



# PARIS CLIMATE 2015

To change everything  
we need everyone

Webinar International Transport  
and the Paris Agreement

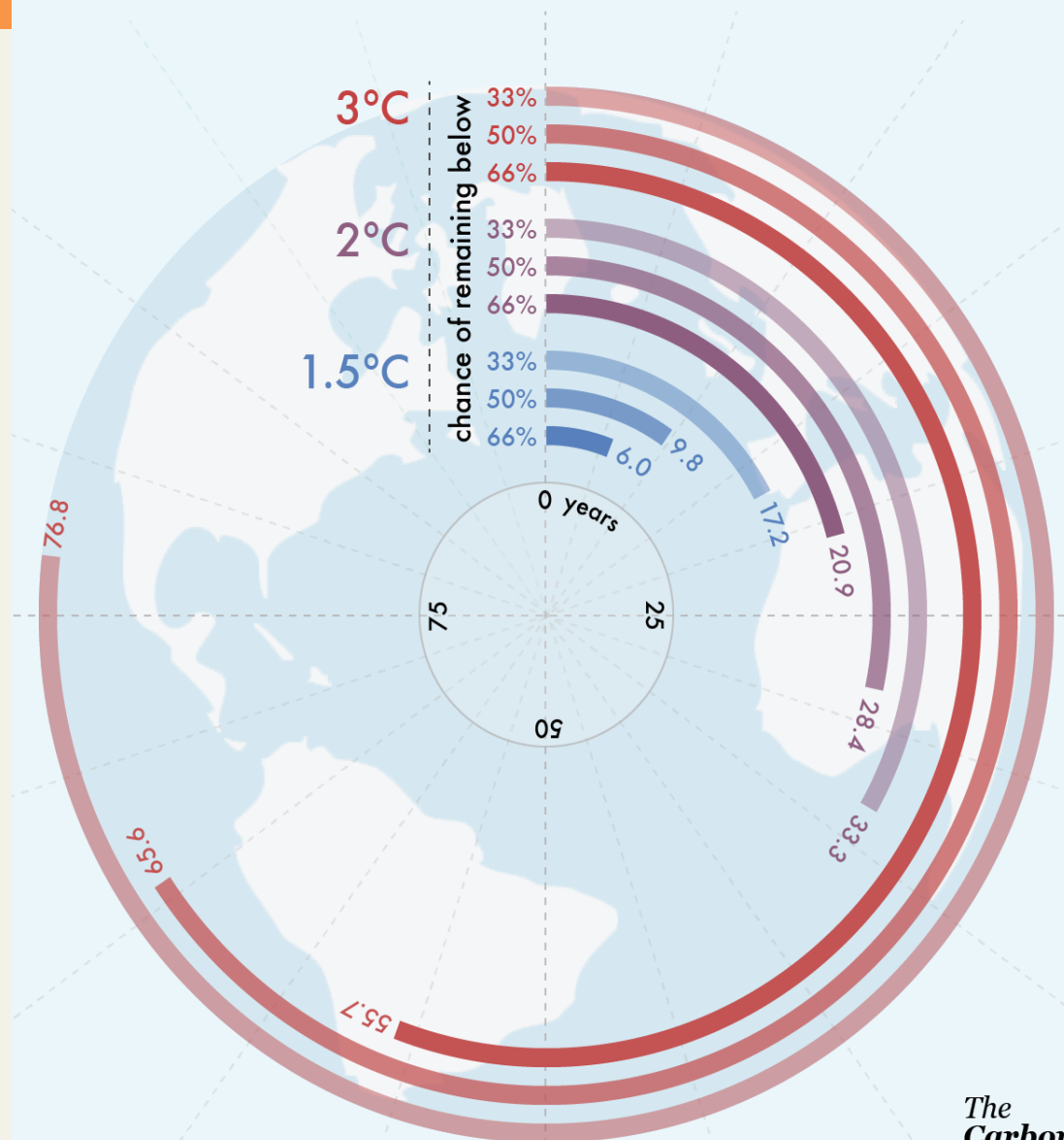
Mark Lutes, WWF



# Urgency Gap

## Carbon Countdown

How many years of current emissions would use up the IPCC's carbon budgets for different levels of warming?



