Infrastructure Investment for the Low-carbon Transition: What role for the Belt & Road Initiative?

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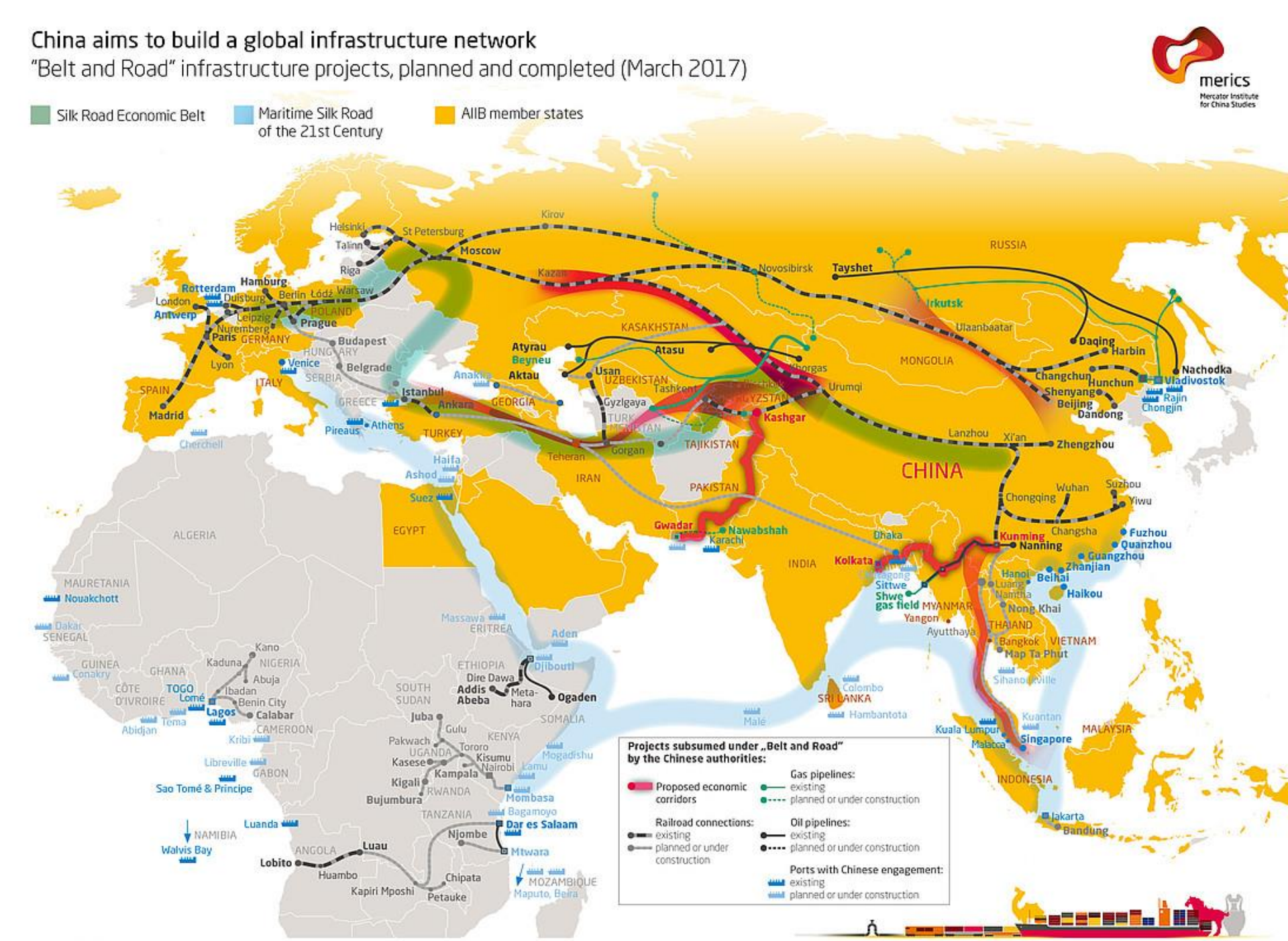
China aims to build a global infrastructure network

"Belt and Road" infrastructure projects, planned and completed (March 2017)



Source: MERICS research

The Belt & Road Initiative (BRI):
Implications for the “Belt & Road” countries

Possible economic benefits

- Boost in infrastructure investment to improve connectivity
- Better transport and energy infrastructure
- Boost in regional trade and investment
- Better policy coordination across countries

Possible environmental risks

- New investment could lock in “brown” infrastructure
- Investors shifting to jurisdictions with “lax” regulations
- Increased air pollution and GHG emissions

Infrastructure investment and the low-carbon transition

Infrastructure investment …

- creates demand and jobs, improves market access
- boosts economic growth and development
- needed to 2030 USD 90 trillion > current stock

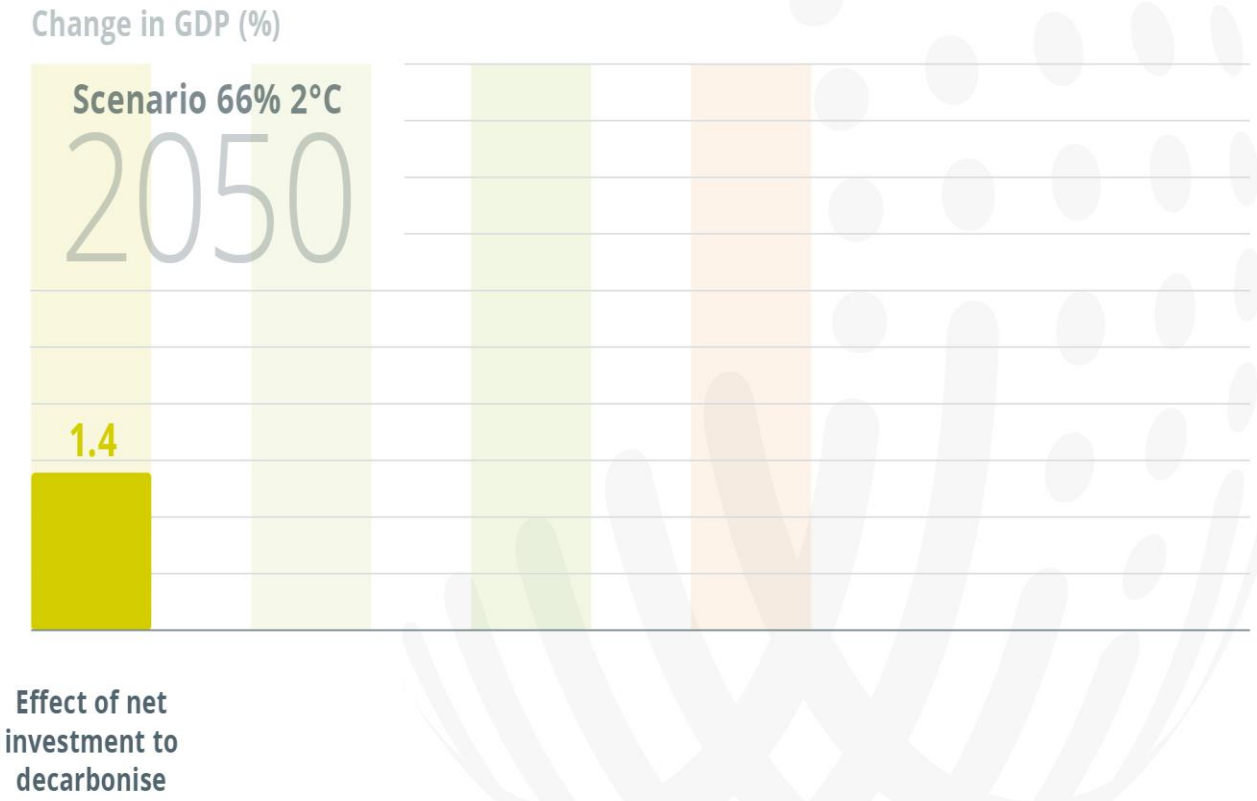
Infrastructure = long-lived by nature

- Investment decisions today lock in “green” or “brown” future
- Important to ensure to invest in the right types of infrastructure, compatible with;
  - ✓ Sustainable Development Goals
  - ✓ Paris Agreement - low-carbon and climate-resilient economy
- Window of making the right choice is shrinking…

Investing in Climate, Investing in Growth

Combining climate action with economic reforms could increase GDP by 2.5% in 2050 across G20

The combined actions of more ambitious climate policies and economic reform still deliver a net GDP increase in the long run.



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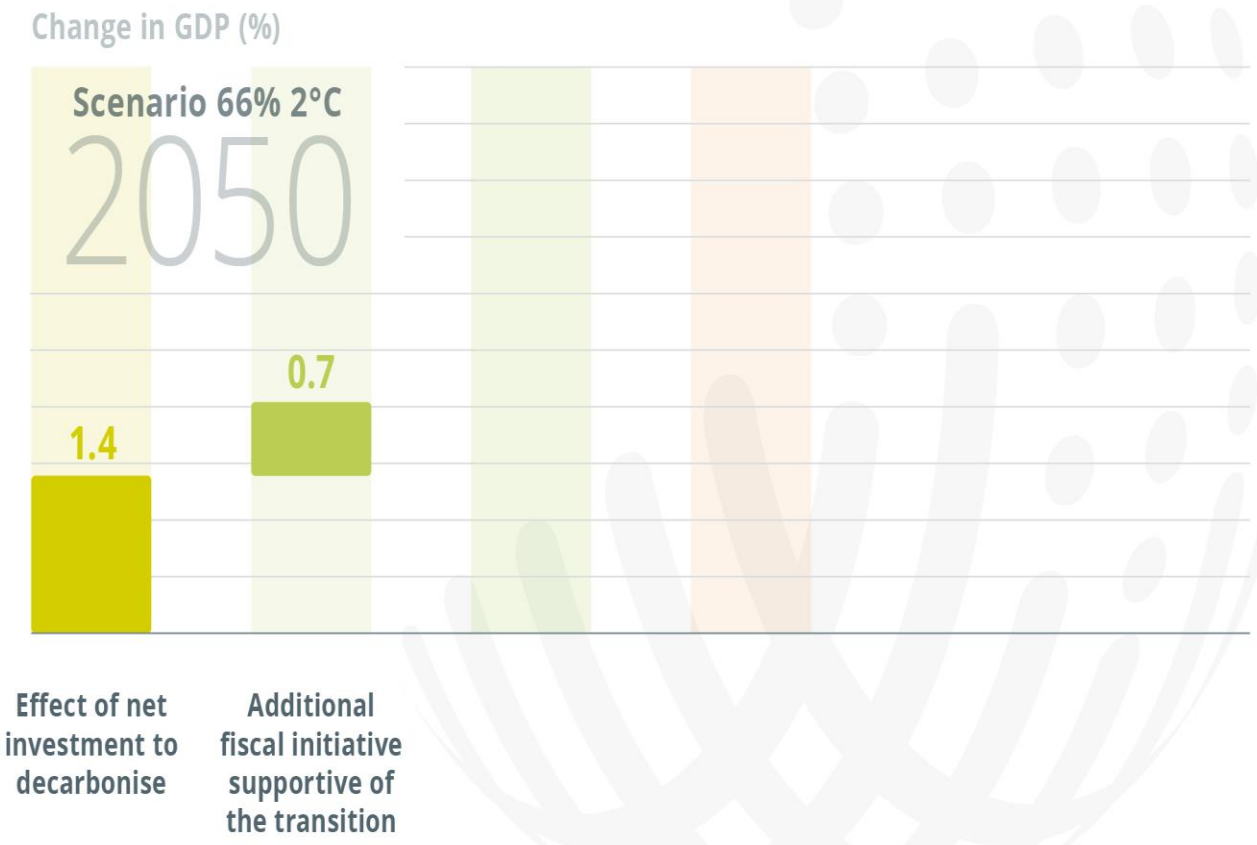

