



World Energy Outlook 2021

Energy Cities' Forum 2022

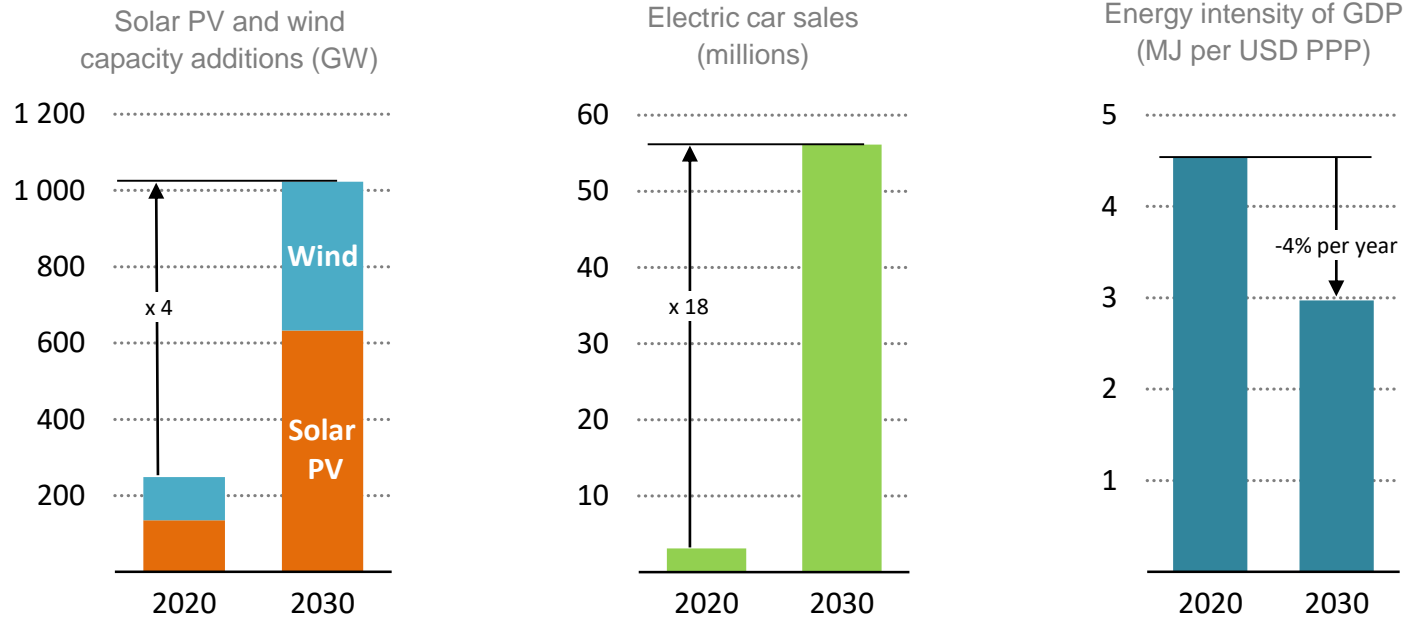
22 April, 2022

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International
Energy Agency

Net Zero by 2050

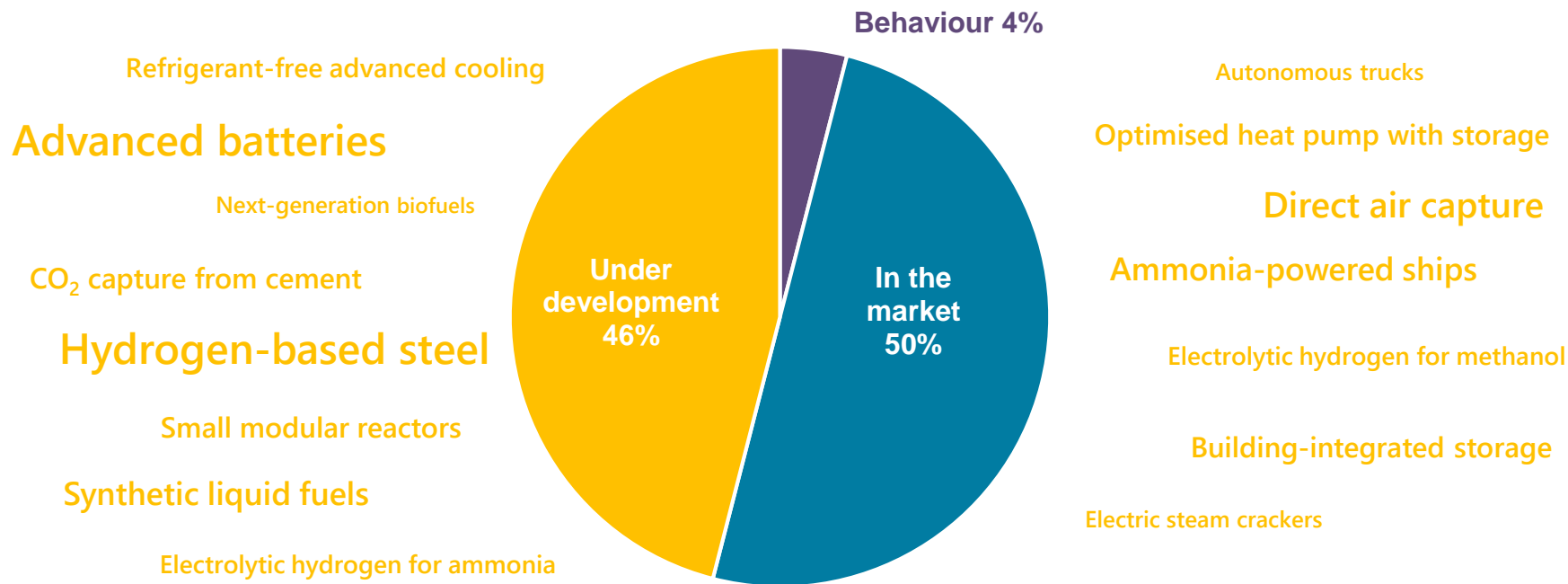
Make the 2020s the decade of massive clean energy expansion



