

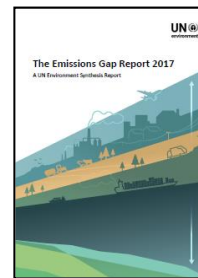
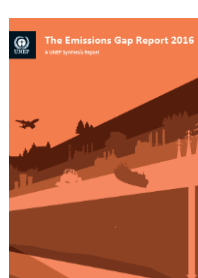
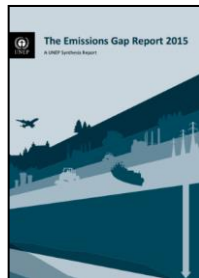
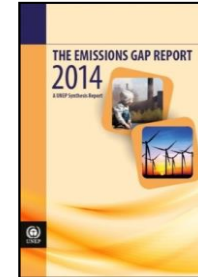
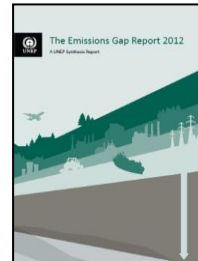
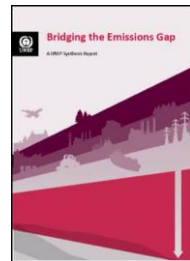
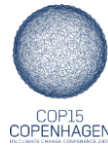
# Emissions Gap Report 2020

Unless the COVID-19 economic recovery is used as an opening for pursuing strong decarbonization, the Paris Agreement goals are likely to slip further out of reach