<http://bit.ly/carboncountdown>

The  
Carbon  
Brief



Data: CDIAC/GCP/IPCC/Fuss et al 2014

Emissions from fossil fuels  
and cement (GtCO<sub>2</sub>/yr)

Scenario categories

>1000 ppm CO<sub>2</sub>eq

720–1000 ppm

580–720 ppm

480–580 ppm

430–480 ppm

2014 Estimate

Historical emissions

net-negative global emissions

**RCP8.5**  
3.2–5.4°C  
relative to  
1850–1900

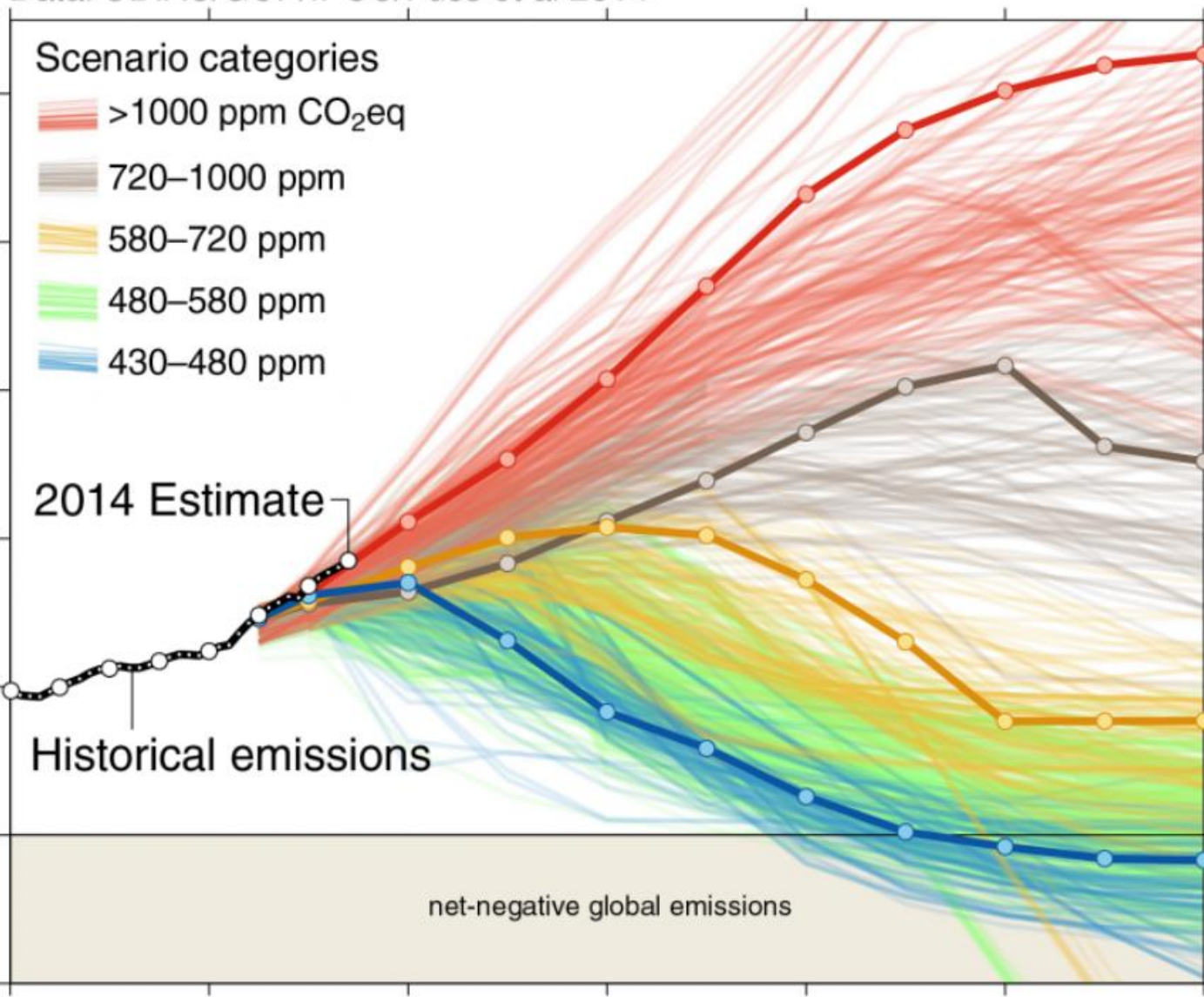