Technologies for achieving the necessary deep cuts in global emissions by 2030 exist, but staying on the narrow path to net-zero requires their immediate and massive deployment.

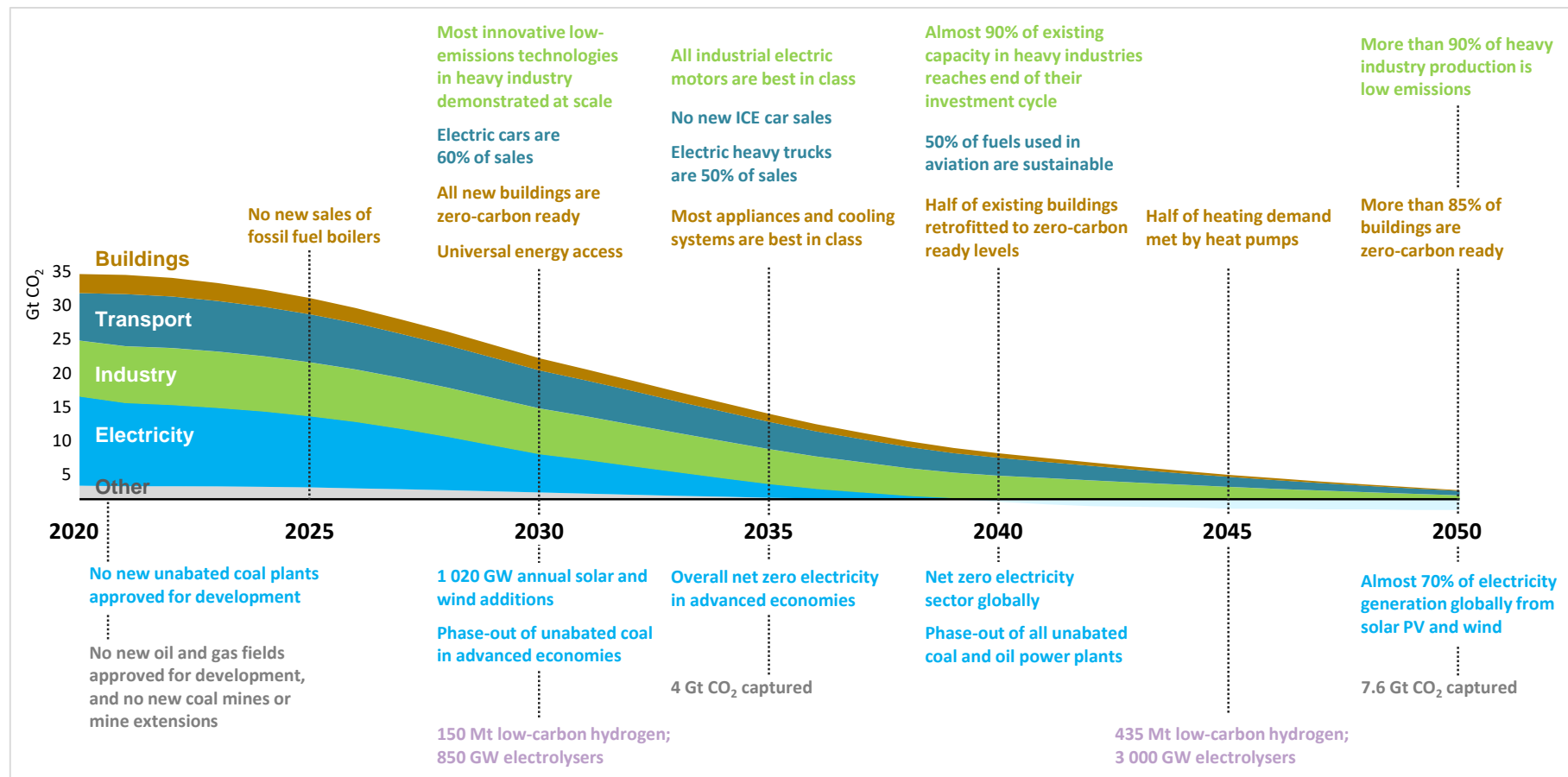
Prepare for the next phase of the transition by boosting innovation

