



FORESTE E CRISI CLIMATICA

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fiper

FEDERAZIONE ITALIANA PRODUTTORI
DI ENERGIA DA FONTI RINNOVABILI



Associazione Consorzi
Forestali della Lombardia

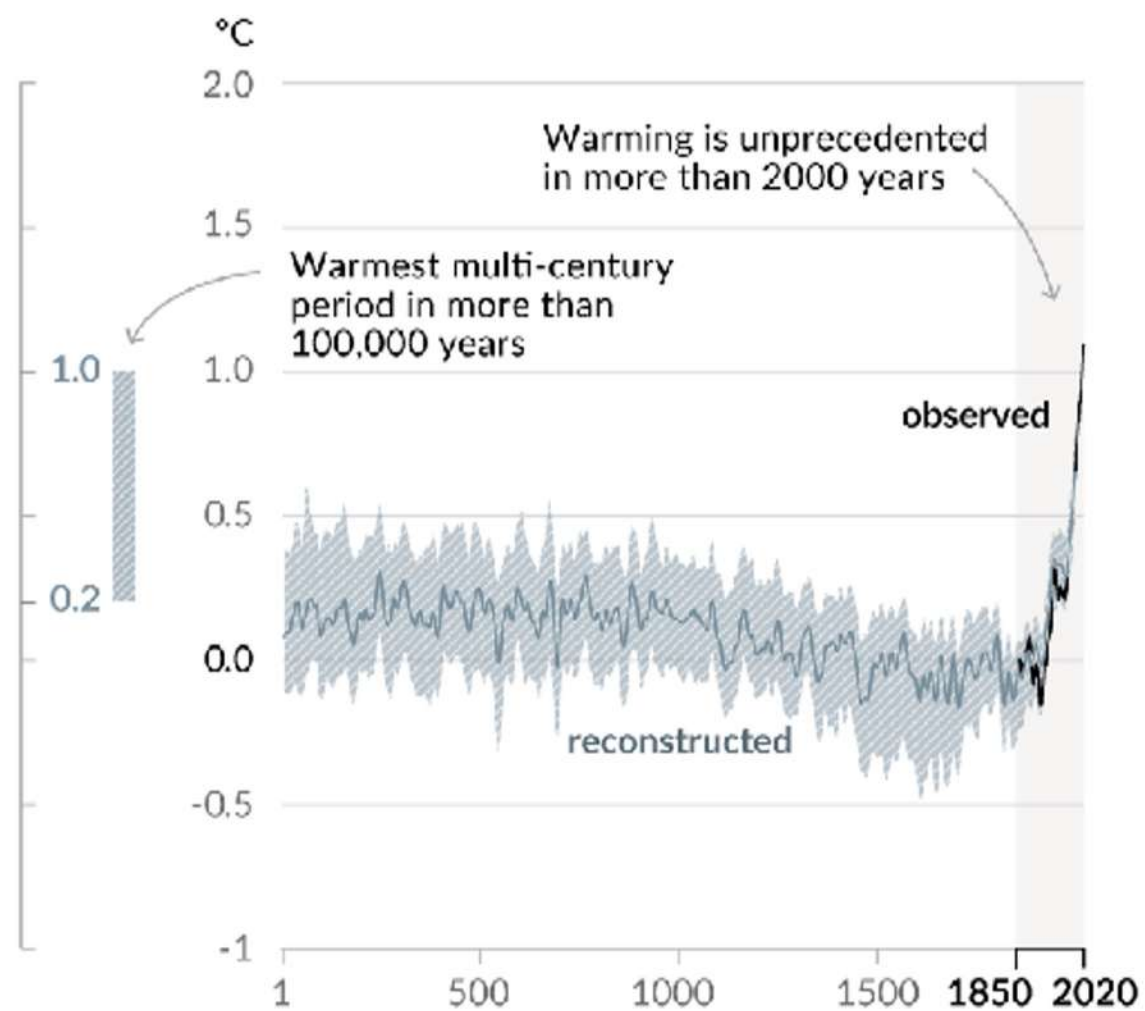
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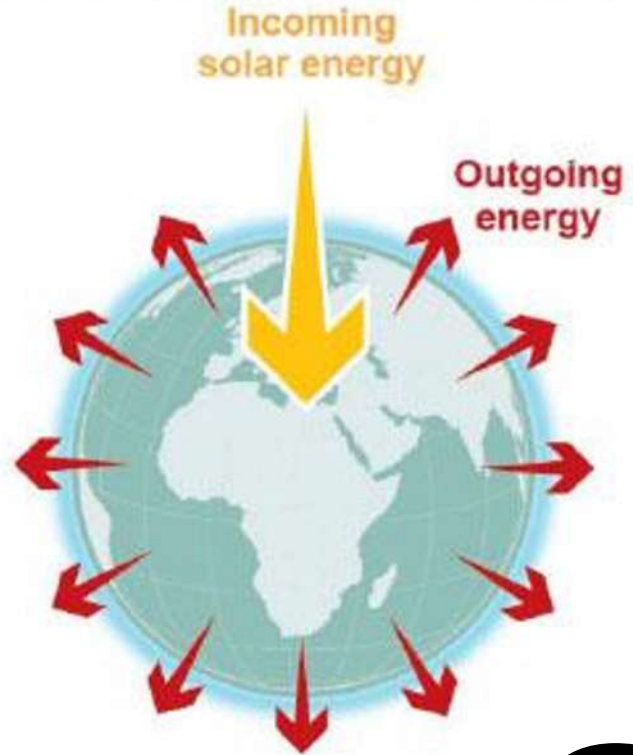
Regione
Lombardia



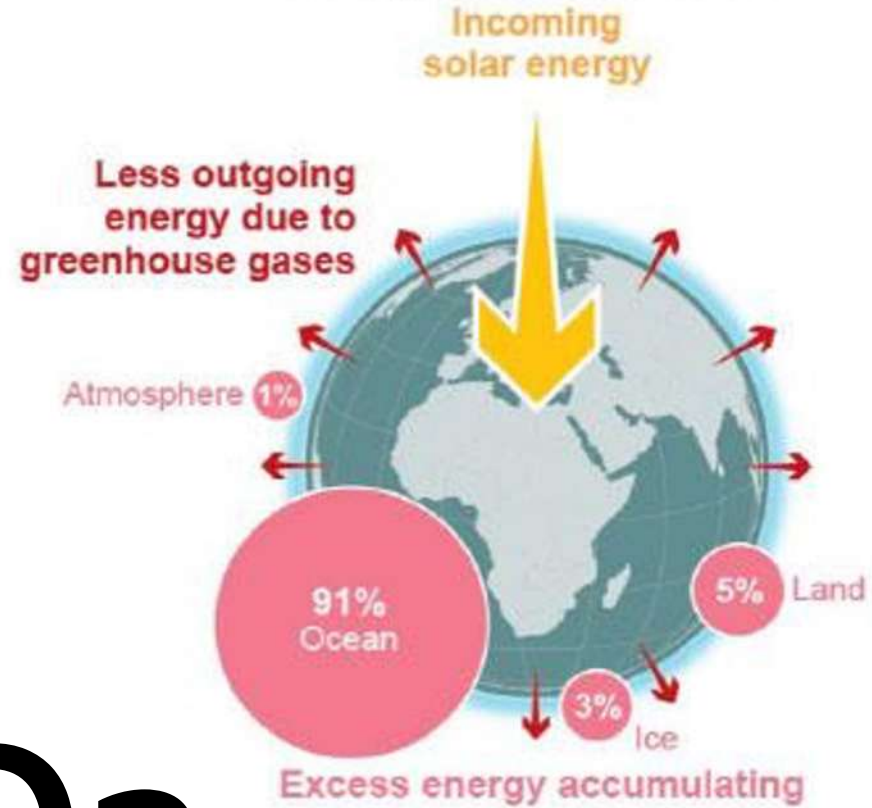
a) Change in global surface temperature (decadal average) as reconstructed (1-2000) and **observed** (1850-2020)



