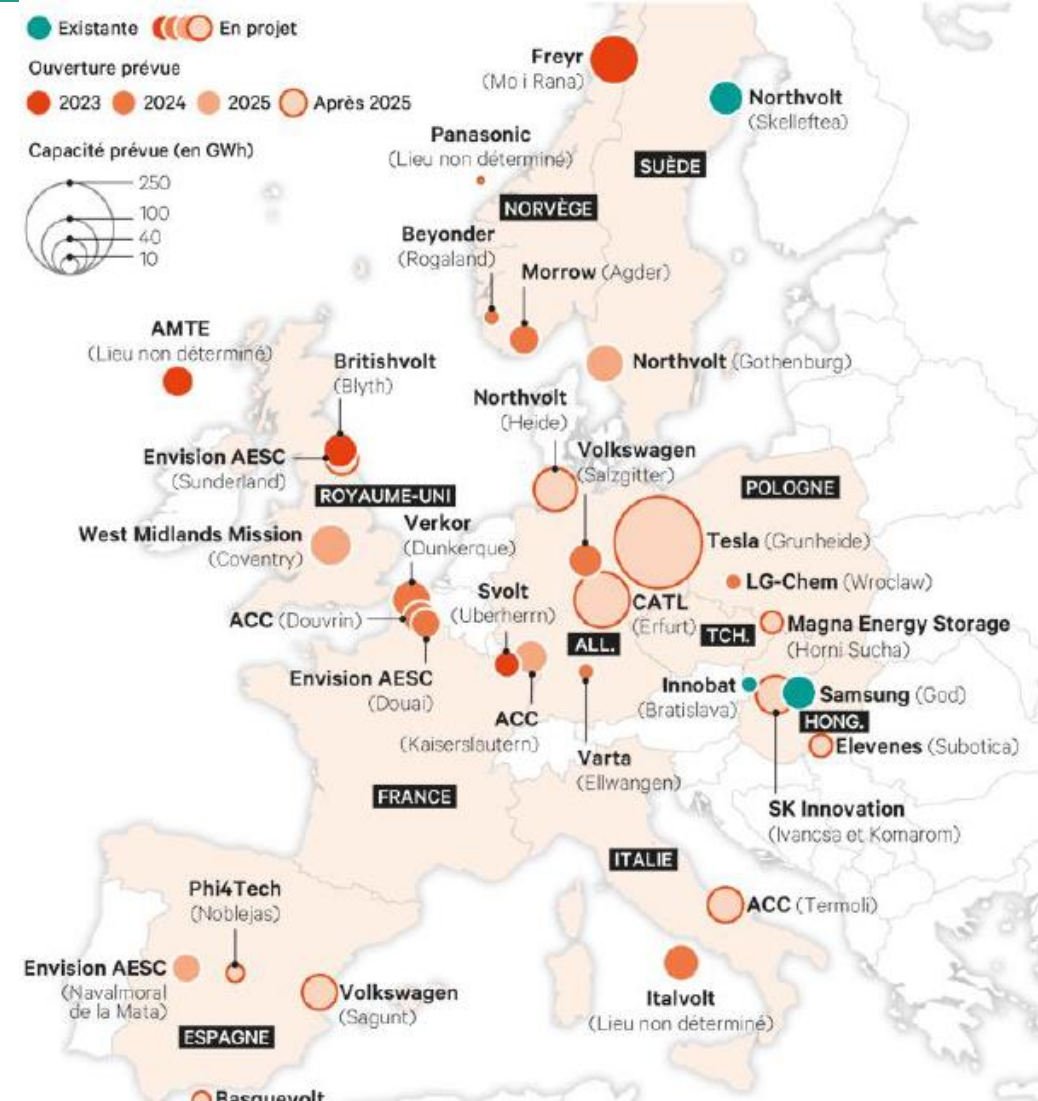
Transition policies marked by economic nationalism...



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- 77% of **lithium-ion batteries** in the world are produced in China. CATL (33.7%) et BYD (12.1%) dominate the market ([S&P Global](#)).
- **1,400 GWh** worth of "gigafactories" in development in Europe, across 40 sites, to produce **17.5 M** electric vehicles by 2030 ([Les Échos](#)).
- **\$369 Bn** invested by the United States in low-carbon industries, with a national preference (Inflation Reduction Act).