CO₂ savings by technology maturity in 2050, NZE scenario



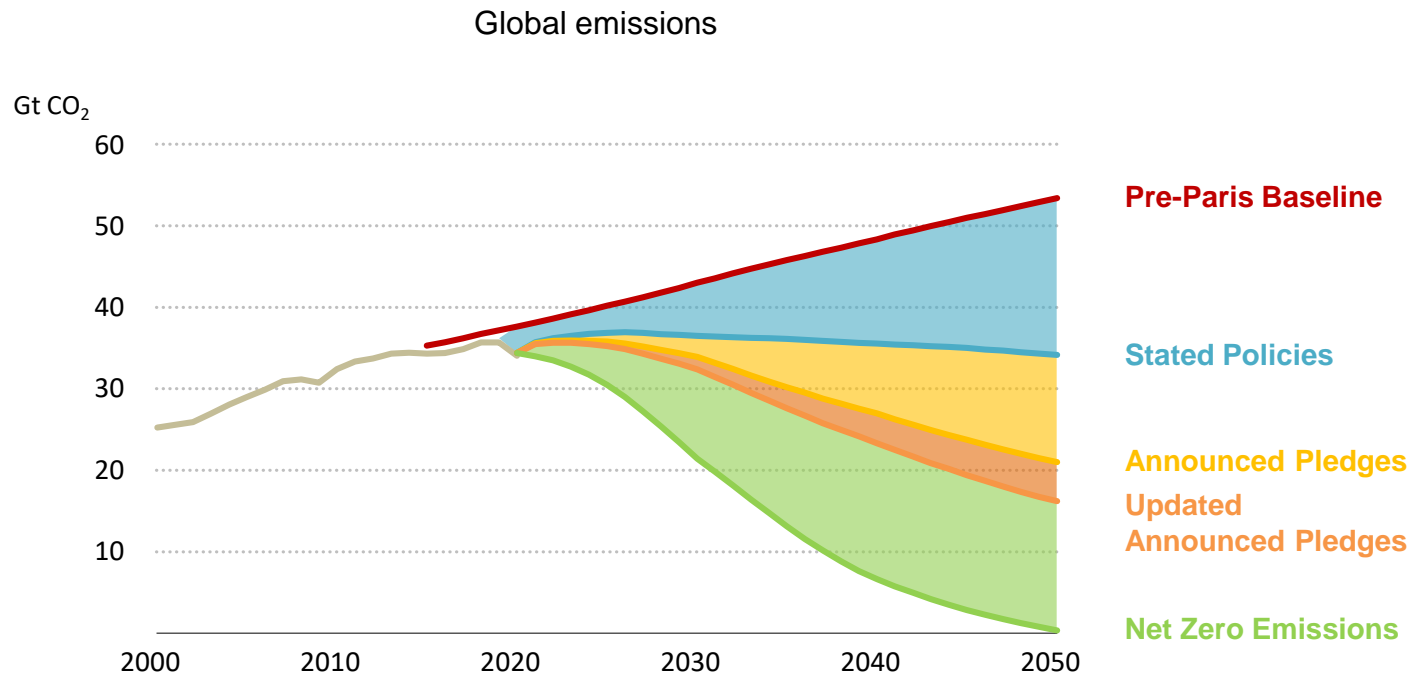
Unlocking the next generation of low-carbon technologies requires more clean energy R&D and \$90 billion in demonstrations by 2030; without greater international co-operation, global CO₂ will not fall to net-zero by 2050.