# Emissions Gap Reports

Annual science-based assessment reports since 2010

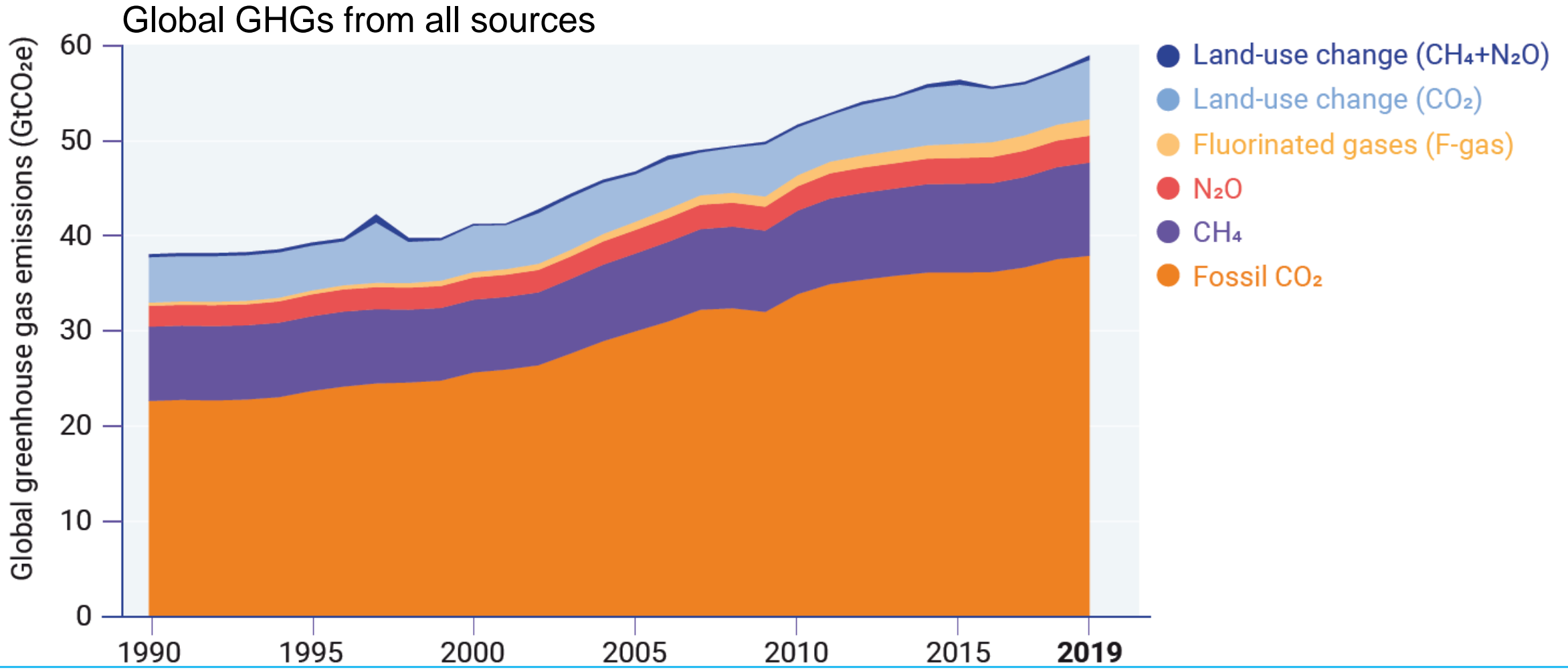


# Emissions Gap Report 2020: main questions

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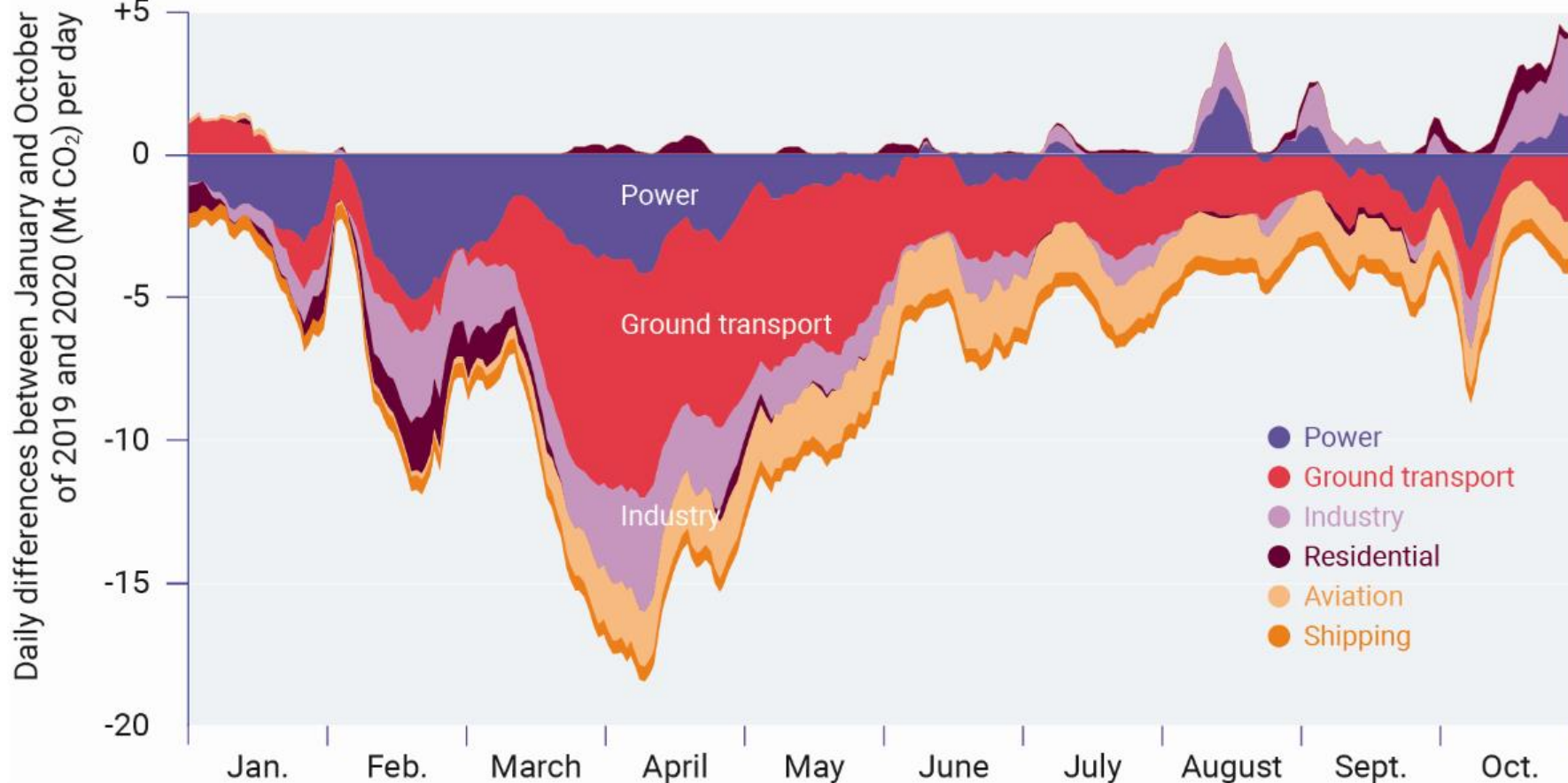
- What is the trend in global GHG emissions?
- Are countries on track to meet their Cancun Pledges and NDC targets?
- What will the current NDCs contribute?
- Will this be sufficient to stay well below 2°C and pursue 1.5°C?
- What do preliminary studies tell us about the implications of the COVID-19 pandemic and emerging responses?
- Can the 2030 Gap be bridged - and how?

# Global greenhouse gas emissions have risen 1.4 per cent per year in the last decade, reaching a record high of 59.1 GtCO<sub>2</sub>e in 2019



# CO<sub>2</sub> emissions could decrease by 7 per cent in 2020 due to COVID-19 lockdowns, but atmospheric concentrations of GHGs continue to rise

Reduction in 2020 emissions relative to 2019 levels due to COVID-19 lockdowns



- The biggest changes have occurred in transport
- Power, industry and residential emissions comparable with pre-COVID-19 levels since August

# Collectively, the G20 members are projected to overachieve their 2020 Cancun Pledges, but these are not sufficiently ambitious

- Seven individual G20 members are projected to meet their 2020 Cancun Pledges with currently implemented policies and without considering the impacts of COVID-19 (Australia, Brazil, China, EU27+UK, India, Japan, the Russian Federation, and South Africa)
- The USA is also projected to meet its Cancun Pledge, when the impact of COVID-19 is considered
- Three individual G20 members are still unlikely to achieve their Cancun Pledges (Canada, Mexico and the Republic of Korea) and it is uncertain if Indonesia will achieve its pledge
- The conclusion for Australia depends on whether its “point in time” 2020 target or its carbon budget target for the 2013–2020 is considered

The 2020 Cancun Pledges are **not** sufficiently ambitious to establish a path that will get the world to 2030 emission levels consistent with the well below 2°C and 1.5°C goal of the Paris Agreement

# Collectively, G20 members are not projected to achieve their nationally determined contributions for 2030 based on current policies\*

Projected to meet the unconditional NDC target with currently implemented policies		Expected to meet the unconditional NDC target with additional policy measures and/or stricter enforcement of existing policies		Uncertain or insufficient information
Overachievement of the target by more than 15 per cent	Overachievement of the target by less than 15 per cent*	Projected emissions 0–15 per cent above the NDC target	Projected emissions 15 per cent or more above the NDC target	
<ul style="list-style-type: none"> <li>• Argentina</li> <li>• Russian Federation</li> <li>• Turkey (INDC; 3 of 3 studies)</li> </ul>	<ul style="list-style-type: none"> <li>• China</li> <li>• EU27+UK</li> <li>• India</li> <li>• Japan</li> <li>• Mexico</li> <li>• South Africa</li> </ul>	<ul style="list-style-type: none"> <li>• Australia</li> </ul>	<ul style="list-style-type: none"> <li>• Brazil</li> <li>• Canada</li> <li>• Republic of Korea</li> <li>• United States of America</li> </ul>	<ul style="list-style-type: none"> <li>• Indonesia</li> <li>• Saudi Arabia</li> </ul>

\* Based on pre-COVID-19 studies

# There is encouragement in the growing number of countries that are committing to net-zero emissions goals by around mid-century

