



Perspectives for the energy transition

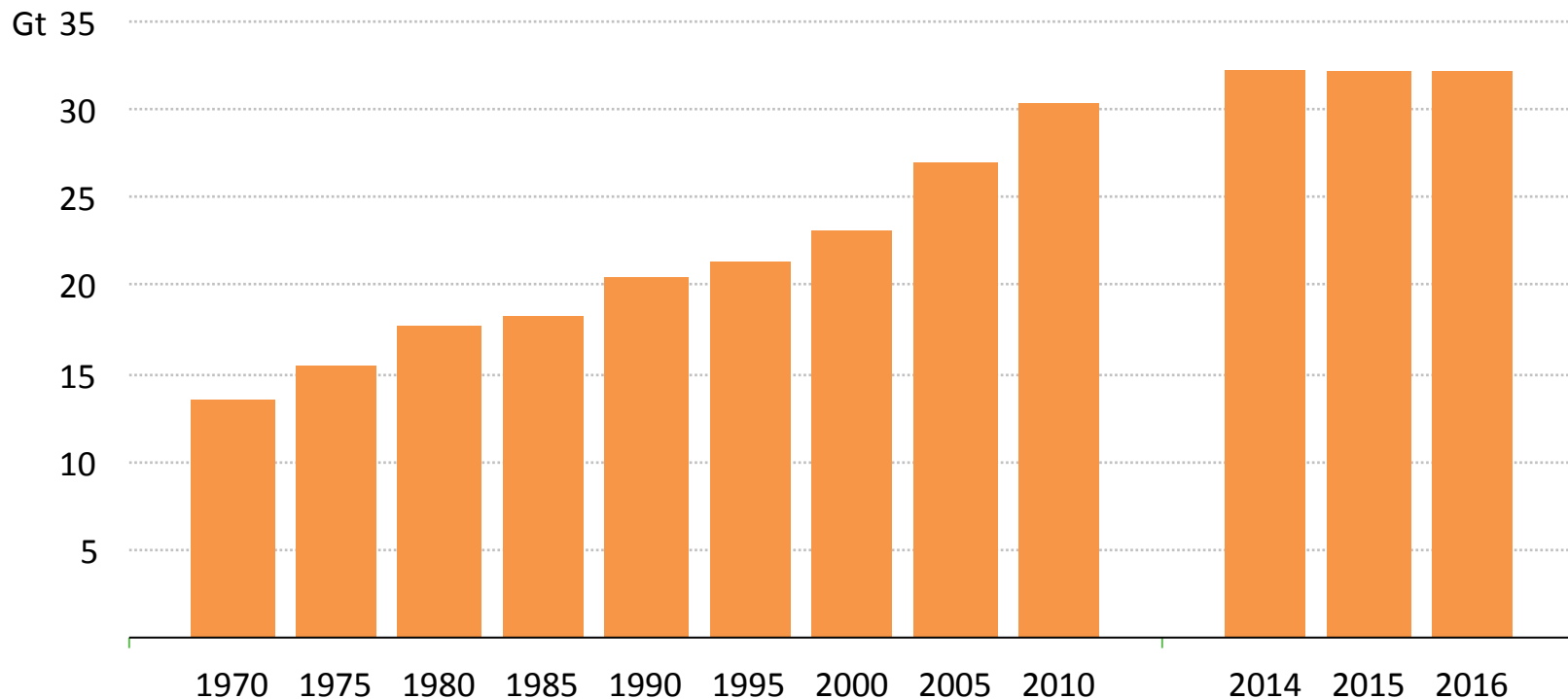
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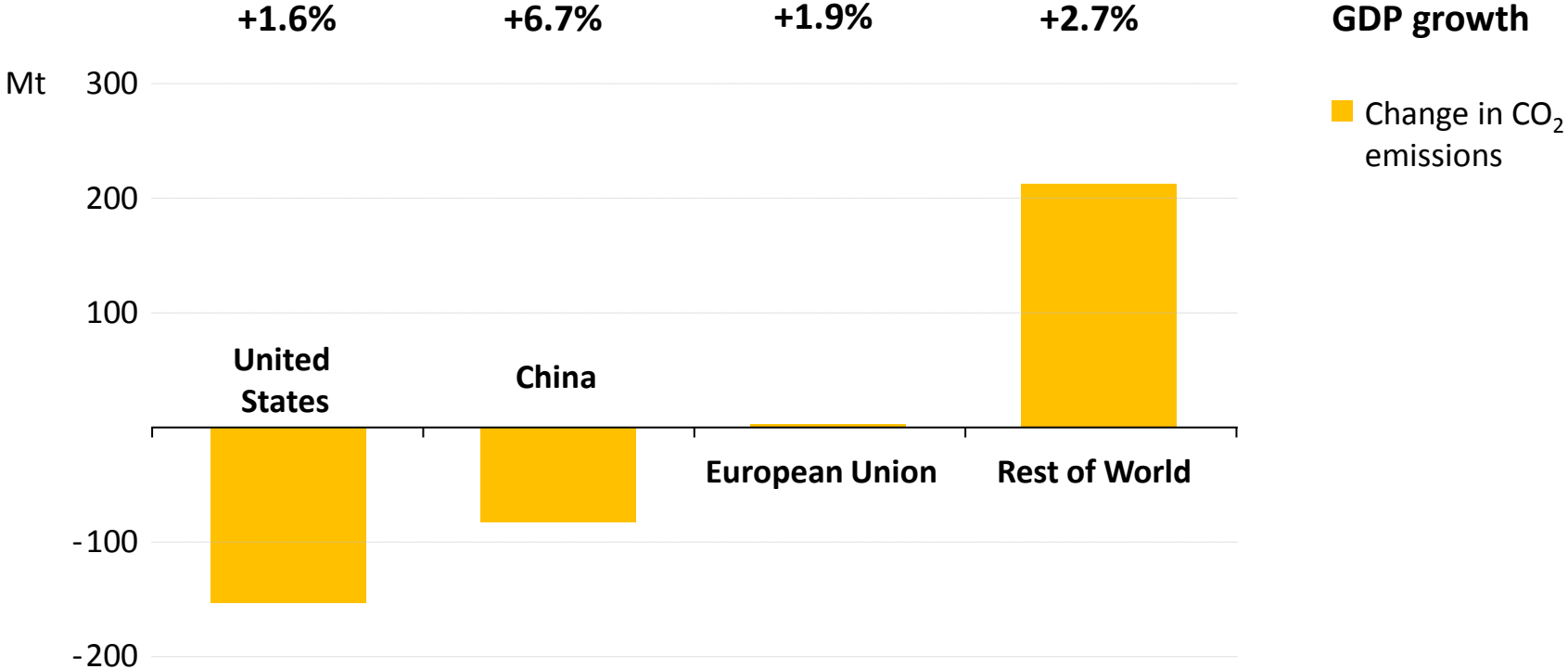
- The energy sector is the largest source of greenhouse gas emissions today, at around two-thirds of the global total
 - Energy is the largest source of air pollution and linked to 6.5 million premature deaths per year
 - Billions remain without basic energy services
- The global energy transition gained momentum in 2016
 - Global energy intensity fell by 2.1% in 2016, while efforts for fossil-fuel subsidy reform are spreading
 - Renewables supplied half of global electricity demand growth in 2016, and nuclear net capacity reached highest level since 1993
 - Electric car sales were up 40% from 2015, a new record year
- There is no single story about the future of global energy; policies will determine where we go from here