Set near-term milestones to get on track for long-term targets



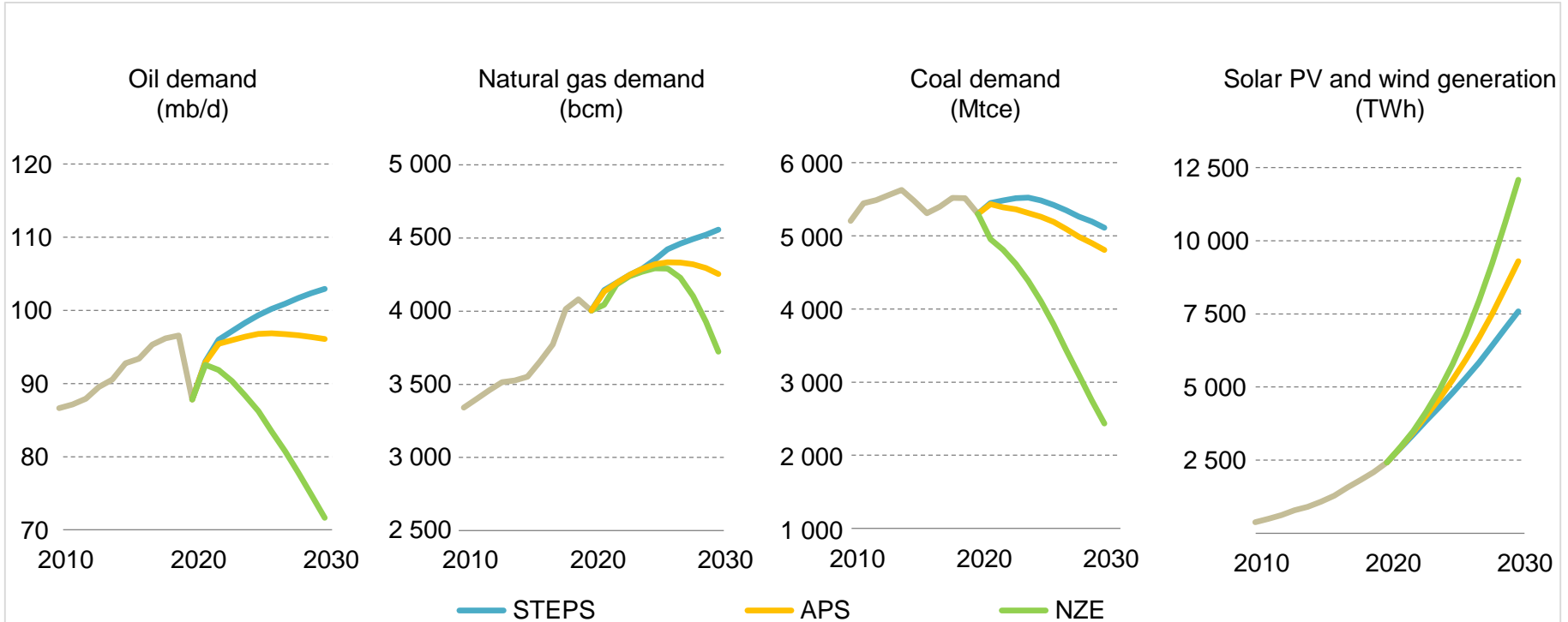
The Glasgow baseline

The world is starting to bend the emissions curve



**New policies, technology cost reductions, and the pandemic have pulled the projected emissions curve down.
But there is still a large gap between announced pledges and the net zero emissions scenario.**

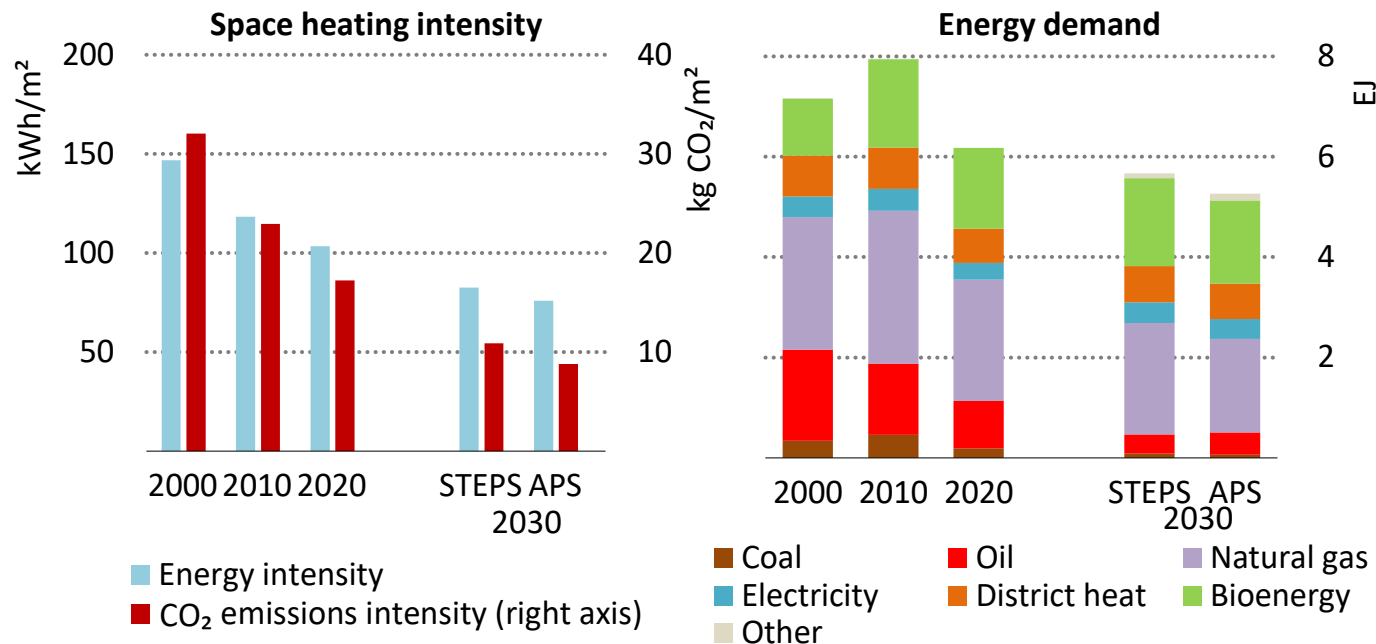
Action to reduce emissions re-shapes global energy markets



Full realisation of all announced pledges sees peak oil and natural gas demand occurring in the current decade, yet the NZE pathway requires increased ambition and results in a transformation of energy markets

In the EU, act now to keep the 2050 target in reach

Residential space heating energy intensity and energy demand in the EU in the Stated Policies and Announced Pledges Scenarios



