



**INTERNATIONAL
TRANSPORT EMISSIONS
AND THE GLOBAL CARBON
BUDGET**

CURRENT EMISSIONS

- Aviation currently 2.2% of global emissions (international and domestic) but 4.9% of global warming due to non-CO2 effects
- Shipping and estimated 2.6% of CO2 emissions but there are other climate effects from the sector. BC is responsible for 7% shipping's climate impact.
- Global emissions growth of 25% between 1990-2010, but 70% for these sectors

NON-CO2 EFFECTS

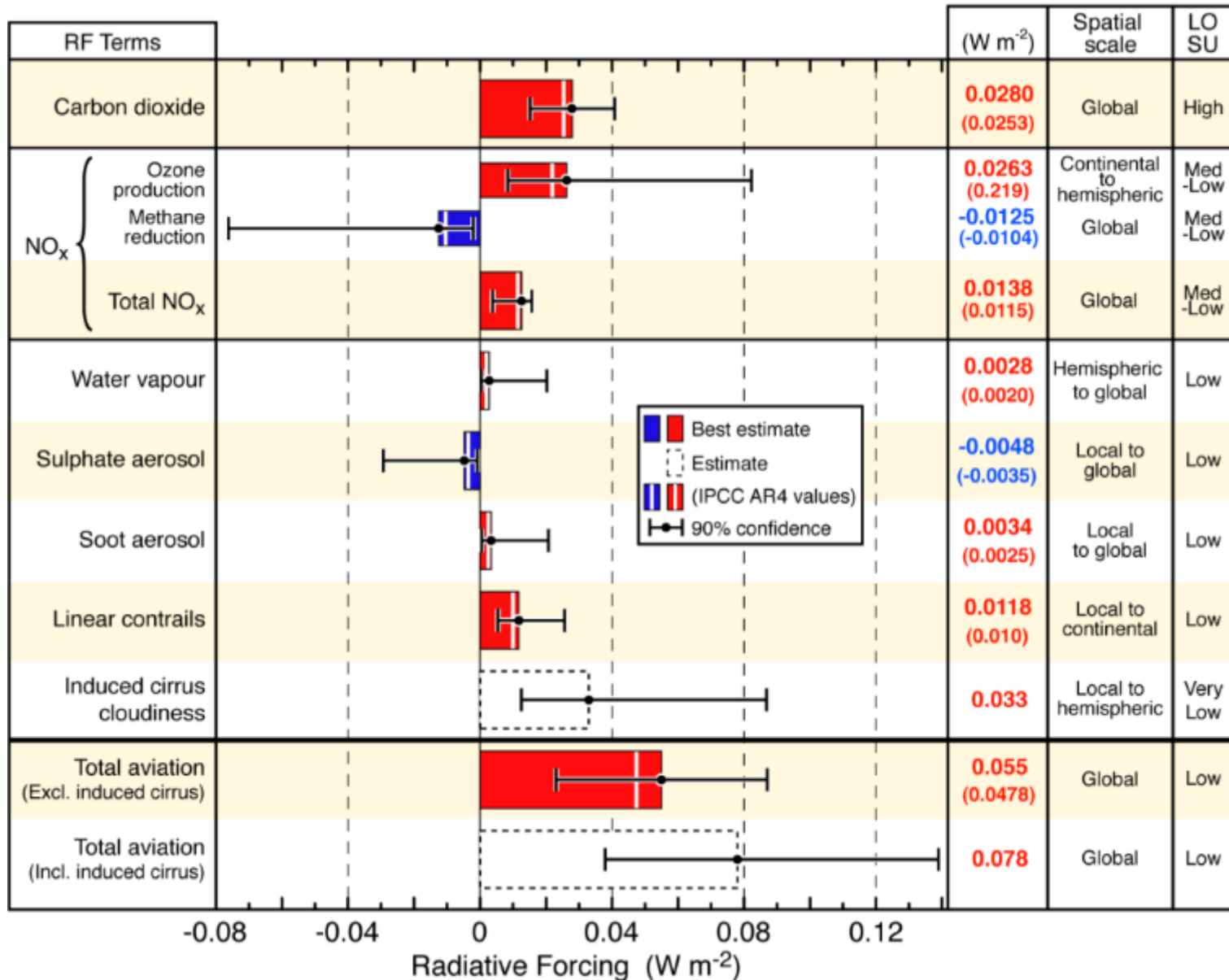
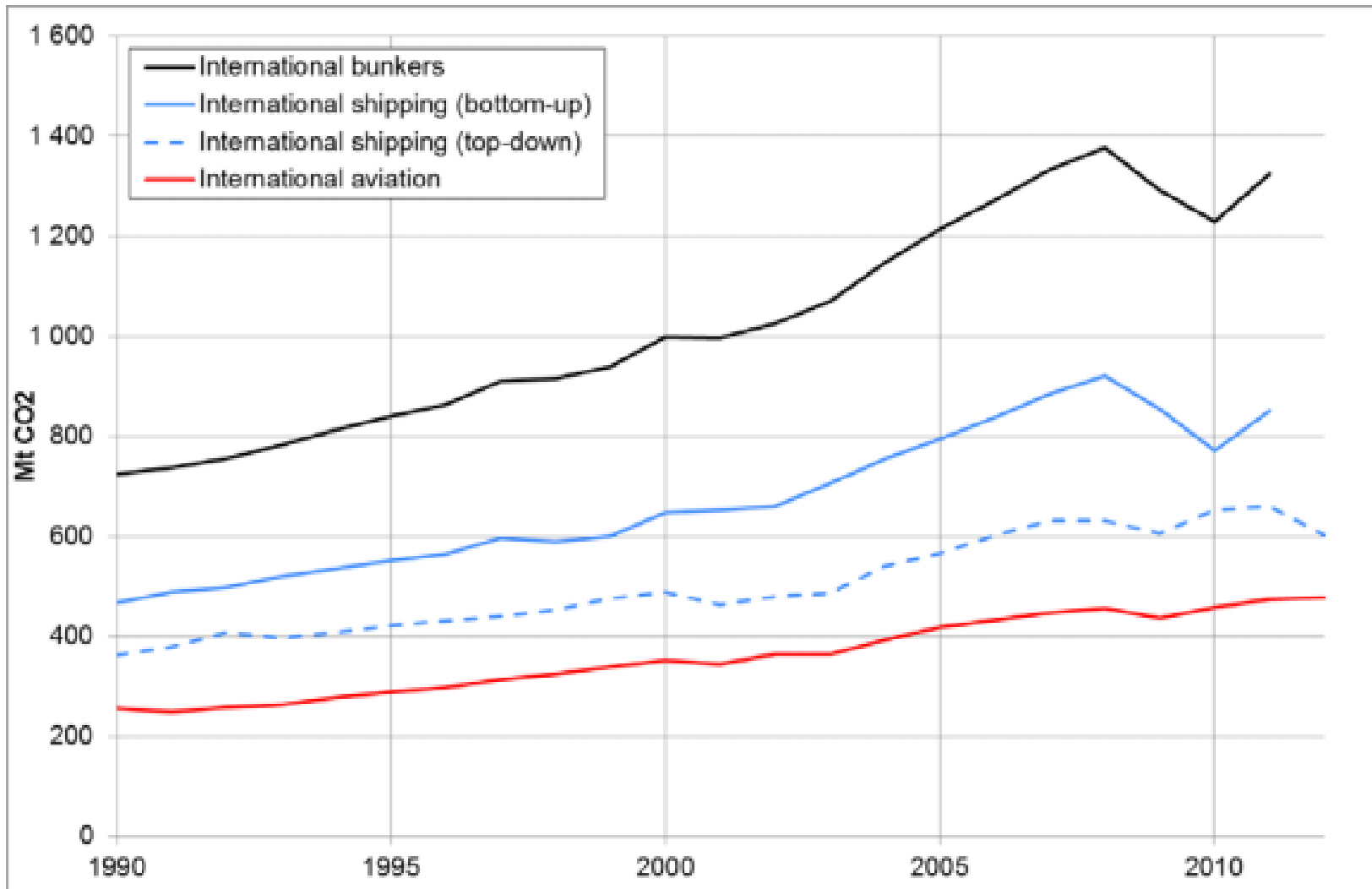