EXISTING OR DEVELOPING "GIGAFACTORIES" IN EUROPE (OF MORE THAN 10 GWH)
Source: [Les Échos](#), 11/07/2022



...and the capitalistic concentration of key transition sectors



- **963 fusion-acquisition operations** in the energy sector in 2021 – a record ([White & Case](#)).
- **31** energy supplier (gas and electricity) declaring bankruptcy in the United Kingdom since 2021 ([CNBC](#)); **25** have disappeared in France ([Le Monde](#)); **14** in Spain ([El Independiente](#)).

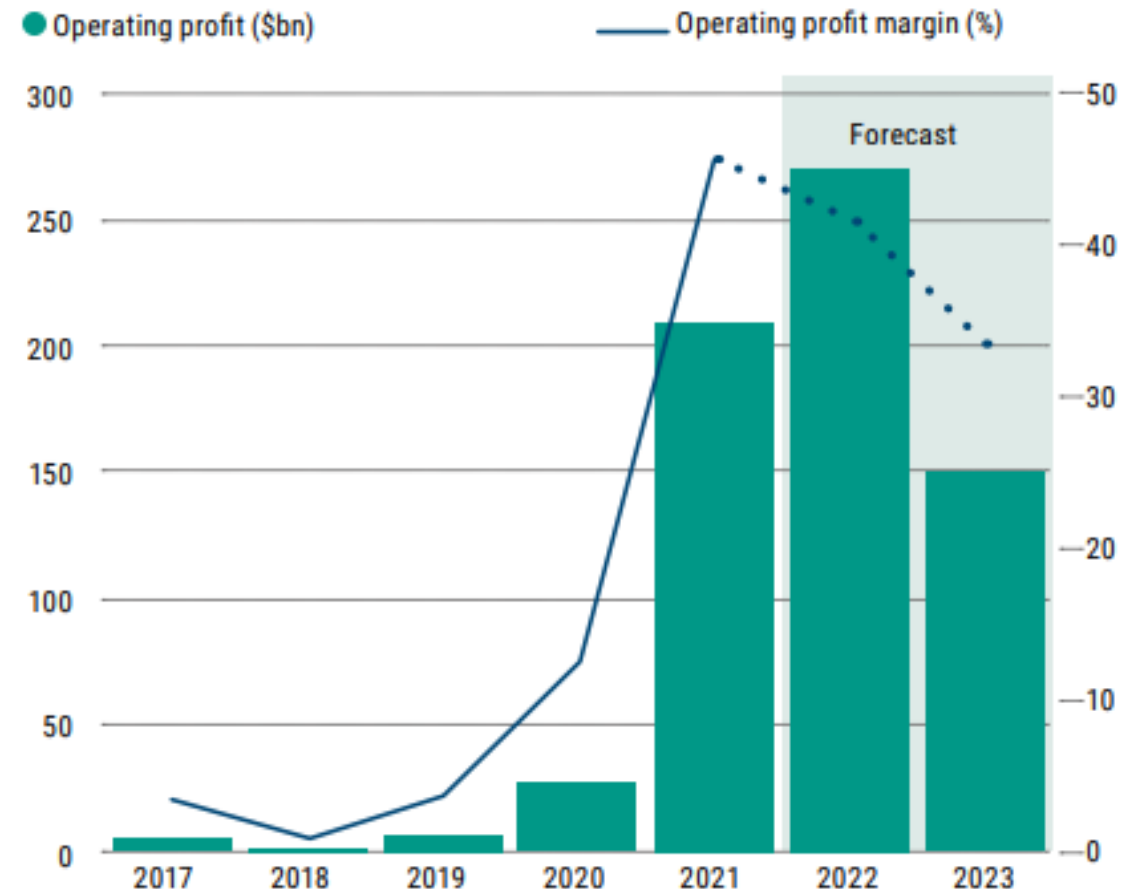


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Case Study • Georgia • Gender-sensitive energy cooperatives in Georgian rural areas

EARNING BEFORE INTERESTS AND TAXES FROM THE INDUSTRY BETWEEN 2017 AND 2023 (FORECASTS)

