Food and Agriculture Organization of the United Nations

INNOVATIVE WOOD PRODUCTS:

ESSENTIAL FOR ACHIEVING CARBON NEUTRAL & RESILIENT ECONOMIES

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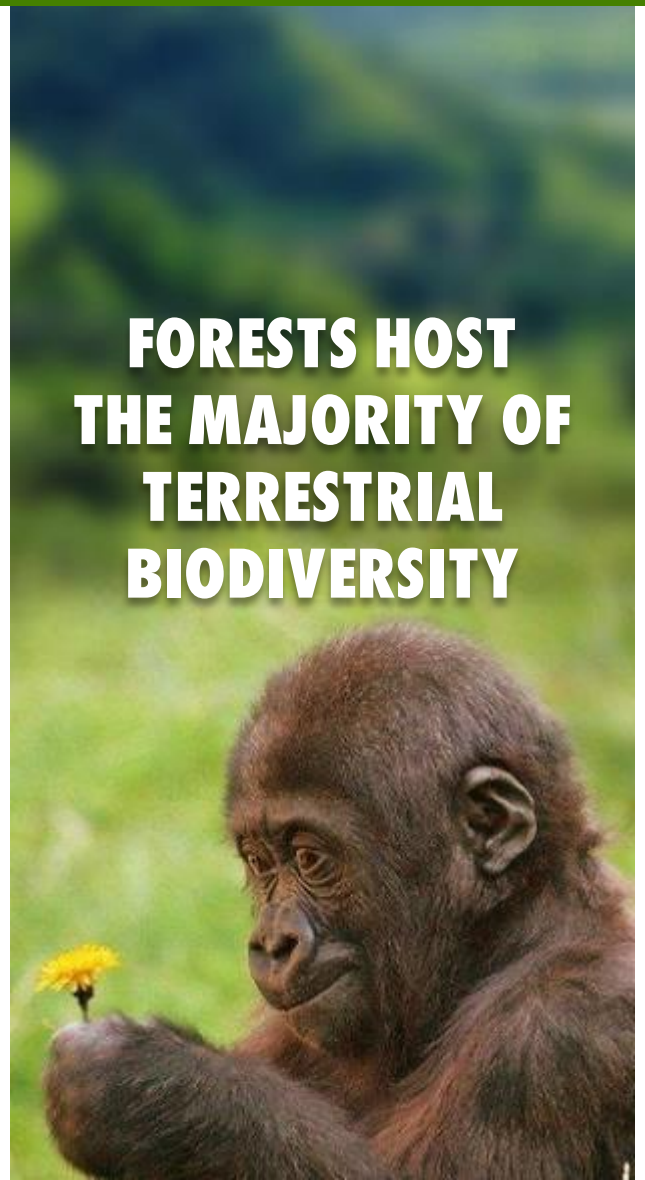
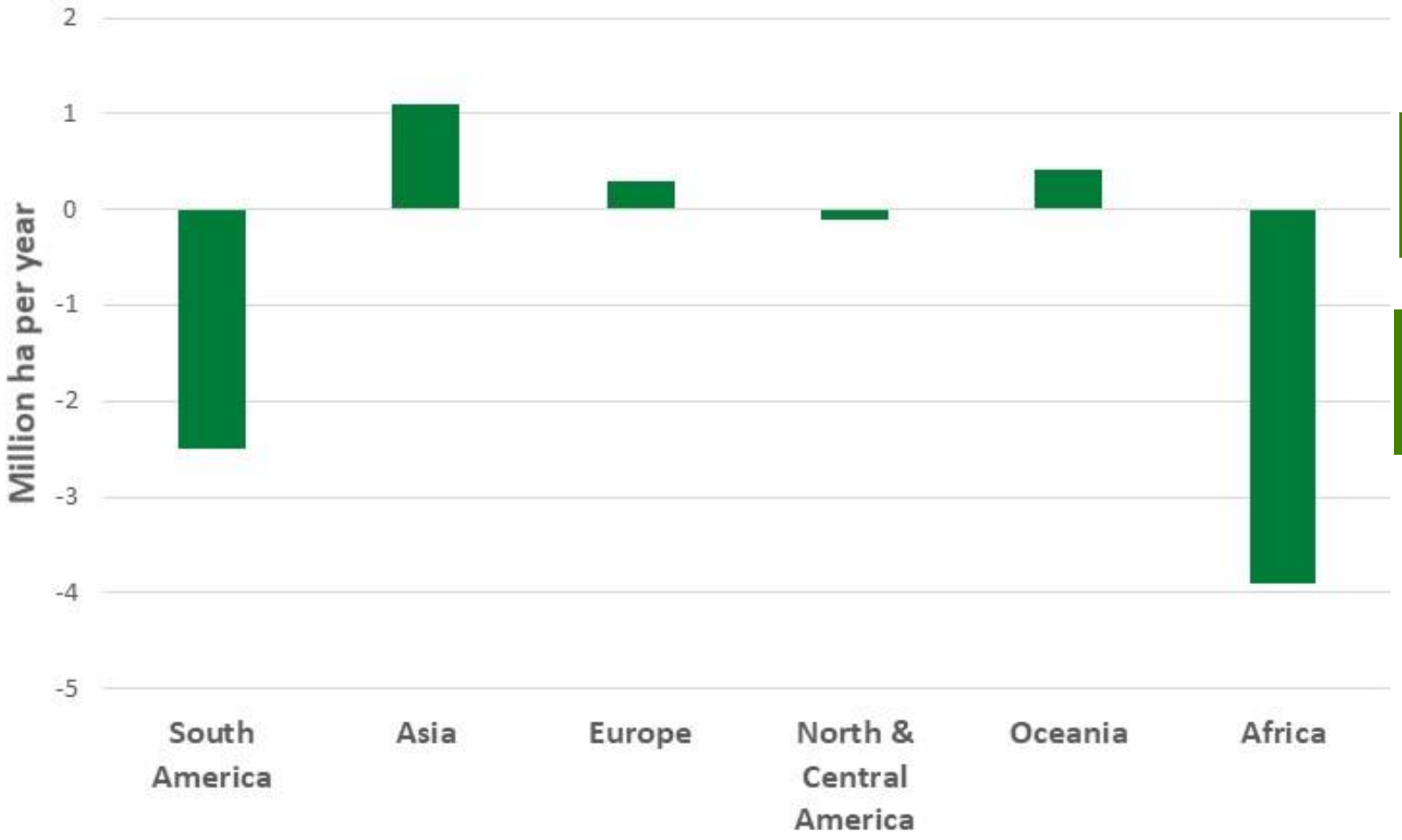
Forests contribute to climate, restoration & biodiversity targets



