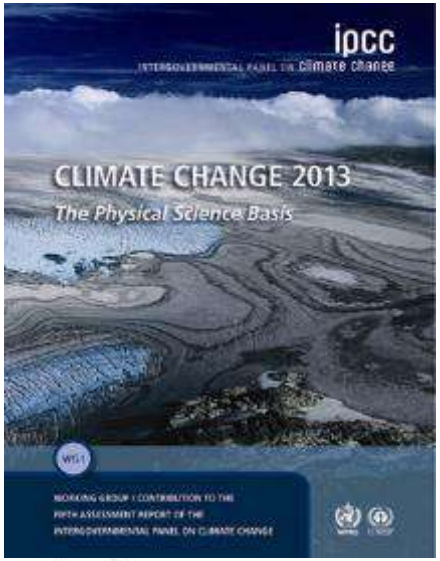
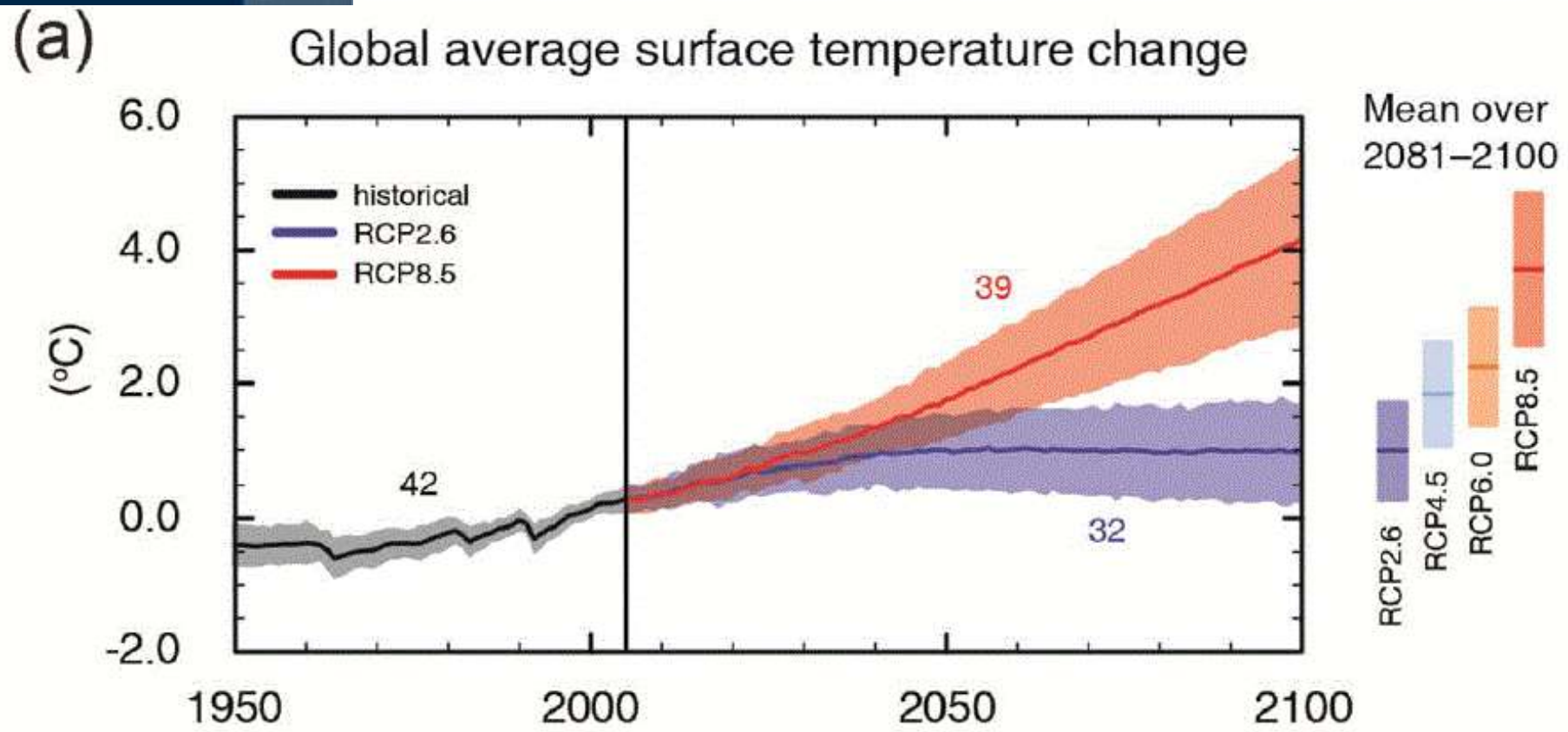


Scenari 5° rapporto IPCC (AR5 2013):

+2°C al 2100 se si applica **Accordo Parigi 2015** (linea azzurra), oppure fino a **+5°C** in più con business-as-usual (linea rossa)