Source: [Financial Times](#), 08/09/2022, based on Drewry Maritime Research





Key Takeaways from the 2022 Global Synthesis Report

Sectoral transition trends



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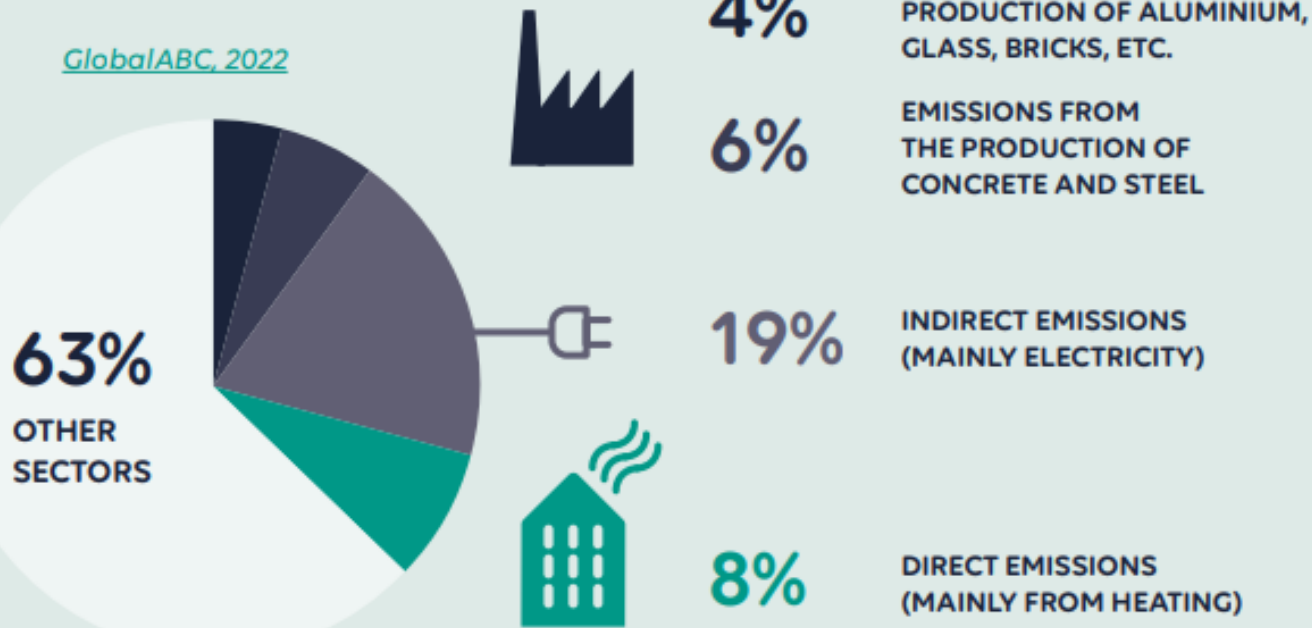
Buildings • Energy use in buildings becomes a burning issue



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SHARE OF BUILDINGS AND CONSTRUCTION IN GLOBAL EMISSIONS

GlobalABC, 2022



- Share of fossil fuels in building heating: **6%** coal, **15%** oil, **42%** gas, **14%** electricity (non-specified).
- **2.27 billion air conditioners** in the world in 2021 ([IEA](#)).
- **1.2 billion people at risk** due to a lack of access to cooling ([SEforAll](#)).



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Case Study • Vienna • Phasing out fossil fuels in heating to decarbonise buildings