Deforestation must be addressed

ANNUAL FOREST AREA NET CHANGE BY REGION, 2010 –2020



10 – 15 % of total emissions from deforestation & land use change

Africa had the highest net loss of forest area in 2010-2020

Source: FAO's Global Forest Resources Assessment 2020

Forests and forest products contribute to many SDGs

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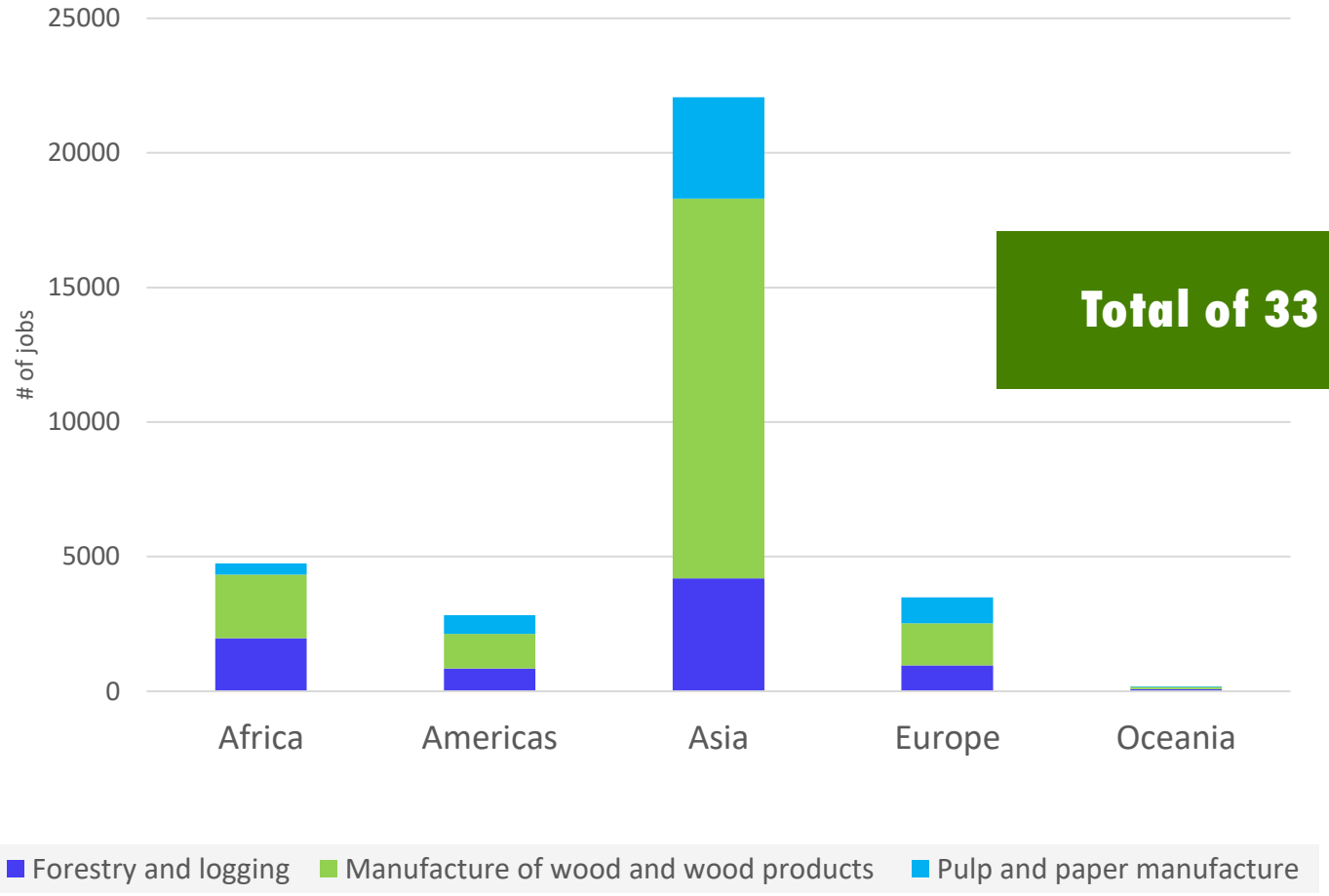
SUSTAINABLE DEVELOPMENT GOALS

Substantial employment opportunities particularly in rural & regional areas

NUMBER OF PEOPLE EMPLOYED IN THE FOREST SECTOR BY REGION, 2017-2019



Total of 33 million formal jobs

Source: Lippe, R.S et al (forthcoming)