Stable climate: in balance



Today: imbalanced

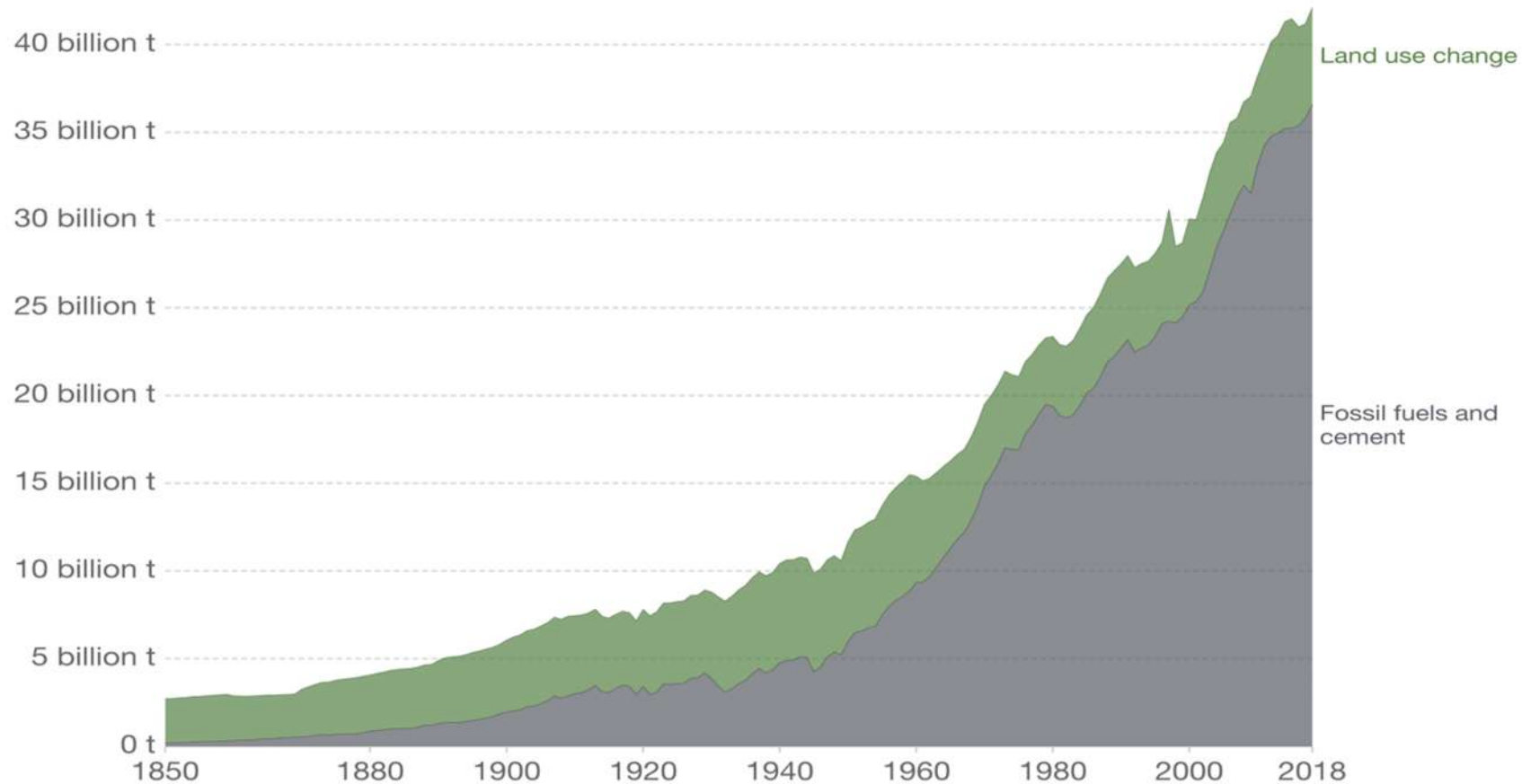


CO₂

Perché vengono emessi gas climalteranti?

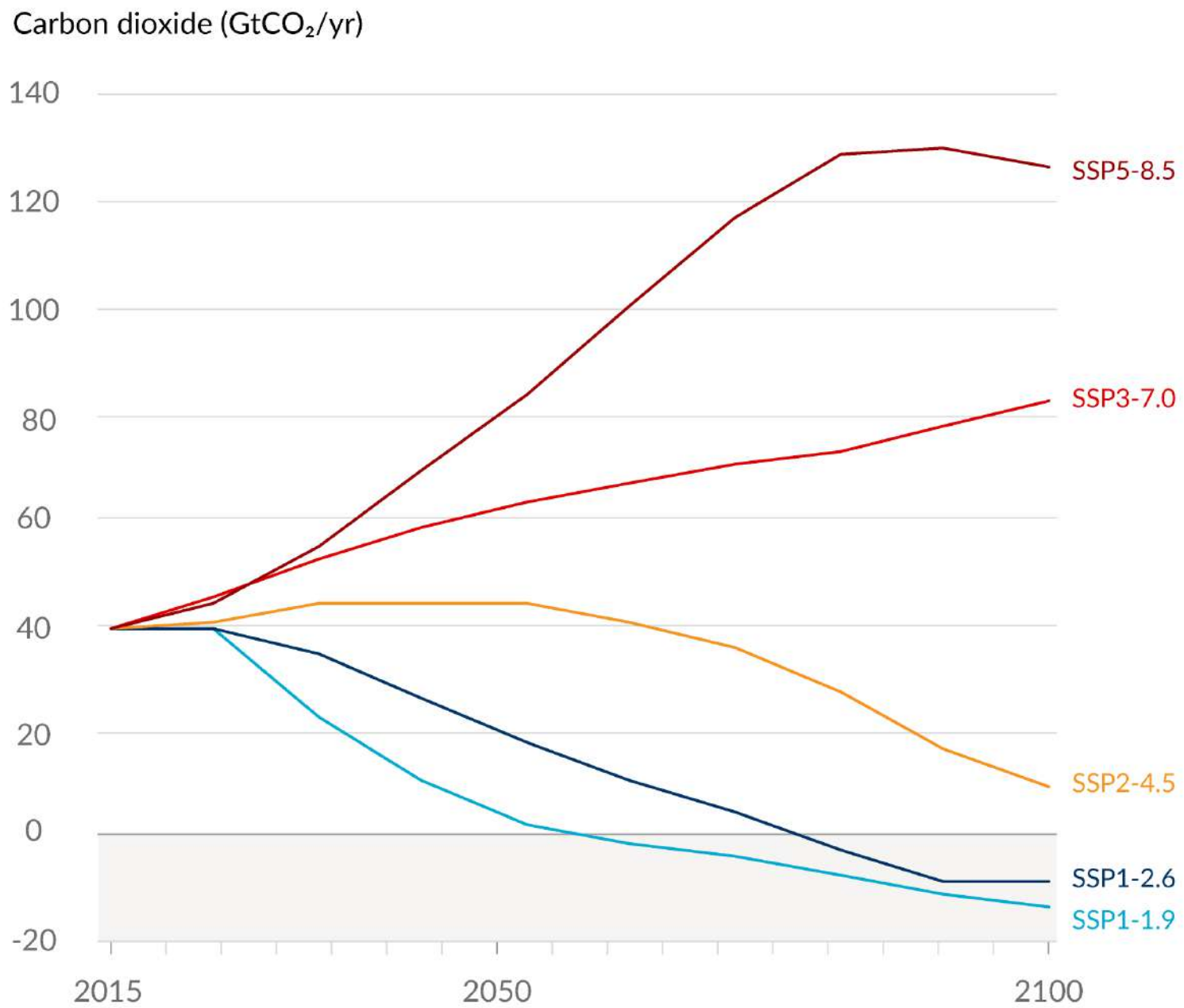
Global CO₂ emissions from fossil fuels and land use change

Our World
in Data



Source: Global Carbon Project (GCP)