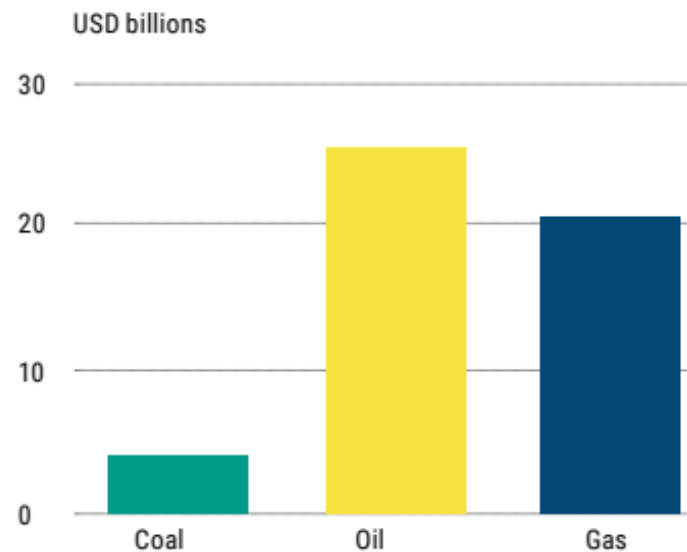
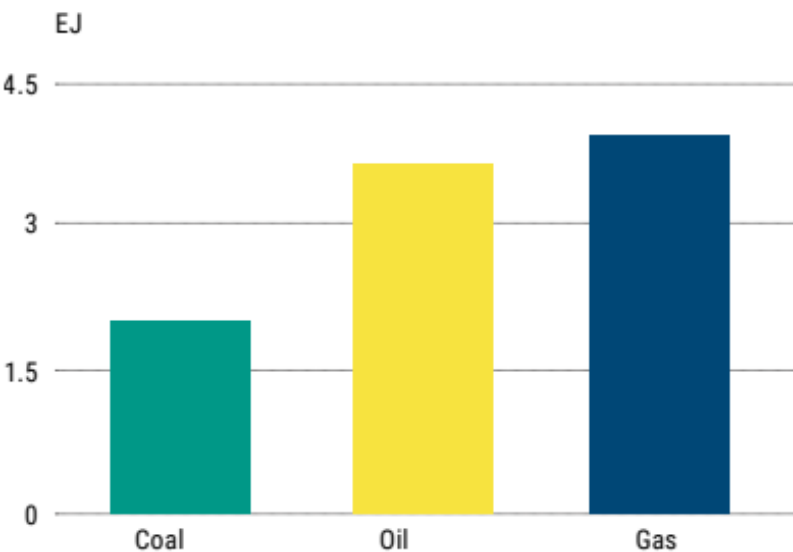
Buildings • The urgent need to better insulate and ventilate buildings



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REDUCTION IN FOSSIL ENERGY IMPORTS IN IEA COUNTRIES AND OTHER MAJOR EMERGING ECONOMIES FROM EFFICIENCY IMPROVEMENTS SINCE 2000 (IN \$ AND IN FUEL)

Source: [IEA](#), 2019



- **10%** of global heating needs in buildings met by **heat pumps** in 2021.

- **11%** of needs met by **district heat networks** ([IEA](#)) in 2021.



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Signal • Biosourced materials • Typha, an ecological alternative for thermal insulation

Transport • Record sales of electric vehicles overshadowed by the growth of SUVs

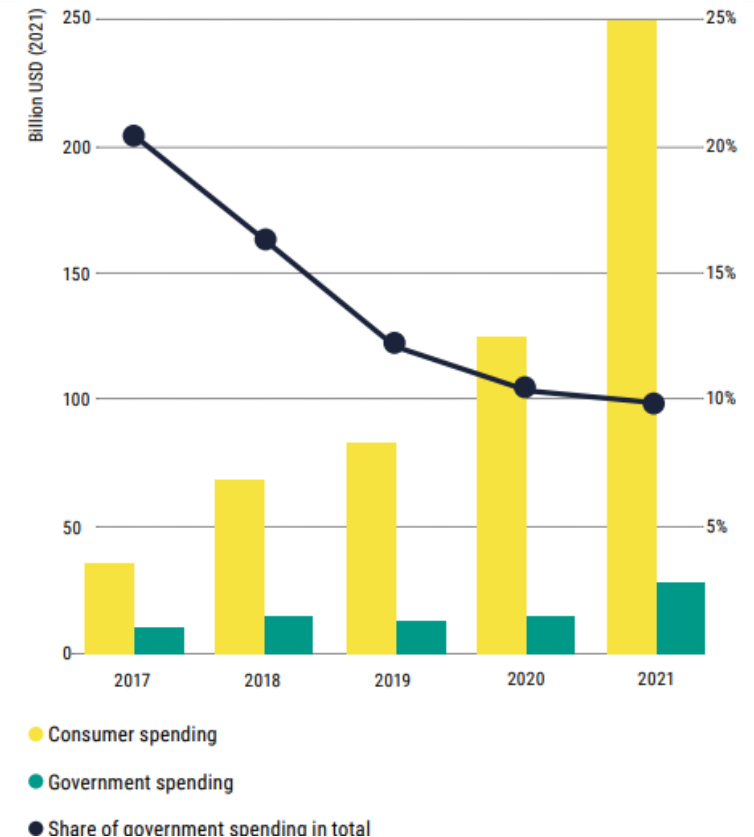


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PRIVATE VERSUS GOVERNMENT SPENDING ON ELECTRIC VEHICLES, 2016-2021

Source: [IEA](#), 2022

- EV sales (hybrid + battery) **x 2 in 2020-21**: 10% of the global market, 20% in Europe and in China (largest market in the world).
- **115 gCO₂/km**: Average emissions of automobile producers in Europe in 2021 (131 gCO₂/km en 2020) ([ICCT](#)).
- **Electrification in many forms**: two-wheelers in India, buses in China and Latin America, bicycles in Europe...