Global energy-related CO₂ emissions



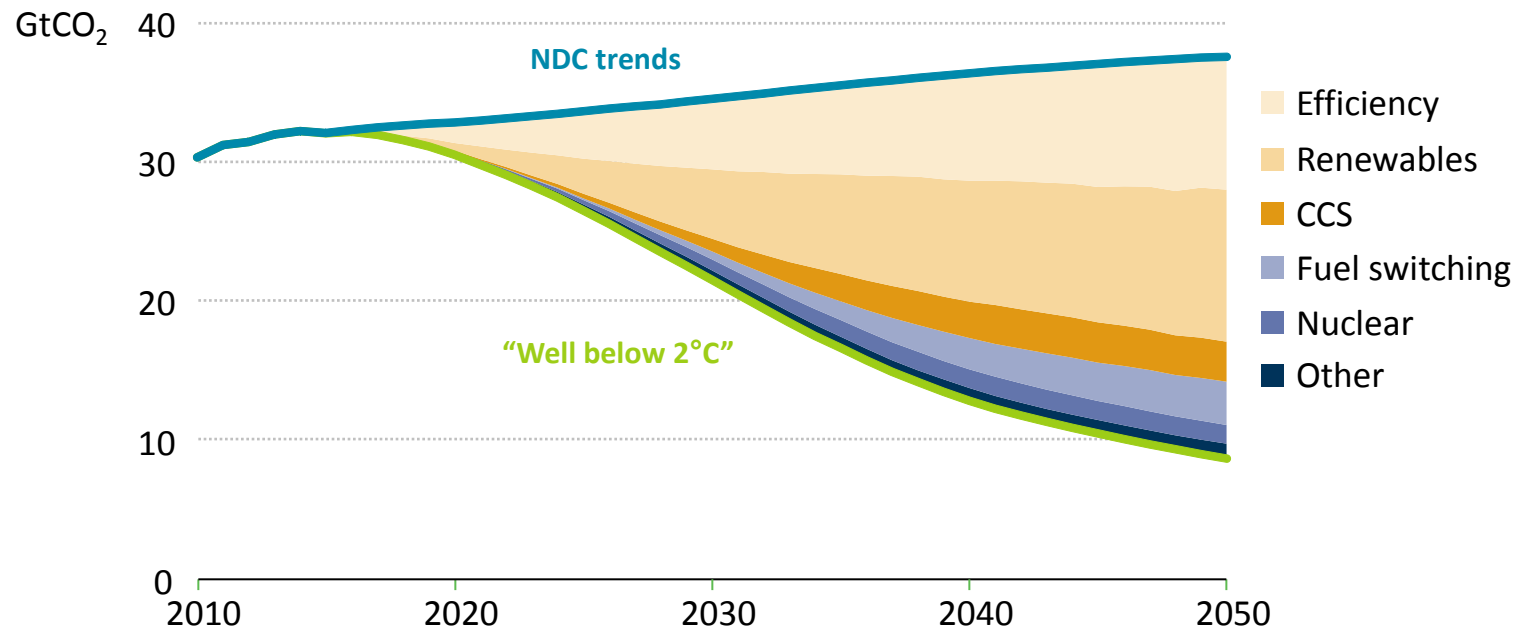
IEA analysis for 2016 shows that global CO₂ emissions did not increase for the third consecutive year in a row, even though the global economy grew.

Change in annual energy-related CO₂ emissions, 2016



CO₂ emissions declined in the United States & China and stalled in the European Union, offsetting an increase in most of the rest of the world.

