

A Global Framework For Addressing Aviation CO₂ Emissions

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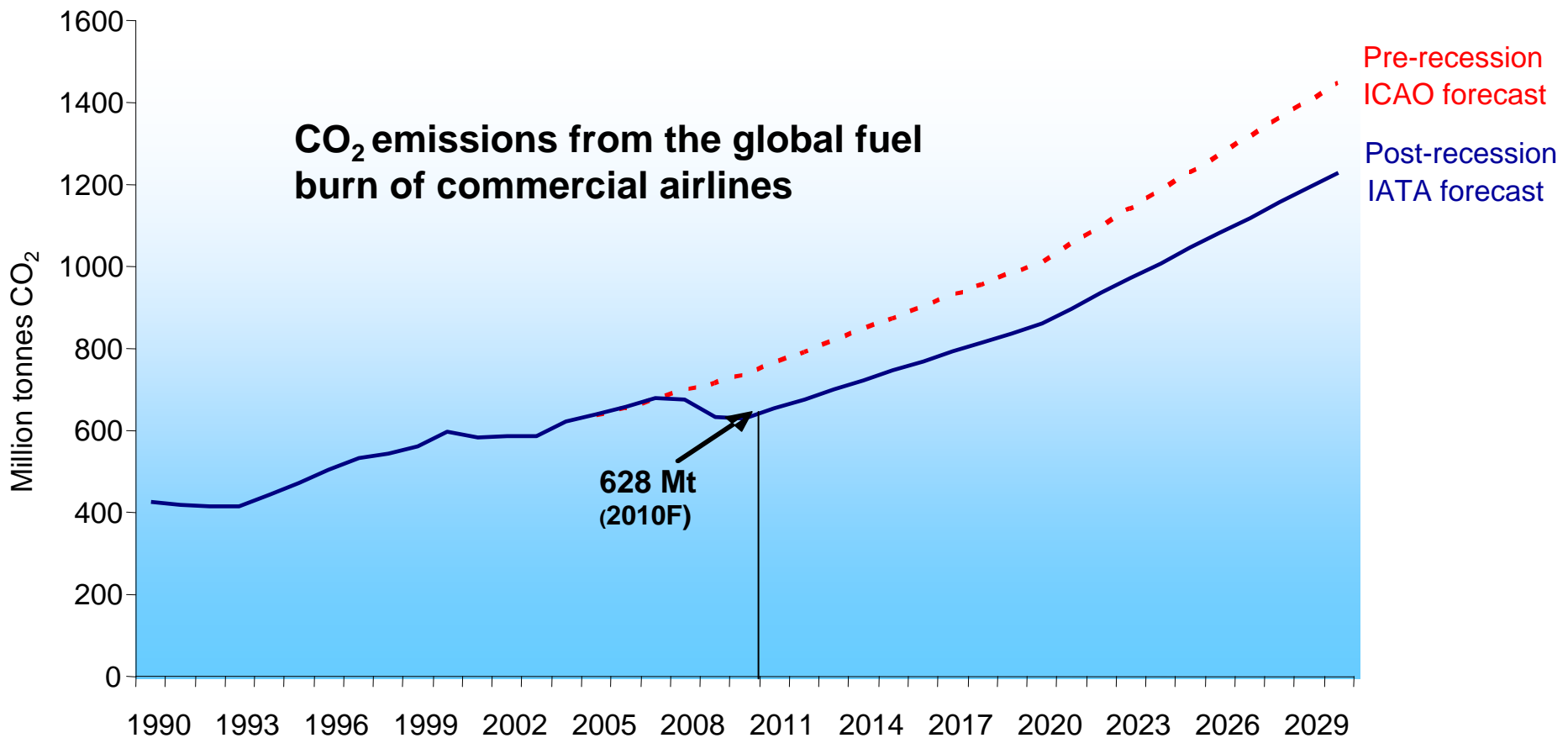