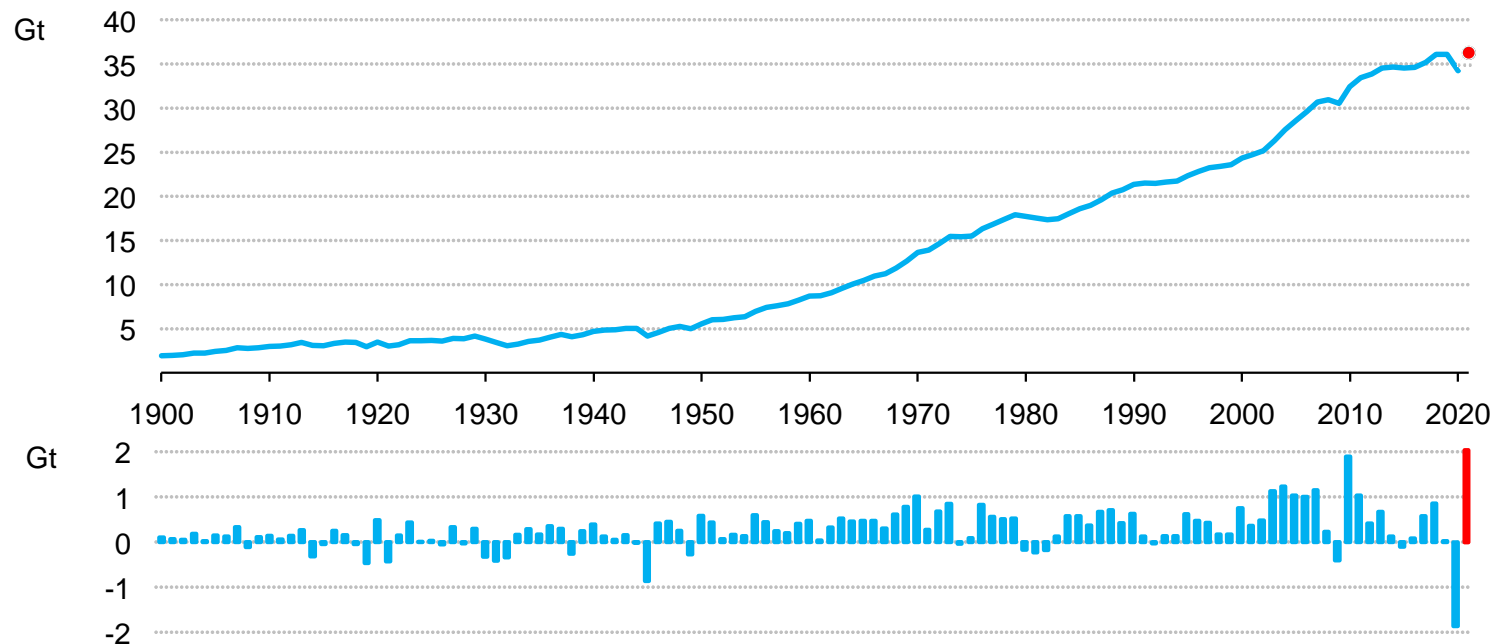
IEA (2021). World Energy Outlook 2021

Space heating demand falls 15% to 2030 with full implementation of EU policies and targets. Delay in increasing retrofit rates to 2% puts building sector targets out of reach

Where are we heading?

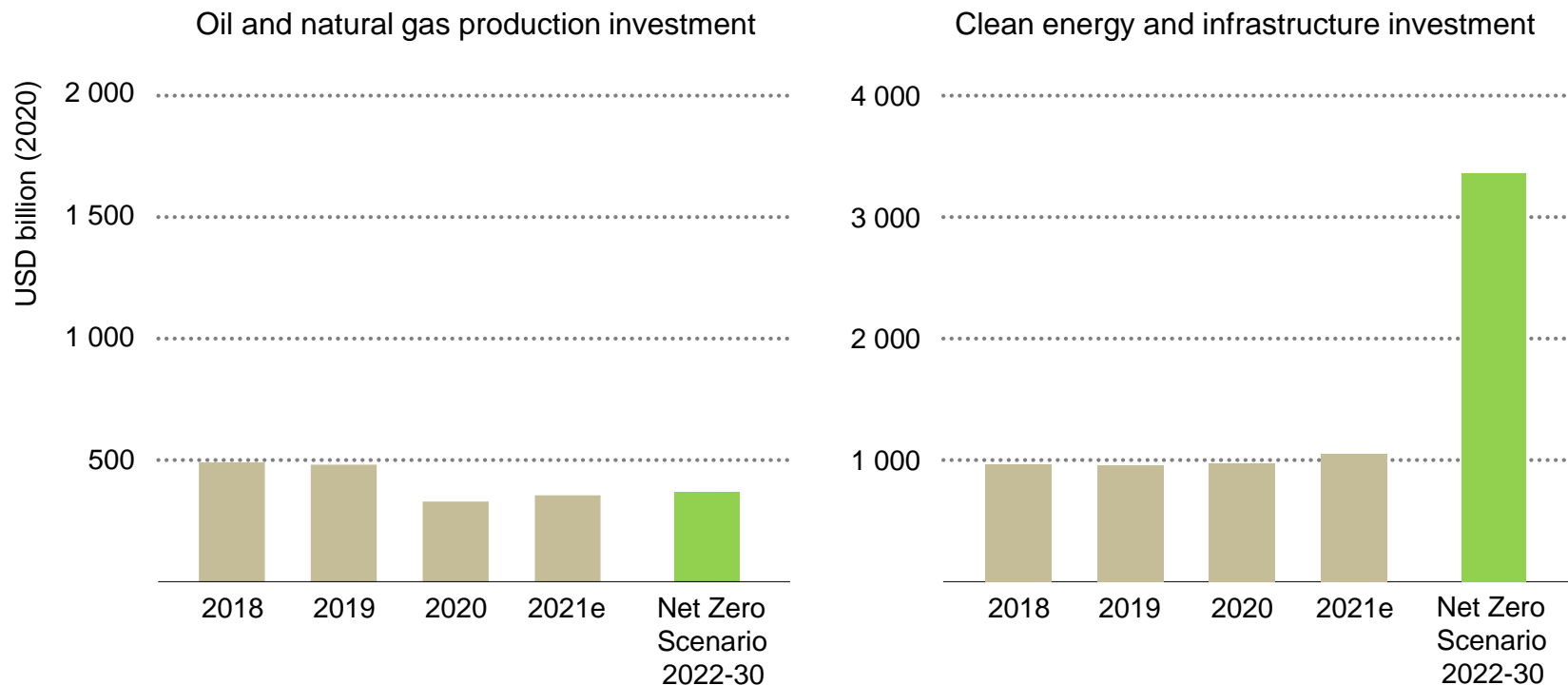
2021: the largest ever annual increase in global CO2 emissions