**RCP6**  
2.0–3.7°C

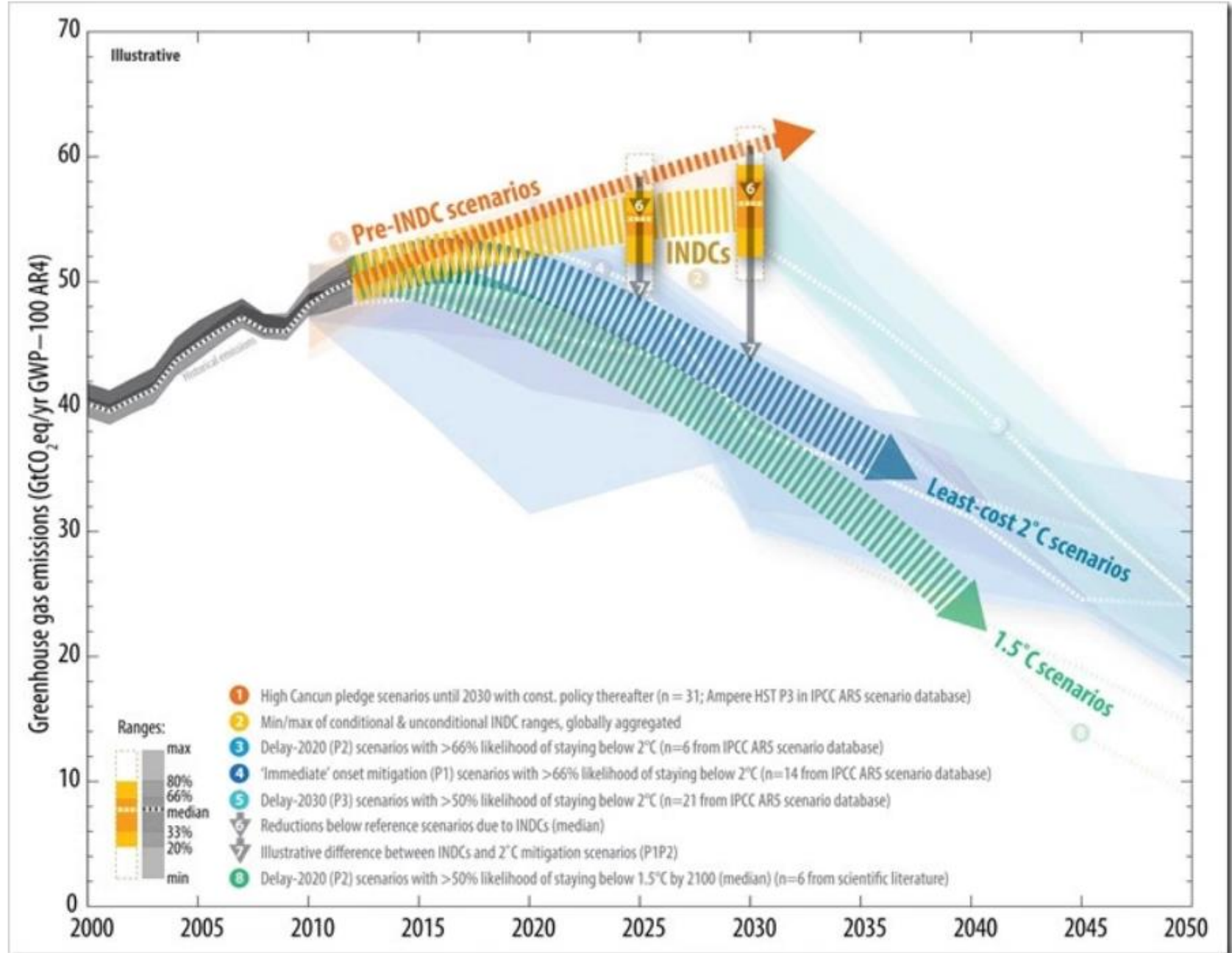
**RCP4.5**  
1.7–3.2°C

**RCP2.6**  
0.9–2.3°C

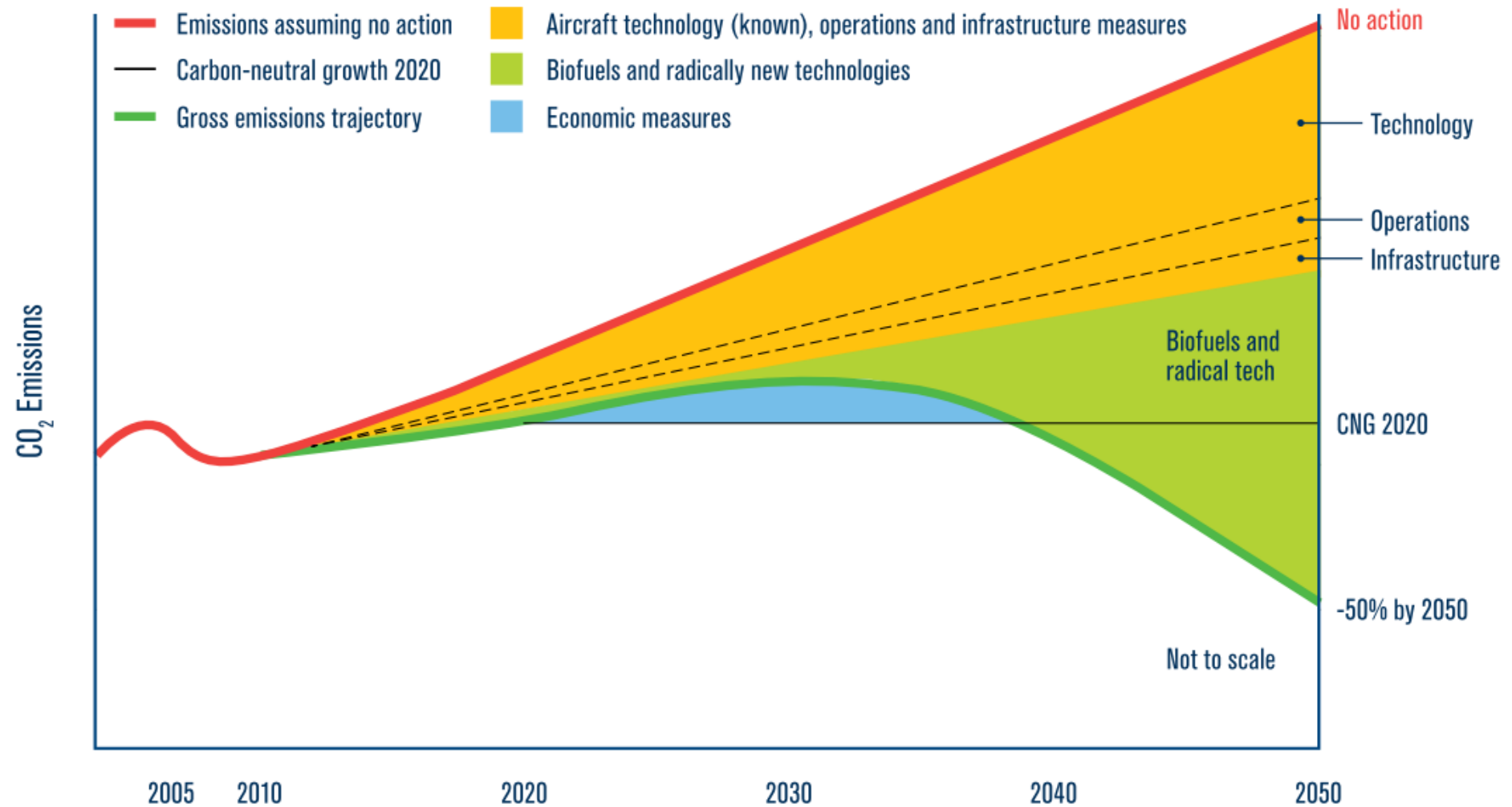
100  
80  
60  
40  
20  
0  
-20

1980 2000 2020 2040 2060 2080 2100

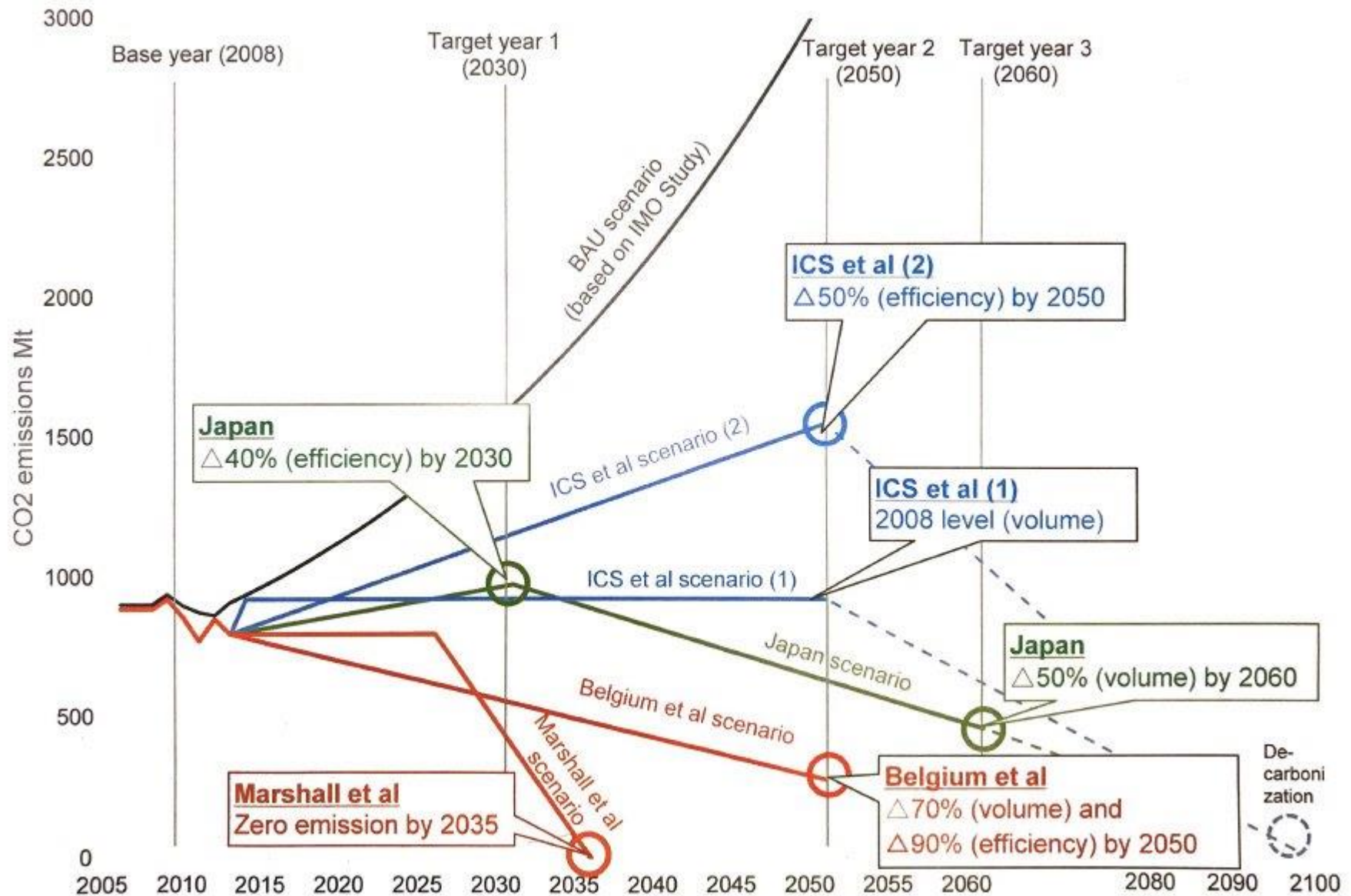




# Vision of Aviation industry



# Proposed Targets for global shipping sector







# The promise of Paris:

A self-correcting Regime through a ratchet mechanism

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Climate ambition is reflected in the global climate regime over three time frames:

1. Pre-2020;
2. The first NDC period (2021-2030); and
3. Subsequent NDCs (from 2030 onwards in a 5-year cycle).

# At COP23 Fiji must deliver:

- **Progress in Pre-2020 climate action**, both by Parties inside the formal negotiations and through the *Action Agenda*);
- **Design of the “Talanoa Dialogue”, aka 2018 Facilitative Dialogue**, to take stock of the collective effort of Parties close the emissions gap, including by raising ambition of NDCs by 2020;
- **Paris implementation guidelines**: Parties need to generate substantive elements for a negotiating text for the Paris Agreement, to allow adoption at COP24.
  - Including design of Global Stocktake