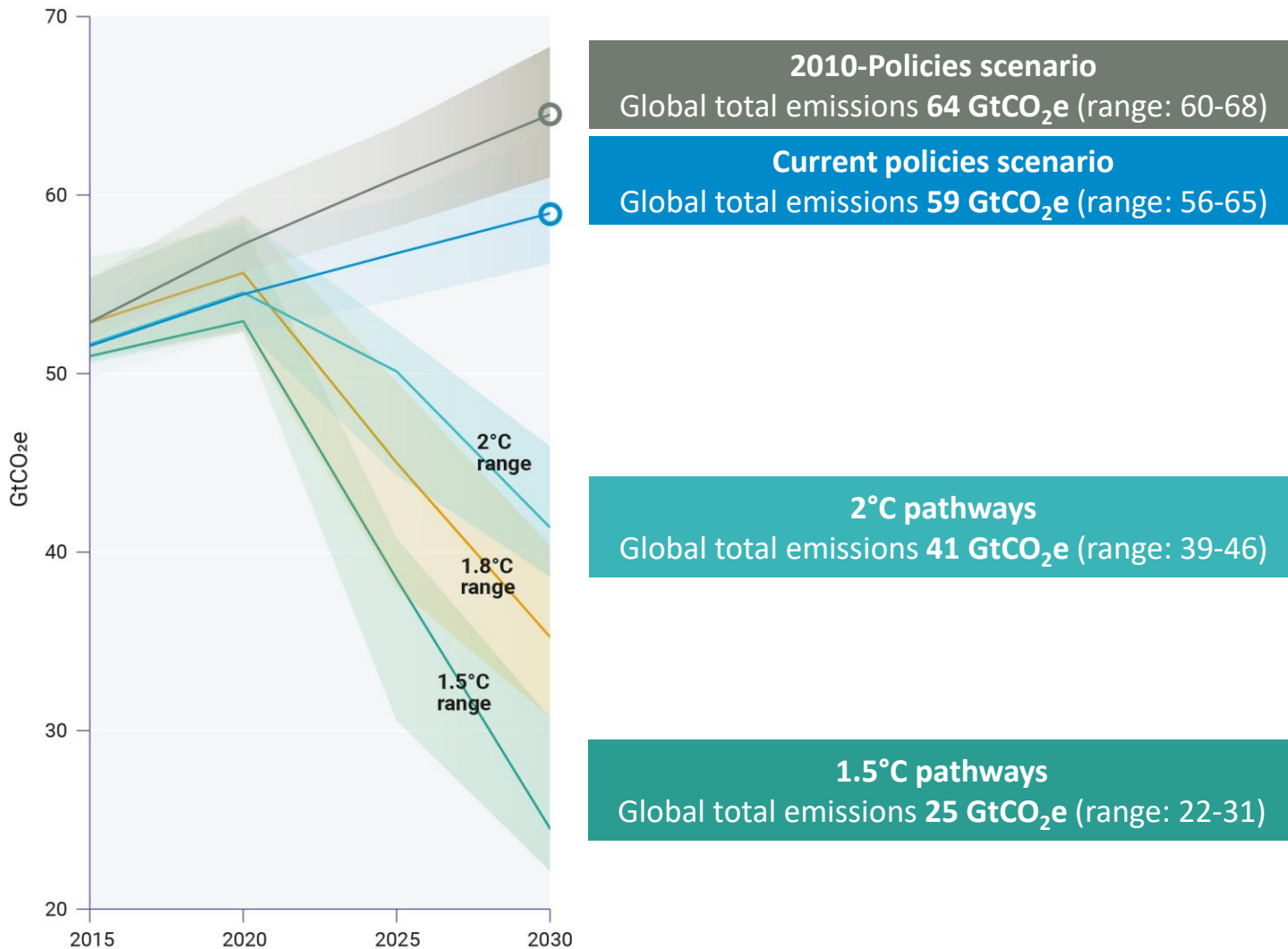
- 126 countries covering 51% of global GHG emissions and including more than half the G20 members have net-zero goals that are formally adopted, announced or under consideration
- If the USA also adopts a net-zero GHG emissions target by 2050 the share could increase up to 63%.

## However:

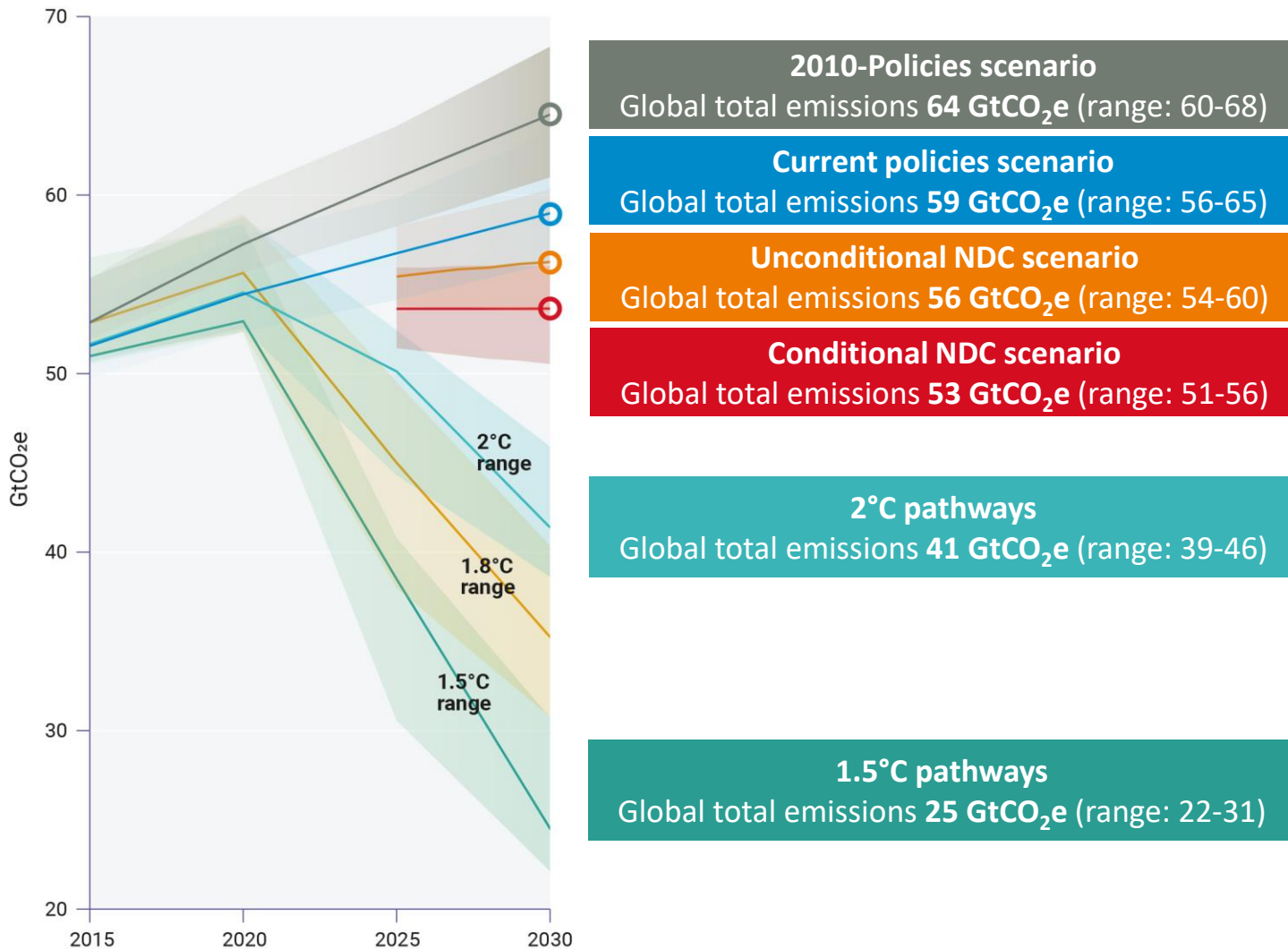
- There is a vast discrepancy between the ambitiousness of these goals, current emission trends and the inadequate level of ambition in the NDCs for 2030
- To remain feasible and credible, it is imperative that the net-zero goals are urgently translated into strong near-term policies and action, and are reflected in the NDCs