Aviation is a key driver of socio-economic development

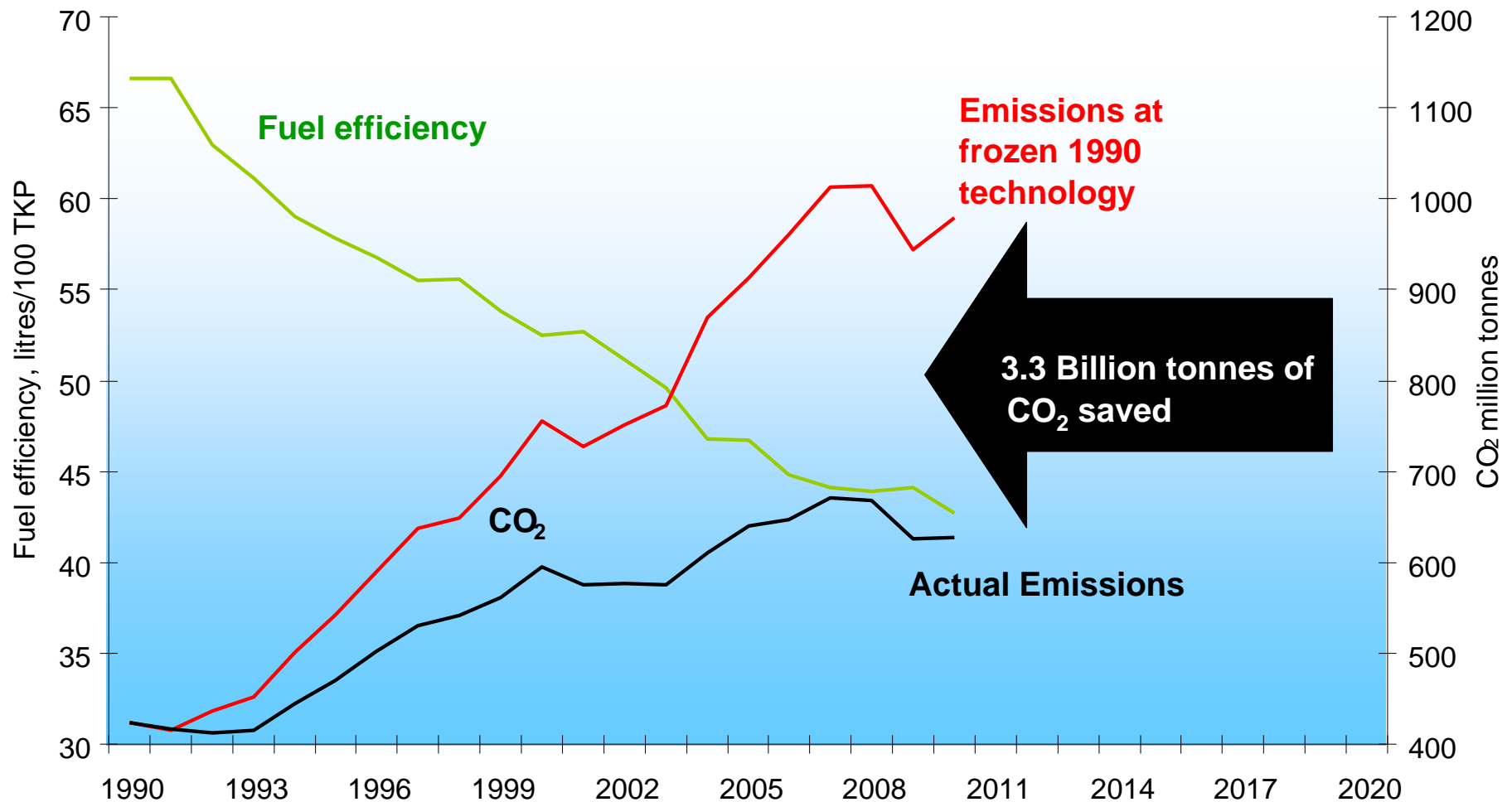
- **2.3 Billion passengers**
- **32 Million jobs**
- **8% of global GDP (US\$ 3.5 trillion)**
- **2% of global man-made CO₂ emissions**
- **Major driver of tourism and trade**