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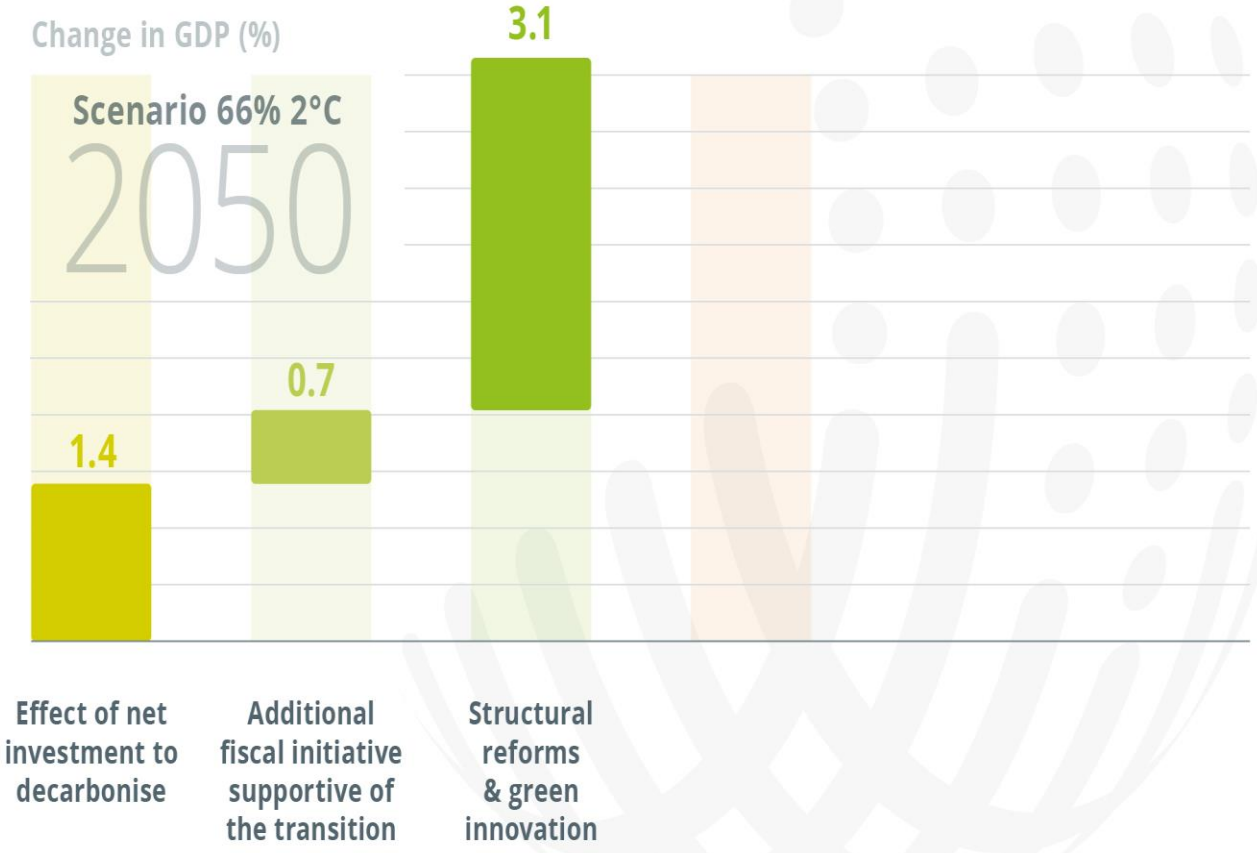

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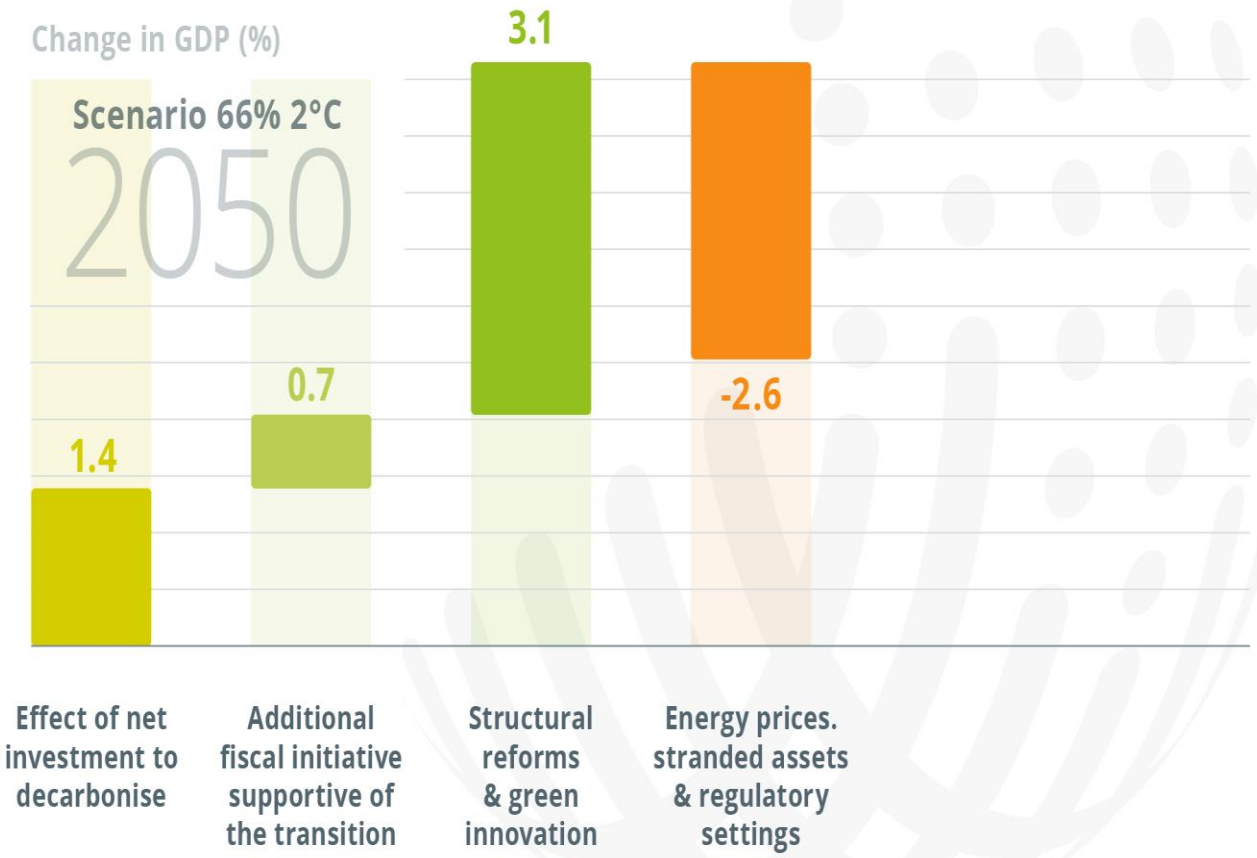

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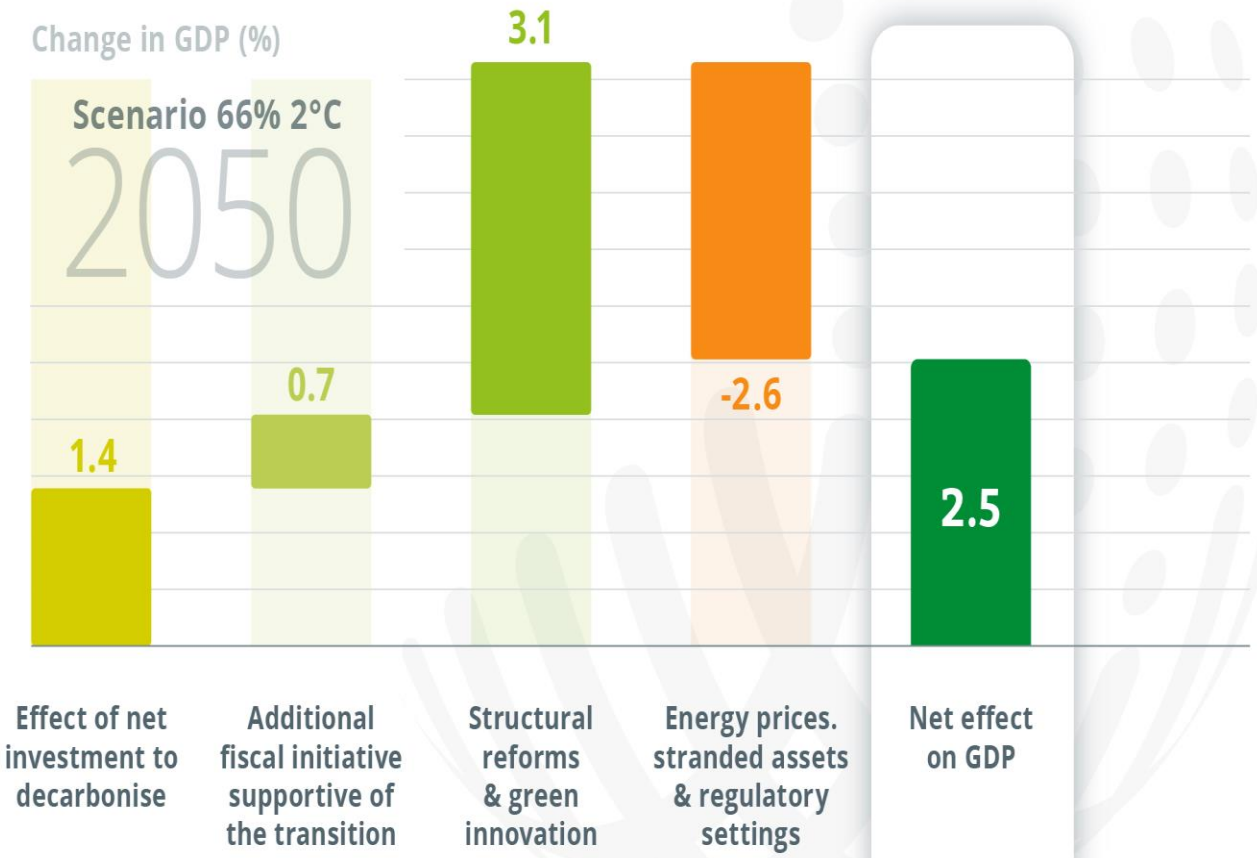