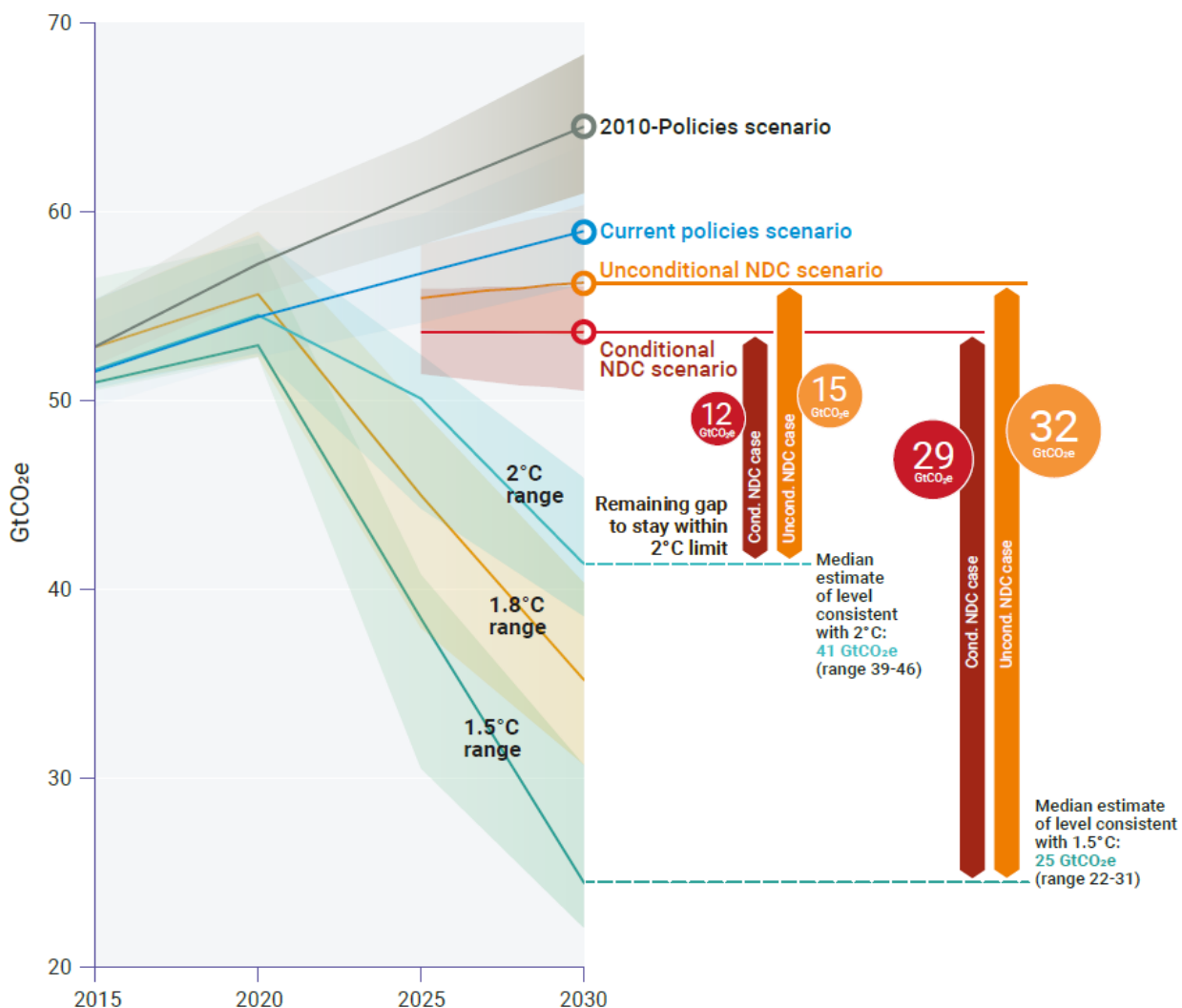
# NDC contributions and the emissions gap in 2030



# NDC contributions and the emissions gap in 2030



# NDC contributions and the emissions gap in 2030



Emissions under current policies need to be reduced by more than 25% and 55% respectively to be consistent with the well below 2°C and 1.5°C goal

Full implementation of unconditional NDCs reduces emissions by 4-5%

If conditional NDCs are also fully implemented, emissions are reduced by around 9%