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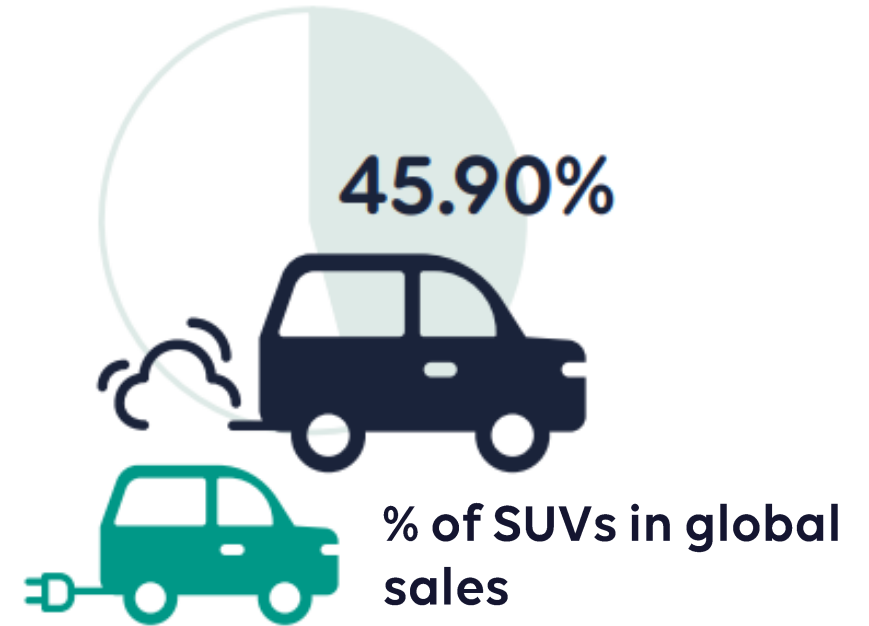
Case Study • Barcelona • Superblocks: Sant Antoni, the green street inspiring the city

Transport • Record sales of electric vehicles overshadowed by the growth of SUVs



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- **55%** of EVs sold in 2021 were SUVs ([IEA](#)).
- **1,940 kg** is the average weight of electric vehicles in the market, compared to an average weight of all vehicles combined of 1,240 kg in France and 1,857 kg in the United States ([InsideEVs](#)).



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Signal • In Sudan, electric tuk-tuks to battle inflation

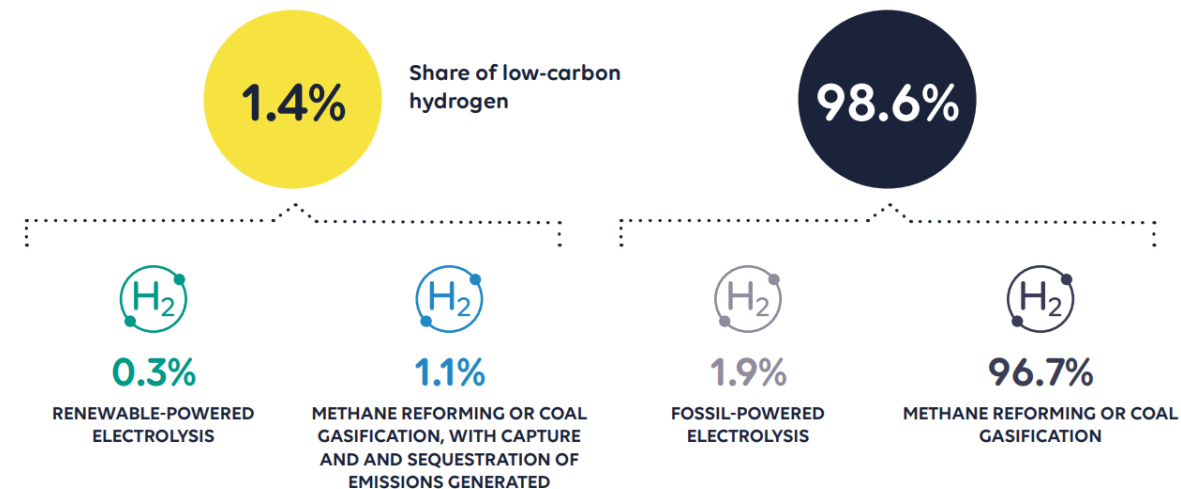
Transport • Over long distances, disruptive technologies await a low-carbon shift