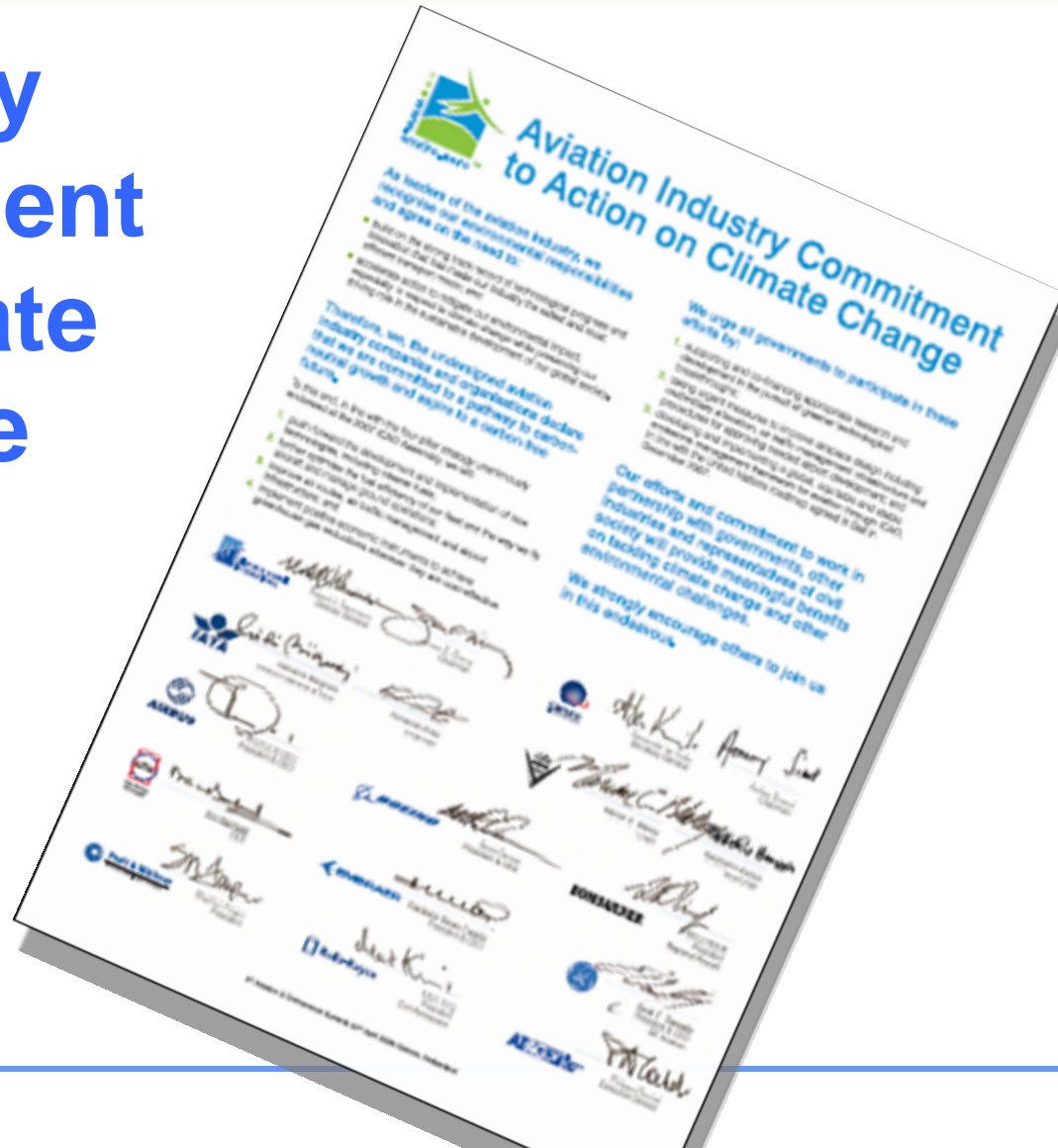
Aviation faces emissions challenge.....



.....but our track record is strong



Industry Commitment on Climate Change 2008



Our four-pillar strategy:

- Invest in new technology
- Fly more efficiently
- Build and use efficient infrastructure
- Use effective economic measures