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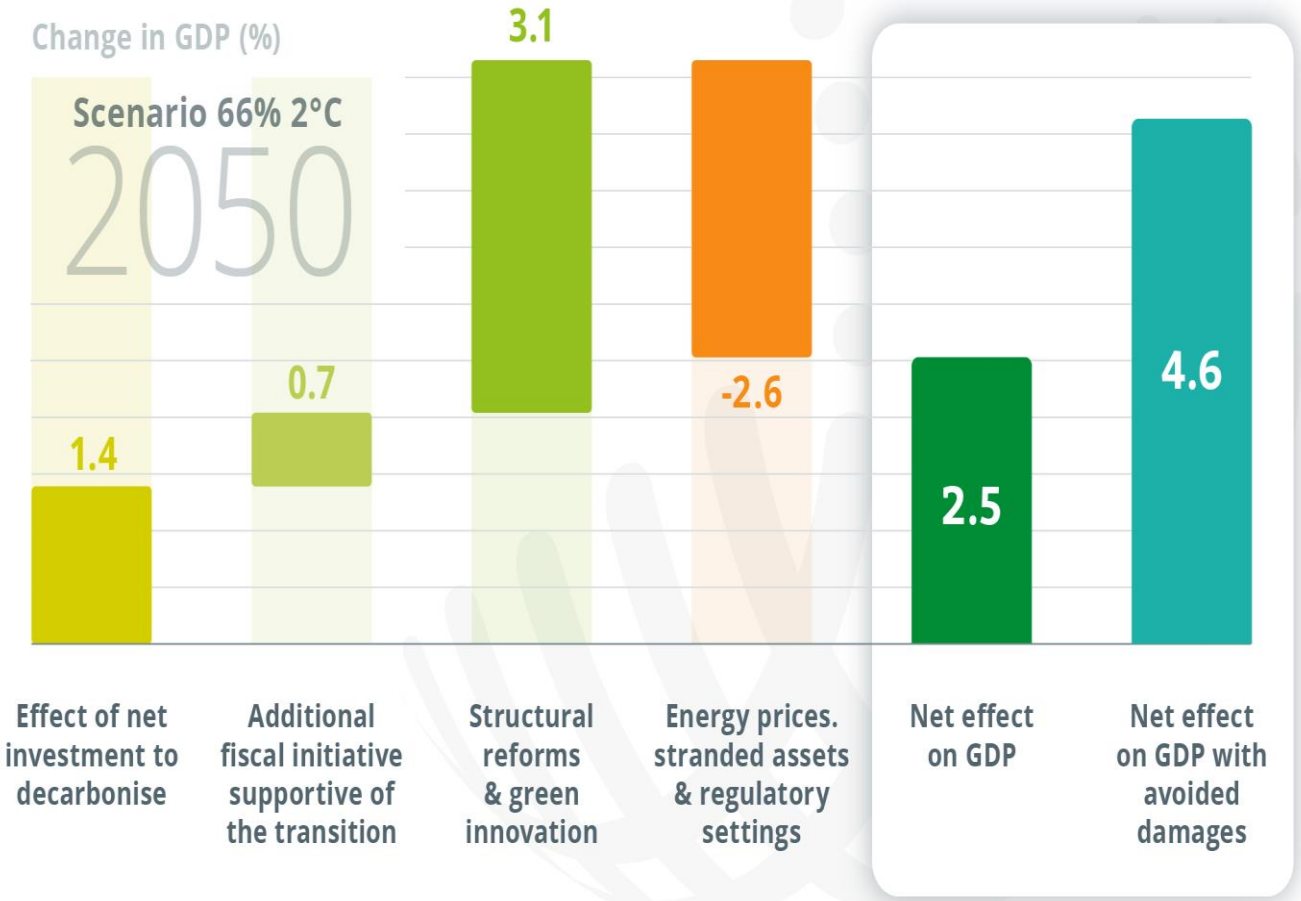

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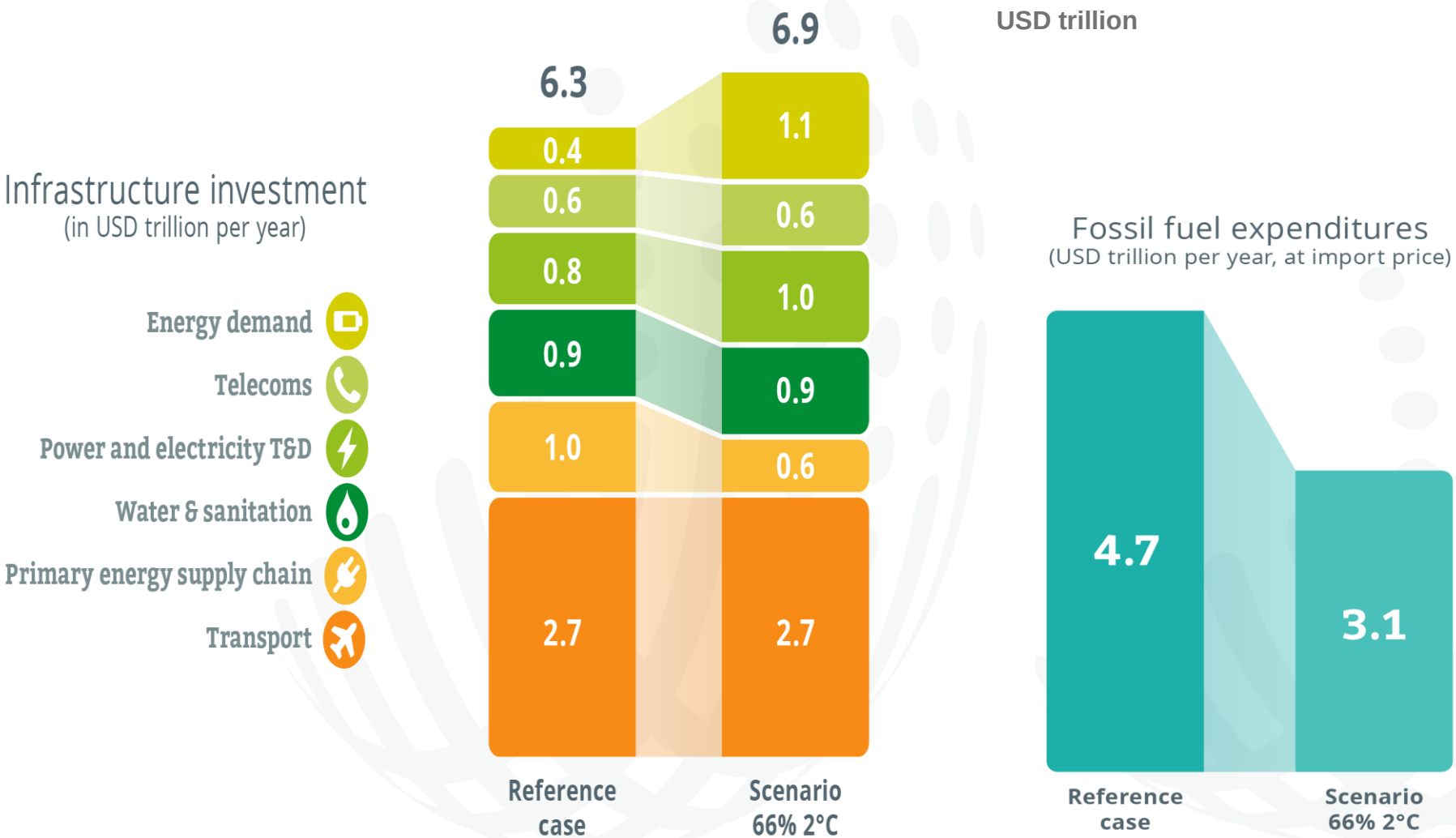
An ambitious 2°C scenario requires **only a 10% increase in infrastructure investment …**