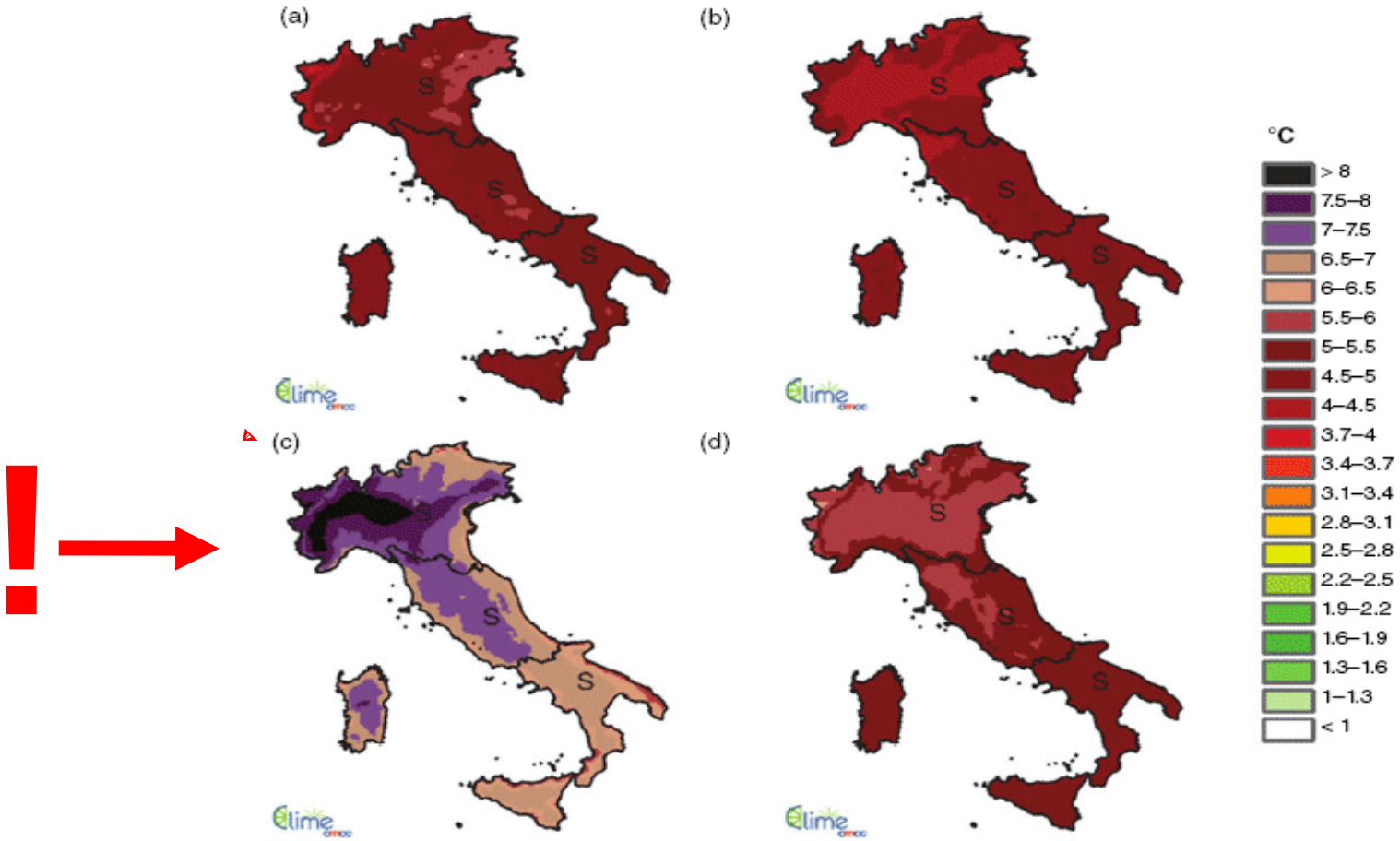


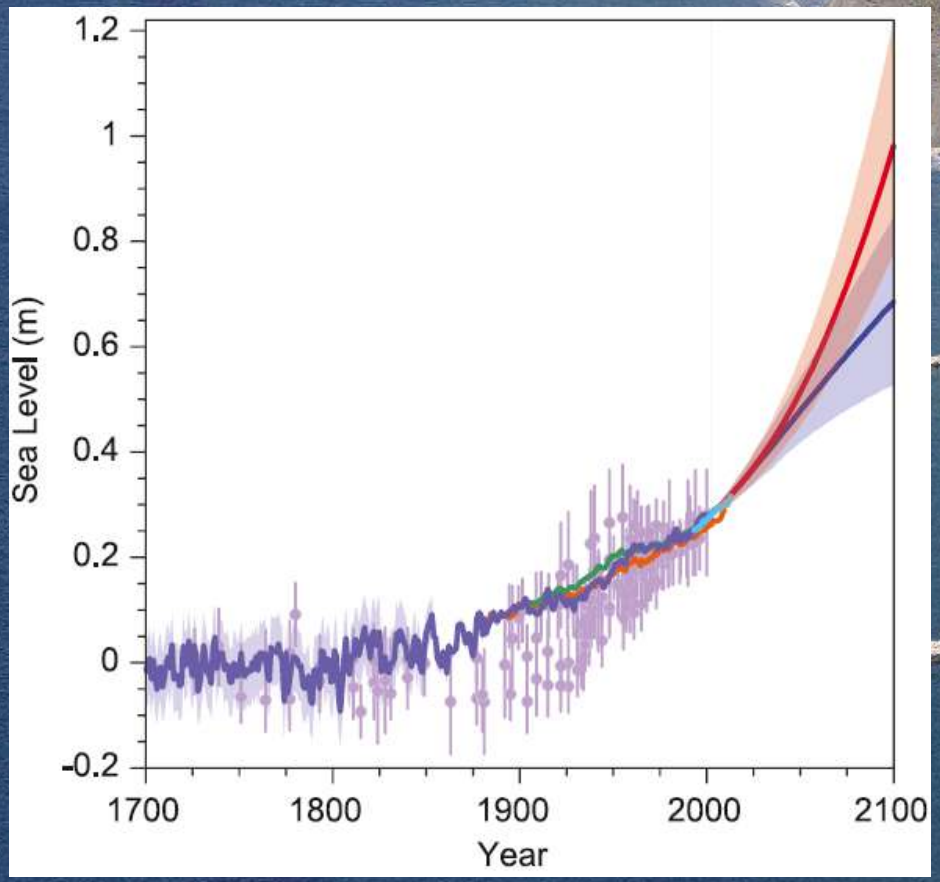
Figure 9. Temperature climate projections, RCP8.5: seasonal differences (°C), between the average value over 2071–2100 and 1971–2000 for (a) DJF, (b) MAM, (c) JJA and (d) SON (S, significant; NS, not significant).

E se non facessimo nulla? NW Italiano + 8 ° C in estate nel 2100! Torino come Karachi…

Bucchignani et al. (2015) *High-resolution climate simulations with COSMO-CLM over Italy*, Int. J. Climatol.

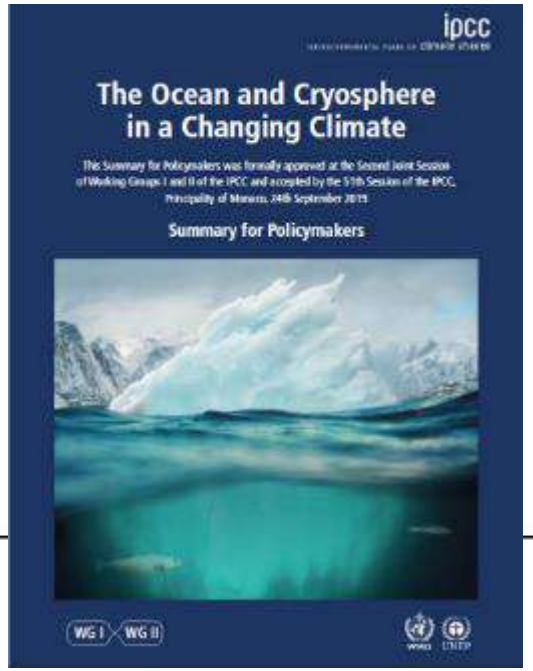
Aumento livello marino:
a rischio laguna veneta e delta del Po