Global industry targets

2010

1.5% p/a fuel
efficiency

Working
towards CNG

2020

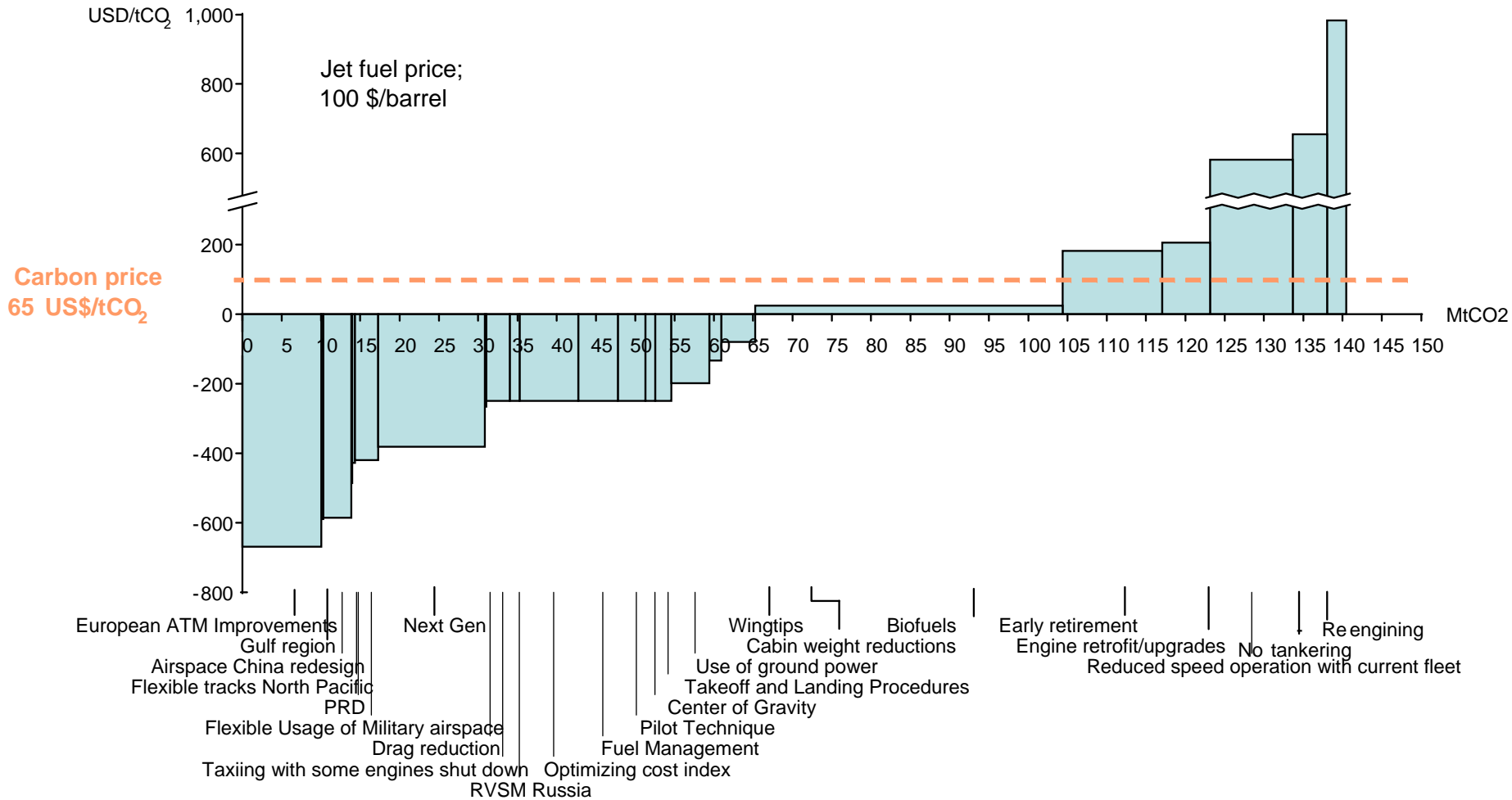
CNG from 2020

Implementation of
global sectoral
approach

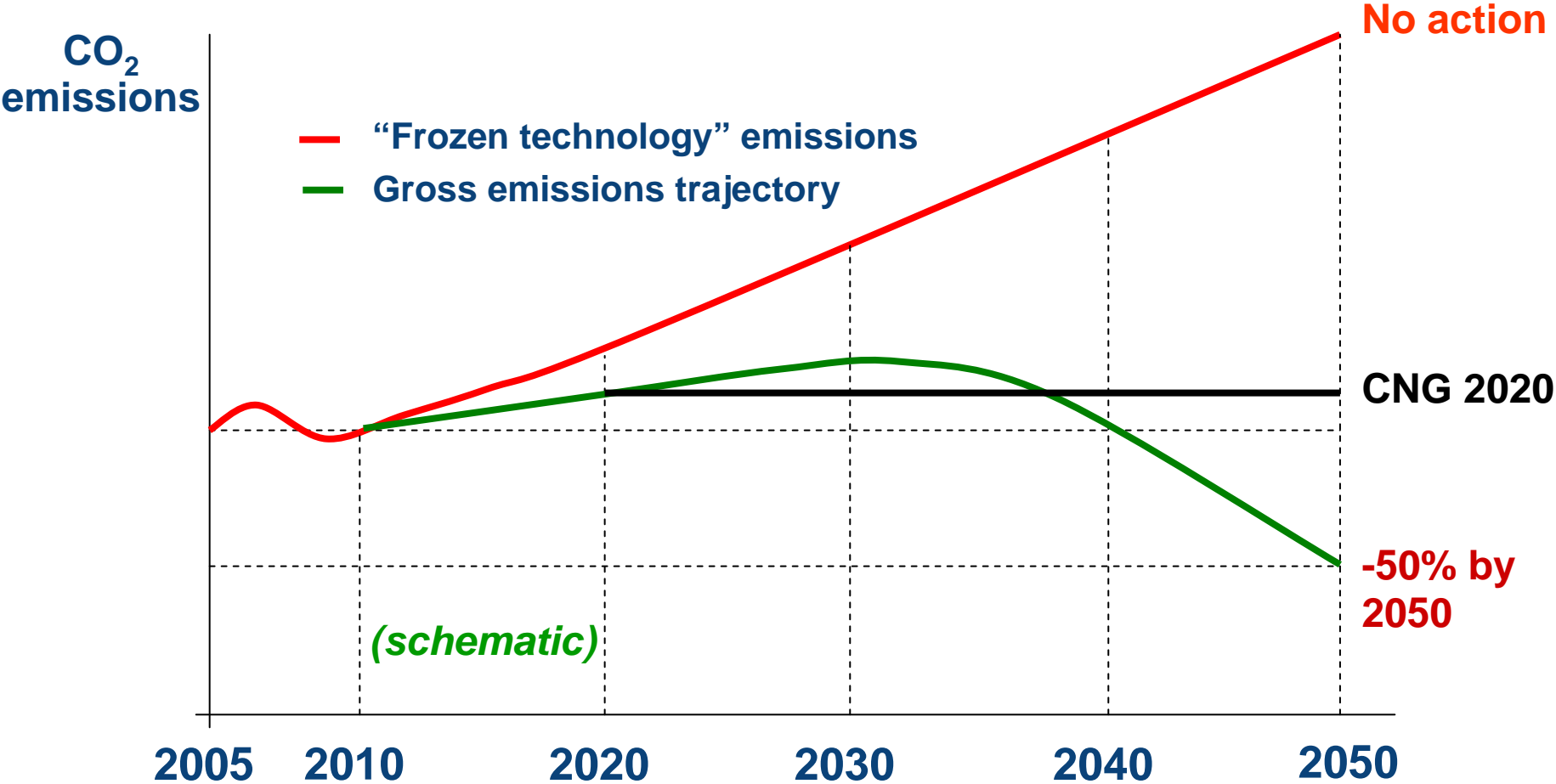
2050

50% reduction in
net CO₂
emissions over
2005 levels

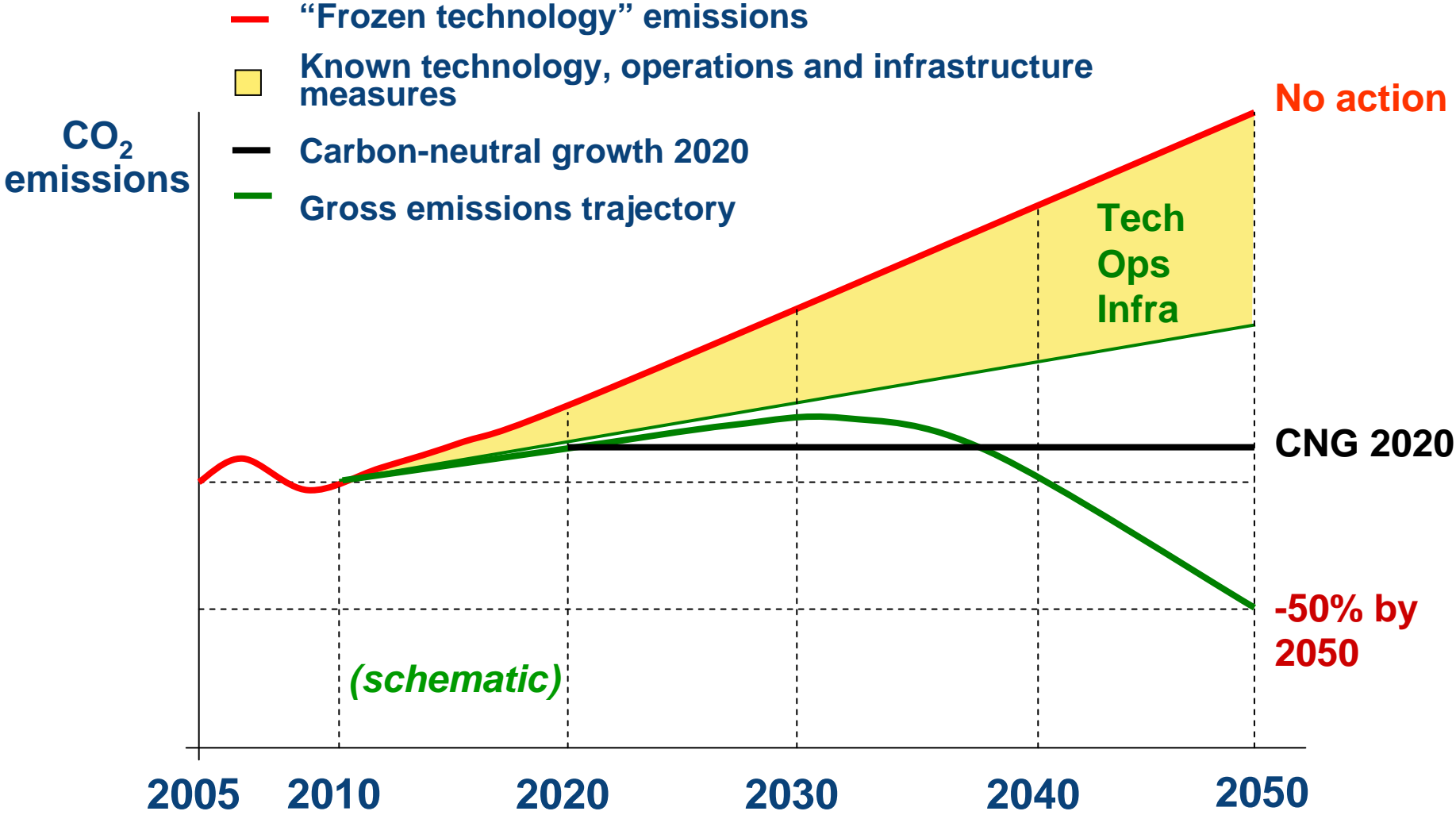
CO₂ Abatement cost curve in 2020



Emissions reduction roadmap



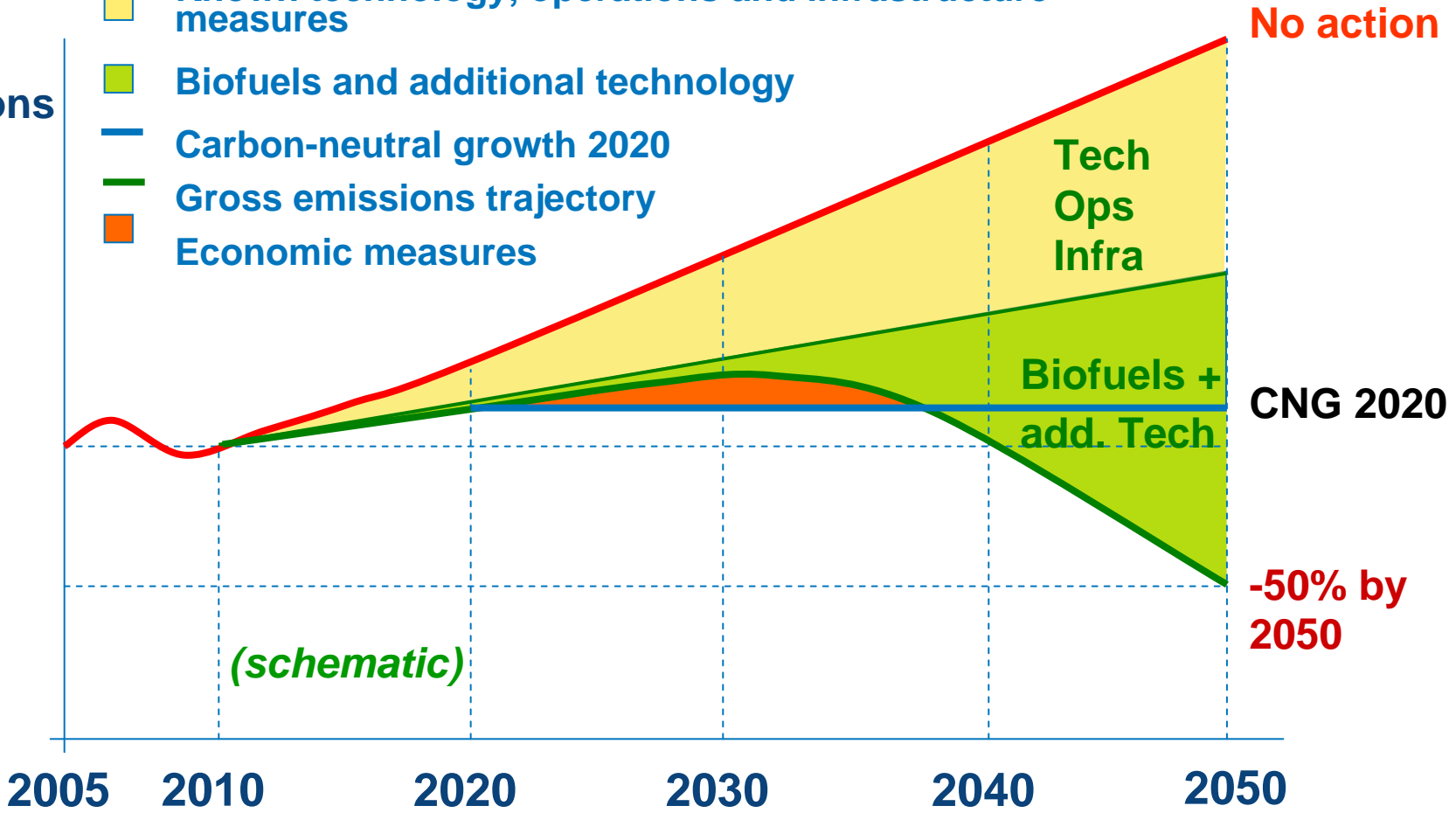
Emissions reduction roadmap



Emissions reduction roadmap

- “Frozen technology” emissions
- Known technology, operations and infrastructure measures
- Biofuels and additional technology
- Carbon-neutral growth 2020