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- **40.2% of rail tracks electrified** globally as of 2019 ([SLOCAT](#)), and an acceleration of electrification during the pandemic.
- **Maritime transport** counts on LNG et for long distances, ammonia and methanol, two bets on the still-nascent technologies.
- **Air traffic** picks up faster than expected. While awaiting breakthrough technologies in 2040-50, the CORSIA scheme struggles to lift off.

SHARE OF DIFFERENT HYDRIGEN PRODUCTION METHODS
Source: Climate Chance, based on [Global CCS Institute](#), 2021



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Signal • Transport • A niche of French maritime freight picks up wind

Forests • Increasing private sector commitments, and growing financing

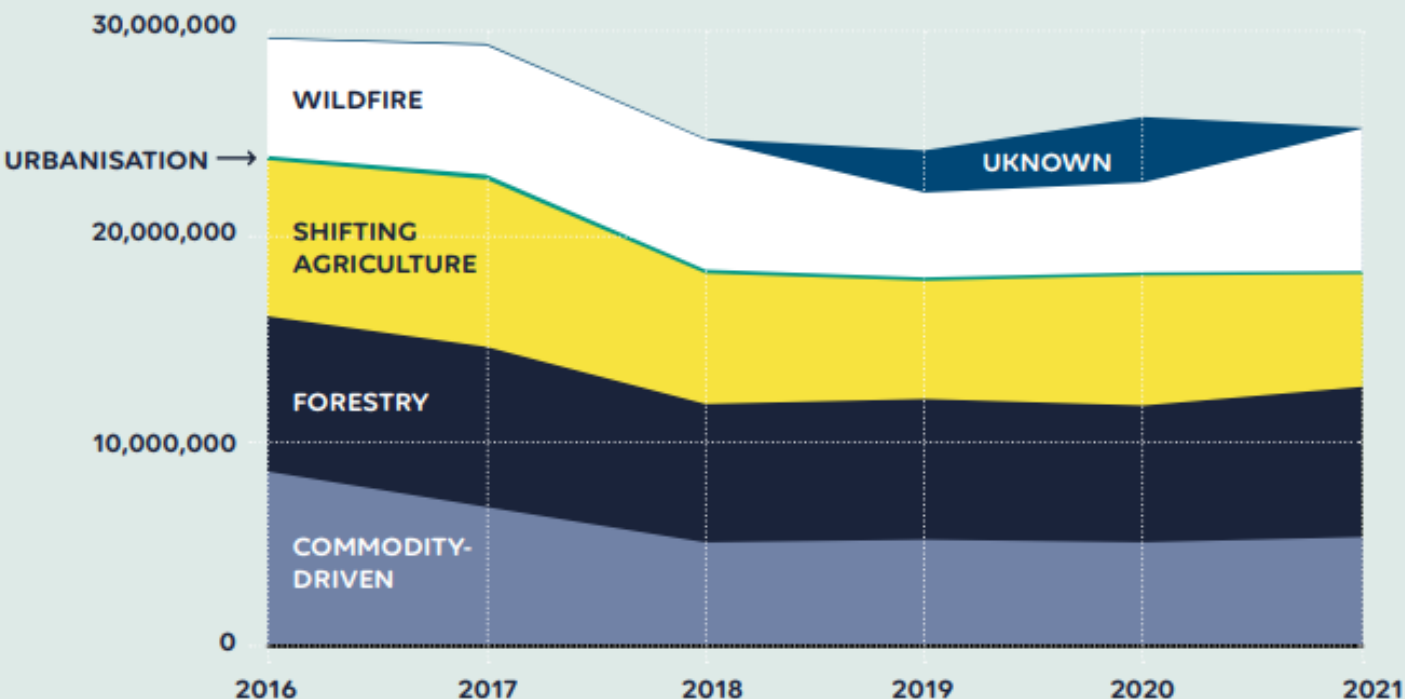


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SHARE OF THE MAIN DRIVERS OF TREE COVER LOSS, BETWEEN 2016 AND 2021

Between 2020 and 2021, the loss of tree cover due to forest fires increased, as well as loss due to forestry.