SUSTAINABLE WOOD PRODUCTS - ESSENTIAL IN THE TRANSITION TO CARBON-NEUTRAL ECONOMIES

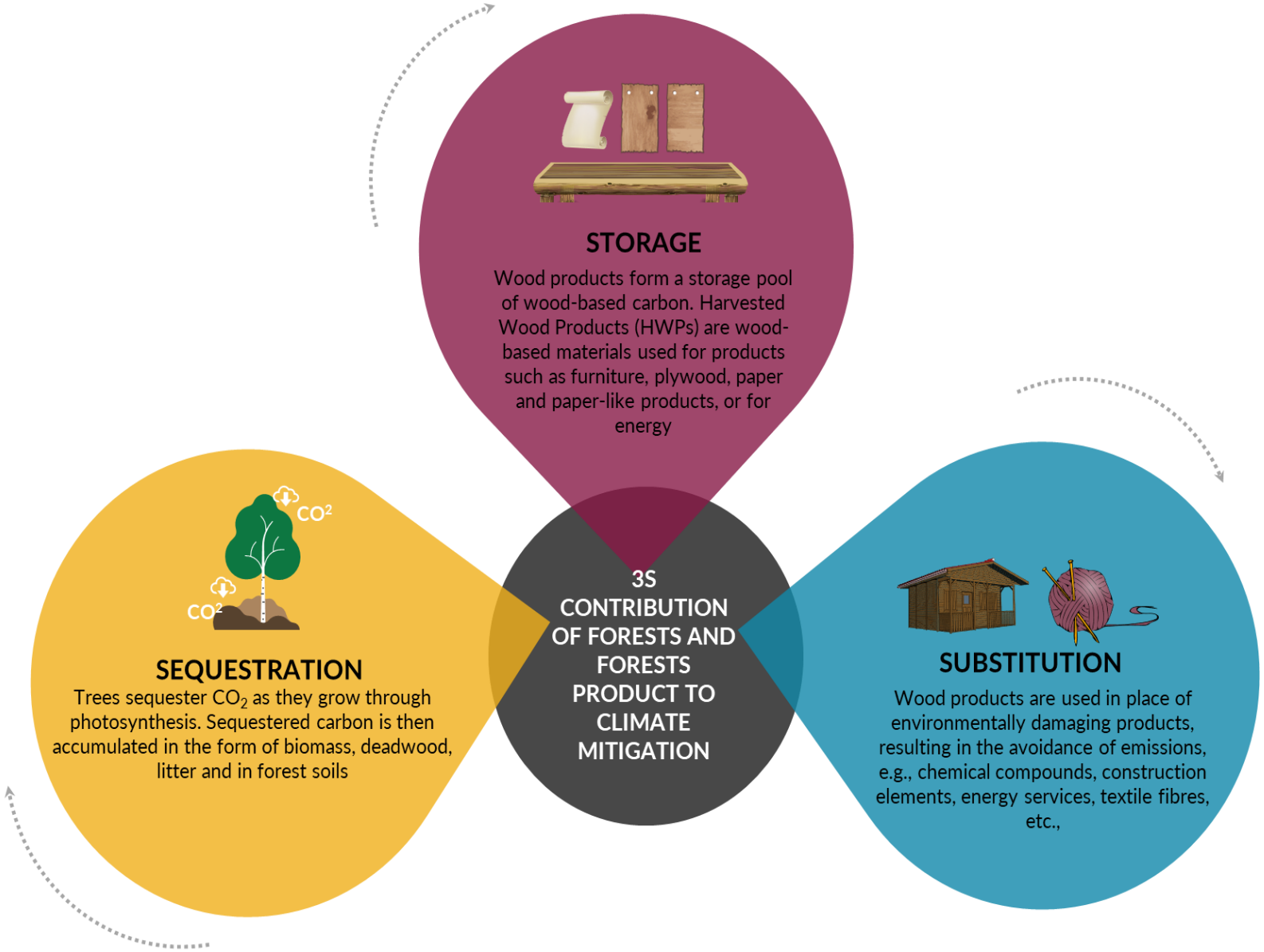
THE WORLD IS DEMANDING MORE MATERIALS

Global population is expected to increase from 7.7 billion in 2019 to **9.7 billion in 2050**

Global consumption of natural resources is expected to more than **double** from 92 billion tonnes in 2017 to **190 billion tonnes in 2060**

Currently, **75 percent** of the total material demand is met with **non-renewables resources**

WHY WOOD
"THE 3 S"



CONSTRUCTION & THE BUILT ENVIRONMENT

≈ 40% of global energy & process-related GHG emissions

≈ 55% of developed-countries waste

Source: European Commission. 2021. Factsheet - Energy Performance of Buildings. Brussels.