OurWorldInData.org/co2-and-other-greenhouse-gas-emissions • CC BY

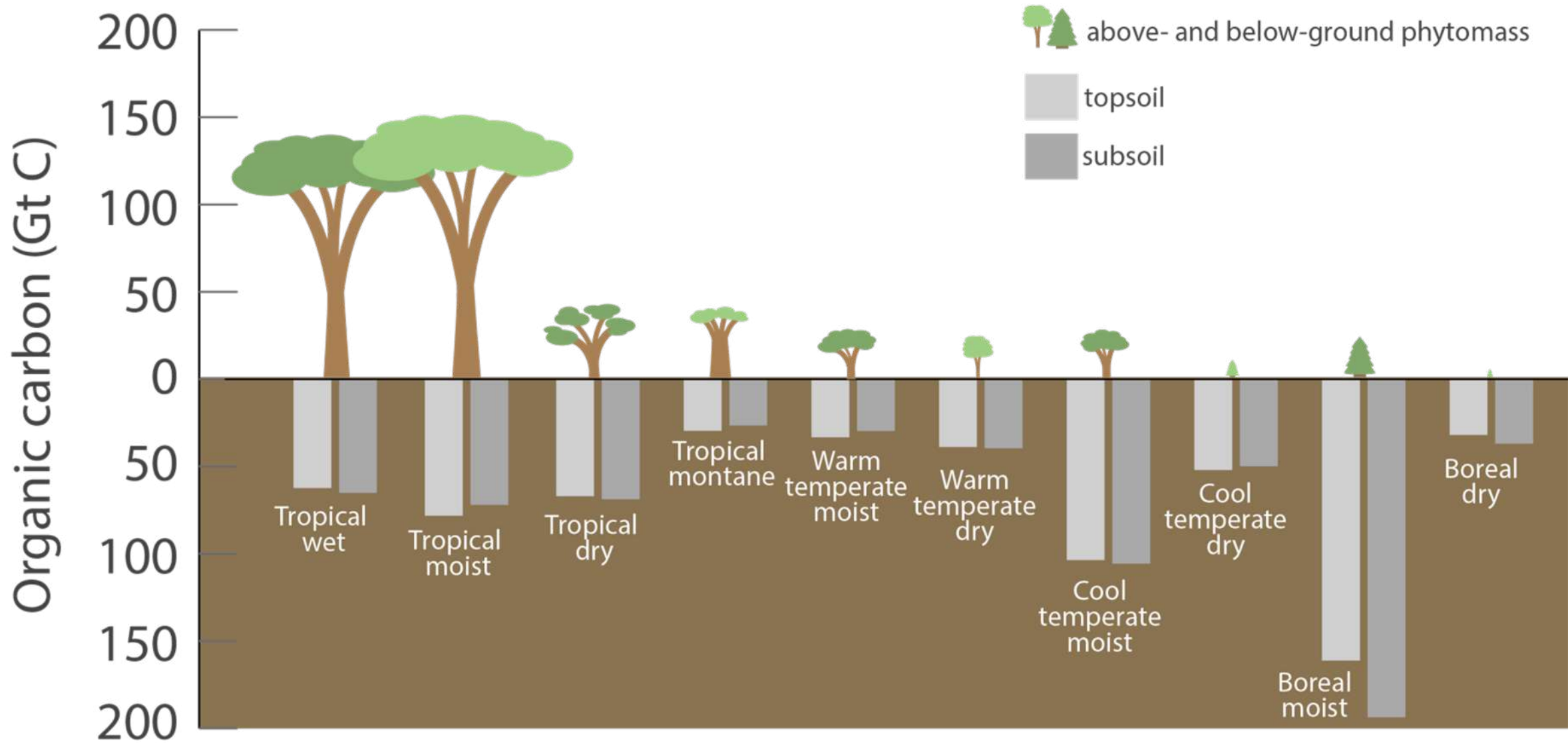




Qual è il ruolo delle foreste nella mitigazione dei cambiamenti climatici?

A photograph of a forest with tall, thin evergreen trees. The ground is covered in snow. The text is overlaid on the image.

Le foreste assorbono il **29%**
delle emissioni umane di CO₂

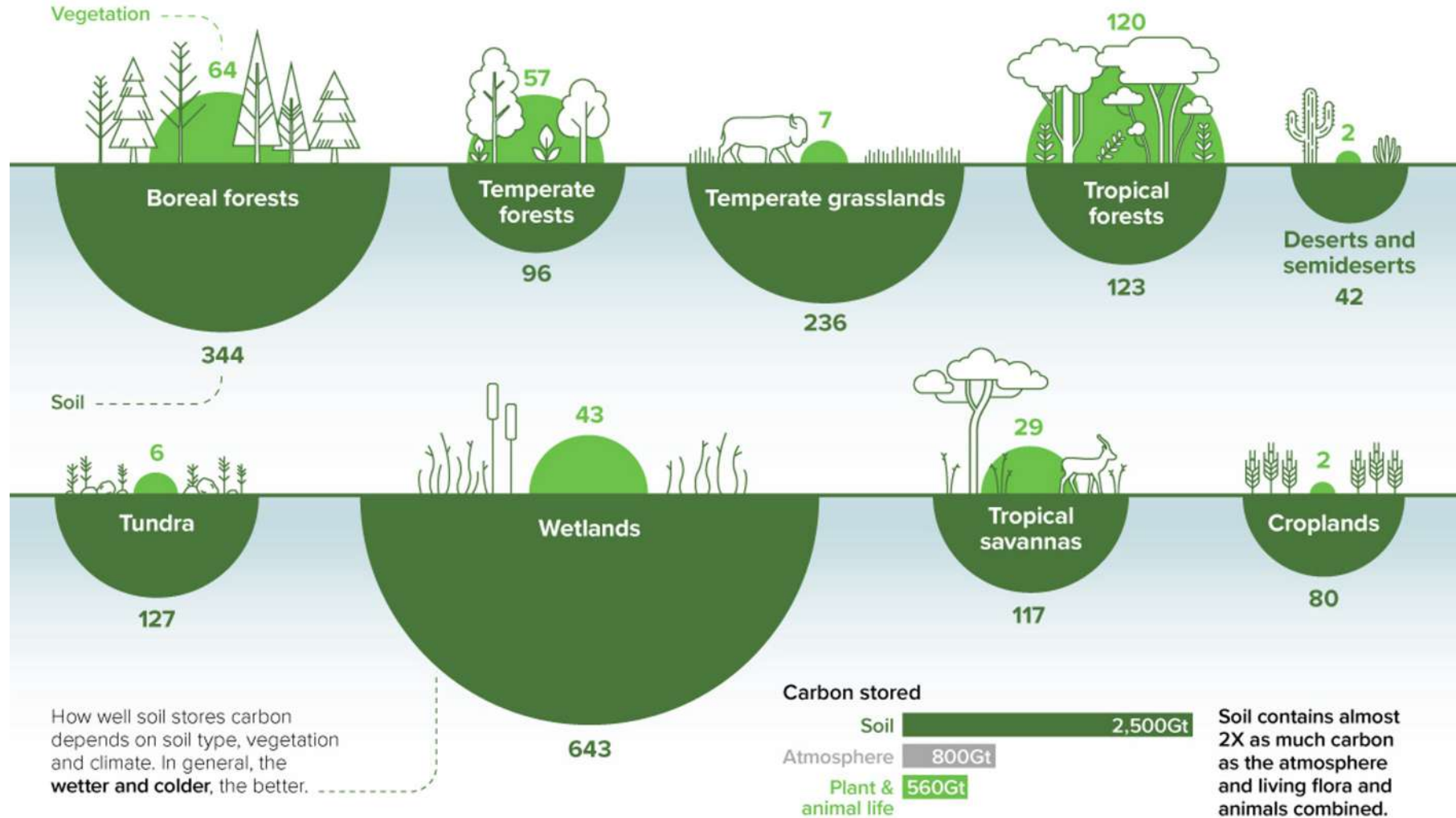


Carbon Storage

Tonnes of Carbon per Hectare*

The world's forests absorb around **15.6 gigatonnes** of CO₂ each year. That's around 3X the annual CO₂ emissions of the United States.

However, around **8.1 gigatonnes of CO₂** leaks back into the atmosphere due to deforestation, fires and other disturbances.