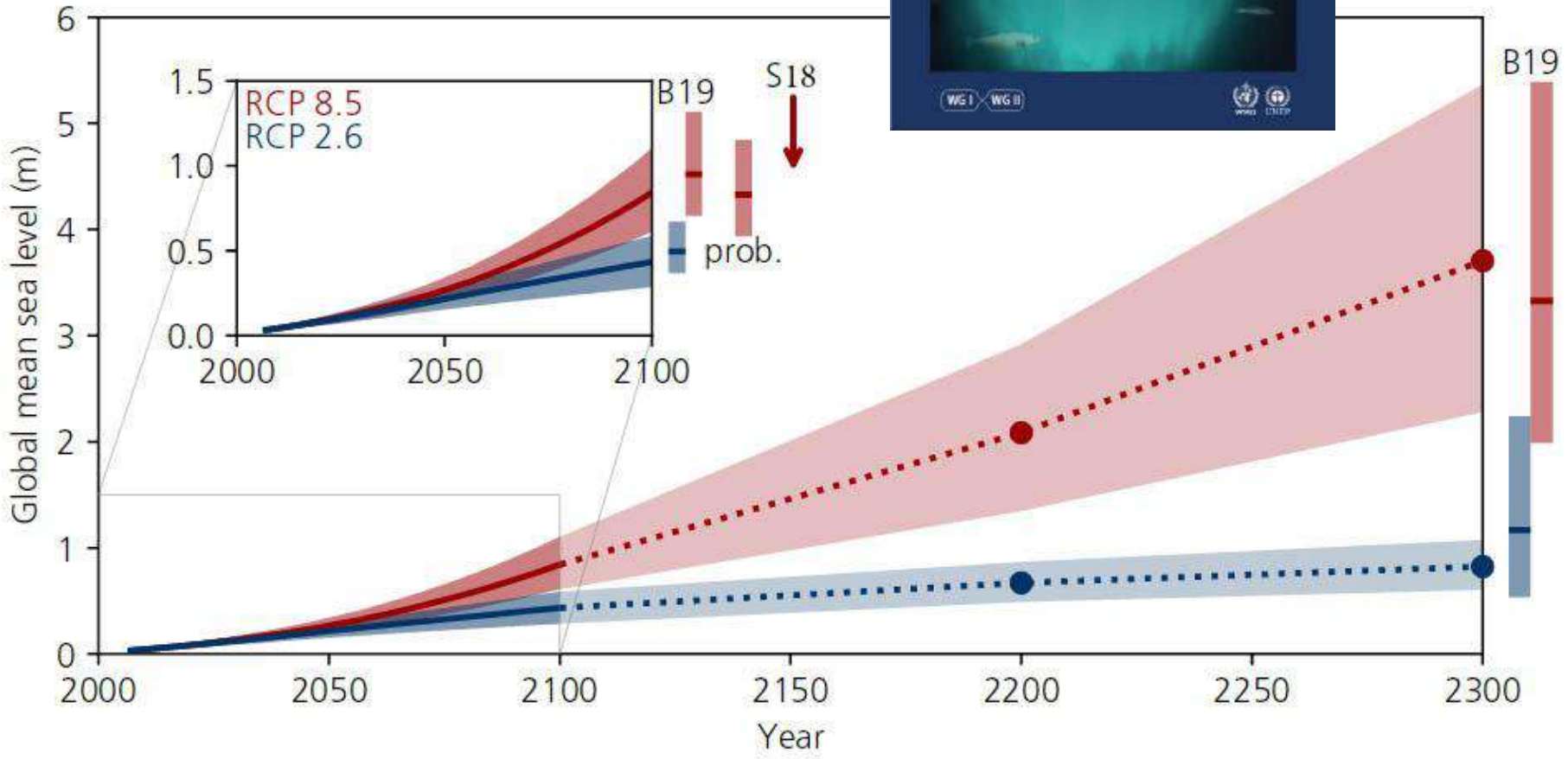
Le zone costiere risentiranno dell'aumento del livello marino, e dovranno essere adeguatamente protette (es: Venezia, delta del Po)