Increased expenditures are needed in energy demand and electricity



Investing in Climate,
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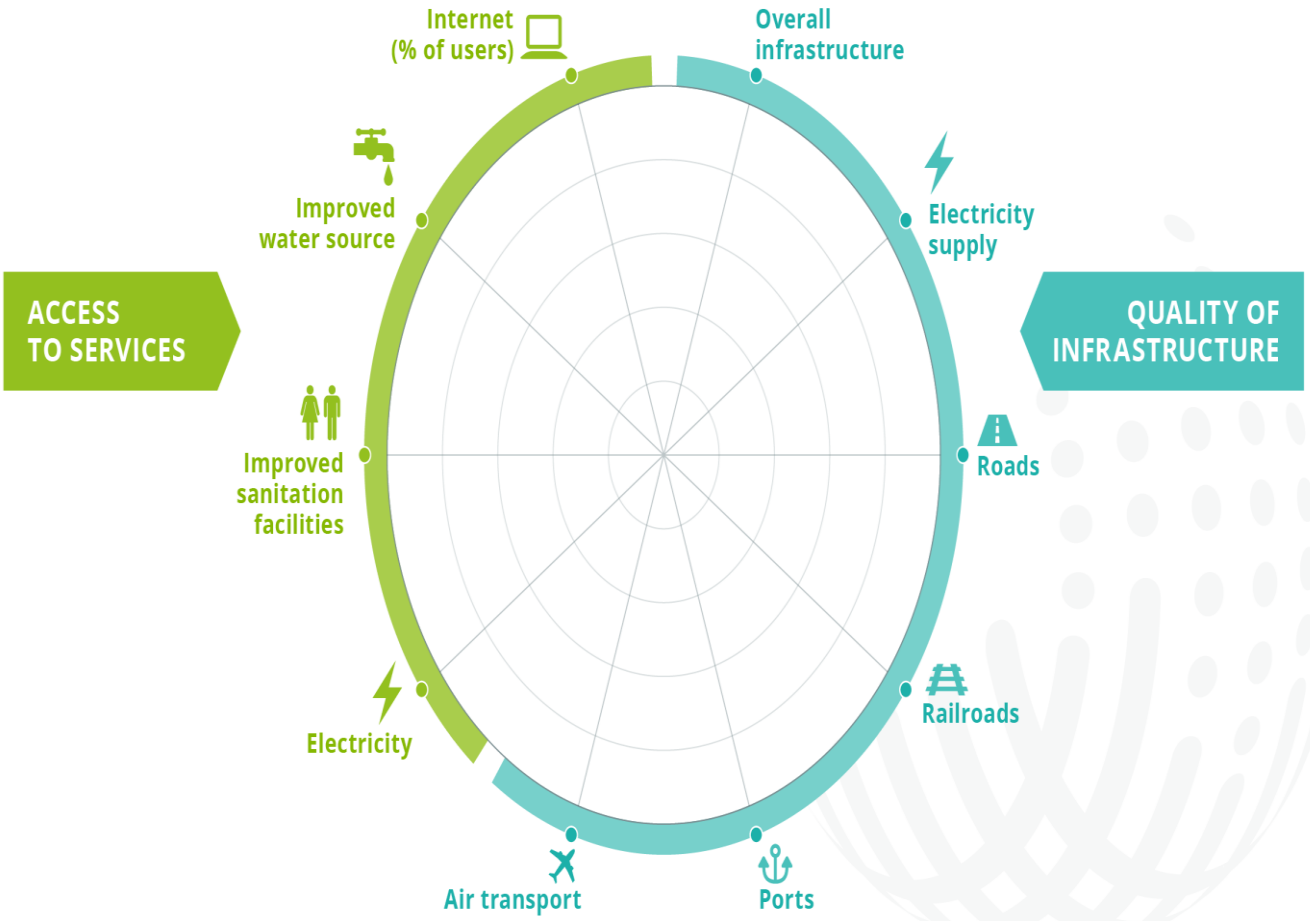
All G20 countries have scope to improve infrastructure quality for sustainable growth and well-being



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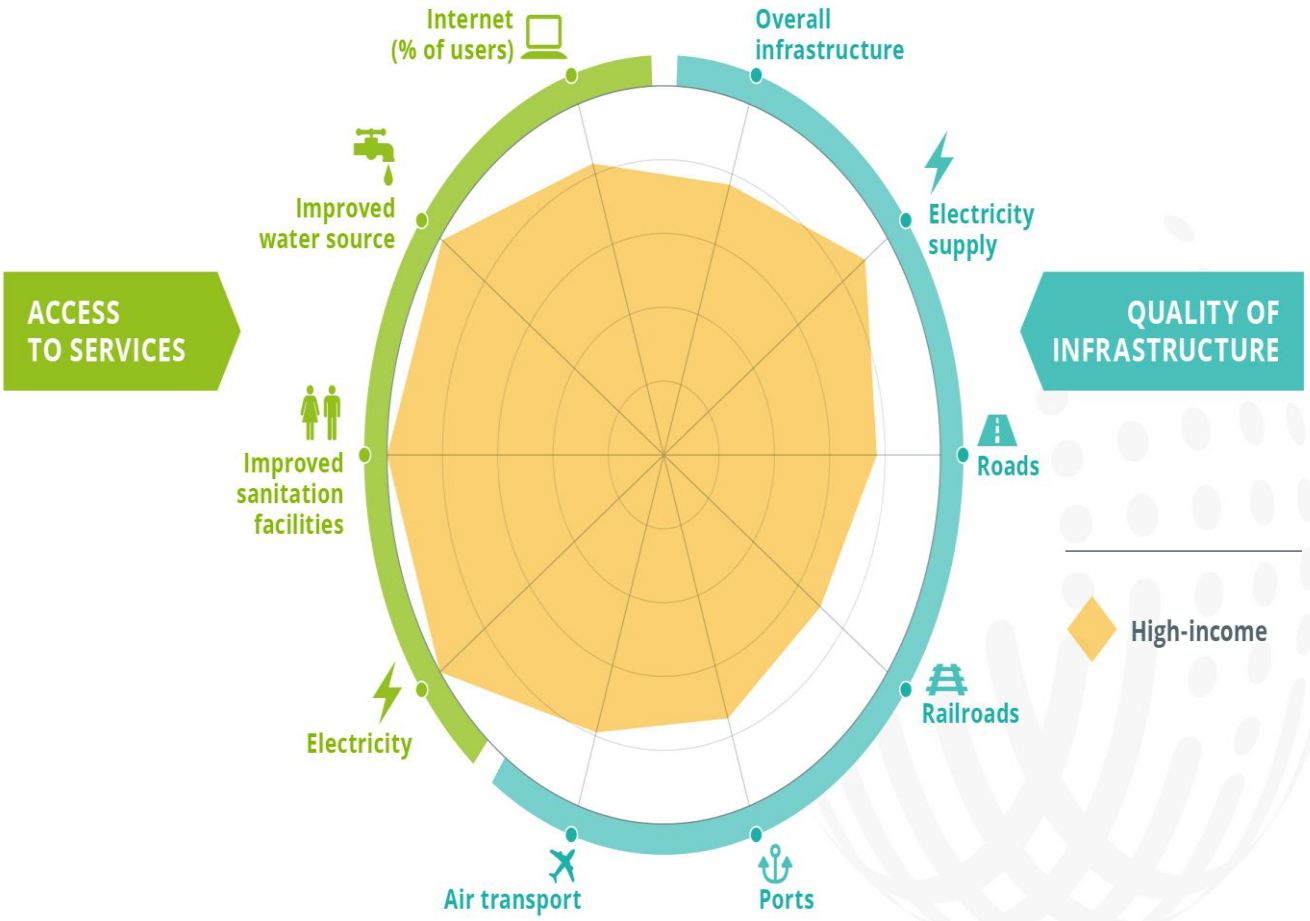

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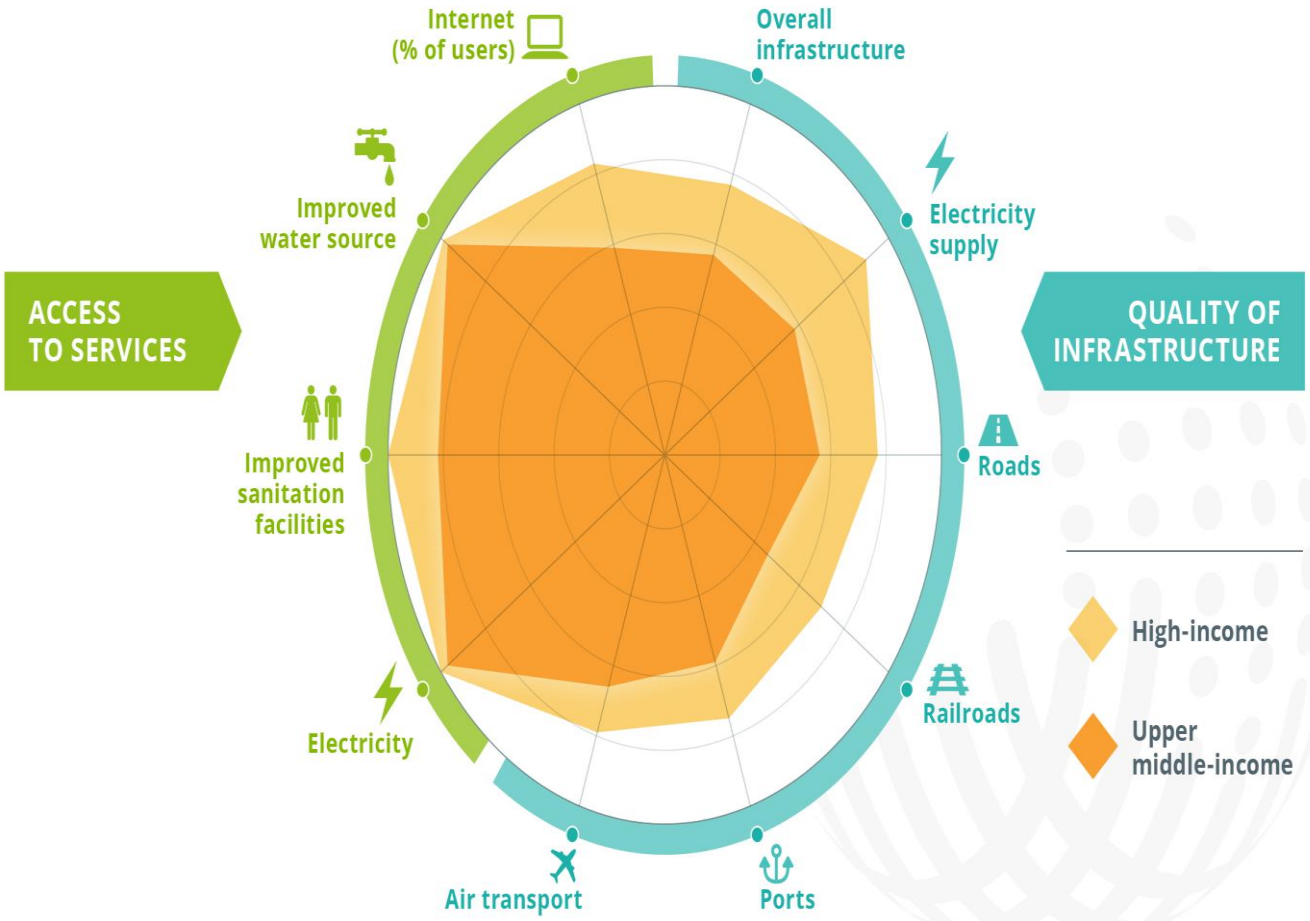