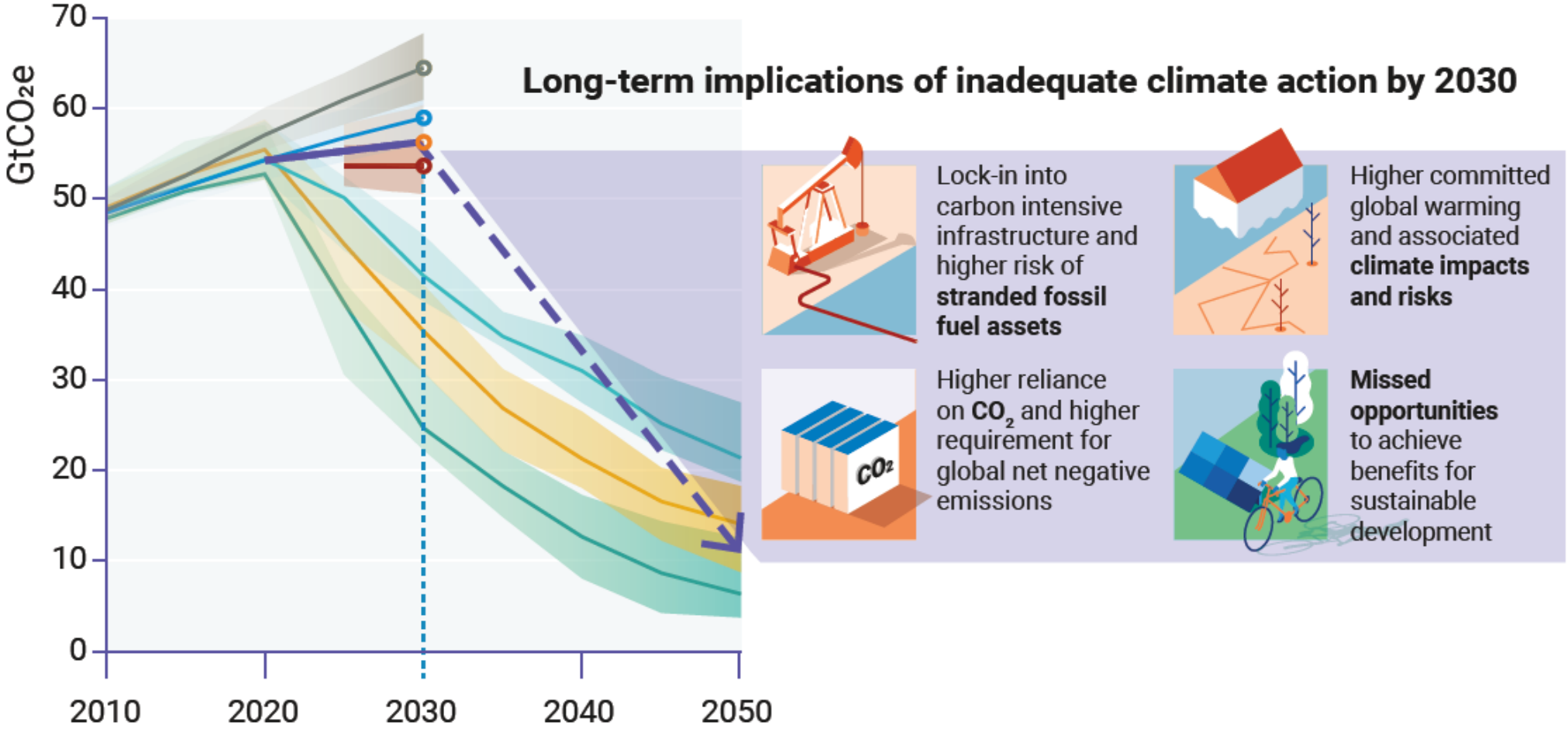
Bridging the emissions gap requires that countries increase their NDC ambitions threefold to limit warming to 2°C and more than fivefold for the 1.5°C goal

# Current NDCs lead to a temperature increase of at least 3°C by 2100

## Announced net-zero emissions goals could reduce this by about 0.5°C

- **Current policies**, if continued throughout the century, are consistent with limiting global warming to **3.5°C** (range: 3.4–3.9°C, 66% probability) by 2100
- Full implementation of **unconditional NDCs** consistent with staying below **3.2°C** (range: 3.0–3.5°C, 66% probability) by 2100. Additional implementation of **conditional NDCs lowers this by about 0.2°C**
- Preliminary estimates suggest that the full implementation of all announced **net-zero emission goals** could further the unconditional NDC temperature projection by about 0.5°C to around **2.7°C** (66% probability)
- If **in addition the USA** adopts and implements a net-zero GHG emissions target by mid-century, the **combined effect of all net-zero goals** would imply temperature projections of **2.5–2.6°C** (66% probability), which is 0.6–0.7°C lower than the global warming estimate for current unconditional NDCs.

# Postponing ambitious climate action will make it impossible to limit global warming to 1.5°C



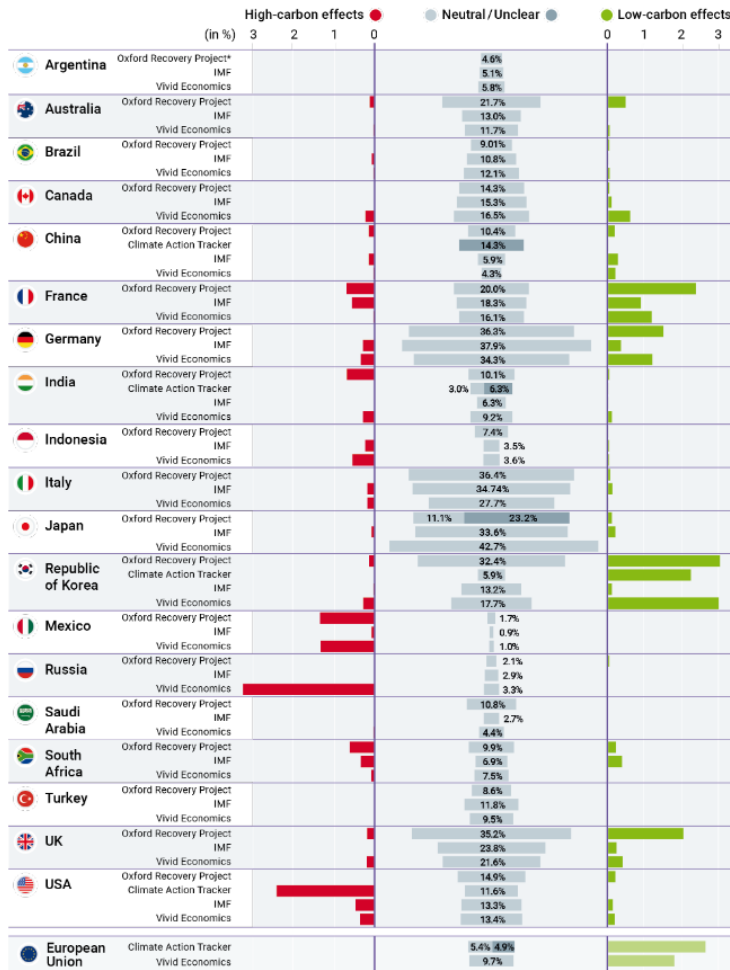
# The COVID-19 crisis will only contribute significantly to 2030 emissions reductions if the economic recovery incorporates strong decarbonisation