Figure 1: CO₂ emissions from international bunkers (1990-2012)



DRIVERS OF GROWTH: AVIATION

- Passenger demand expected to double over the next twenty years – Asia as biggest growth, but EU and US also
- Passenger growth outstripping efficiency gains
- Fuel is tax-free, acting as \$60bn global subsidy for the sector
- Failure to date to adopt meaningful climate policies

DRIVERS OF GROWTH: SHIPPING

- Global trade – the sector's emissions are coupled with the growth in global trade.
- Operational speed – there is a cubic relationship between speed and emissions. Ships sail at higher speed when:
 - Freight rates are high
 - Oil prices low
- Bunker fuel is tax free
- No regional or global climate policy in place.

FUTURE GROWTH

- International transport could account for 40% of emissions in 2050 (22% for aviation and 17% for shipping)
- Aviation emissions could grow by 300% by 2050, with growth spread unevenly across all regions
- Shipping emissions could grow 20-120% by 2050, depending on how trade develops in the future
- Increased liberalisation will result in increased emissions from both sectors unless action is taken

PARIS AGREEMENT

Art 4(1) “Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to **achieve a balance between anthropogenic emissions by sources** and removals by sinks of greenhouse gases in the second half of this century”

- **Temperature target, no reference to ICAO/IMO, changes to carbon market all have implications for aviation and shipping**
- **Some NDCs reference “economy-wide” scope**