## Aligning review and ratchet cycles



Year	UNFCCC	ICAO	IMO
2018	IPCC SR 1.5		Initial IMO strategy
	Rulebook with modalities for GST		
	Talanoa Dialogue FD2018		
2020	Parties communicate or update NDCs by 2020		Publication of 4 <sup>th</sup> IMO GHG Study
2021		Voluntary Pilot phase of CORSIA starts	Sec't report summarizing 2019 data
2022		First ICAO Review of CORSIA	Sec't report summarizing 2020 data
2023	First Global Stocktake (PA Art 14.2)		Spring: Adoption of revised IMO strategy
2024		Phase 1 of CORSIA starts	
2025	Parties communicate or update NDCs	Second CORSIA review	Publication of 5 <sup>th</sup> IMO GHG Study
2027		Mandatory Phase 2 of CORSIA starts	
2028	Second GST	Third CORSIA review	
2030	Parties communicate or update NDCs		
2031		Fourth CORSIA review	
2032		Special review of CORSIA for beyond 2035	
2033	Third GST		
2035	Parties communicate or update NDCs		

# WWF Recommendations

## Talanoa Dialogue:

...

Cover all emissions and climate forcers, whether covered by NDCs or not, including emissions from international aviation and shipping, HFCs and other F-gases, and short-lived climate forcers. It should invite inputs from organisations responsible for controlling such emissions or initiatives addressing them;

## The Global Stocktake:

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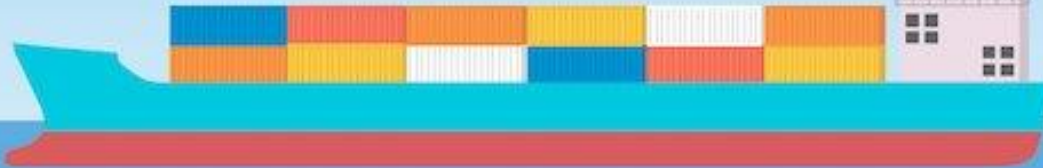
Cover all emissions, sinks and climate forcers (including short-lived climate forcers and on emissions not necessarily covered by NDCs and the transparency framework) and invite inputs from relevant organisations including ICAO, IMO, Montreal Protocol and CCAC;

A long-exposure photograph of the Paris skyline at night. The Eiffel Tower is the central focus, illuminated and reflected in the water of the Seine. To the left, a bridge with many lights spans the river. In the foreground, a road with light trails from cars and a metal railing are visible. The sky is a deep blue, and the overall scene is lit with warm city lights.

**Now is the time for  
climate action**

## Global shipping

was responsible for

**932 million tonnes times** of CO<sub>2</sub> emissions in 2015

=

**2.3 times**the UK's annual CO<sub>2</sub> emissions**1.02 times**

Germany's annual emissions

**231**CO<sub>2</sub> emissions from  
coal-fired power plants

Equivalence data comes from <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>  
Shipping data comes from <http://www.theicct.org/publications/GHG-emissions-global-shipping-2013-2015>

CONCENTRATIONS OF CARBON DIOXIDE  
IN THE ATMOSPHERE SURGED AT A  
**RECORD-BREAKING SPEED**  
IN 2016 TO THE HIGHEST LEVEL IN  
800 000 YEARS



# HARNESSING THE WIND

## FUEL CONSUMPTION OF A FULLY LADEN 200-METRE SHIP

FUEL CONSUMPTION  
IN LITRES PER HOUR



## CROSS-SECTION



## PARAFOIL

Up to 5,000m<sup>2</sup> multi-cell kite. Its aerodynamic shape generates lift for greater pulling power.

Largest kites have towing power equivalent to 6,800hp engine.

Dynamic manoeuvres increase air flow over kite for exponential increase in power.

## SAILING DIRECTION

SkySail can be used to sail at up to 50° against wind.



Control cords

## CONTROL POD

Automatically aligns kite – based on wind direction, force, ship route and speed – by pulling control cords.

## TOW ROPE

Low-weight, high-strength carbon fibre.

## MAXIMUM POWER

Up to three times more efficient than fixed sails. Wind strength increases with altitude.

200m

WIND ENERGY