CO2 emissions from energy combustion and industrial processes and annual change, 1900-2021



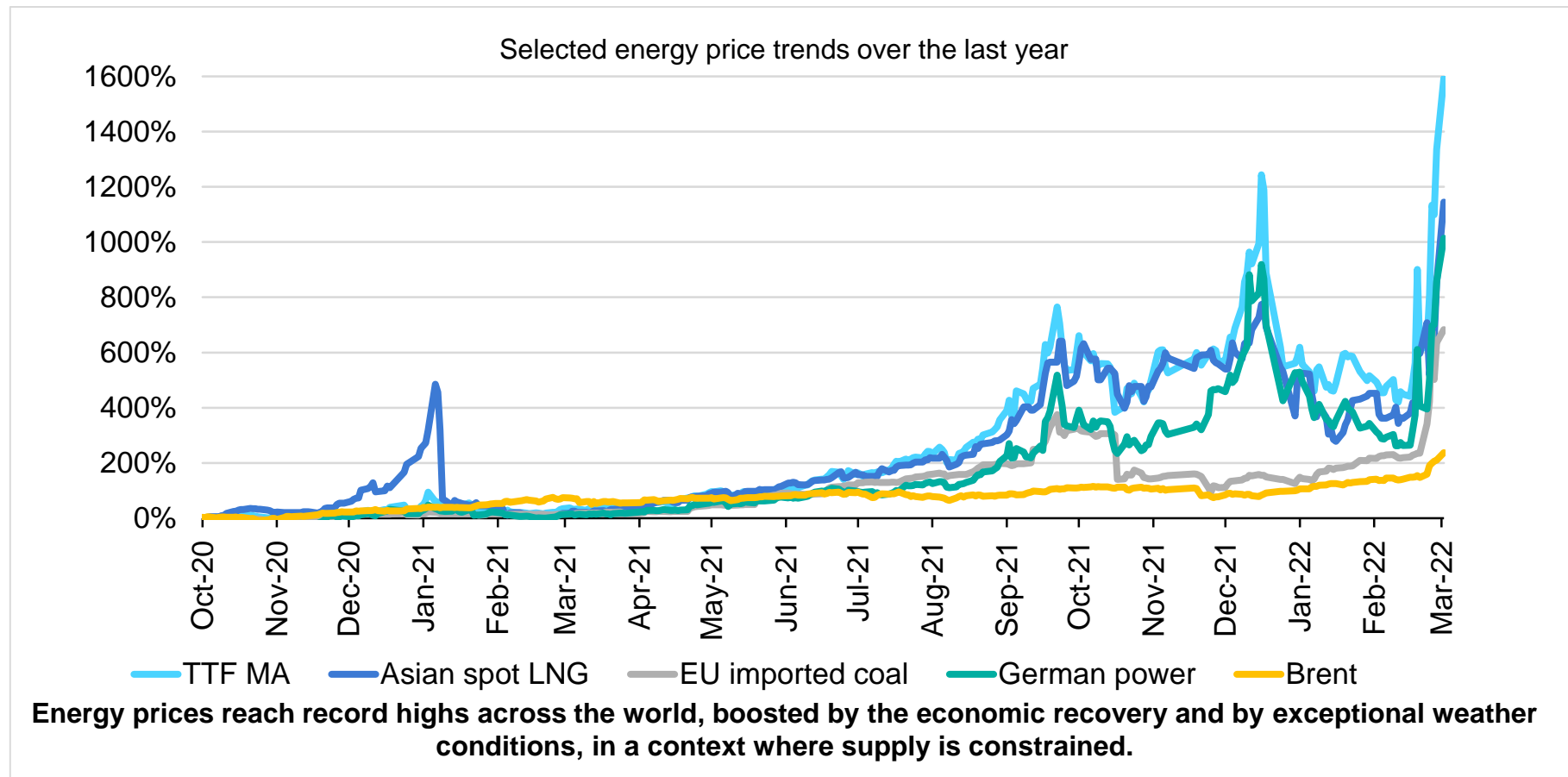
Increased use of coal was the main factor driving up global energy-related CO2 emissions by over 2 billion tonnes, their largest ever annual rise in absolute terms, pushing emissions to their highest ever level.