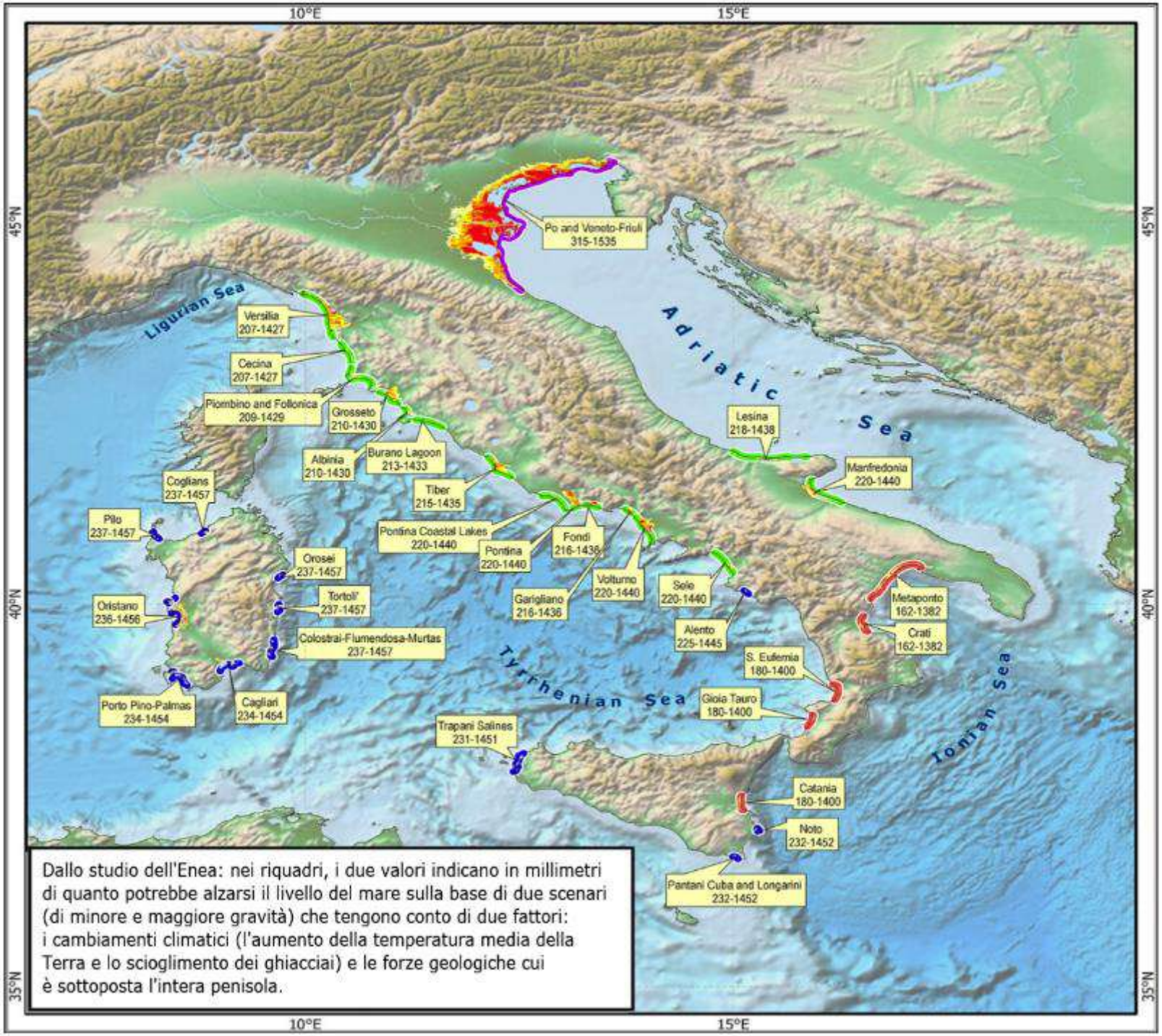


Settembre 2019 –
Rapporto IPCC Oceano e criosfera

Fino a +5 m di livello marino nel 2300

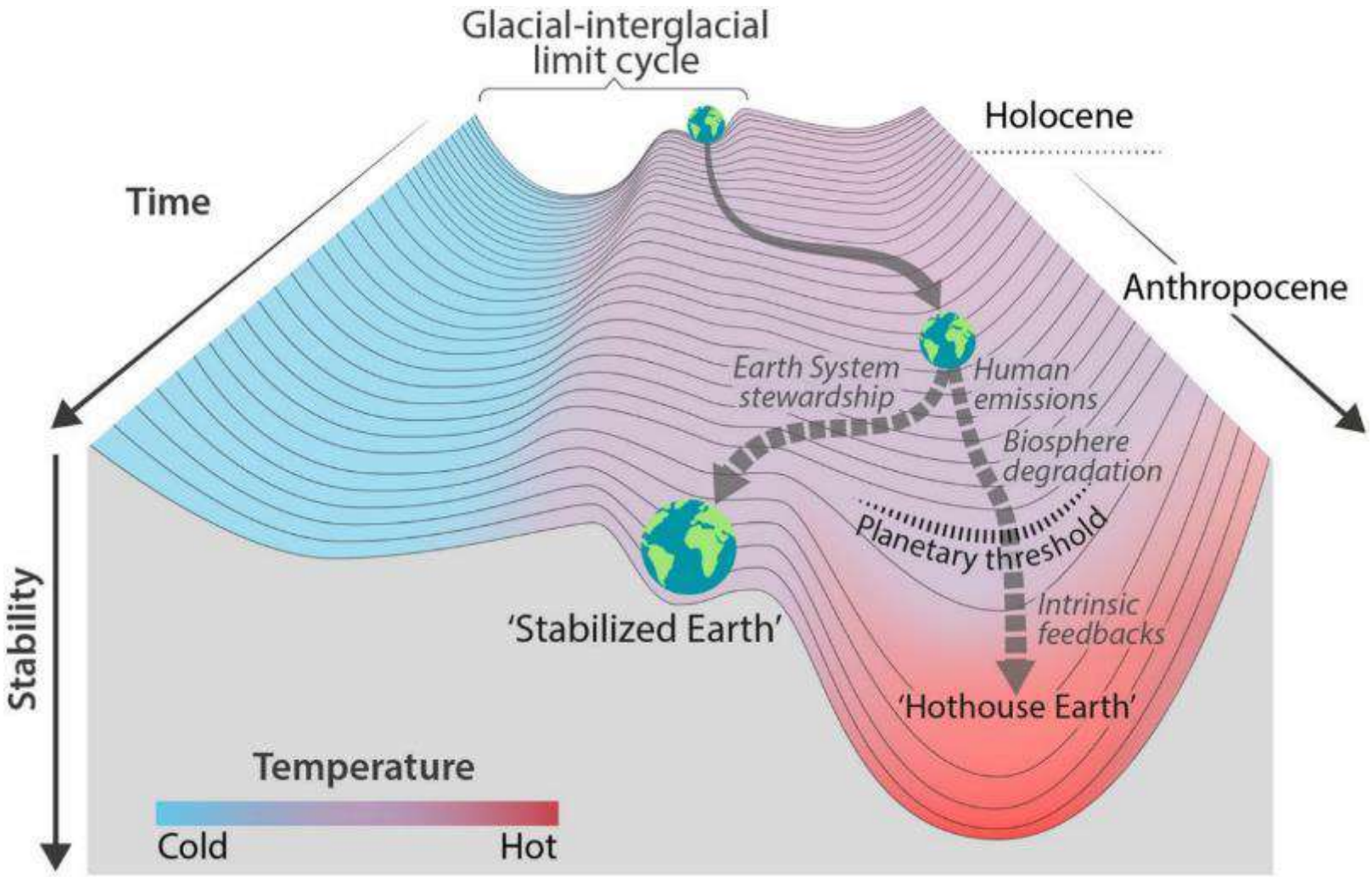






Dallo studio dell'Enea: nei riquadri, i due valori indicano in millimetri di quanto potrebbe alzarsi il livello del mare sulla base di due scenari (di minore e maggiore gravità) che tengono conto di due fattori: i cambiamenti climatici (l'aumento della temperatura media della Terra e lo scioglimento dei ghiacciai) e le forze geologiche cui è sottoposta l'intera penisola.

Stability landscape showing the pathway of the Earth System out of the Holocene and thus, out of the glacial–interglacial limit cycle to its present position in the hotter Anthropocene.



Will Steffen et al. PNAS doi:10.1073/pnas.1810141115

PNAS

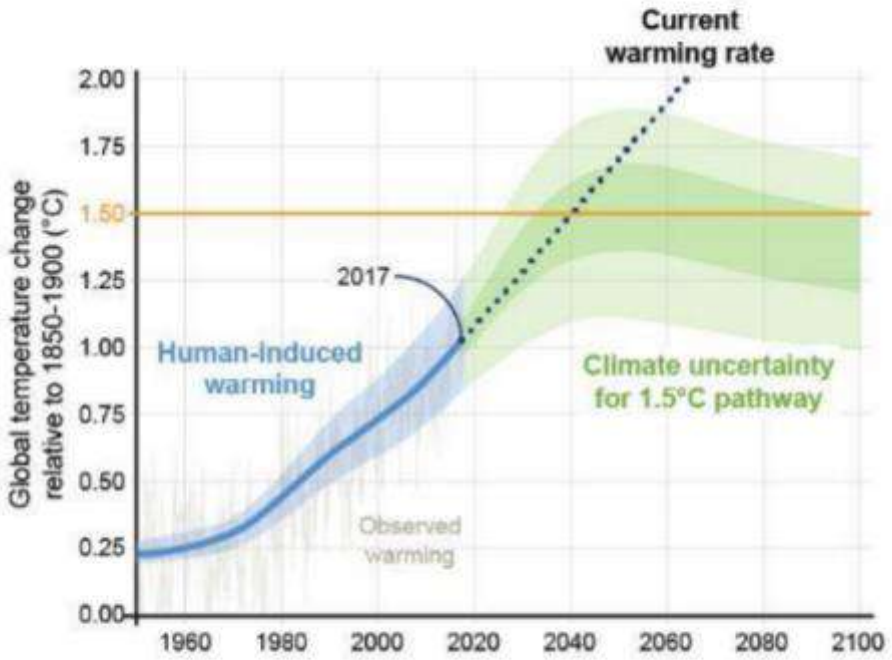
ipcc
INTERGOVERNMENTAL PANEL ON climate change

Global Warming of 1.5°C

An IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.