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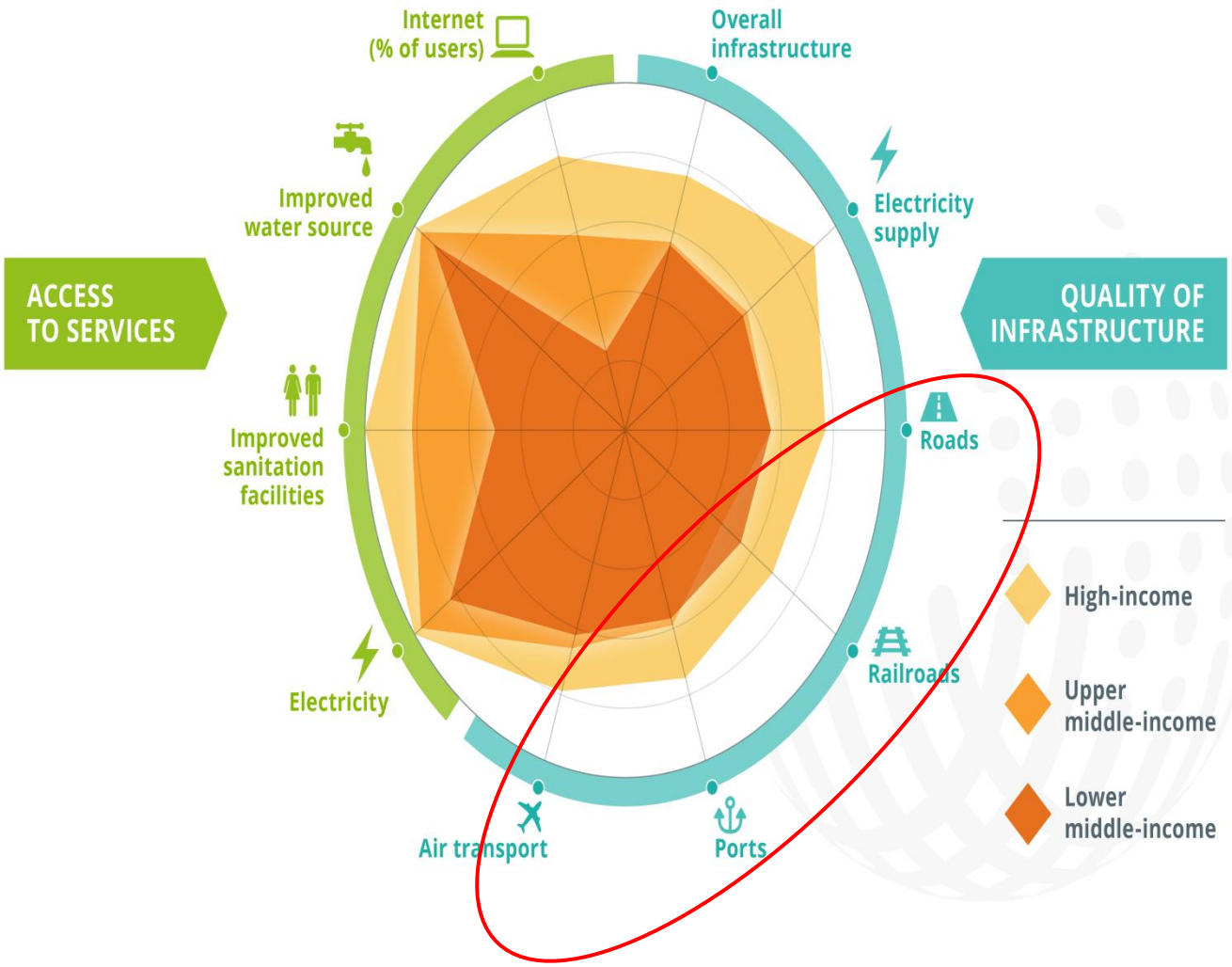

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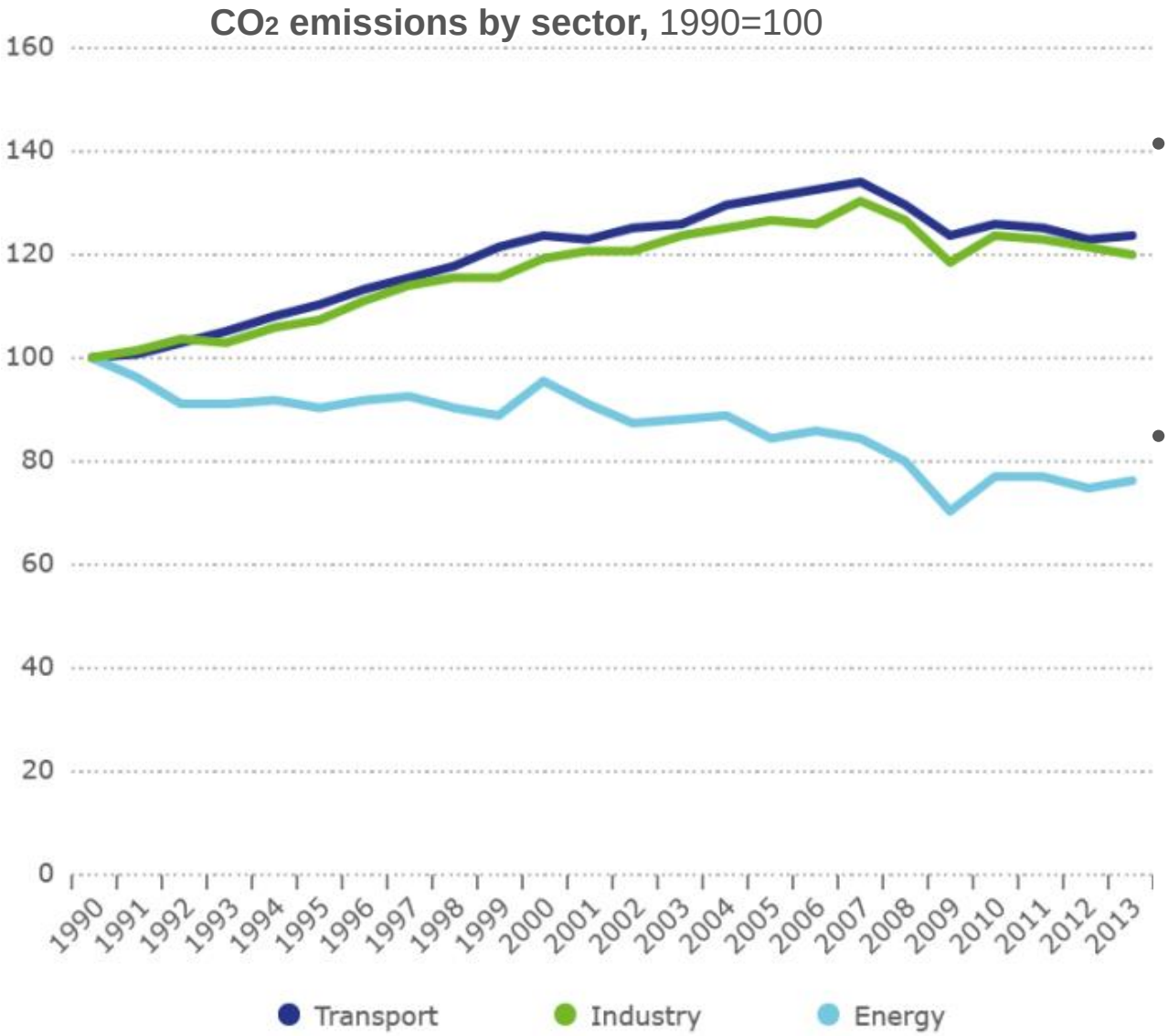
Focus on Transport

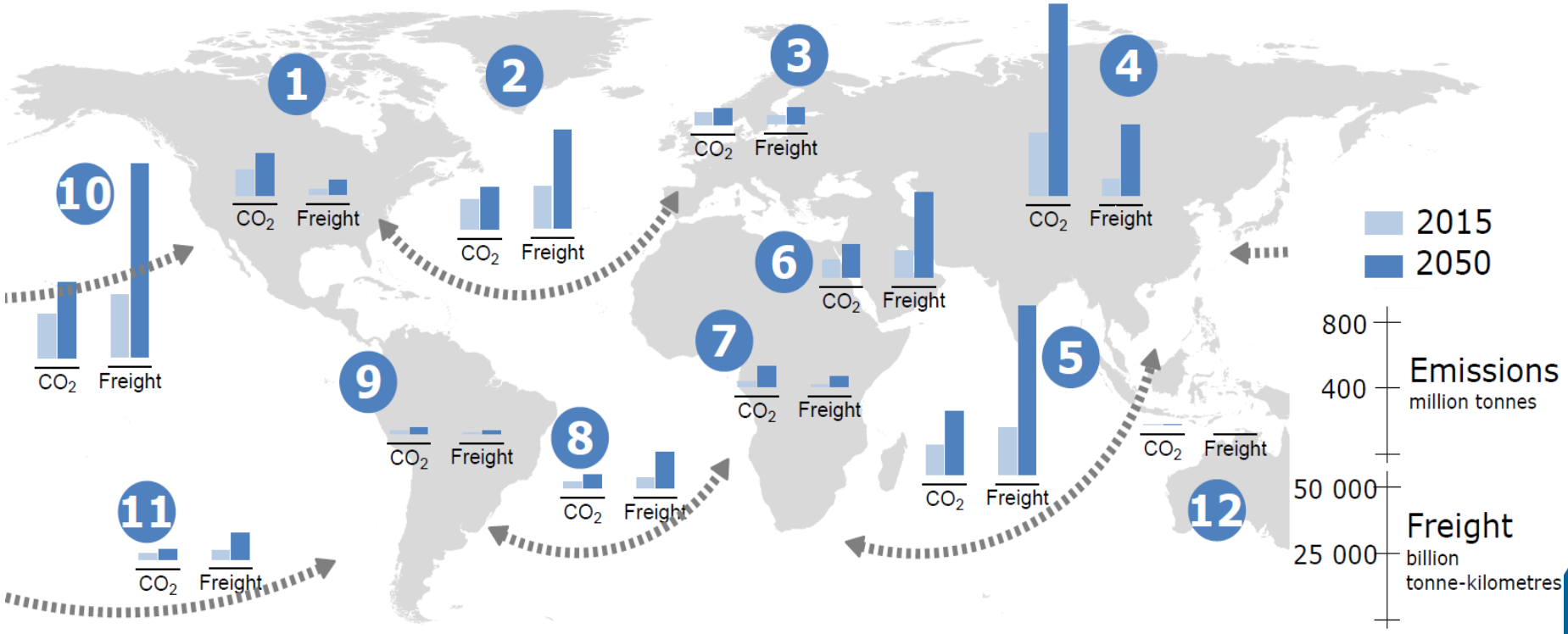


- Sector with fastest-growing CO_2 emissions in OECD area
- Accounts for **43%** of global infrastructure investment needs between 2016 -2030