*At a ground depth of one meter
Sources: IPCC: NASA



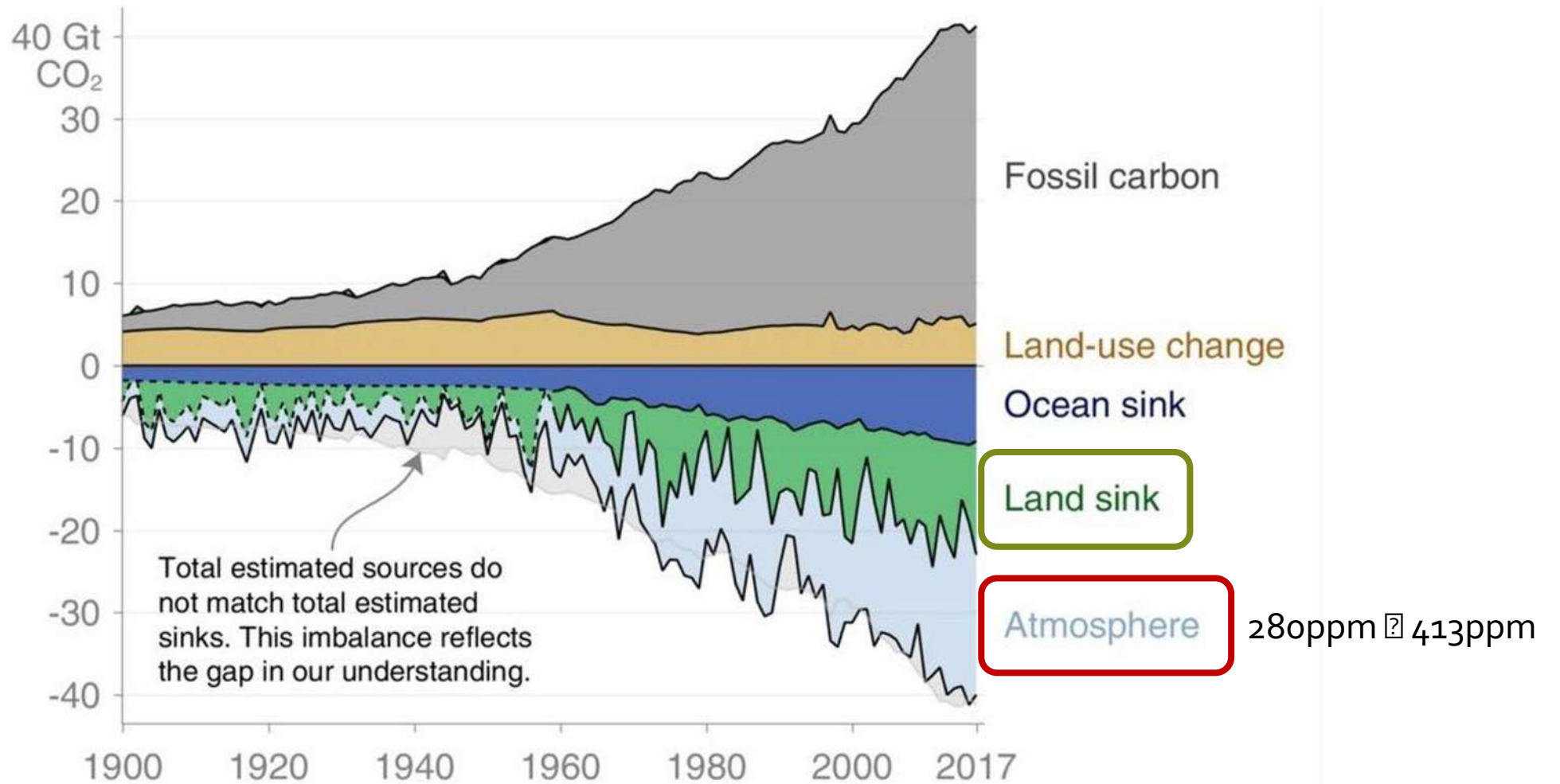
418 Mt CO₂
Source



Bosco ●
Altre terre boscate ●

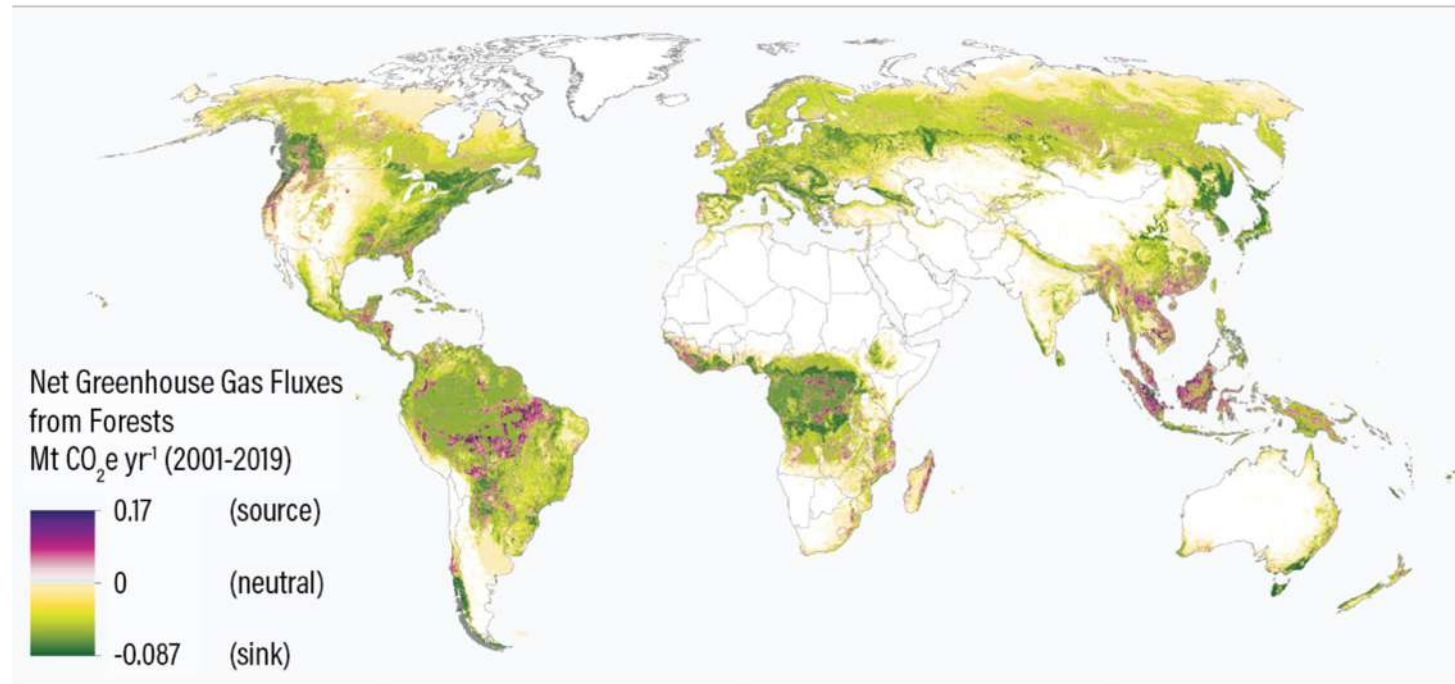


41 Mt CO₂
Sink



© Global Carbon Project • Data: CDIAC/GCP/NOAA-ESRL/UNFCCC/BP/USGS

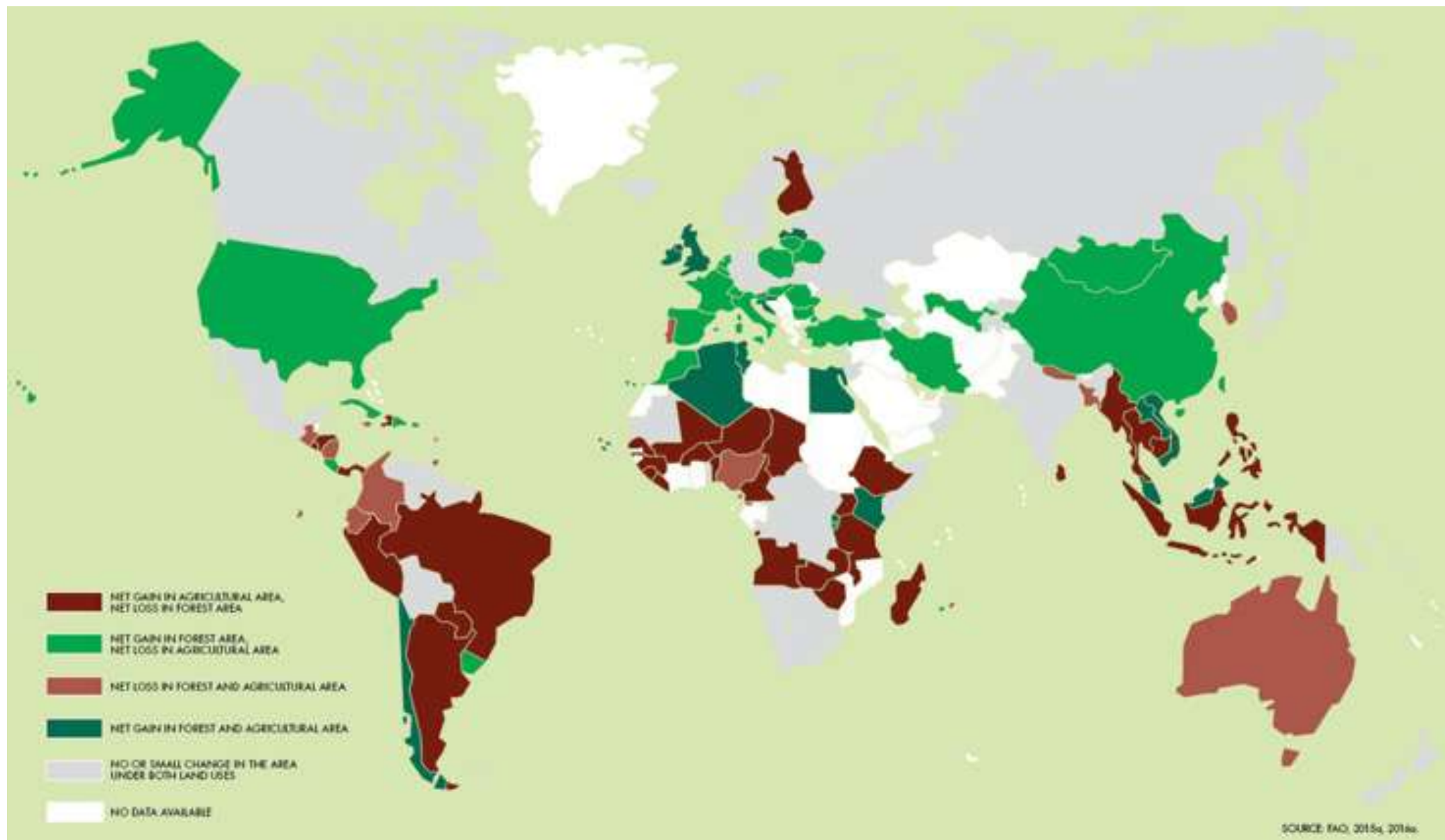
L'attività umana e la crisi climatica possono influenzare l'assorbimento di C