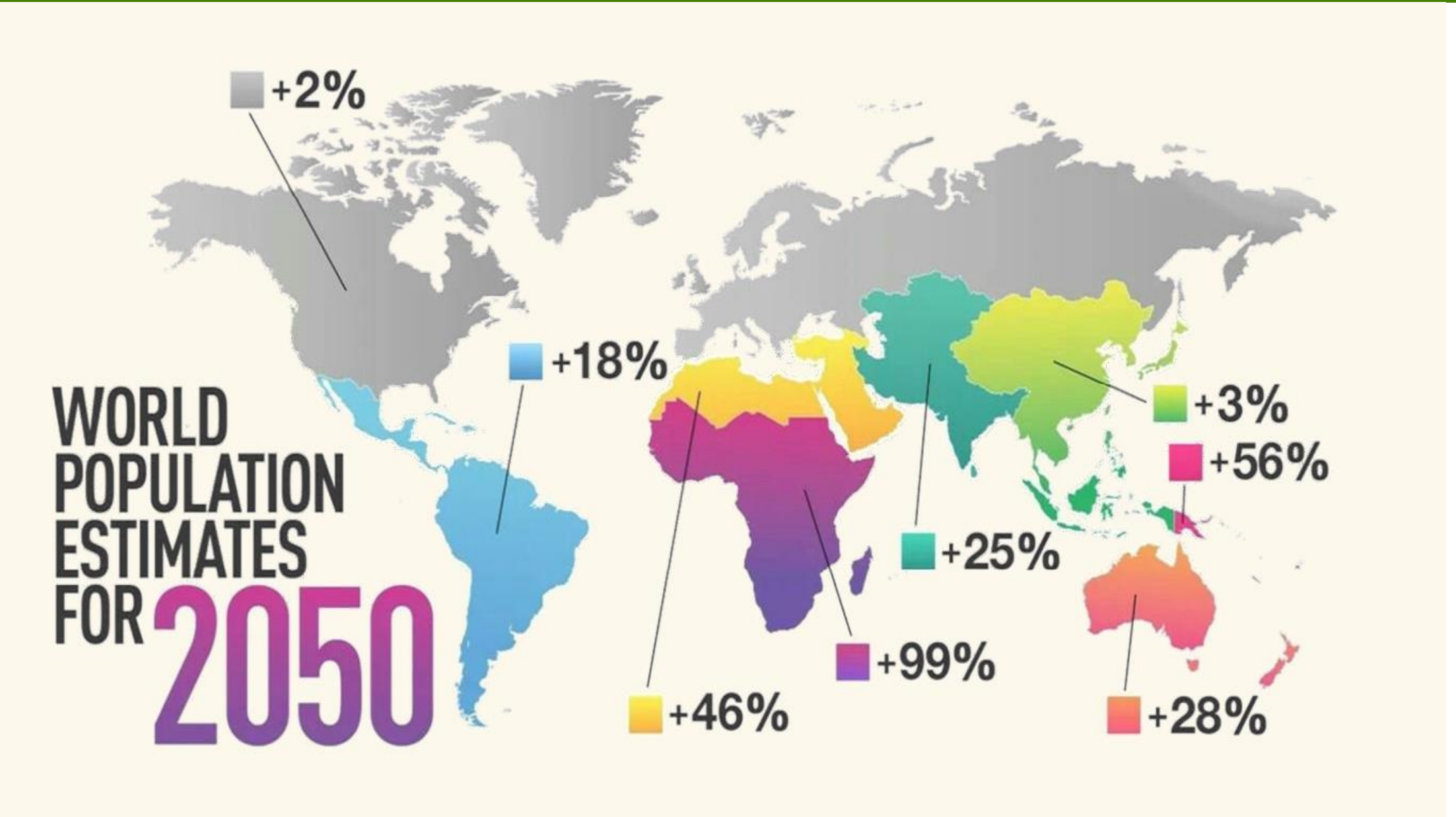
Unless construction and the built environment decarbonises, climate goals <u>will not</u> be realised

CONSTRUCTION & THE BUILT ENVIRONMENT

Construction will drive the demand for wood

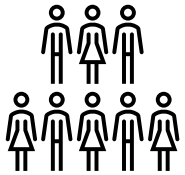
Demand in the construction sector is expected to almost triple by 2030

MAJORITY OF THE DEMAND IN THE GLOBAL SOUTH



CONSTRUCTION WILL DRIVE THE DEMAND FOR WOOD

~3 billion people (40 % world population) will need new housing by 2030



≈ 300 million new dwellings (World Bank, 2016)