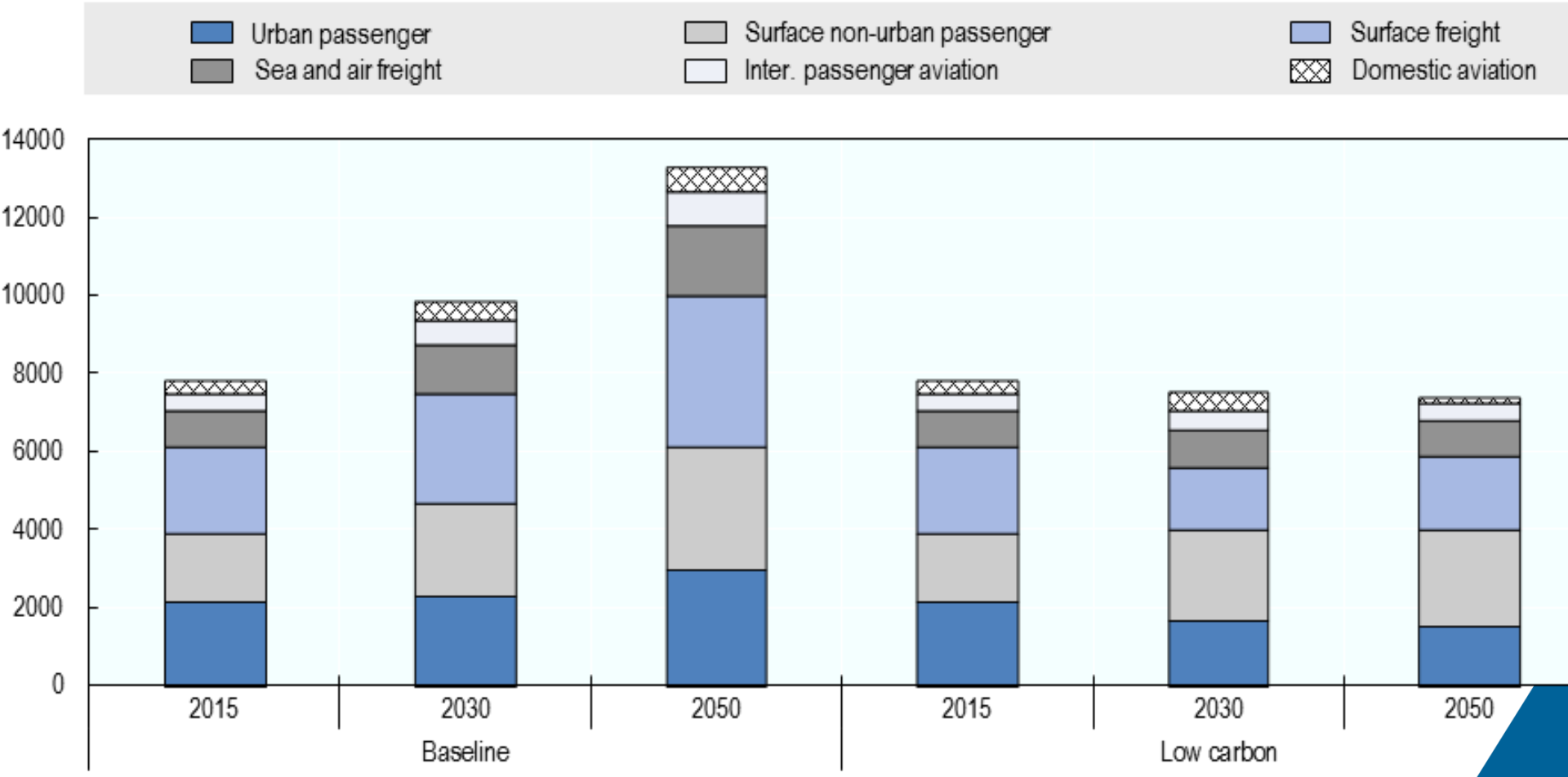
Source: ITF/OECD

Global freight patterns will shift:
What contribution from the BRI?

Freight transport and related emissions



Transport Outlook 2017:
Global scenarios for CO2

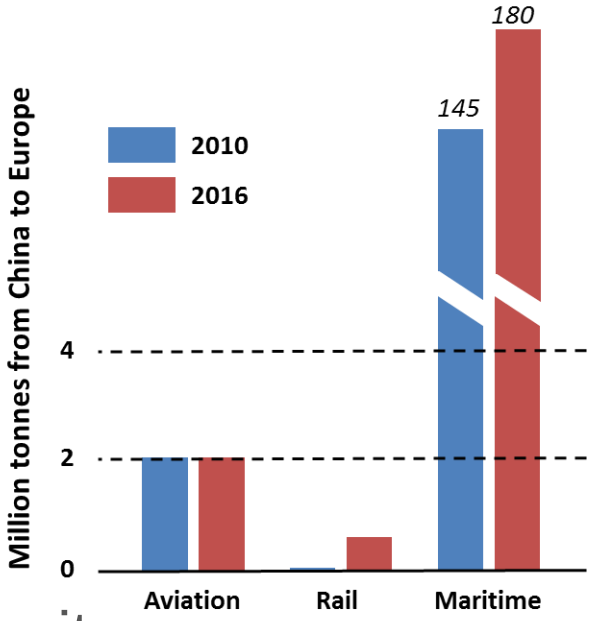


CO_2 emissions (Mt) by transport sector

Freight connectivity in Central Asia:
What impact of the BRI?

Connectivity impacts

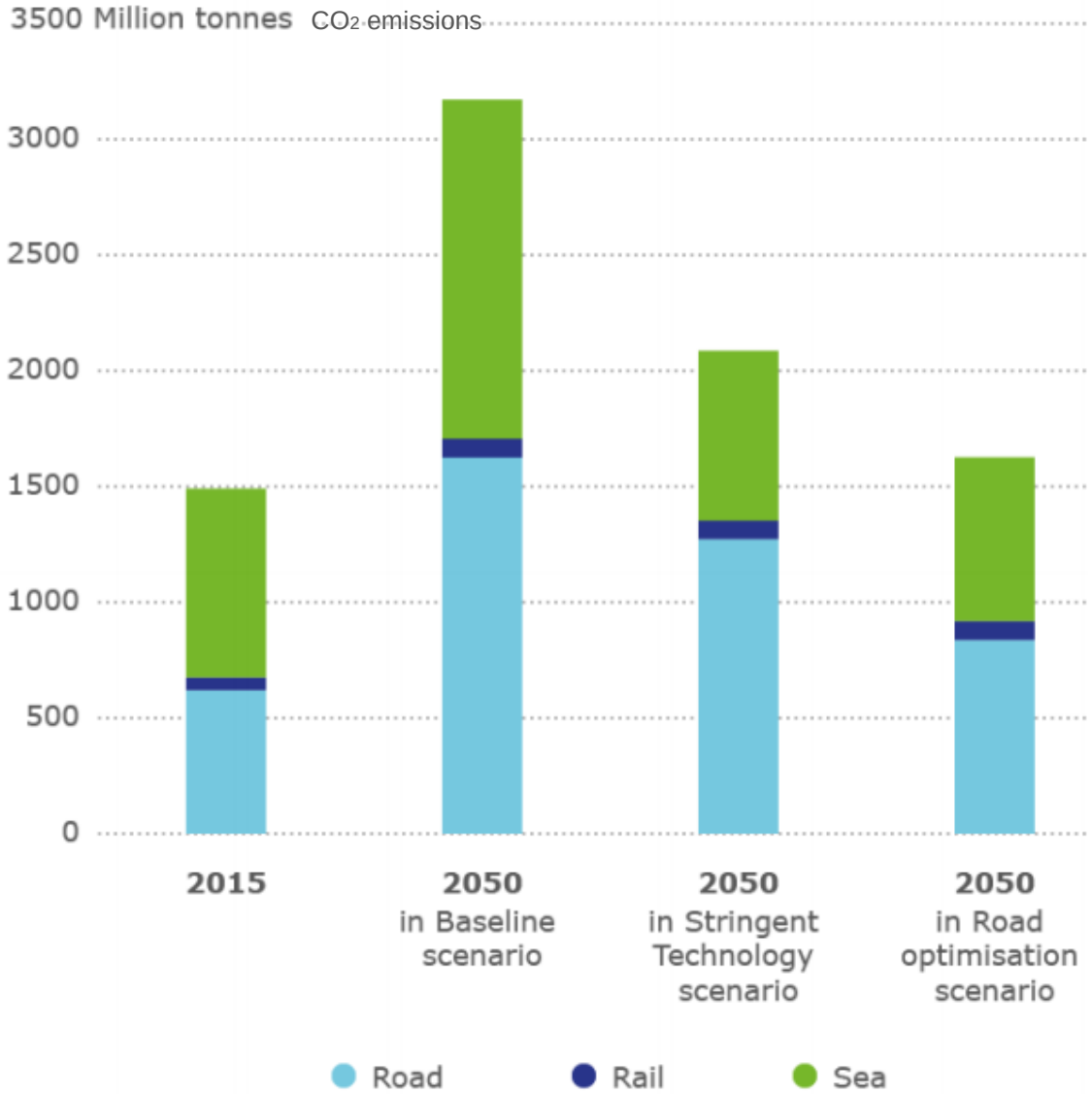
- Surface link between Europe and Asia
  - ✓ Freigth volumes developing quickly
  - ✓ The BRI could make the surface link even more relevant
- Trade integration of the region
  - ✓ Ensure that the project goes beyond transit
  - ✓ Further cooperation between the countries of the region



Socio-economic costs of freight transit

- ✓ Road usage by transit trucks
- ✓ Environmental impacts, congestion on the networks