Global total GHG emissions by 2030 under various 'what if' post-COVID-19 scenarios



- Future global GHG emissions depend critically on the extent to which recovery measures are low carbon
- Effects on global GHG emissions in 2030 under explorative scenarios range from +1 GtCO<sub>2</sub>e to -15 GtCO<sub>2</sub>e
- A low carbon recovery can surpass NDC commitments and bring 2030 emissions within the range consistent limiting global warming to below 2°C

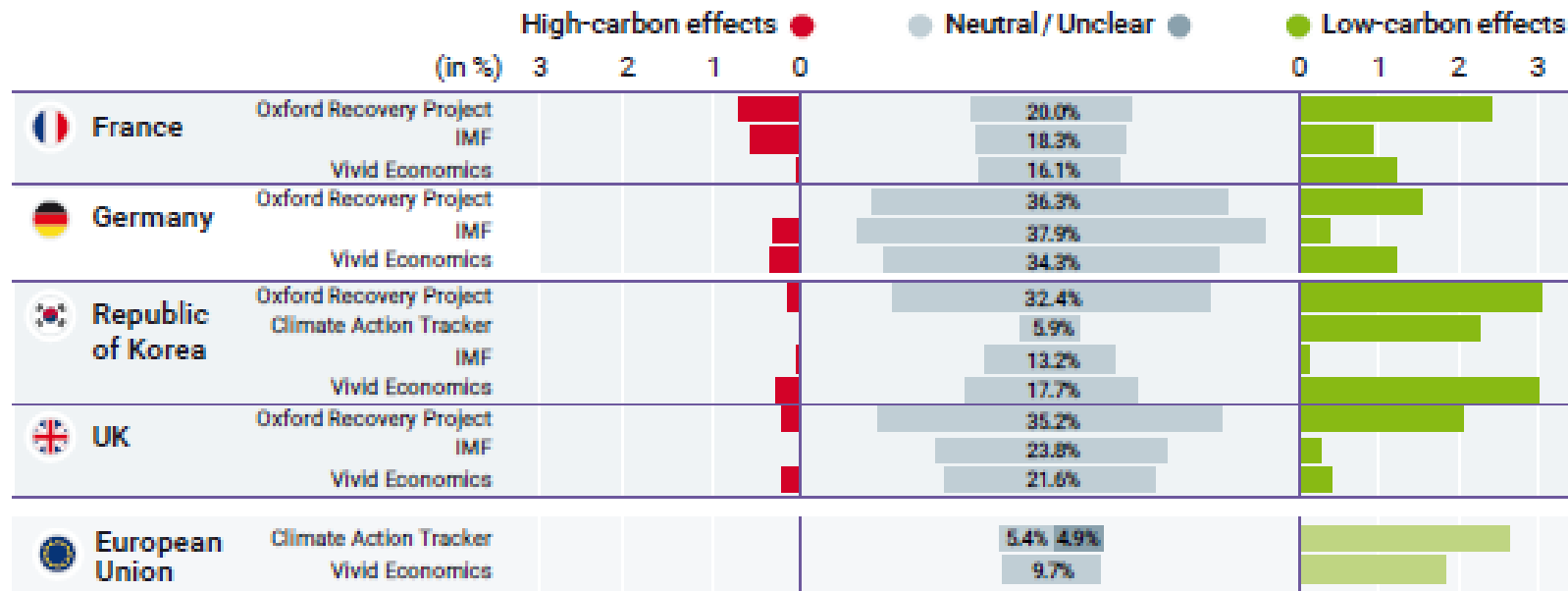
# So far, the opening for using fiscal rescue and recovery measures to accelerate a low carbon transition has largely been missed



- Fiscal responses to the COVID-19 pandemic are unprecedented in scale, amounting to around **US\$12 trillion**, or 12% of global GDP, by September 2020
- Most countries bring forward measures and packages **supporting a high-carbon status quo of their economies** – or even fostering new high-carbon investments
- Only some countries dedicate larger shares of their packages explicitly to low-carbon measures (around 1/4 of G20 countries)
- It is not too late to seize future opportunities, without which achieving the Paris Agreement goals is likely to slip further out of reach