Looming risk of more turbulence ahead for energy markets



The world is not investing enough to meet its future energy needs; oil and gas investment is geared to a world of stagnant or falling demand, while transition-related spending is not rising nearly fast enough

Energy market crisis worsened by Russian war on Ukraine



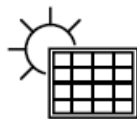
A 10-Point Plan to reduce the EU's Reliance on Russian Natural Gas

Action 1



No new gas supply contracts with Russia

Action 4



Accelerate the deployment of new wind and solar projects

Action 7



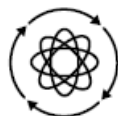
Speed up the replacement of gas boilers with heat pumps

Action 2



Replace Russian supplies with gas from alternative sources

Action 5



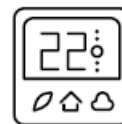
Maximise generation from existing dispatchable low-emissions sources: bioenergy and nuclear

Action 8



Accelerate energy efficiency improvements in buildings and industry

Action 9



Encourage a temporary thermostat adjustment by consumers

Action 3



Introduce minimum gas storage obligations to enhance market resilience

Action 6



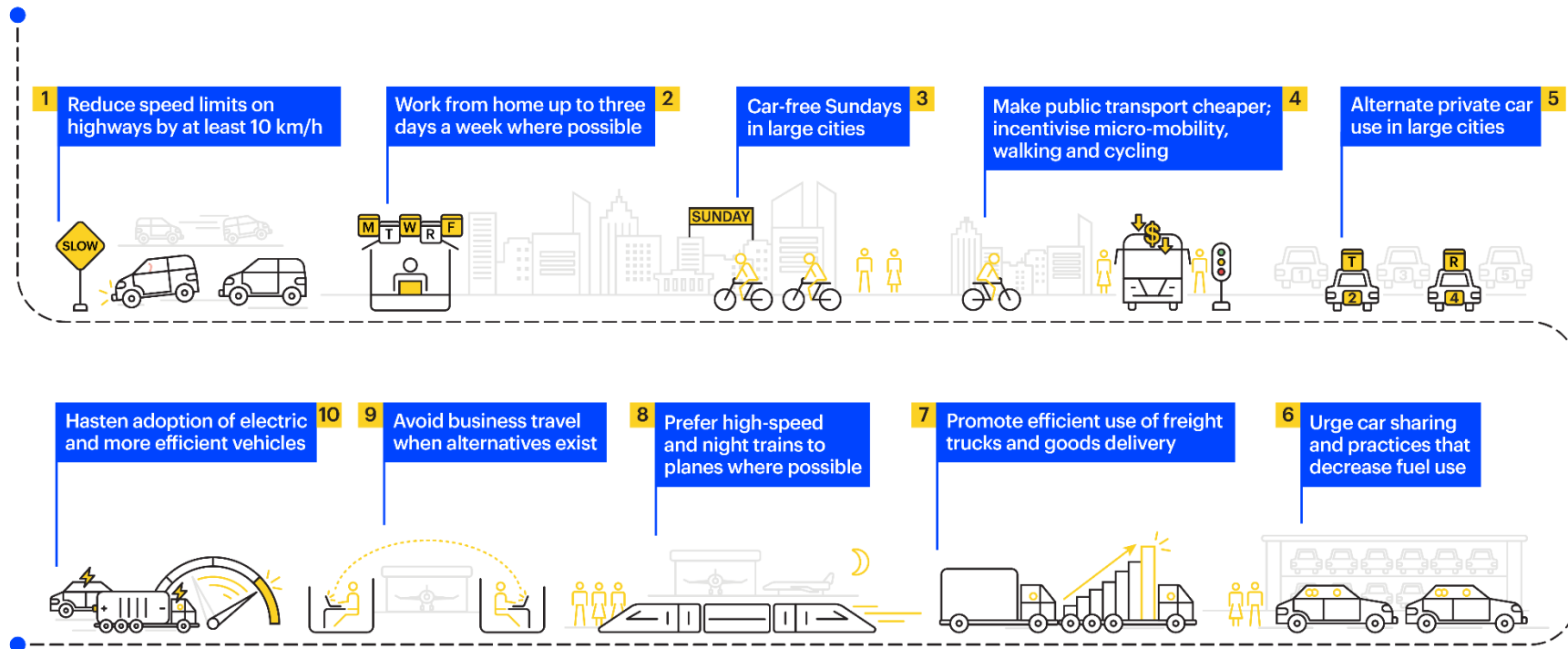
Enact short-term measures to shelter vulnerable electricity consumers from high prices