THE BUILT ENVIRONMENT IS ESSENTIAL FOR REACHING CLIMATE GOALS

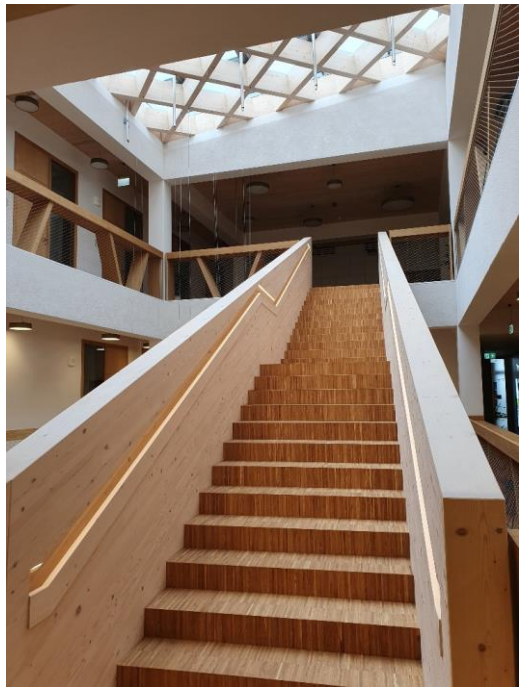
Recent studies indicate that if 90% of the new urban population were housed in mid-rise wooden constructions, 106 Gigatons of additional CO2 could be saved by 2100 (Mishra et al., 2022)

≈ 10% of the remaining CO2 budget for the 2 degree climate target

POSSIBLE THROUGH INNOVATIVE WOOD PRODUCTS

Glued solid timber	Glued laminated timber (glulam)	Parallel Strand Lumber (PSL)

Composite elements (I-beams)	Cross-Laminated Timber (CLT)	Laminated Veneer Lumber (LVL)



DEMAND FOR HOUSING & CONSTRUCTION: AFRICA

Population in Africa expected to double by 2050 (The Economist, 2020)

An estimated 80 percent of the buildings needed by that time have not yet been constructed (World Green Building Council, 2020)

An estimated 50 percent of the urban population in Africa live in slums

13% of houses were adequately constructed in 2015, up from 11 percent in 2000 (McVeigh, 2019)

DEMAND FOR HOUSING & CONSTRUCTION: AFRICA

Built environment in the region is responsible for (ESI Africa, 2019):

- 56 percent of energy use
- 25-40 percent of all waste
- 5 percent of all water consumption

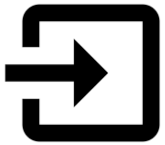
Modern wooden construction materials (e.g. CLT), which could significantly reduce emissions, have limited use in the region:

- For every 1kg of carbon in wood that replaces a non-wood material in a building system could produce an emission reduction of about 0.9kg of carbon

DEMAND FOR HOUSING & CONSTRUCTION: AFRICA

New plantations for sustainable supply would create carbon sinks and the forest products both carbon storage and substitution benefits

Wood supply gap in Africa is estimated at 219 million m3 per year



Under the current scenario this will be met by imports

~300 000 new hectares of planted forests will be needed per year

DEMAND FOR HOUSING & CONSTRUCTION: AFRICA

≈ 25 million jobs by 2050 through the additional plantations needed to supply the wood needed

≈ 29 million jobs by 2050 to support the wood processing sector

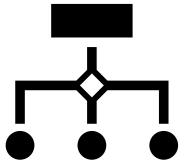
Investment is required to:

Increase wood supply & access markets
Strengthen technology and skills capacity

What's needed to realise the opportunity?

Cross-cutting

- Supportive policy & enabling environment
- Capacity and skills development
- Finance & investment



Applied:

- Forest asset development: linked with markets and value chains
- Data and information on future supply and demand trends
- Organizing & scaling up SMEs in forest-based value chains
- Product & market and development
- Green procurement and support for green buildings

Thank you!

FOREST-BASED BIO ECONOMY (BE2):
FOREST OPPORTUNITIES THROUGH RESTORATION, ECOPRODUCTS AND SUBSTITUTION FOR TRANSFORMATION

Forest: Fibres, Fuelwood, Feed & Food – key forest resources providing feedstock for a growing bioeconomy

Opportunities: catalysing the transition to a bioeconomy based on the 4R (reduce, reuse, recycle, residual management)

Restoration: facilitating the full contribution of the forest-based industries to ecosystem Restoration

Ecoproducts: supporting the further development of existing and emerging renewable forest products, including wooden construction materials, pulp and paper, biochemicals, bioenergy and forest foods

Substitution: promoting carbon storage in harvested wood and possible Substitution of high-carbon products

Transformation: catalysing the Transformation of forest product value chains to be MORE efficient, inclusive and resilient