

FAO Global Roadmap for Achieving SDG2 without breaching the 1.5°C threshold

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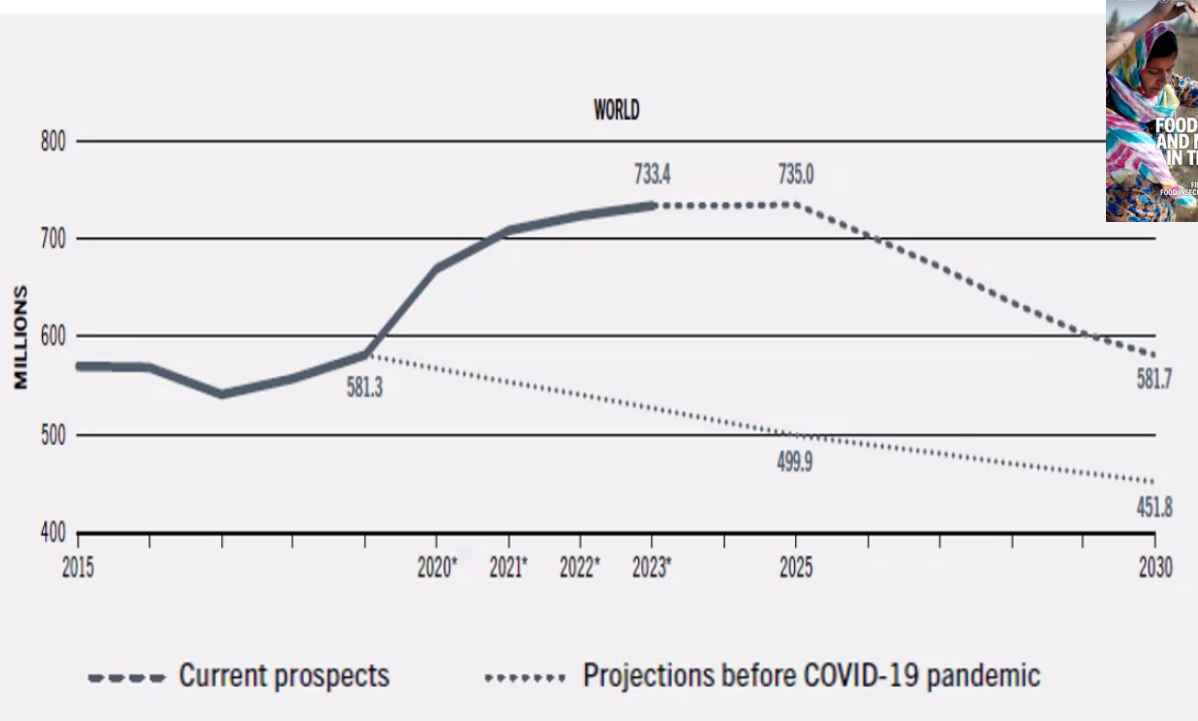
Food and Agriculture Organization
of the United Nations