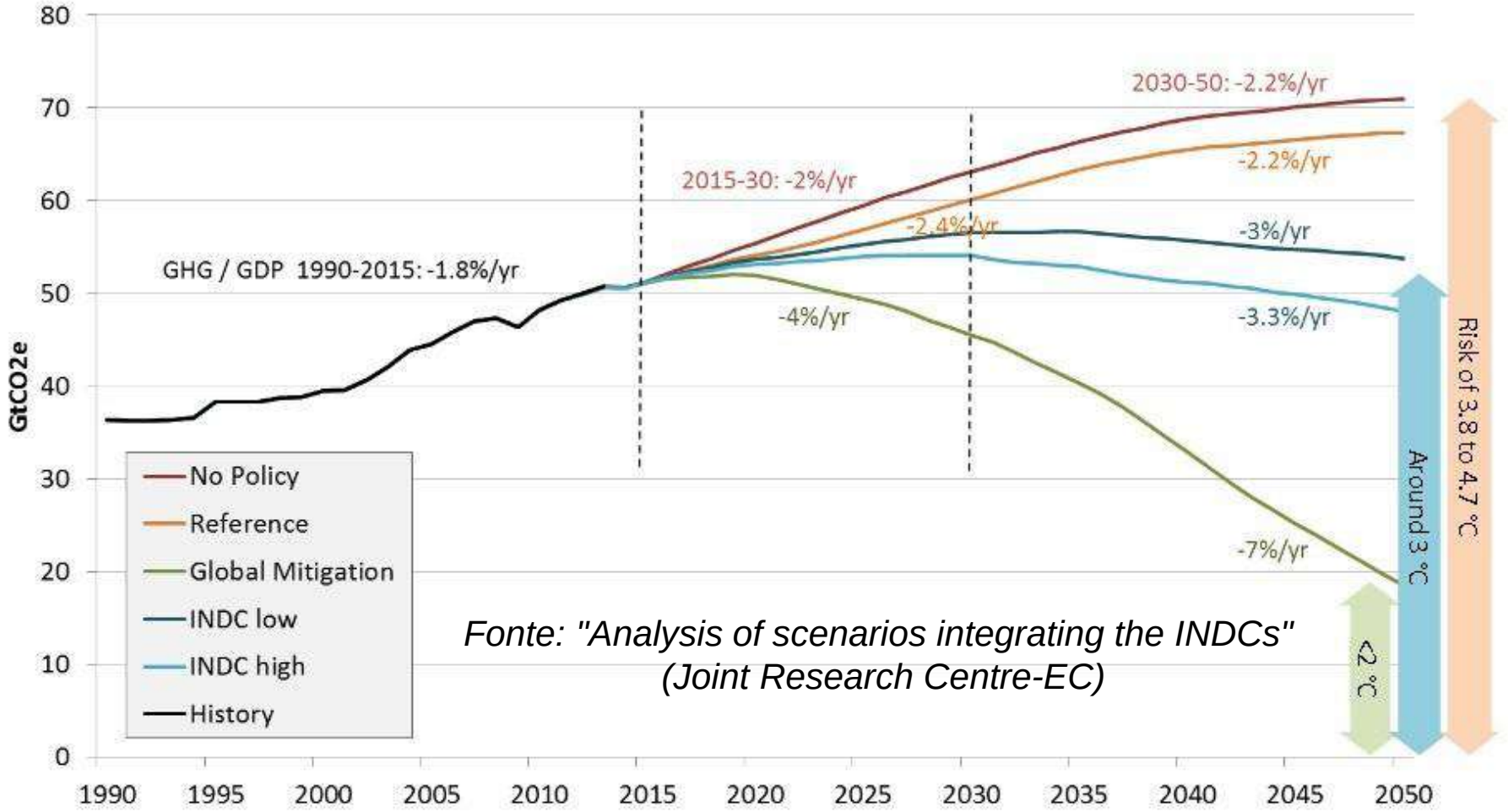
FAQ1.2: How close are we to 1.5°C?

Human-induced warming reached approximately 1°C above pre-industrial levels in 2017

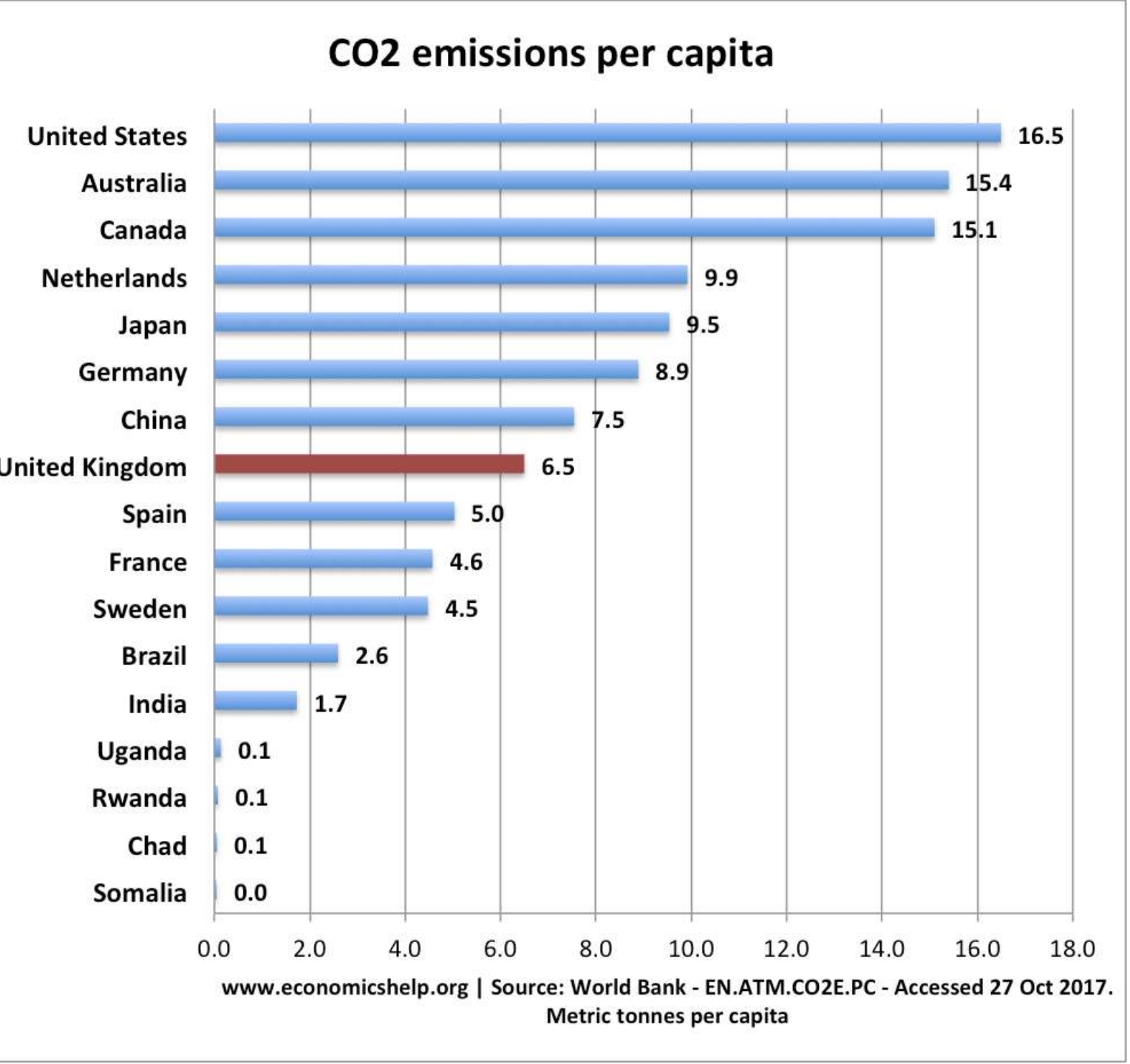


FAQ1.2, Figure 1: Human-induced warming reached approximately 1°C above pre-industrial levels in 2017. At the present rate, global temperatures would reach 1.5°C around 2040.