# Few countries dedicate larger shares of their packages explicitly to low-carbon measures (around 1/4 of G20 countries)

## G20 members with larger low-carbon recovery shares (up to 3% of GDP)



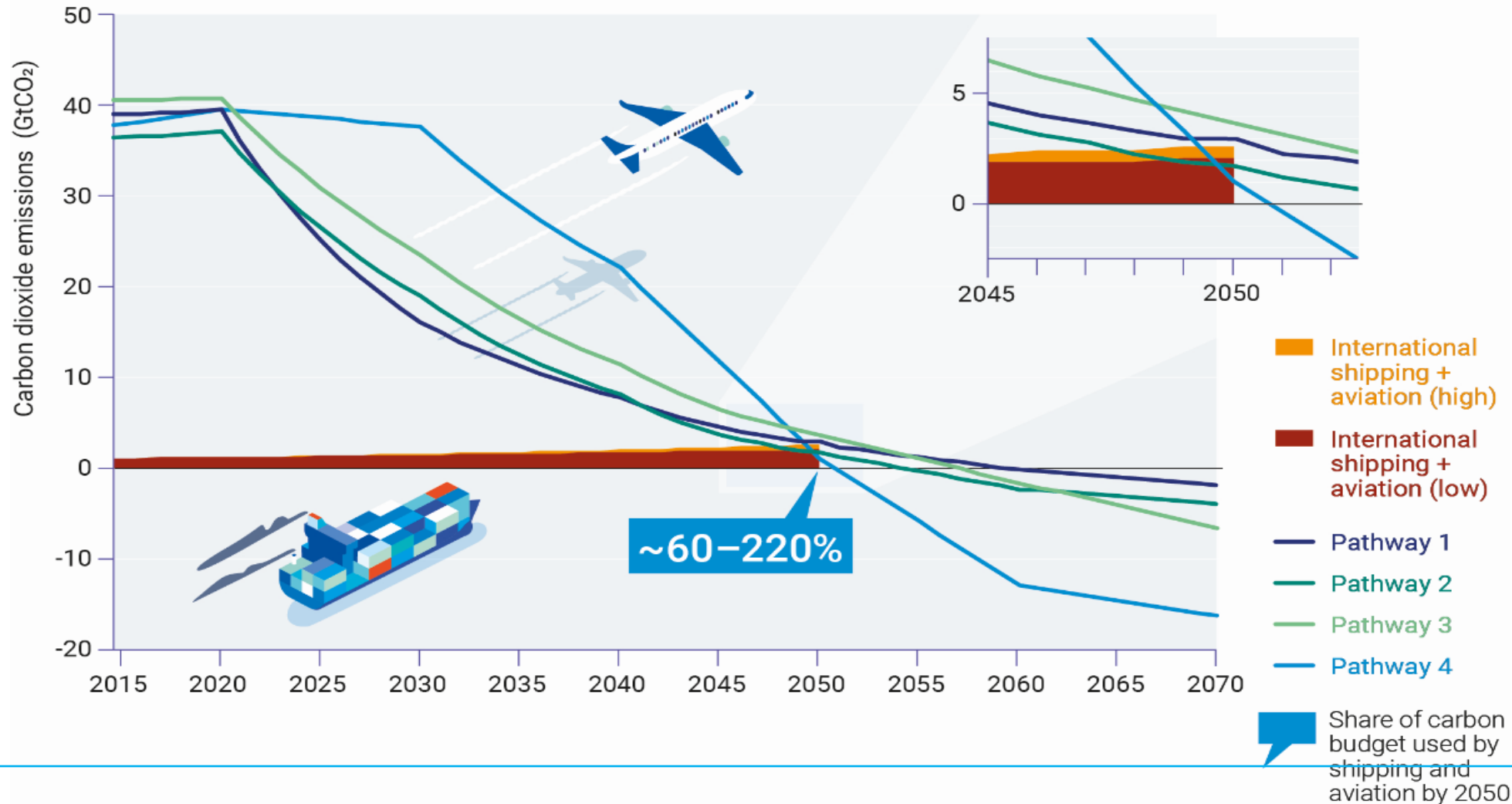
Note: \*Oxford Recovery Project refers to the Oxford University Recovery Project (OERP).

All announcements by the European Council on the NextGenerationEU recovery fund and additional green climate change-related spending in the 2021–2027 Multiannual Financial Framework remain preliminary as at October 2020.

Sources: Climate Action Tracker (2020); IMF (2020a); IMF (2020b); O’Callaghan et al. (2020); Vivid Economics (2020a). Climate Action Tracker data from August 2020, Vivid Economics from August 2020, IMF from September 2020 and Oxford from November 2020.

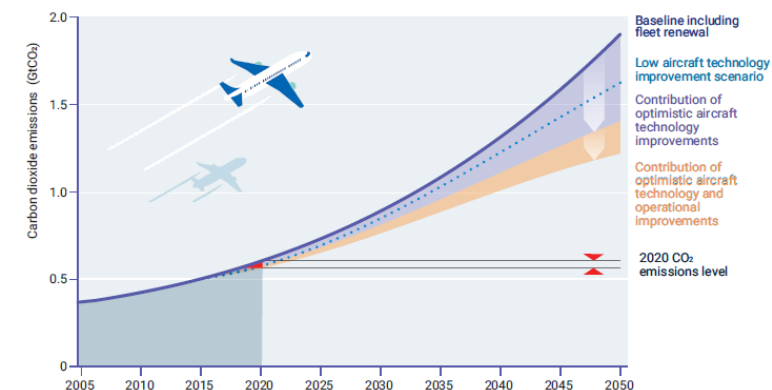
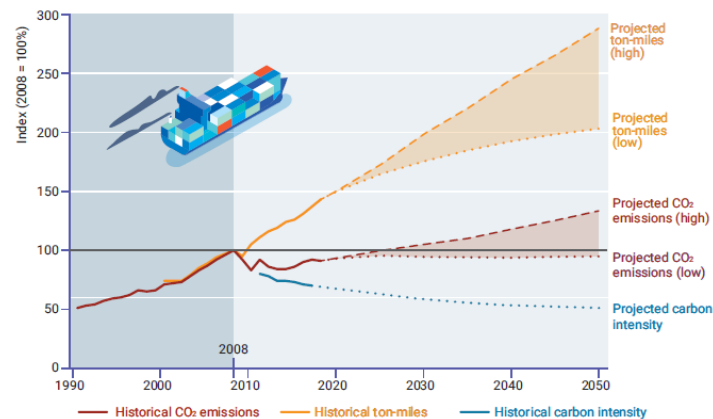


# International emissions from shipping and aviation could use up 60-220% of allowable CO<sub>2</sub> emissions under 1.5°C scenarios by 2050



# Additional policies are required to bridge the gap between current trajectories of shipping and aviation and pathways consistent with the Paris Agreement

- Both sectors will need to maximize their energy efficiency while rapidly transitioning away from fossil fuels
- Biofuels and synthetic kerosene from biomass or CO<sub>2</sub> and hydrogen are probably the most realistic fuel alternatives for aviation and shipping in the short to medium term, but will compete with other uses
- Long-term fuel alternatives, such as electricity or (CO<sub>2</sub>-free) hydrogen will require different aircraft and ship designs
- Changes in technology, operations, fuel use and demand all need to be driven by new policies and the cost of fuel will increase several-fold