3-step strategy for achieving low-carbon transport



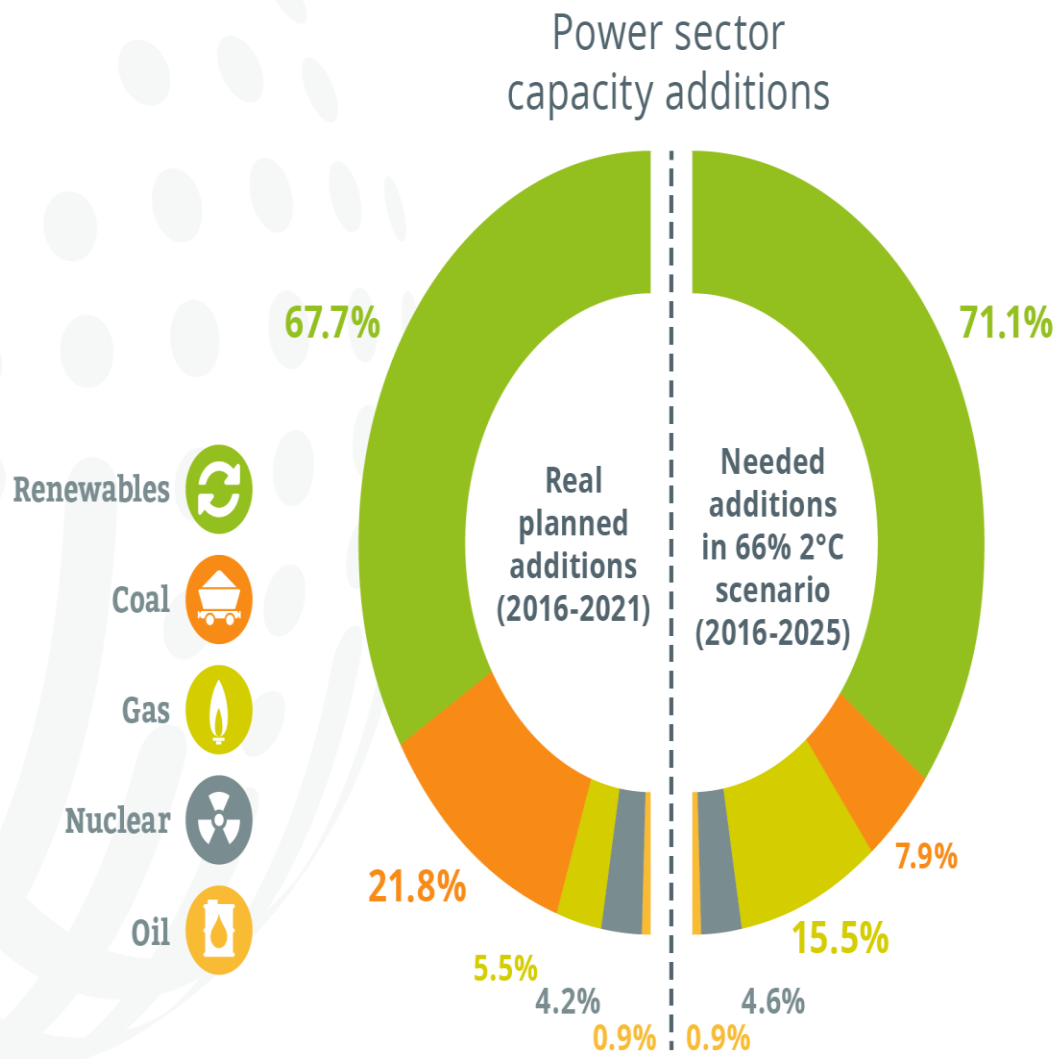
- Higher fuel efficiency and alternative fuels can reduce freight CO2 emissions by **40%**
- But new technologies alone cannot curb the trend of growing freight emissions
- We need to:
  - ✓ ***Avoid*** unnecessary demand
  - ✓ ***Shift*** to sustainable options (e.g. truck sharing, route optimisation)
  - ✓ ***Improve*** efficiency

Source: ITF/OECD

Investing in Climate,
Investing in Growth

Focus on Power:

comparing new power sector capacity with new additions needed for low-carbon scenario



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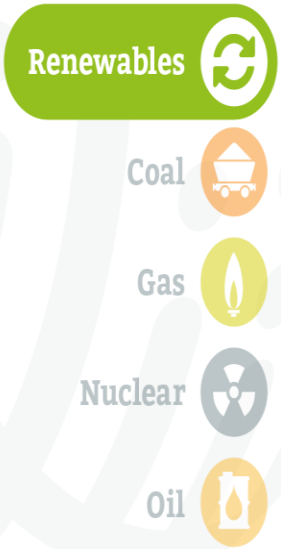
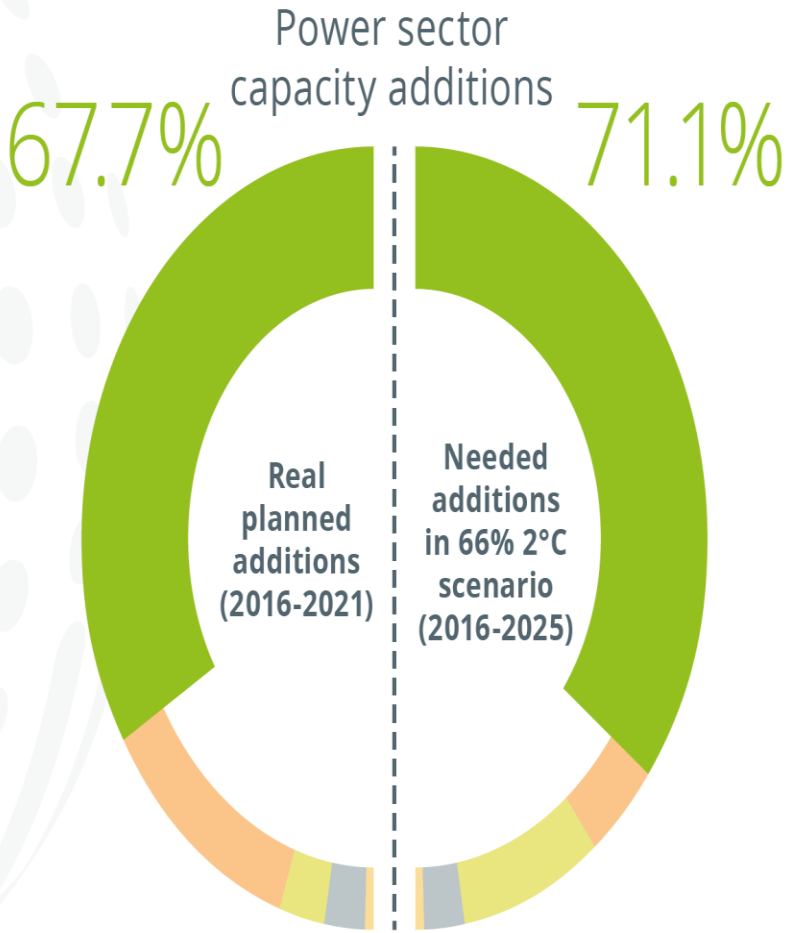
Shift towards investment in renewable energy has started and is likely to continue...

2/3 of planned additions are renewables, close to the 70% needed





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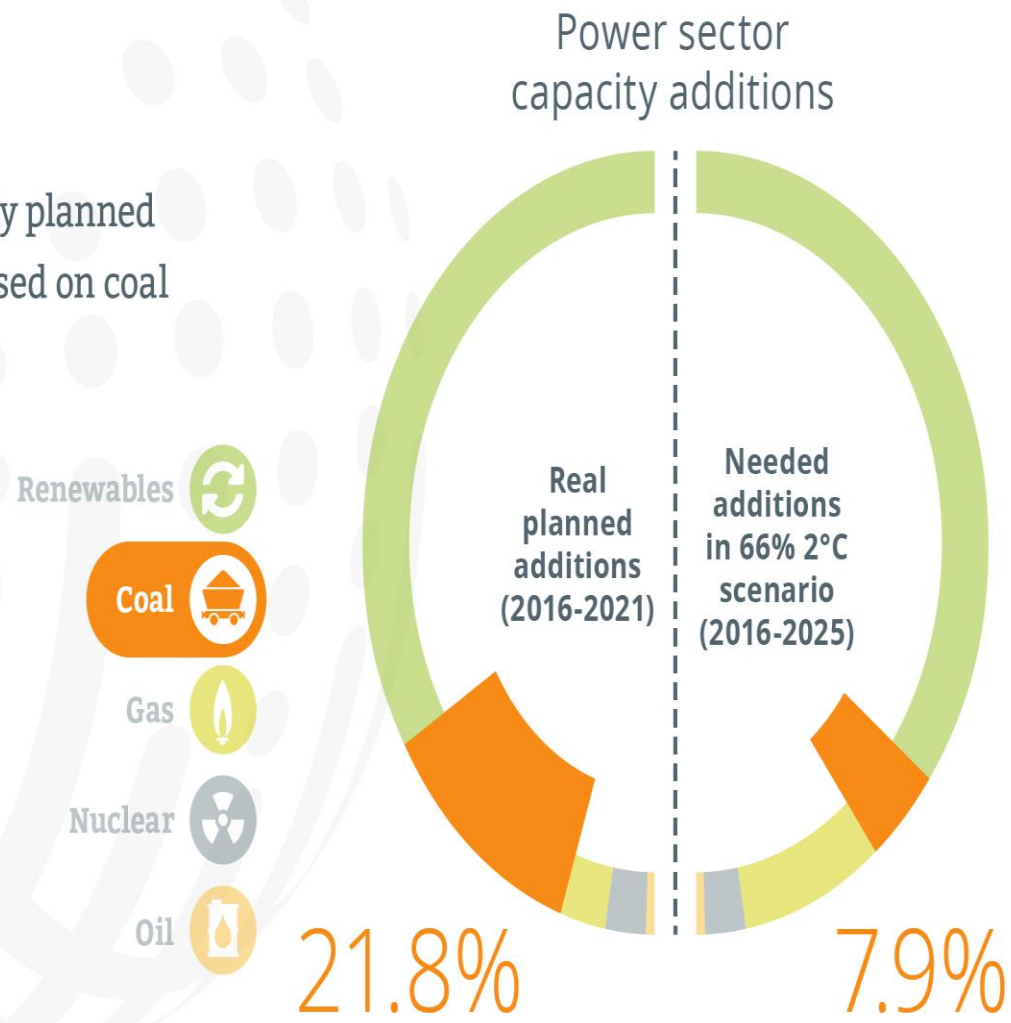
... BUT too much coal capacity is still being built