Promesse ambiziose di riduzione CO_2, ma non bastano: se applicate, circa +3 °C nel 2100 !



Fonte: "Analysis of scenarios integrating the INDCs" (Joint Research Centre-EC)



2014

Italy 5.3 t

EU 6.4 t

Global mean 5.0 t

OIL & GAS SUPPLY AND STRANDED ASSET RISK

How does potential oil and gas supply compare to demand under different global warming outcomes?

B2DS demand

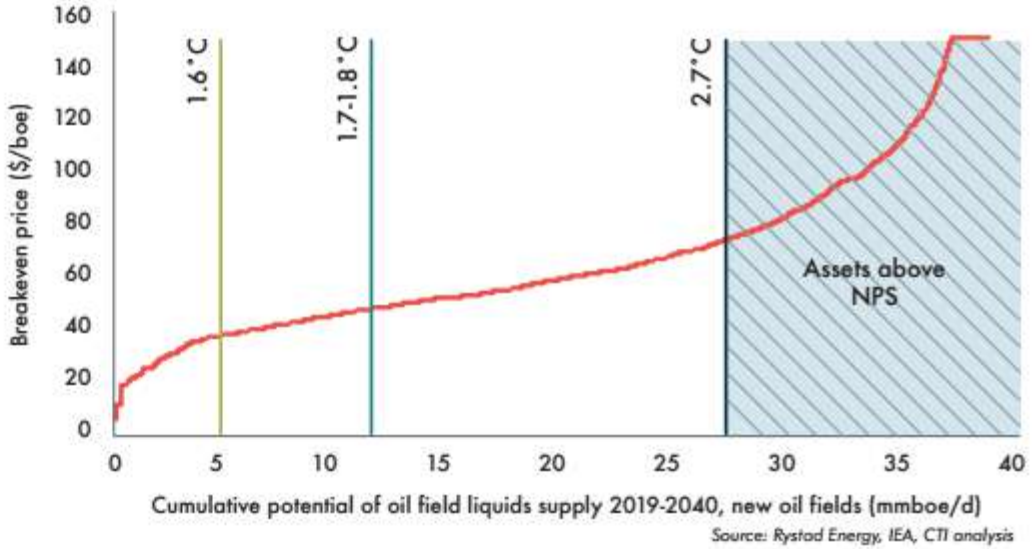
SDS demand

NPS demand

Production from new oil fields 2019-2040

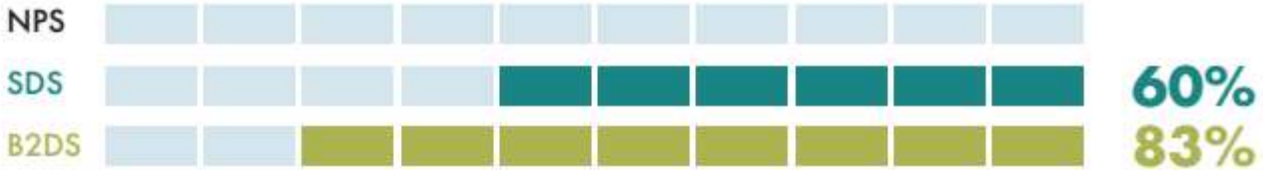
The only way that fossil fuel companies can be "Paris-aligned" is to commit to not sanctioning projects that fall outside the remaining carbon budget constraint.

In the context of the energy transition towards a decarbonised economy, these potential fossil fuel developments risk destroying investor value as well as the climate.



Source: Rystad Energy, IEA, CTI analysis

Share of capital expenditure at risk of stranding in each scenario (2019-2030)



1.5°C warming

In a 1.5°C world, no new oil & gas project would be compliant

If no CCS is assumed, 1.5°C warming is delivered by existing projects alone.

The oil and gas in projects that have already been sanctioned will take the world past 1.5°C, assuming carbon capture and storage remains sub-scale. Without a response sufficient to prematurely close existing projects, a warming of a warming of 1.5°C is already effectively locked in, and no new projects are compliant with the low end of the Paris goals.

Source: 'Breaking the Habit - Why none of the large oil companies are "Paris-aligned", and what they need to do to get there', Carbon Tracker, Sep 2019

Oil and gas companies have approved $50 billion of investment since 2018 in major projects that undermine climate targets and threaten shareholder returns

Largest non-Paris compliant projects sanctioned by oil and gas majors since 2018

Carbon Tracker has identified $50 billion of investment in 19 major projects that are not even consistent with a 1.7-1.8 °C pathway and would require oil prices of nearly $60 per barrel or more to deliver adequate returns. They include:

Resource theme	Project	IOC partners	2019-2030 capex	Country	Scenario compliant	
	LNG Canada T1, T2	Shell	**$13** bn	Canada	No	No
	Gorgon/Jansz Stage 2	Shell, Chevron, ExxonMobil	**$3.6** bn	Australia	No	No
	Aspen Phase 1	ExxonMobil	**$2.6** bn	Canada	No	No
	Amoca FFD	Eni	**$1.4** bn	Mexico	No	No
	Zinia 2	BP, ExxonMobil, Total, Equinor	**$1.3** bn	Angola	No	No

Source: Rystad Energy, IEA, CTI analysis

Investment decisions on a further $21 billion in 12 projects inconsistent with a low-carbon world are due this year.

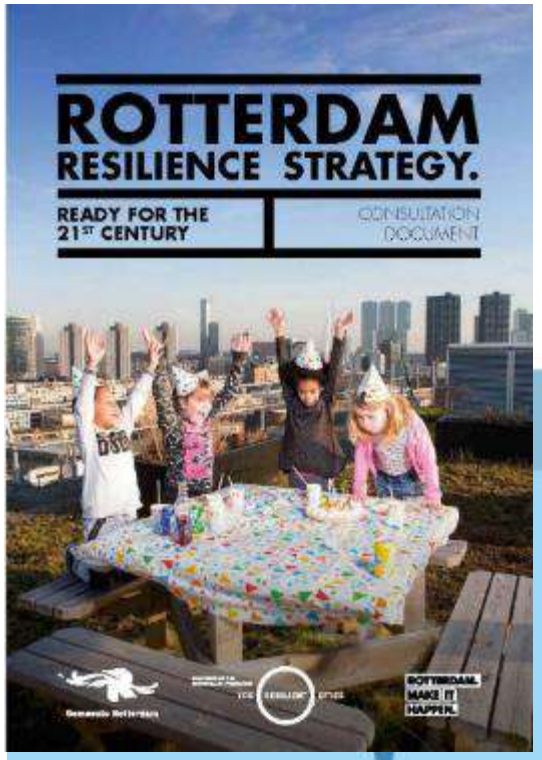
These projects represent an imminent challenge for investors and companies looking to align with climate goals.