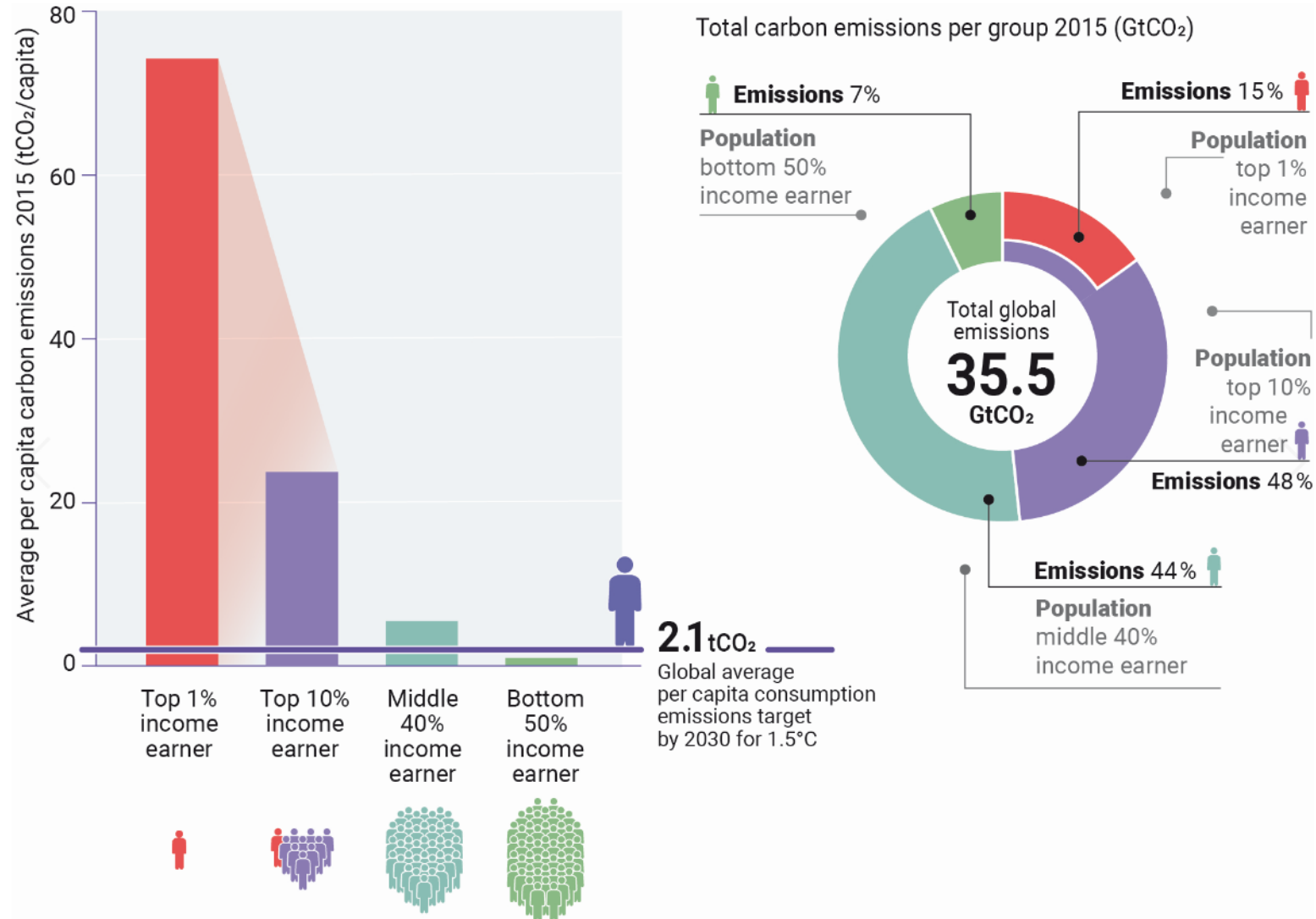


# Lifestyle changes are an essential to bridge the gap: around two thirds of global emissions are linked private household consumption

- Governments, citizens and civil society all play major - and interdependent - roles in bringing about lifestyle changes
- Mobility, residential and food are the most important areas of lifestyle emissions: each contributes close to 20% to lifestyle emissions
- Examples of personal emission reductions include:
  - ✓ foregoing one long-haul return flight reduces annual personal emissions by 1.9 tCO<sub>2</sub>e per capita
  - ✓ use of renewable electricity by households could reduce emissions by about 1.5 tCO<sub>2</sub>e per capita per year for those on higher incomes
  - ✓ moving to a vegetarian diet could reduce emissions by an average of 0.5 tCO<sub>2</sub>e per capita per year



# The emissions of the richest 1% of the global population account for more than twice the combined share of the poorest 50%



# Emissions Gap Report 2020: answers to the main questions

- What is the trend in global GHG emissions?
  - Global emissions continue to rise and show no signs of peaking
- Are countries on track to meet their Cancun Pledges and NDC targets?
  - Collectively countries are on track to meet their Cancun pledges, but these are not sufficiently ambitious to establish a path that will get the world to 2030 emission levels consistent with the well below 2°C and 1.5°C goal
  - Collectively, G20 members are **not** on track to meet their 2030 NDC commitments
- What will the current NDCs contribute?
  - Emission levels resulting from NDCs are 3 to 6 GtCO<sub>2</sub>e/yr lower than the current policy trajectory in 2030, but the remaining Gap is in the order of 12 to 15 GtCO<sub>2</sub>e/yr compared with 2°C scenarios and 29 to 32 GtCO<sub>2</sub>e/yr compared with 1.5°C
- Will this be sufficient to stay well below 2°C and pursue 1.5°C?
  - **No** - without enhanced ambition the likely global average temperature increase will be at least 3.0°C by the end of the century
  - Postponing ambitious climate action will make it impossible to limit global warming to 1.5°C

# Emissions Gap Report 2020: answers to the main questions

- What do preliminary studies tell us about the implications of the COVID-19 pandemic and emerging responses? And can the gap be bridged?
  - CO<sub>2</sub> emissions could decrease by 7 per cent in 2020 due to COVID-19 lockdowns. However, this only translates into a 0.01°C reduction of global warming by 2050, and atmospheric concentrations of GHGs continue to rise
  - Global emissions are only projected to be significantly reduced if fiscal rescue and recovery measures are used as an opening to accelerate a low carbon transition. So far, this opening has largely been missed
  - There is still time to change this with the many outstanding decisions around the COVID-19 economic recovery
  - For international shipping and aviation, progress on policies, efficiency and fuels will be important
  - Sustained emission reductions require lifestyle changes. There are many options for reducing personal emissions but the feasibility of these will depend critically on the incentives provided through government policies, legislation and investments

# Thank you



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[www.unep.org/emissions-gap-report-2020](http://www.unep.org/emissions-gap-report-2020)



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