Climate Chance, based on data from Global Forest Watch, 2022



- Net carbon sinks on the decline, by 2.44% from **-7,350 MtCO₂e/year** in 2020 **to -7,170 MtCO₂e/year** in 2021 ([Global Forest Watch](#)).

- **58% of 500 companies and financial** with supply chains having a high impact on forests had commitments against deforestation in 2021 ([Forest 500](#)).



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Trend • Deforestation • Rights of nature as a bastion against the destruction of natural ecosystems

Forests • A growing recognition of the link between climate and biodiversity

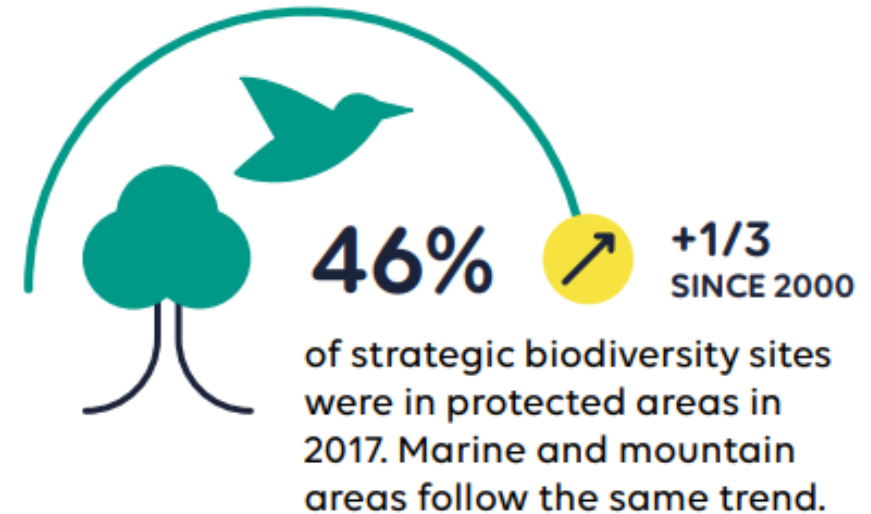


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- **\$130 Bn in financing** in favour of biodiversity in 2020 ([The Nature Conservancy](#)).
- **+166% REDD+ credits** aimed at avoiding unplanned deforestation between 2020 and 2021; **+972%** in the case of planned deforestation ([Ecosystem Marketplace](#))

**INCREASE IN THE
PROTECTION
OF STRATEGIC
BIODIVERSITY SITES**

[Protected Planet, 2021](#)