- Gross emissions trajectory
- Economic measures

CO₂ emissions



(schematic)

No action

CNG 2020

-50% by 2050

Tech
Ops
Infra

Biofuels +
add. Tech

Our biggest opportunity is **sustainable** biofuels

- **Second & third generation biofuels - e.g. camelina, algae**
- **Potential to reduce our carbon footprint by up to 80%**
- **Full certification by Q1 2011**
- **Next step: sustainability criteria, scaling up and commercialisation**



IATA carbon offset program

- 17 Airlines – 6% of global traffic
- TAP Air Portugal - UNESCO “Planet Earth Award” in 2010.
- Offer passengers a portfolio of compliance grade CERs offsets
 - large geographical coverage
 - social and economic benefits for local communities.
- IATA Carbon Calculator
 - ICAO methodology - enhanced with real airline data.
- Government approved offset program (DECC-UK QA)
- Phase II– extension to corporate travel/online agents.
- **Challenges: Non recognition by States of voluntary offsets**





How can governments help?

- Invest in ATM improvements – e.g. NextGen and SESAR
- Invest in R&D funding for new technology
- Promote scaling up and of sustainable biofuel production

How can governments help?

By agreeing

- A coordinated policy approach
- A global framework under ICAO



By avoiding

- A fragmented policy approach
- Unilateral use of national/regional measures



Uncoordinated patchwork

“Green” taxes



\$3.5bn



\$1.2bn



\$0.2bn



\$100m



\$?



\$?



\$?



Emissions trading



\$ 1-13 bn



\$ 4 mn



\$?



\$?



\$?



\$?



\$?



The ICAO 37th Assembly 2010

Outcomes:

- First ever global sectoral agreement to reduce carbon emissions
- Reflects aspirational industry goal of carbon-neutral growth from 2020
- Lists 15 principles for MBMs
 - Transparency and simplicity
 - No duplication
 - Minimize leakage and distortion
 - Appropriate access to all carbon markets



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