Action 10



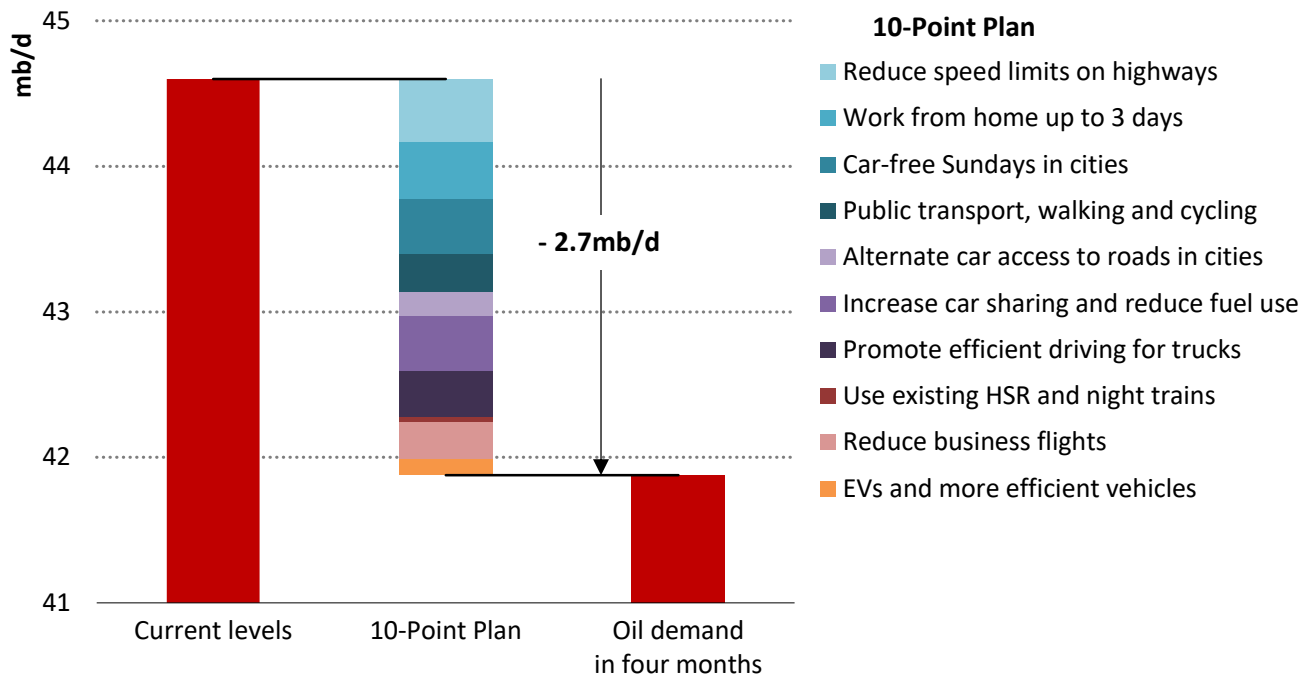
Step up efforts to diversify and decarbonise sources of power system flexibility

A 10-Point Plan for oil



Emergency measures can quickly cut oil demand by 2.7mb/d

Oil demand reductions in advanced economies within four months in the 10-Point Plan



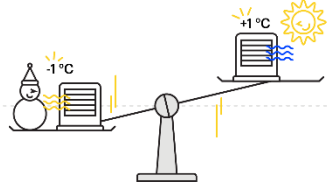
Immediate actions in advanced economies can cut oil demand by 2.7 mb/d in the next four months, reducing the risk of a damaging supply crunch

Playing my part:

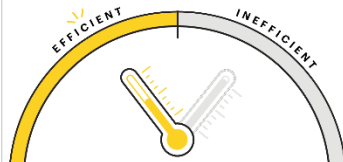
How to **save money**, **reduce reliance on Russian energy**, **support Ukraine** and **help the planet**

iea.org

1 Turn down heating and use less air-conditioning



2 Adjust your boiler's settings



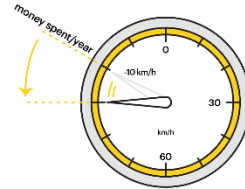
3 Work from home



4 Use your car more economically



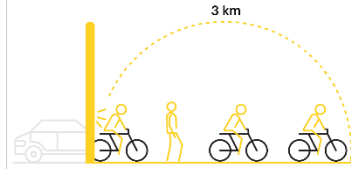
5 Reduce your speed on highways



6 Leave your car at home on Sundays in large cities



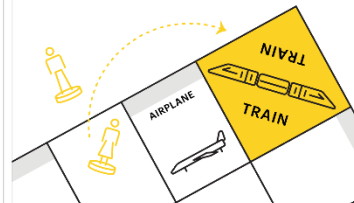
7 Walk or bike short journeys instead of driving



8 Use public transport



9 Skip the plane, take the train





Additional slides