Source: Harris et al. 2021
20.01.21



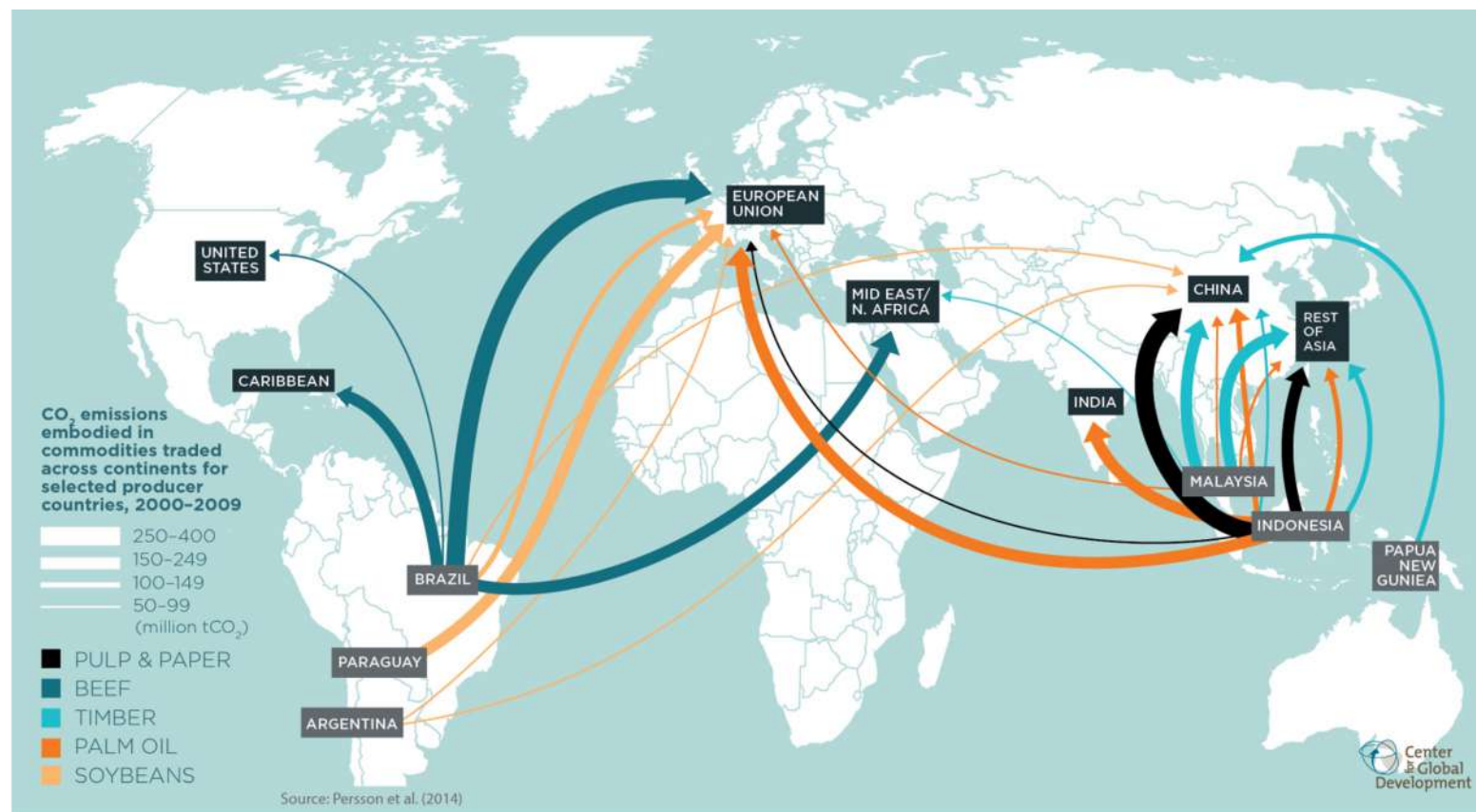
WORLD RESOURCES INSTITUTE



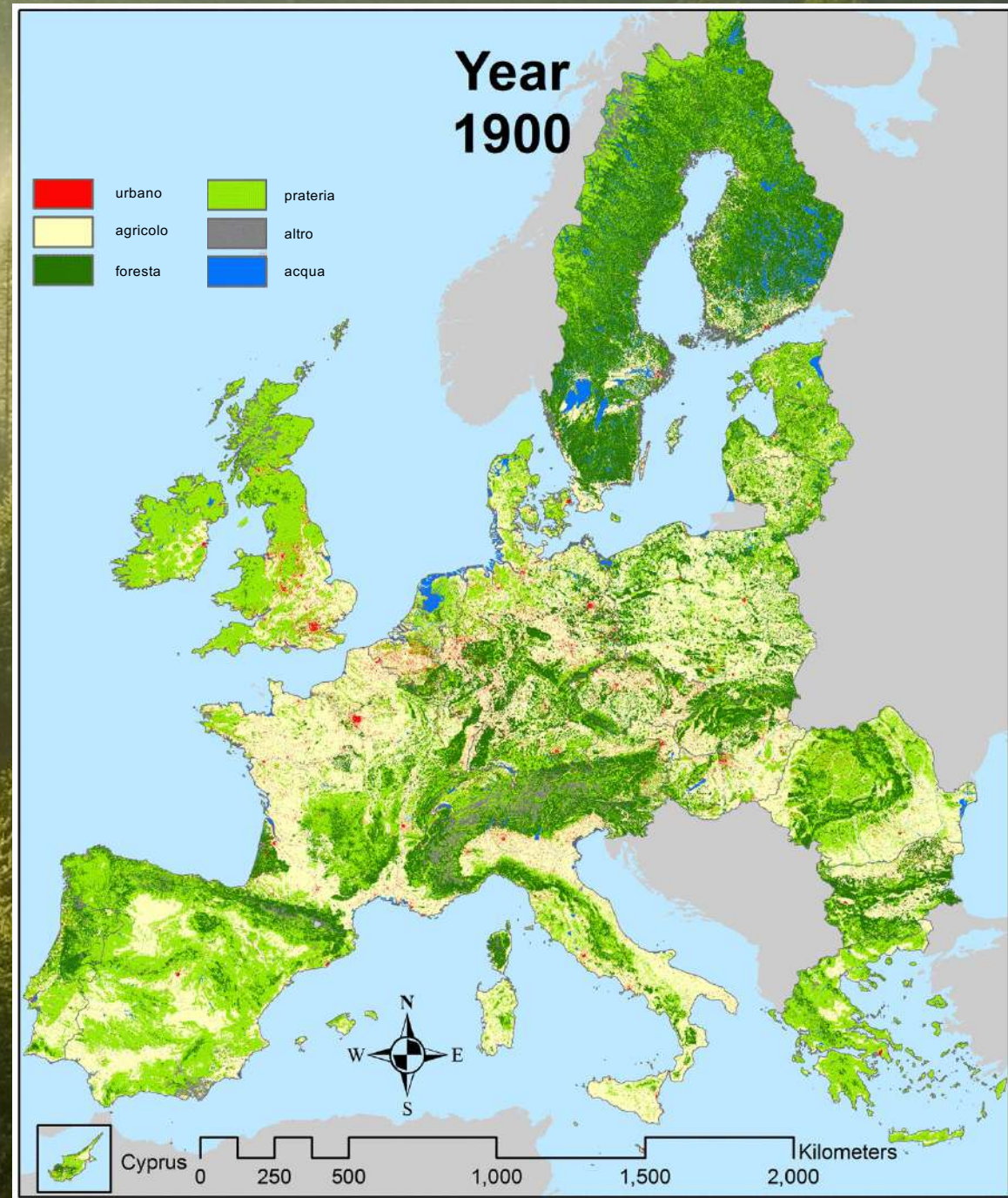
An aerial photograph showing a vast tropical forest on the left, transitioning into a landscape of deforested land on the right. The deforested areas are characterized by irregular, rectangular plots of land, some of which are planted with crops like corn. The background features rolling hills under a cloudy sky. The text '5.5 Mha deforestazione/anno' is overlaid in white on the image.