A time of changes, a time for changes

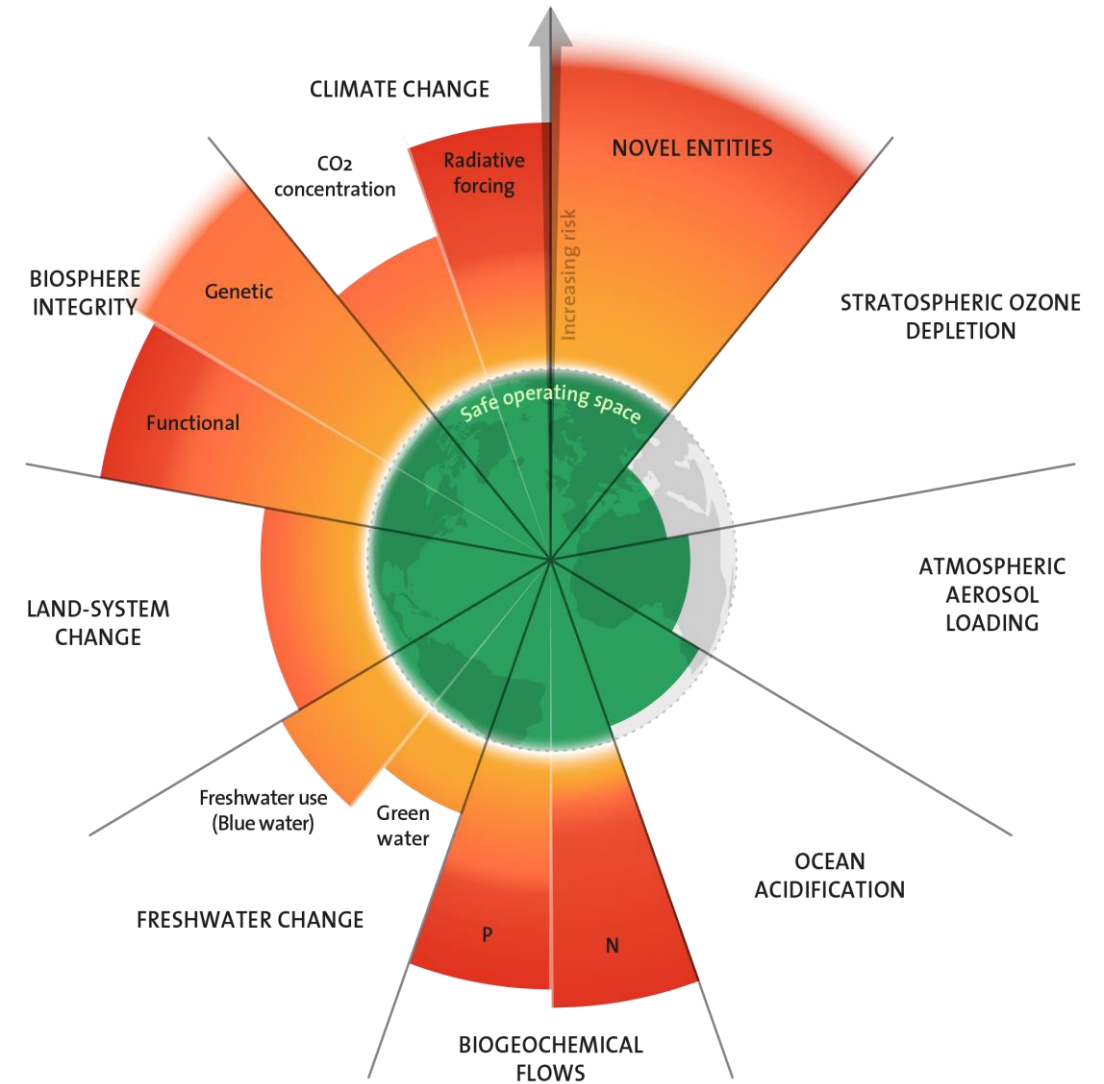
A time of changes, a time for changes



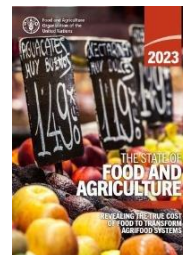
PROJECTIONS OF THE GLOBAL NUMBER OF UNDERNOURISHED PEOPLE



THE 2023 UPDATE ON PLANETARY BOUNDARIES



NOTES: * Projected values. The 2020, 2021 and 2022 values are based on the middle of the projected ranges.