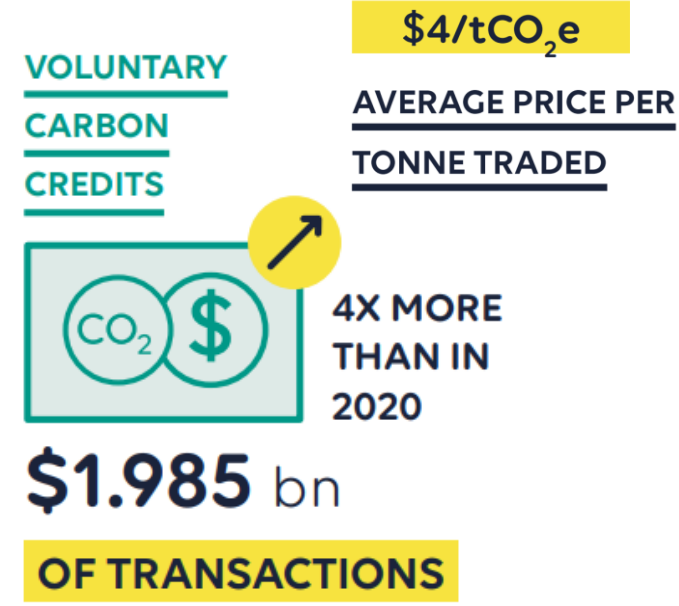
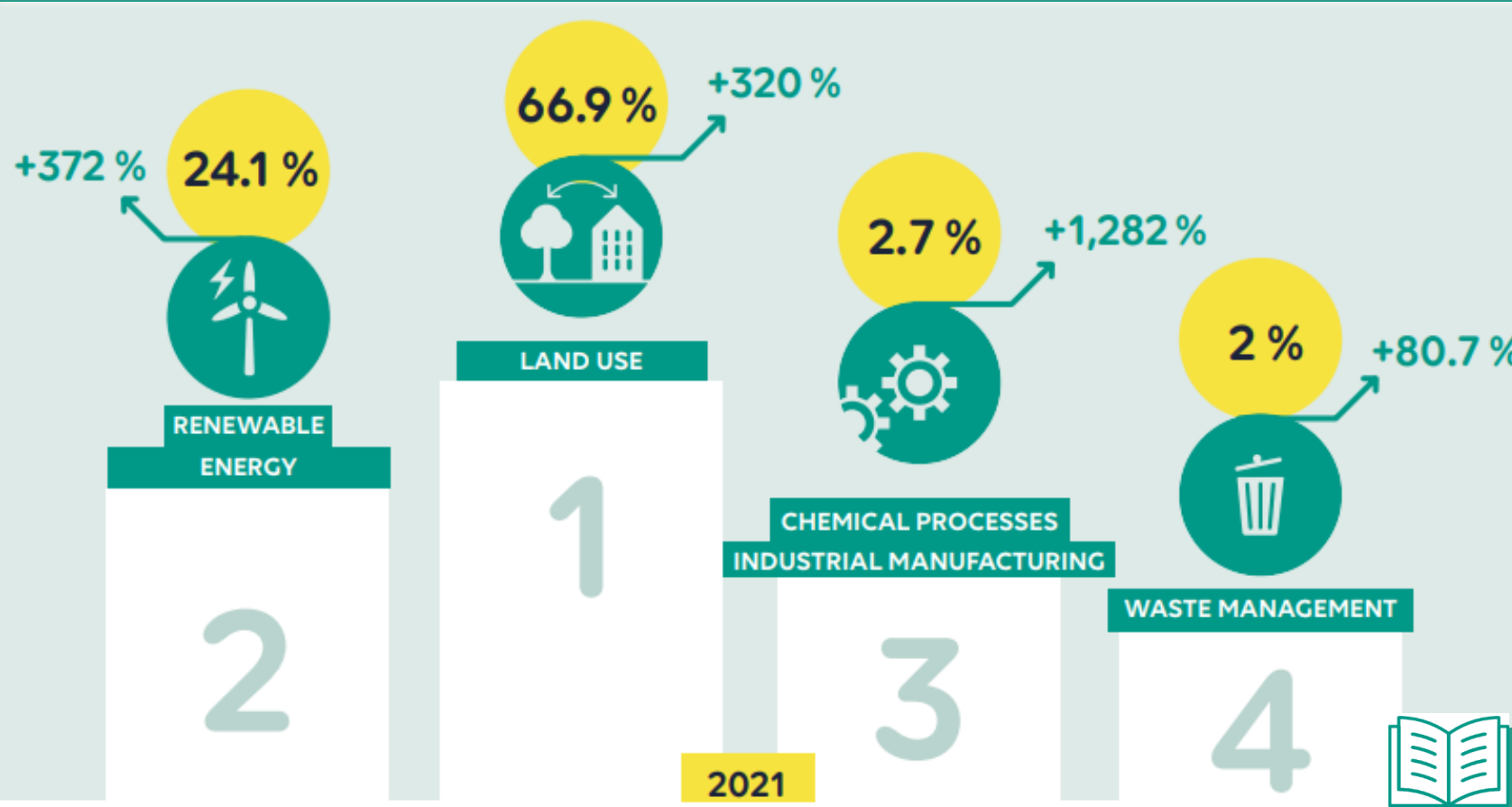
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Trend • Strengthening ecological connectivity to adapt ecosystems to climate change

Financing • Carbon offsets, a controversial financial instrument at the crossroads of various issues



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Special Feature • The Net Zero target: The voluntary carbon market enters a new dimension

Source: [Ecosystem Marketplace](#), 2022

Coming up in 2023

Observatory of climate action in Africa: eMag #3 Agroecology, Food systems and Forests • *March 23*

Study – Sustainable Development strategies and actions of actors in the French fashion industry • *In partnership with Paris Good Fashion, release on April 3*

Global Synthesis Report on Climate Action • *Global Stocktake Edition*

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