5.5 Mha deforestazione/anno

Deforestazione e tagli illegali



+800 000 ettari
ogni anno





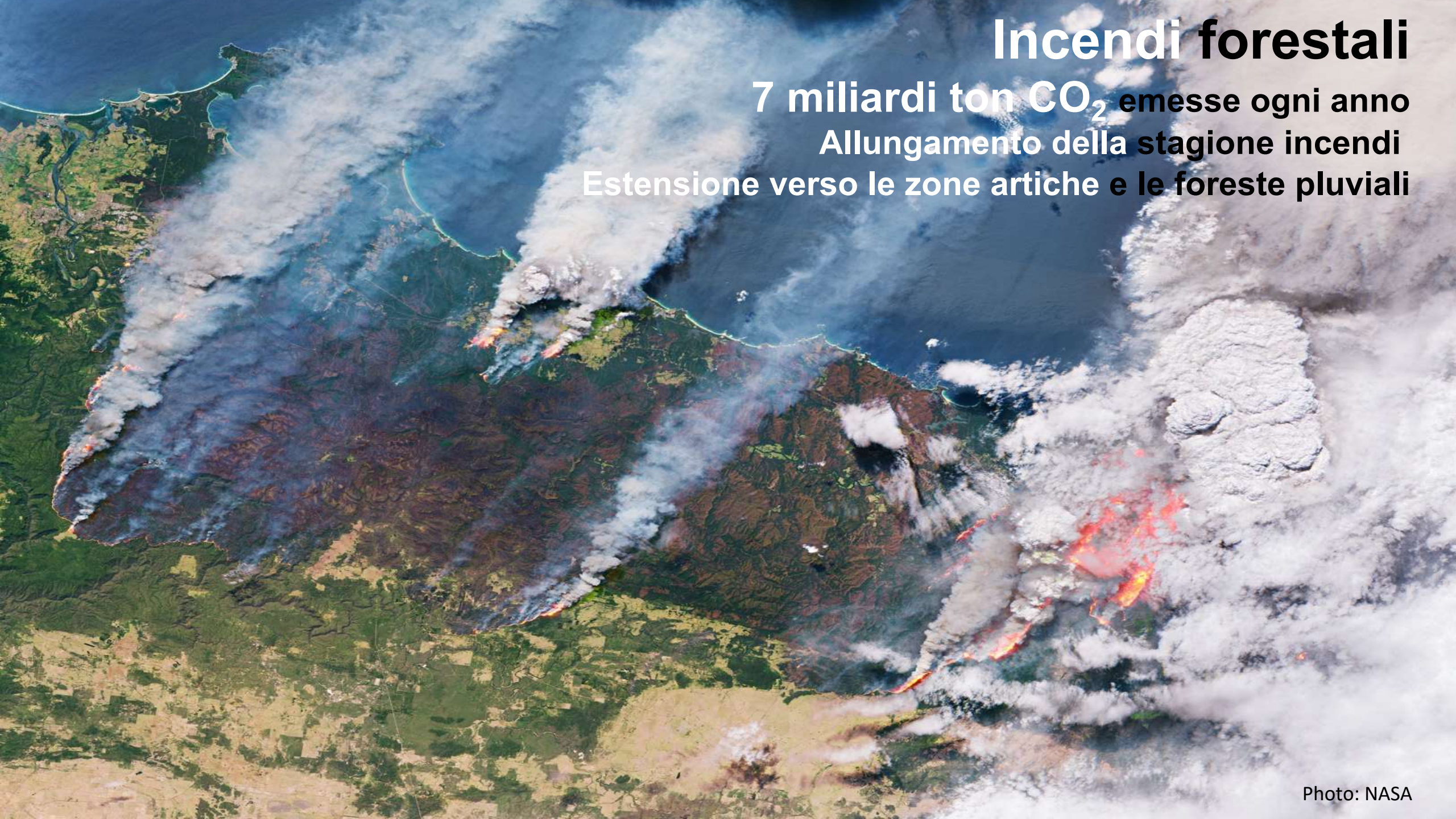


Incendi forestali

7 miliardi ton CO₂ emesse ogni anno

Allungamento della stagione incendi

Estensione verso le zone artiche e le foreste pluviali



Milioni di m³ di foreste danneggiate da eventi estremi
Aumento previsto: +1Milione m³ all'anno

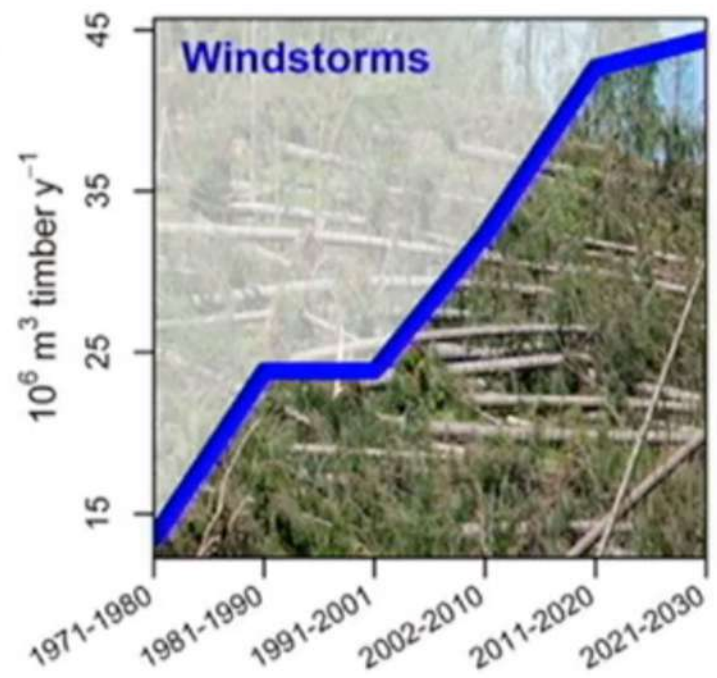
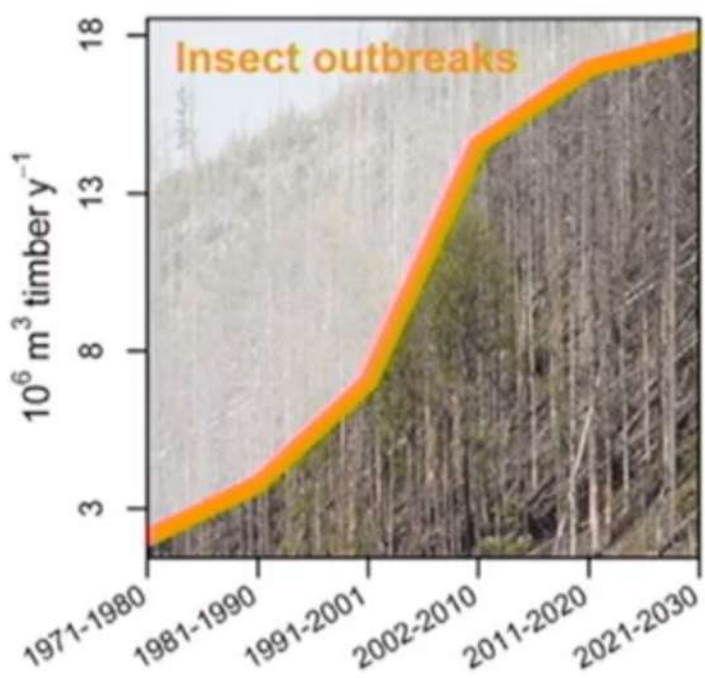
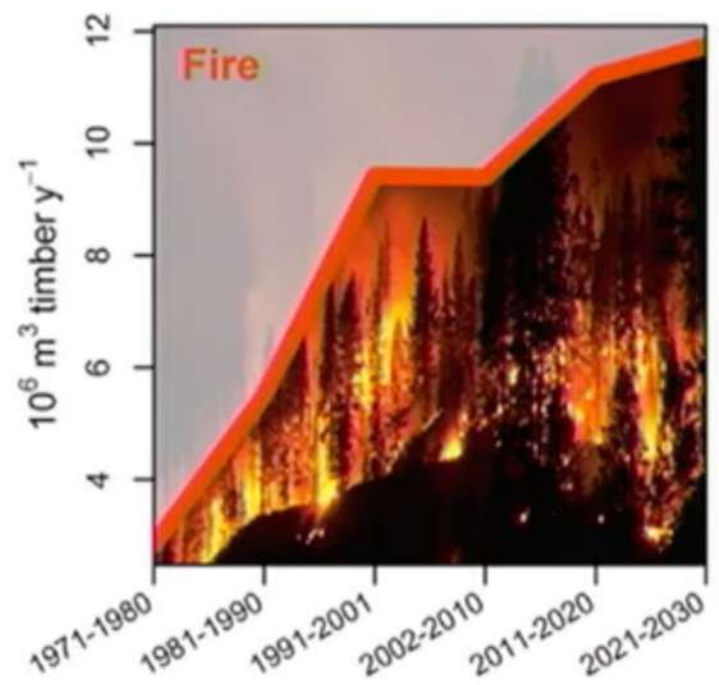