1/5 of currently planned additions is based on coal



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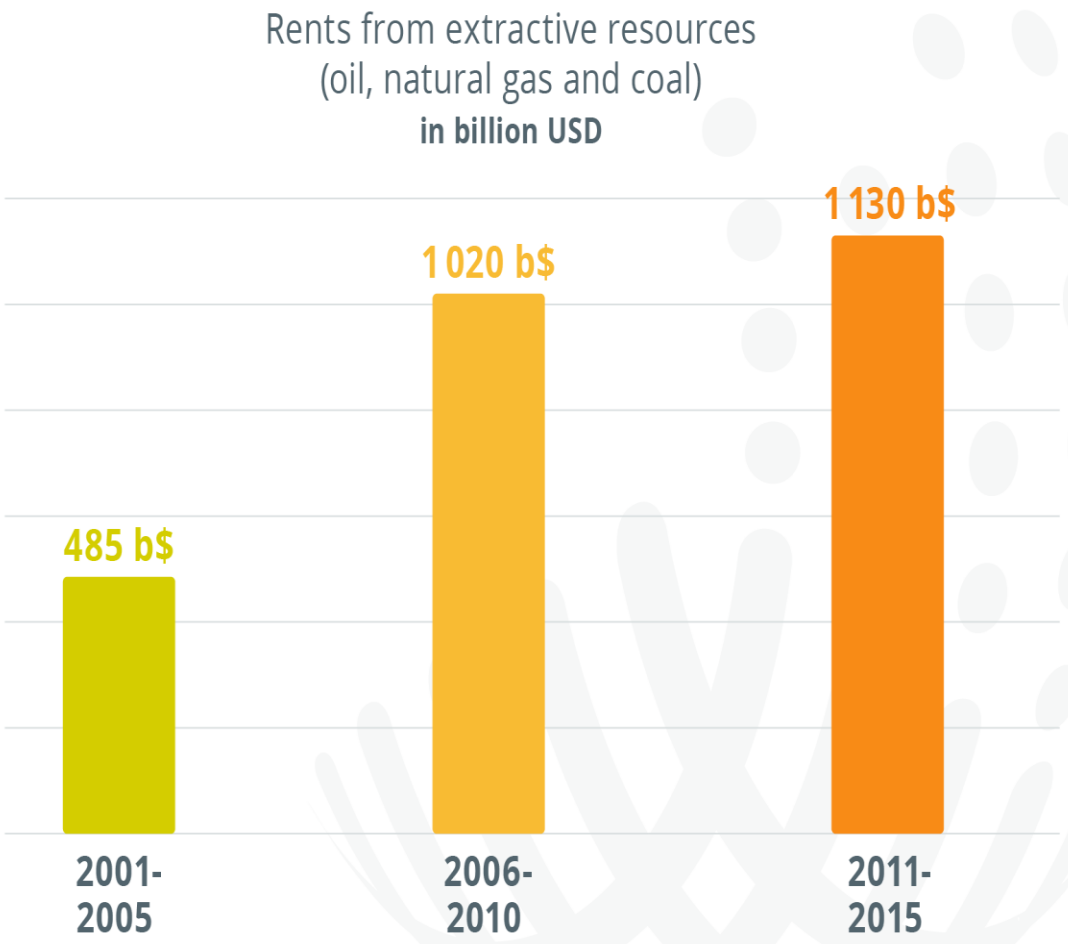
Carbon entanglement: G20 governments' dependency on fossil fuel rents is a challenge for climate policy



Sources: IMF Worldwide Government Revenue Database and World Bank Natural Resource Rents database.

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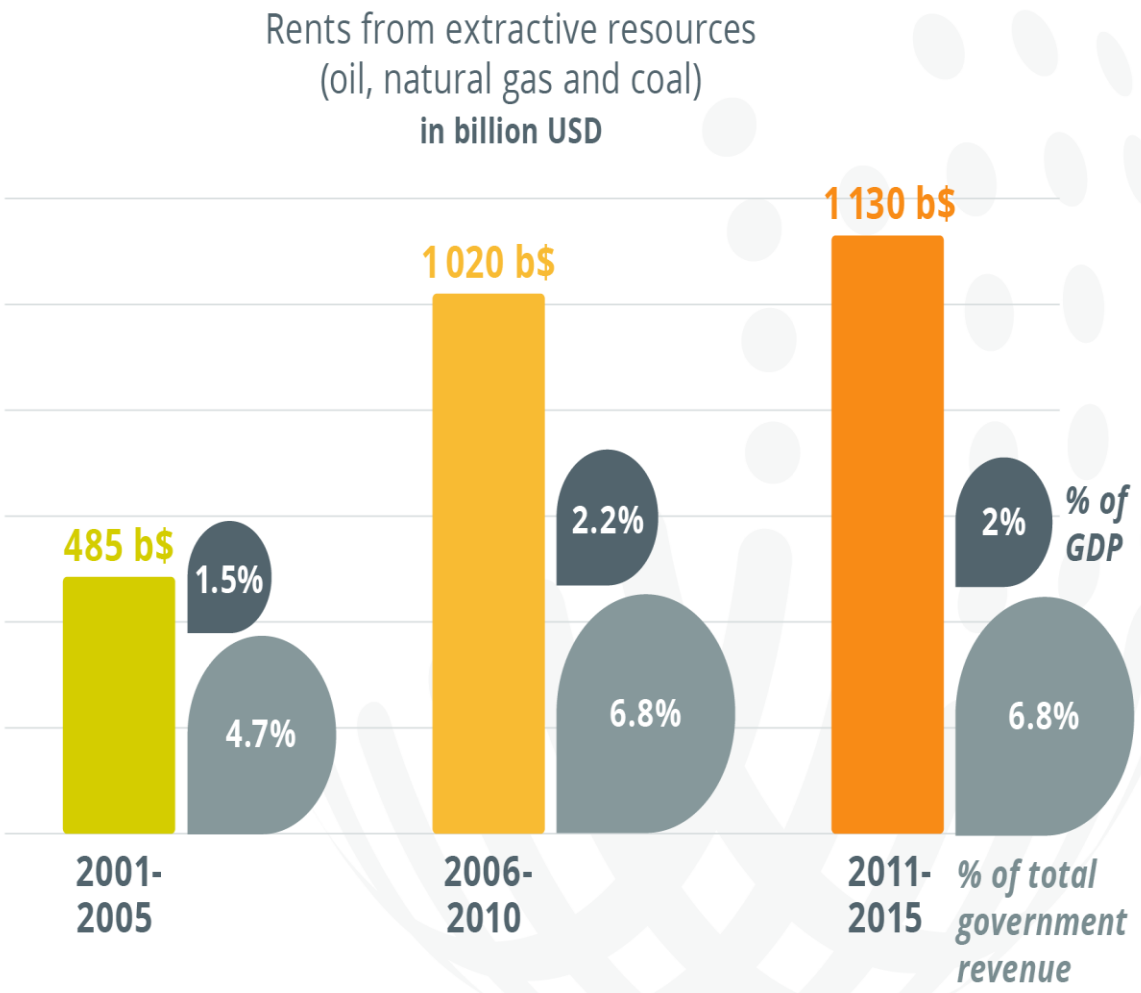

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Stranded assets? Implications of the transition away from the "brown" economy

Existing infrastructure based on a fossil fuel-based economy

- Global climate policy likely to drive fossil fuel-based assets/ infrastructure to be 'stranded' = unable to recover investment cost
- 'Unburnable' carbon = fossil fuels that need to stay underground

Estimates of stranded assets vary (scope, methodology timeframe)

- Could be up to USD 1 trillion to 2050 (3x more if the transition is delayed) (IEA, IRENA)
  - ✓ physical capital whose costs cannot be recovered
  - ✓ foregone revenues, over what timeframe, etc.

Impacts on economic growth

- Via changes in relative prices of energy-related assets, infrastructure
- Corporate investment and profits (also for energy intensive industries)
- Employment in coal, oil and gas; in new/green energy sectors

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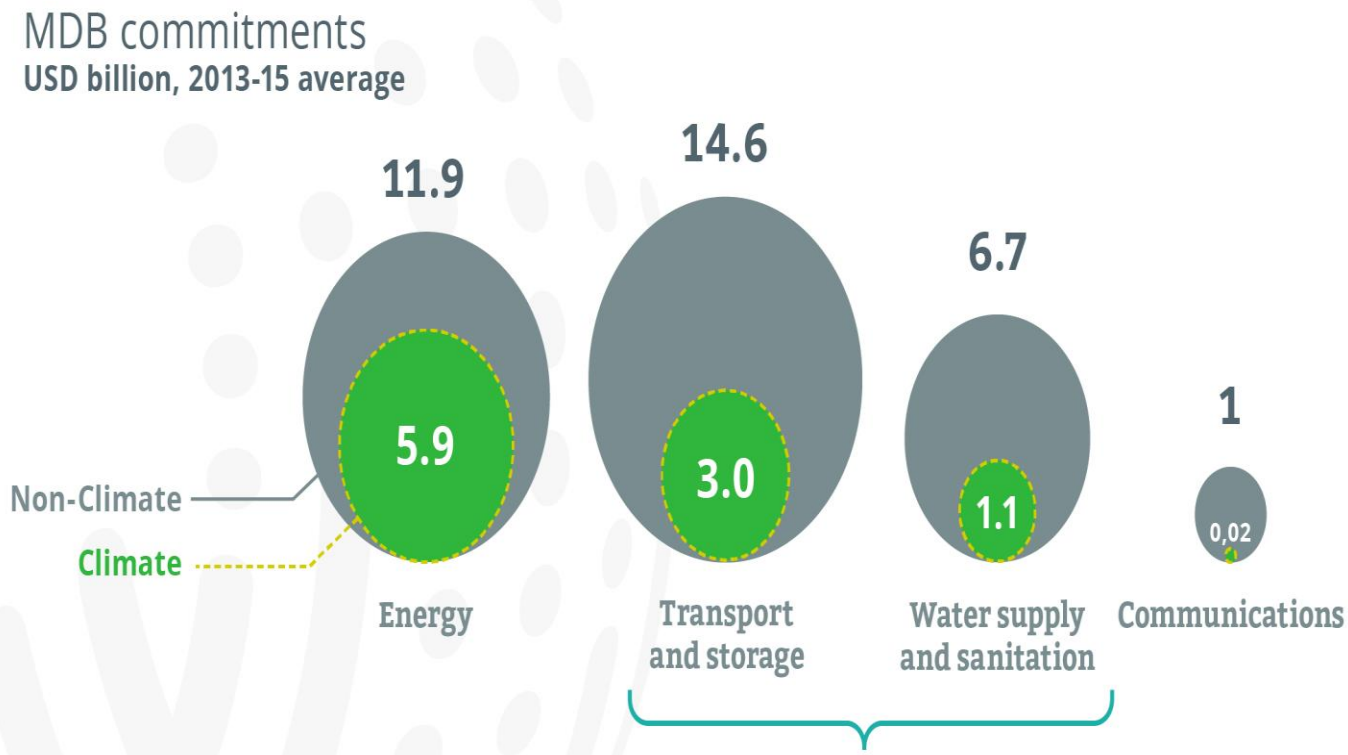
Roughly 1/3 of commitments by the largest Multilateral Development Banks to infrastructure sectors **that will contribute to climate mitigation and adaptation**



MDB financing can be better aligned with climate objectives in **transport and water** sectors

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“Greening” the BRI:
What do “Belt & Road” countries need?

Policy

- Address political economy of “carbon entanglement” to minimise stranded assets
- Implement carbon pricing (e.g. subsidy reform, taxes) and regulations
- Develop sector strategies/infrastructure plans compatible with low-carbon transition
- Align investment decisions to climate policies, plans and targets (eg. NDCs, SDGs)

Capacity

- Capacity to translate these plans/strategies into concrete projects
- Green public budgeting
- Better understanding of risks and returns related to low-carbon infrastructure projects (incl. national financial institutions)
- Capacity to address risks of large infrastructure projects (SEA, EIA)