What are the transition strategies of the Transport sector, in a geopolitically restrained world?

Takeaways from the 2022 Global Synthesis Report on Climate Action
The Climate Change Association
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
- Case studies

Uniting actors
- Summits
- Coalitions
- e-Mags
Uniting climate actors from around the world
The Global Observatory of Climate Action

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

**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...

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

- 5 SECTORS
- 100+ INDICATORS
- 15 TRENDS
- 50 SIGNALS
- 15 CASE STUDIES
- 1 SPECIAL FEATURE ON CARBON OFFSETS
A personalisable reading experience: Stand-alone sections

**INDICATORS**
- 1 double-page
- Evolution of emissions and activities of each sector
- Evolution of climate action

**TRENDS**
- 3 Trends of de 6-8 pages/sector
- 1 « Data Overview »
- 1 editorial focus
- Precise and succinct analyses

**SIGNALS**
- 1 double-page of press reviews, 8-10 signals
- Events or initiatives that have not yet become a trend but signals a change in the sector

**CASE STUDIES**
- 3 case studies of local actions and initiatives
- 1 page/case study
A collaborative project built around a network of expertise

- **40+ contributors** experts and practitioners from the field

- **25** research centres, NGOs, consultancies and networks mobilised.
Our Partners
The Transport Takeaways from the 2022 GSR

Antoine Gillod • Director, Global Observatory of Climate Action
Tania Martha Thomas • Research Officer, Global Observatory of Climate Action
The Transport Takeaways from the 2022 GSR

An overview of emissions and the evolution of trends in the sector
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%
A zoom in on the Transport sector’s Emissions

- Increasing emissions in each sub-sector, but with regional variations that persist

2021: emissions back on track

EMISSIONS FROM DOMESTIC TRANSPORT PICK UP, BUT DON’T TOUCH THEIR 2019 LEVELS

- +7.6%
- +7.3%
- +7.6%
- +7.3%
- +13.2%

Fnerdata, 2022
Road Transport: Electrification surges ahead, but remains eclipsed by the growth of SUVs

- **55%** of EVs sold in 2021 were SUVs ([IEA](https://www.iea.org)).

- **1,940 kg** is the average weight of EVs on the market, against an average weight of all vehicles of 1,240 kg in France, and of 1,857 kg in the US ([InsideEVs](https://www.insideevs.com/)).

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**Trend** • Metals, the precious fuel for the automotive market in the race to electrification

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**CONSUMER AND GOVERNMENT SPENDING ON ELECTRIC CARS, 2016-2021**

Source: [IEA](https://www.iea.org), 2022
Air Transport: Air traffic soars once more, riding on the wings of demand

YEAR-ON-YEAR CHANGE IN INTERNATIONAL REVENUE PASSENGER KILOMETRES (RPKs)
Source: IATA, 2022

- Emissions dropped from 905 MtCO2 in 2019, to 495 Mt in 2020, 577 Mt in 2021, and an estimated 809 Mt in 2022 (IATA)

- The recovery after the pandemic has shifted the regional distribution of aviation activity.

Trend • Air traffic takes off again, leaving the climate transition on the tarmac
The increasing popularity of LNG as the fuel of choice for long distances in the maritime sector

- 99.8% of ships operating in the world and 78.9% on order run conventional fuels (DNV)

- Among the alternatives, LNG dominates the orders books for long-distance vessels (90% of tonnage on order, 98% of tonnage in operation).

- 923 LNG-fuelled vessels in operation, 534 ordered (DNV)
The electrification of railways continues to charge ahead

- A global electrification rate of **40.2%** in 2019, **60%** in Europe, **75%** in China, **80%** in India. In general, passenger lines have high rates of electrification, while freight uses more diesel. (SLOCAT; European Commission; ICCT; Indian Railways)

- Battery trains are also growing in demand – **+264%** between 2019 and 2021, driven mainly by the Asia-Pacific region (Allied Market Research).