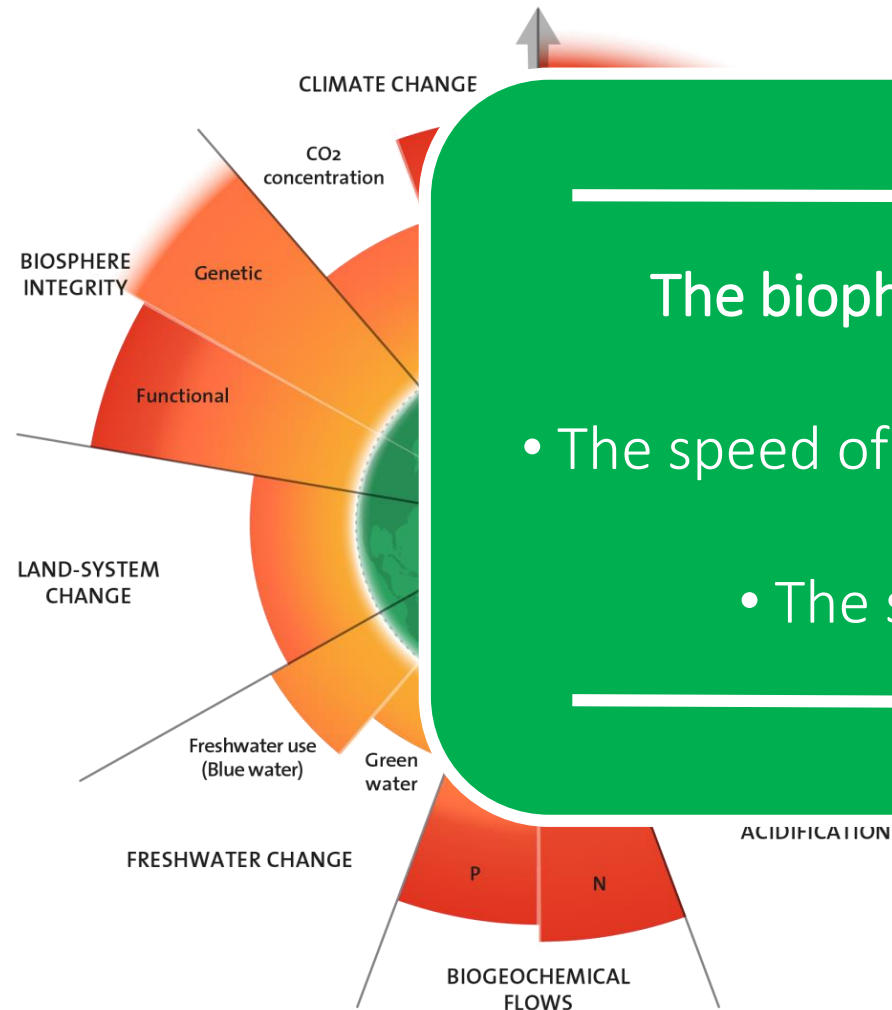
... and high hidden costs

Source: "Azote for Stockholm Resilience Centre, based on analysis in Richardson *et al.*, 2023".

A time of changes, a time for changes



THE 2023 UPDATE ON PLANETARY BOUNDARIES



The biophysical dynamics are non-linear:

- The speed of problems is increasing (exponential trends)
- The systems have tipping points

Policies & action

Real world action based on current policies †

2030 targets only

Based on 2030 NDC targets* †

Pledges & targets

Based on 2030 NDC targets* and submitted and binding long-term targets

Optimistic scenario

Best case scenario and assumes full implementation of all **announced** targets including net zero targets, LTSs and NDCs*

Temperatures continue to rise after 2100

† If 2030 NDC targets are weaker than projected emissions levels under policies & action, we use levels from policy & action

IPCC warming projections
Global temperature increase by 2100

November 2022 Update

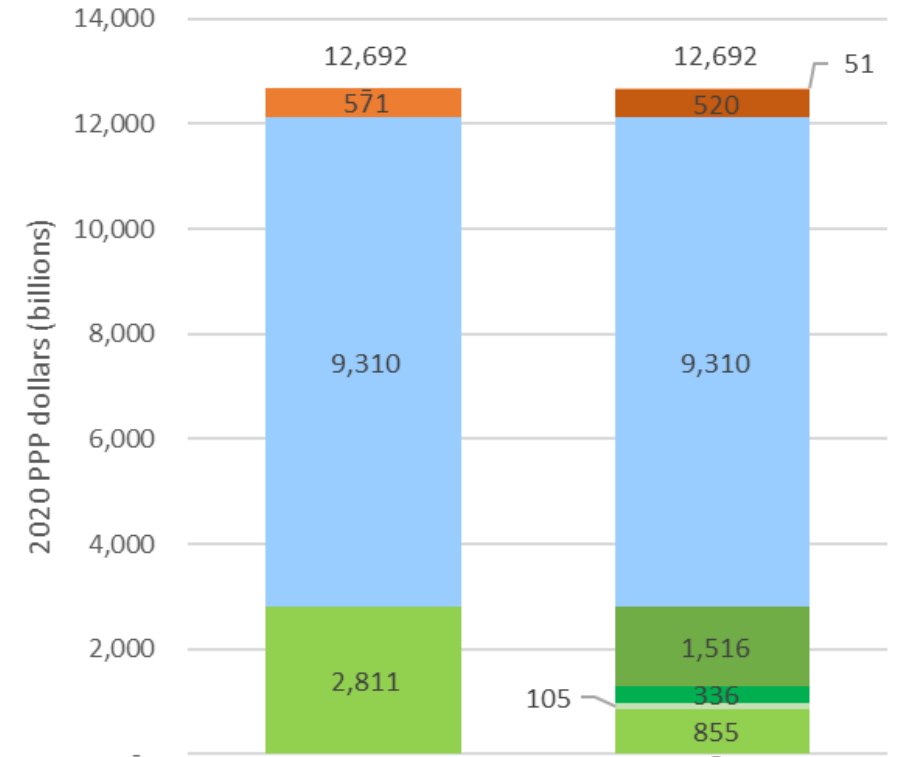
Global mean temperature increase by 2100



Unhealthy diets are costly!