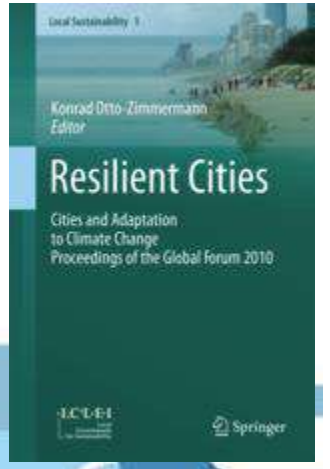
Demand / global warming scenarios:

B2DS	SDS	NPS
1.6°C	1.7 - 1.8°C	2.7°C


The Economist
Iran's dangerous game
Lessons from a Wall Street titan
Why rent controls are wrong-headed
Goddess of the Taiwan Strait
SEPTEMBER 21ST-27TH 2019
The climate issue
1850
1900
1950
2000

Città resilienti e sostenibili





The Risks

As more people and assets become rapidly concentrated in cities and as infrastructure struggles to keep up with rapid growth, the risk from natural disasters and climate change is rising.


Mitigazione = riqualificazione per efficienza energetica e minori emissioni
Più energie rinnovabili ed efficienza energetica abitazioni

Favorire mobilità elettrica

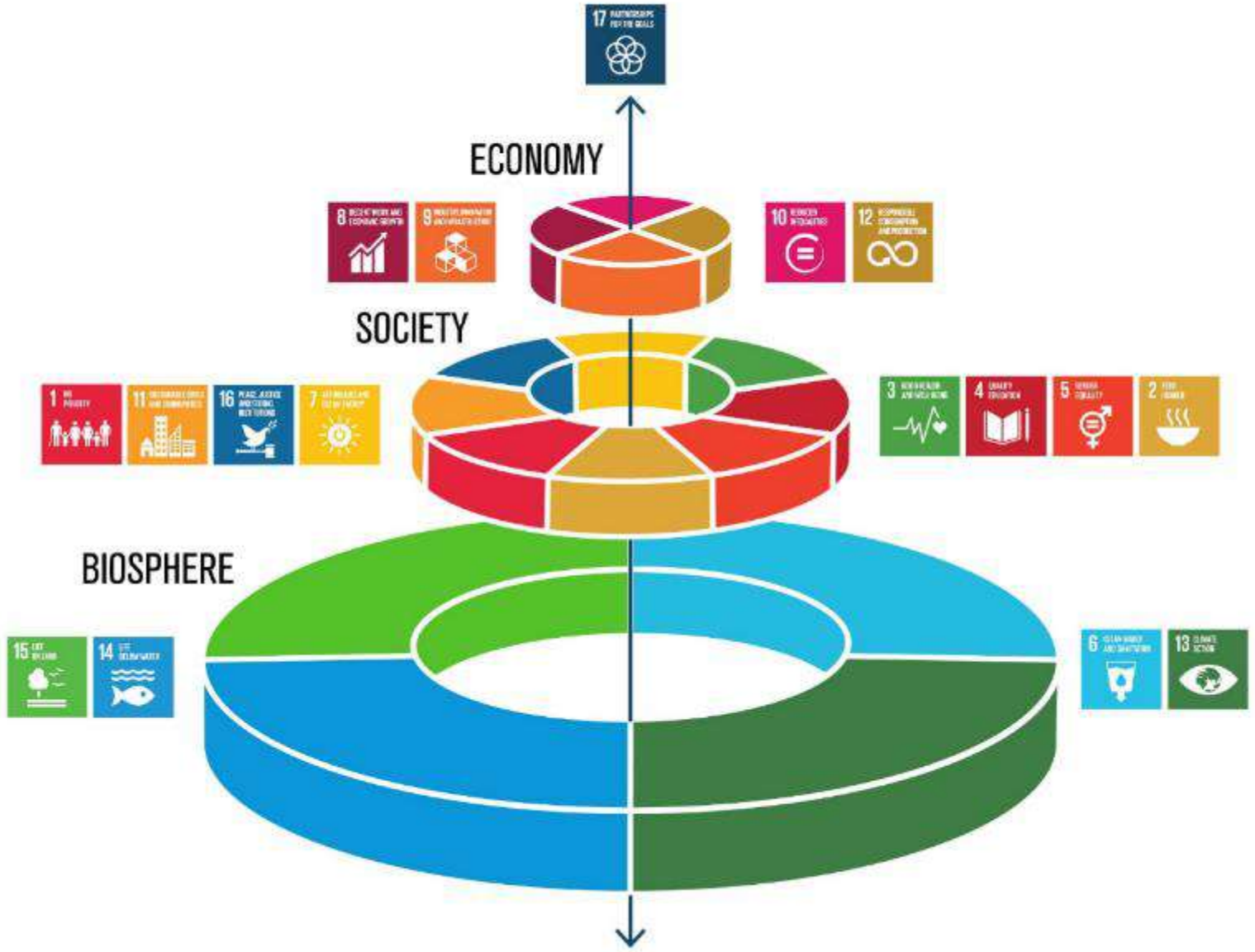
Meno viaggi aerei, meno trasporti in genere, più telelavoro