![Energy Mix of Rail Transport, 2021](source: IEA, 2022)
The Transport Takeaways from the 2022 GSR

The transitions strategies of actors, marked by the geopolitical and climatic contexts
Inflation in energy prices leaves no sector untouched

GLOBAL PRICE INDICES OF COAL, GAS, AND OIL, JUN 2019 – JUL 2022
Source: Climate Chance, based on IMF, 2022
The inflation in prices of metals strategic to the energy transition

EVOLUTION OF A SELECTION OF METAL PRICE INDICES, OCT 2020 – JUL 2022
Source: IMF Energy Transition Metal Index, 2022

- **Inflation** of the prices of strategic metals: lithium x 4, cobalt x 2, nickel x 2.

- **Impact**: Photovoltaic cells et wind turbines (+10~20 %); lithium-ion batteries **+52%**, between December 2021 and April 2022 (BNEF).

**Case Study** • Alsace: Towards a made-in-Europe production of low-carbon lithium with the EuGeLi projet
• 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 of gigafactories are being developed in Europe, across 40 sites, to produce 17.5 M electric vehicles in 2030 (Les Échos).

• $369 bn invested by the US in low-carbon industries, with a preference for Made-in-America (Inflation Reduction Act).
The capitalistic concentration of the industry in the hands of leading players

EARNING BEFORE INTERESTS AND TAXES, 2017 – 2023 (FORECAST)
Source: Financial Times, 08/09/2022

Trend: The energy transition in international shipping remains at the dock
The strongest case for adaptation: Railways

EFFECTS OF CLIMATE CHANGE ON RAIL INFRASTRUCTURE
Source: Blackwood, Renaud & Gillespie, 2022
The Transport Takeaways from the 2022 GSR

Alternative channels of action: Spotlight on local governments
Starting with the electrification of public fleets...

- Global sales of electric buses increased by 40%, bringing them to a total of 4% of the rolling stock. (REN21)

- Different factors underly this increase in adoption in different continents: regulations in the EU, subsidies in Asia, and high demand and funding in South America.

REGISTRATIONS OF BUSES IN 2020 & 2021 IN EUROPE
Source: UITP, based on Chartrou Solutions (data for the EU, UK, Iceland, Switzerland, Norway)

Trend • Beyond the mobility transition, cities are reorganising the urban space for low-carbon mobility
...to the promotion of soft and active mobility,

- Initially temporary **bike lanes** have been made permanent in cities around the world.

- **300** tax incentives or purchasing aids in Europe, and **13.5 million** bikes manufactured on the continent in 2021. **22 million** bikes sold in 2021, the highest ever, with **7.5%** more sales than in 2020. ([ECF, Conebi](#))


**Case Study** • Buenos Aires: Leveraging environmental and climate data to promote soft mobility

**Case Study** • Barcelona: Sant Antoni, the green street inspiring the city
...and dethroning the car as king of the city

- **21 cities** more cities have set up Low Emission Zones by end-2021, bringing the total up to **270**. Most of these are located in Europe. (REN21)

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**NUMBER OF CITIES HAVING TRANSPORT-SPECIFIC POLICIES**

*Source: REN21, 2022*

- **406**
  - Regulatory policies
  - Fiscal/financial policies
  - Enabling policies

<table>
<thead>
<tr>
<th>Type of enabling policy</th>
<th>Number of Cities</th>
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<tbody>
<tr>
<td>Low-emission zones</td>
<td>270</td>
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<tr>
<td>Others</td>
<td>47</td>
</tr>
<tr>
<td>Bans and restrictions</td>
<td>20</td>
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The redistribution of urban spaces: the example of Barcelona’s superblocks

THE 21 GREEN STREETS UNDER CONSTRUCTION IN THE EIXAMPLE DISTRICT

Source: Construction21, 2022
Coming in 2023

- Analysis – Sustainable Development strategies and actions of French players in the world of fashion
  - In partnership with Paris Good Fashion

- Global Synthesis Report on Climate Action • Special Edition for the Global Stocktake