Figure credit: S. Thorn



Lo stress climatico può ridurre la produttività delle foreste del 5.8 – 6.6% annuo

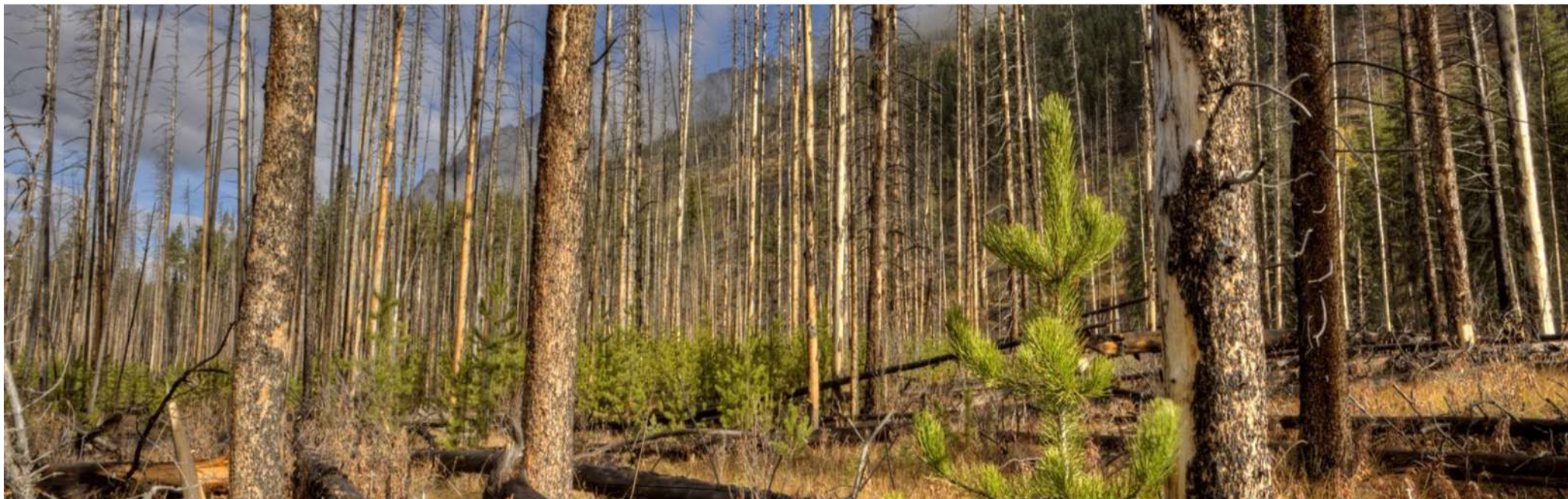
Riduzione del sink di 1,9 – 2.2 Mt di CO₂/anno

Fonte: Lobianco et al. 2016 J. For. Economics (Francia)

Le superfici percorse da incendi potrebbero aumentare del 21-43%

Riduzione del sink di 2,1 – 4,3 Mt di CO₂/anno

Fonte: CMCC 2020, Rapporto sui Cambiamenti Climatici in Italia





Climate smart forestry



Diradamenti per alleviare la siccità

A yellow and black tracked harvester is shown in a forest, working on a tree. The harvester is positioned on the right side of the frame, with its long, articulated arm extended towards a tall, thin tree trunk in the center. The forest consists of many similar tall, thin trees, likely spruce or fir, with green foliage. The ground is covered with fallen logs and branches. The sky is blue with scattered white clouds. The image is framed by a green border on the left and right sides, and a white border at the top and bottom.

Selvicoltura per ridurre la vulnerabilità al vento



Riduzione della vegetazione combustibile



Accelerare la rinnovazione del bosco

Migrazione assistita

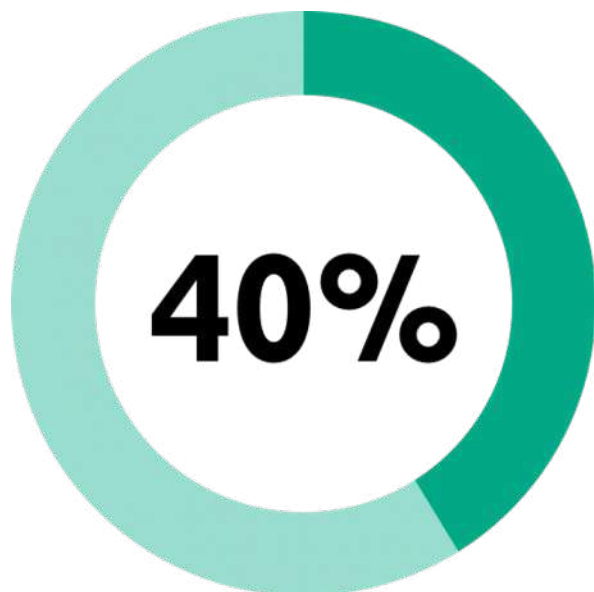




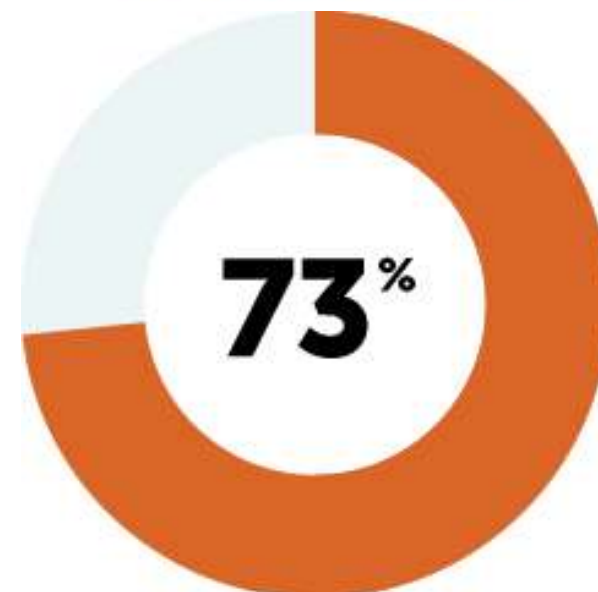
Selvicoltura climaticamente
intelligente