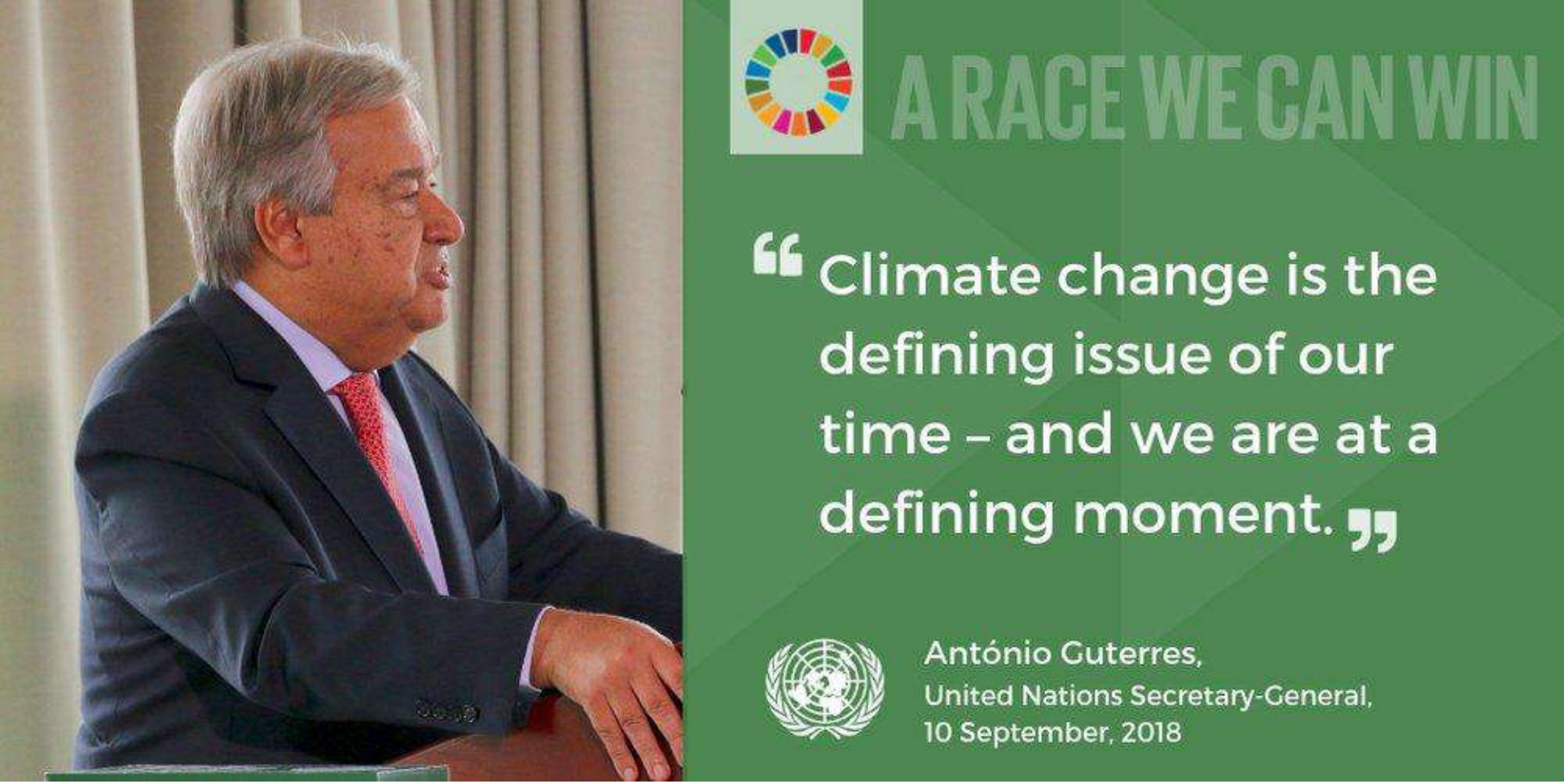
Allevamento: vale 15% delle emissioni globali
Ridurre la quota di carne rossa nella dieta e sostenere agricoltura biologica e a filiera corta

Al lavoro! Gli obiettivi UN dell'Agenda 2030

SUSTAINABLE DEVELOPMENT SOLUTIONS NETWORK
A GLOBAL INITIATIVE FOR THE UNITED NATIONS

“The wedding cake” - organizzazione gerarchica dei Sustainable Development Goals (SDGs) - Da Johan Rockström and Pavav Sukhdev - Stockholm Resilience Centre





“Climate change is moving faster than we are.”

“If we do not change course by 2020, we risk missing the point where we can avoid runaway climate change, with disastrous consequences for people and all the natural systems that sustain us.”

A RACE WE CAN WIN

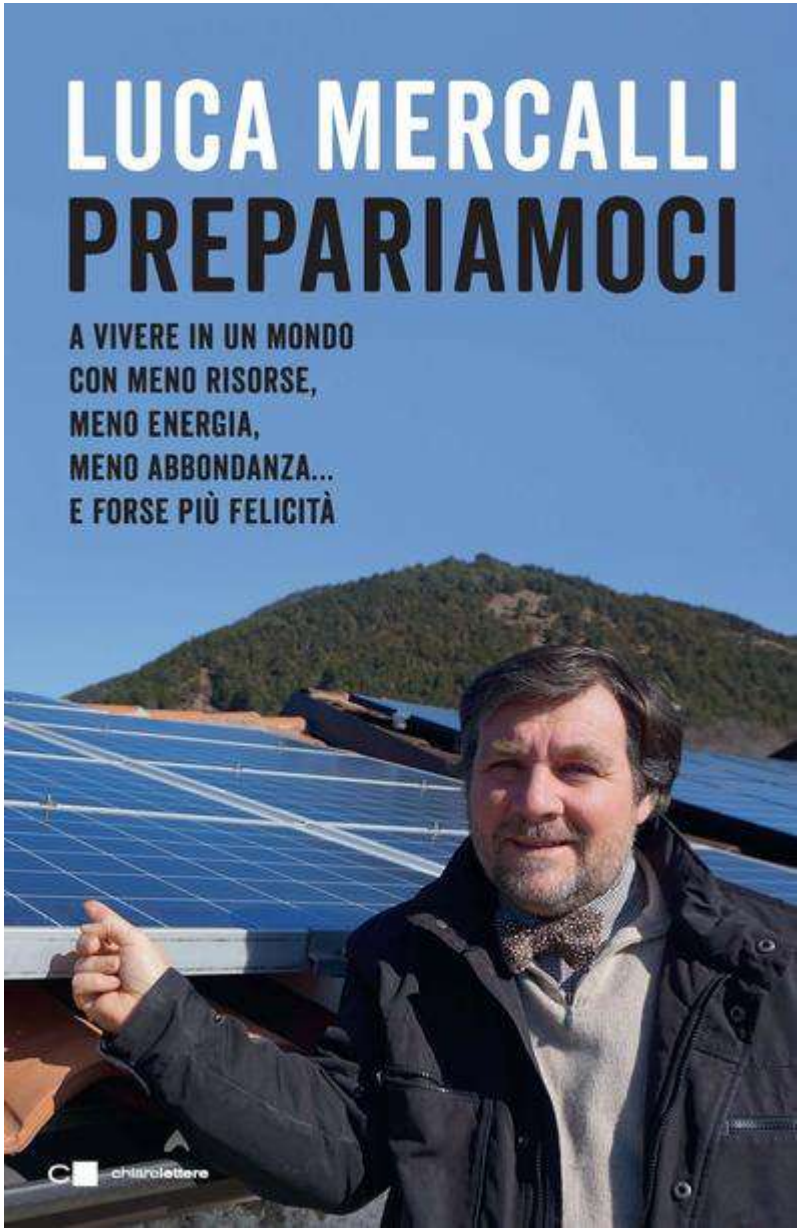
"The transition to a cleaner, greener future needs to speed up. We stand at a truly "use it or lose it" moment."

António Guterres,
United Nations Secretary-General,
10 September, 2018

Il tempo è il fattore critico di successo.
Dobbiamo accelerare la transizione!

The only question is how to communicate the gravity of our situation to the non-scientific public. In the words of Kaisa Kosonen, an observer at the negotiations, “Scientists might want to write in capital letters, ‘ACT NOW, IDIOTS,’ but they need to say that with facts and numbers.”


LUCA
MERCALLI
NON C'È PIÚ TEMPO
COME REAGIRE AGLI ALLARMI AMBIENTALI


LUCA MERCALLI
PREPARIAMOCI
A VIVERE IN UN MONDO
CON MENO RISORSE,
MENO ENERGIA,
MENO ABBONDANZA...
E FORSE PIÙ FELICITÀ
chiarelettere