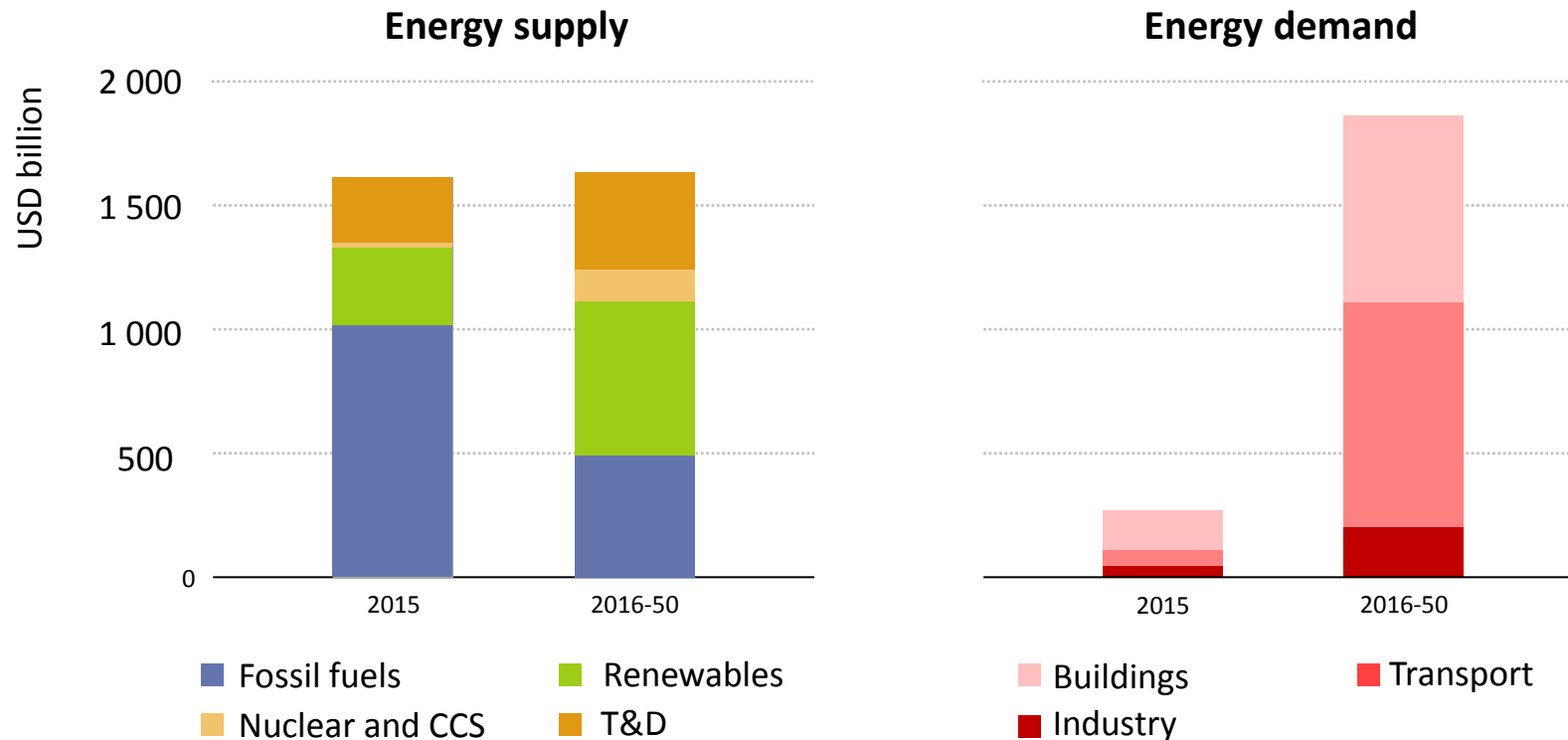
CO₂ emissions under NDC trends and to stay “well below 2°C”



CO₂ emissions would need to fall to 1960 levels by 2050, with an economy that is more than 20 times larger; around 80% of the savings are required from the G20 group.

Energy investment dynamic need change – unprecedented policy efforts required

Average annual global investment needs for “well below 2 °C”



Supply-side investment needs to be re-directed, not increased; demand-side investment for energy efficiency, electrification & renewables needs to ramp up significantly.

- A switch from coal to gas, energy efficiency efforts & rapidly rising low-carbon investments have stalled global CO₂ emissions growth
- A near-term peak in CO₂ emissions is critical; pragmatic measures for its achievement are proven and readily available
- Limiting the global temperature rise to “well below 2°C” would require an energy transition of exceptional scope, depth & speed
- An early, ambitious & consistent set of policy measures would be needed for the energy transition
 - Alignment with other policy goals such as energy security and air pollution is essential
- The IEA is supporting the energy transition through in-depth analysis, pragmatic policy advice and technology collaboration

Thank you