% DI PRELIEVO RISPETTO ALL'INCREMENTO

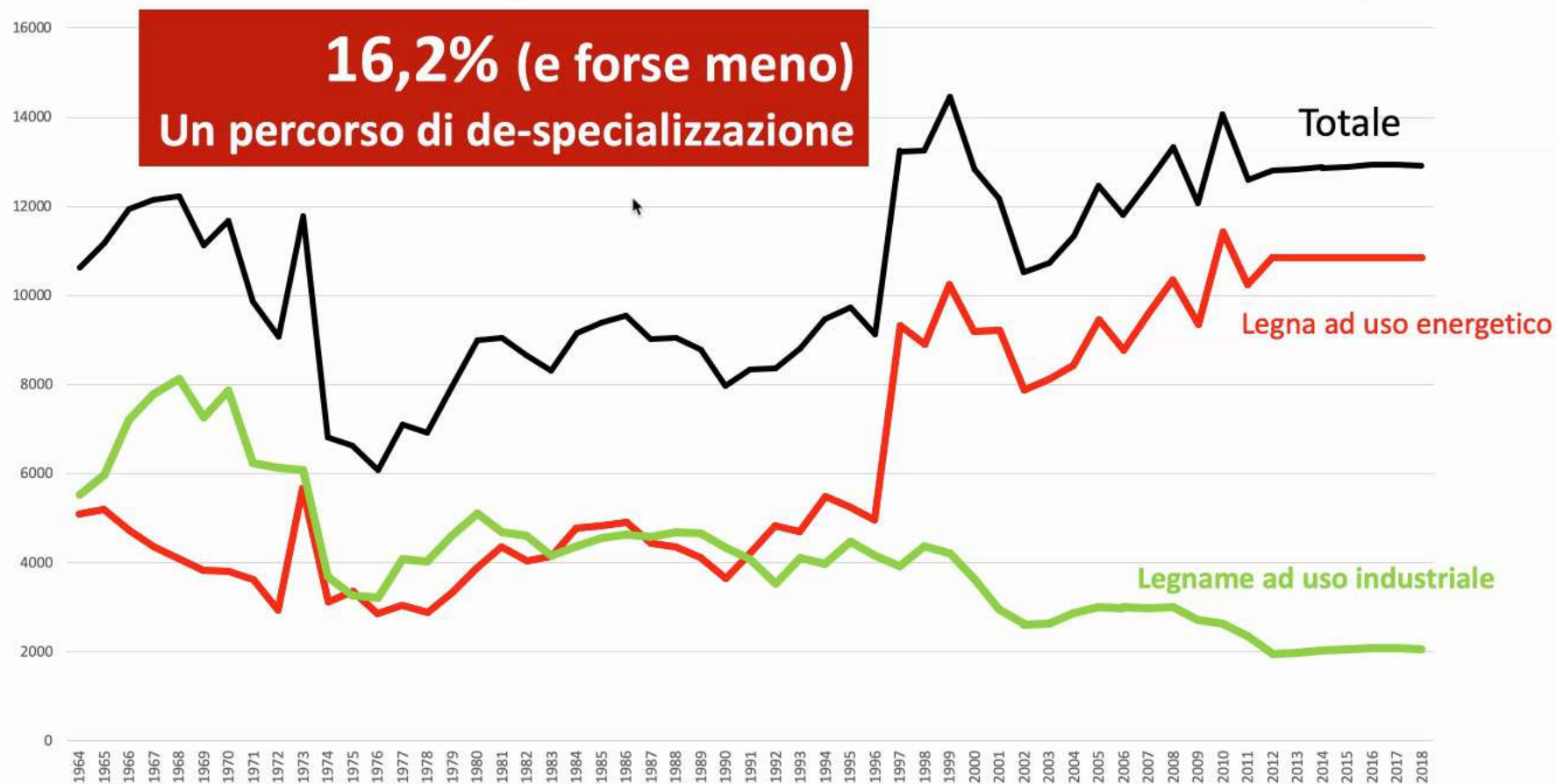
ITALIA



EUROPA



Andamento dei prelievi in Italia (1964-2018)





Effetti di sostituzione
Legno per usi materiali



Effetti di sostituzione del legno

1-2 tonnellate di CO₂ risparmiate per m³

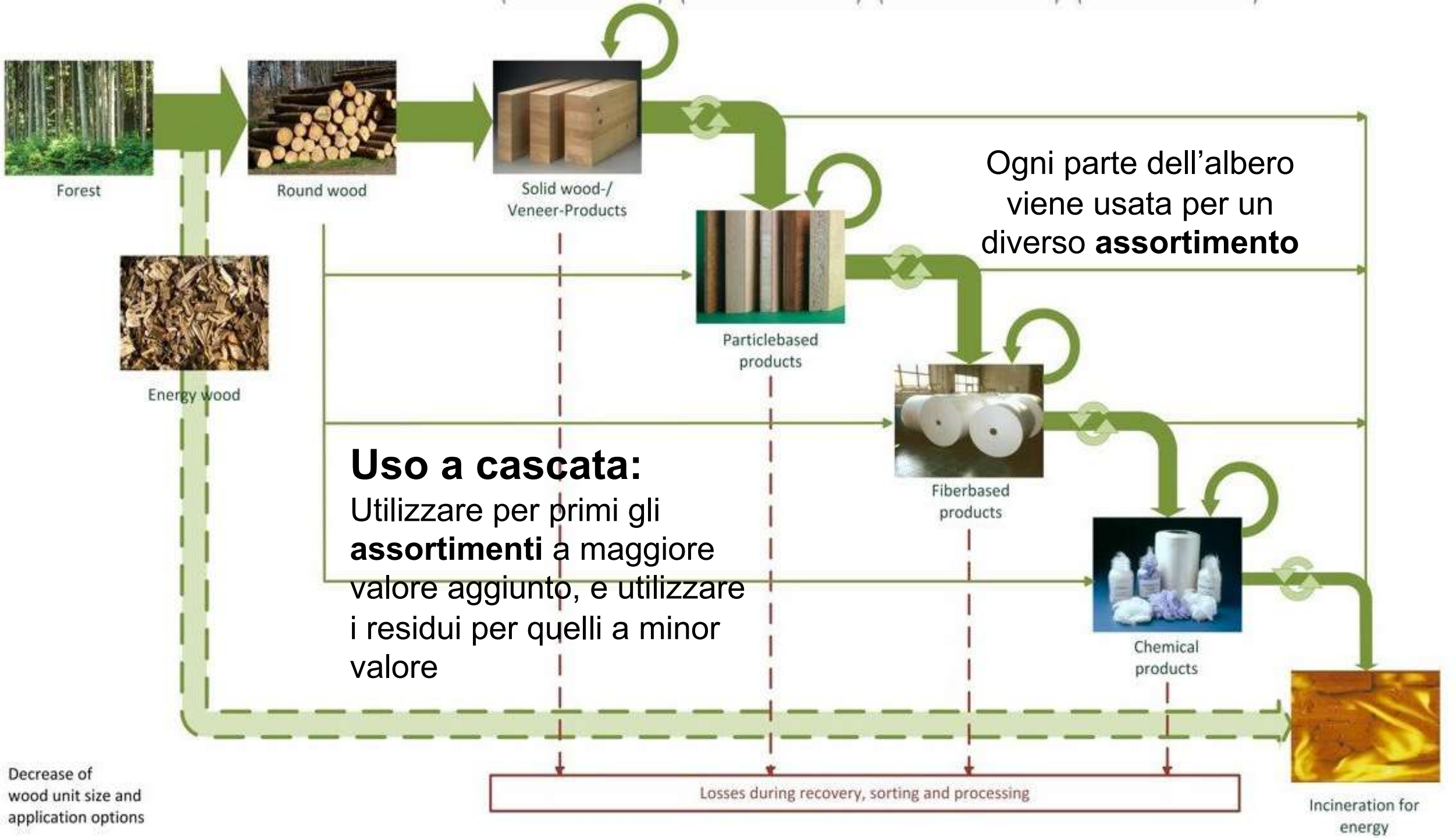
Sostituzione di cemento, acciaio, plastica

Sostituzione di combustibili fossili

49% biomassa UE proviene da prodotti di scarto

Più efficace nel breve termine







Quali sono le nuove necessità nella gestione dei boschi di fronte alla crisi climatica?



Aumento mescolanza e eterogeneità



Ripristino connettività forestale



Ricostituzione post disturbo

Evitare i conflitti tra mitigazione climatica e biodiversità





Adattamento ai cambiamenti climatici in città



Pianificazione forestale
Modellistica
Ricerca



Grazie