SOFA estimates the global hidden costs of agrifood systems in 2020 --> **12.7 trl** 2020 PPP dollar --> 10% of global GPP

- **Health-related hidden costs from poor diets** (>70% of all costs)
- **Environmental costs**
- **Social costs**



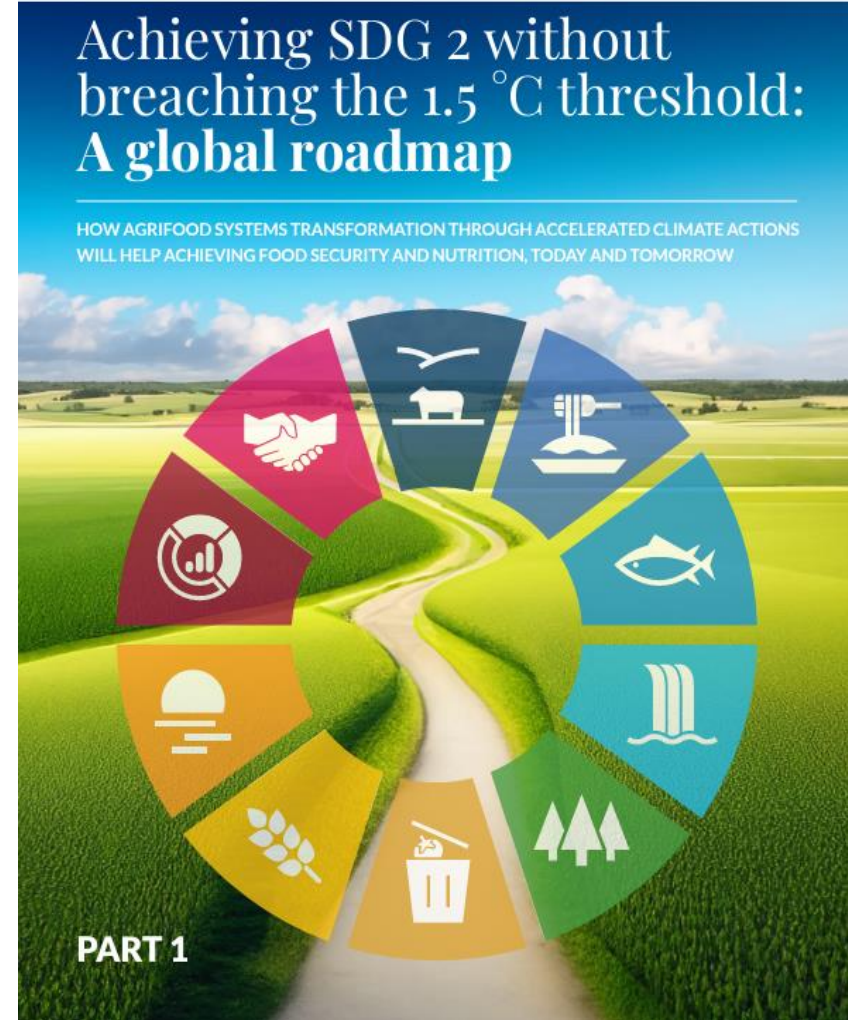
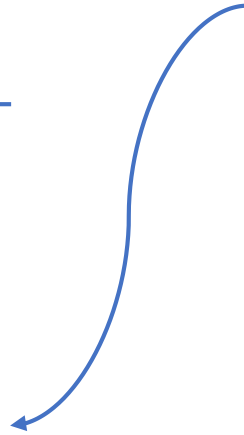
- Social
- Health
- Environmental
- Undermourishment
- Poverty
- Unhealthy dietary patterns
- Nitrogen
- Land
- Water
- Climate

To know more on the hidden costs



Global hidden costs

A theory and instrument of change: The FAO Global Roadmap



Value Proposition of the Roadmap



Integrated approach

Harmonised framework but aimed to be contextualised

Systemic thinking & Sectoral implementation

Special usefulness and messages for

- Ministries of Agriculture and Food
- Ministries of Environment
- Ministries of Finance
- Private sector

Inclusive

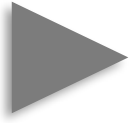
Why FAO & the UN?

- **Political** engagement with countries & Legitimacy.
- **Technical** agency: expertise and **knowledge** as levers for change.

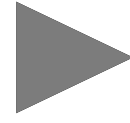
It is a multi-year process



COP 28
2023
Roadmap Part I
Presenting a global vision



COP 29
2024
Roadmap Part II
Moving from a global to regional view and from a vision to costing and financing



COP 30
2025
Roadmap Part III
Establishing country action plans, monitoring and accountability

Key messages

Key messages from the FAO Global Roadmap



We need to **urgently act** and **change the narrative**.

Food security and nutrition is an **essential** human right and will not be achieved sustainably without climate actions.

Silos must be broken across concepts, actors and sectors. It is a necessity to overcome specific trade-offs.

Agrifood systems must be on the forefront of a **just transition** and inequalities must be reduced.

Solutions, gathered in **10 domains**.

International coordination is an absolute necessity.

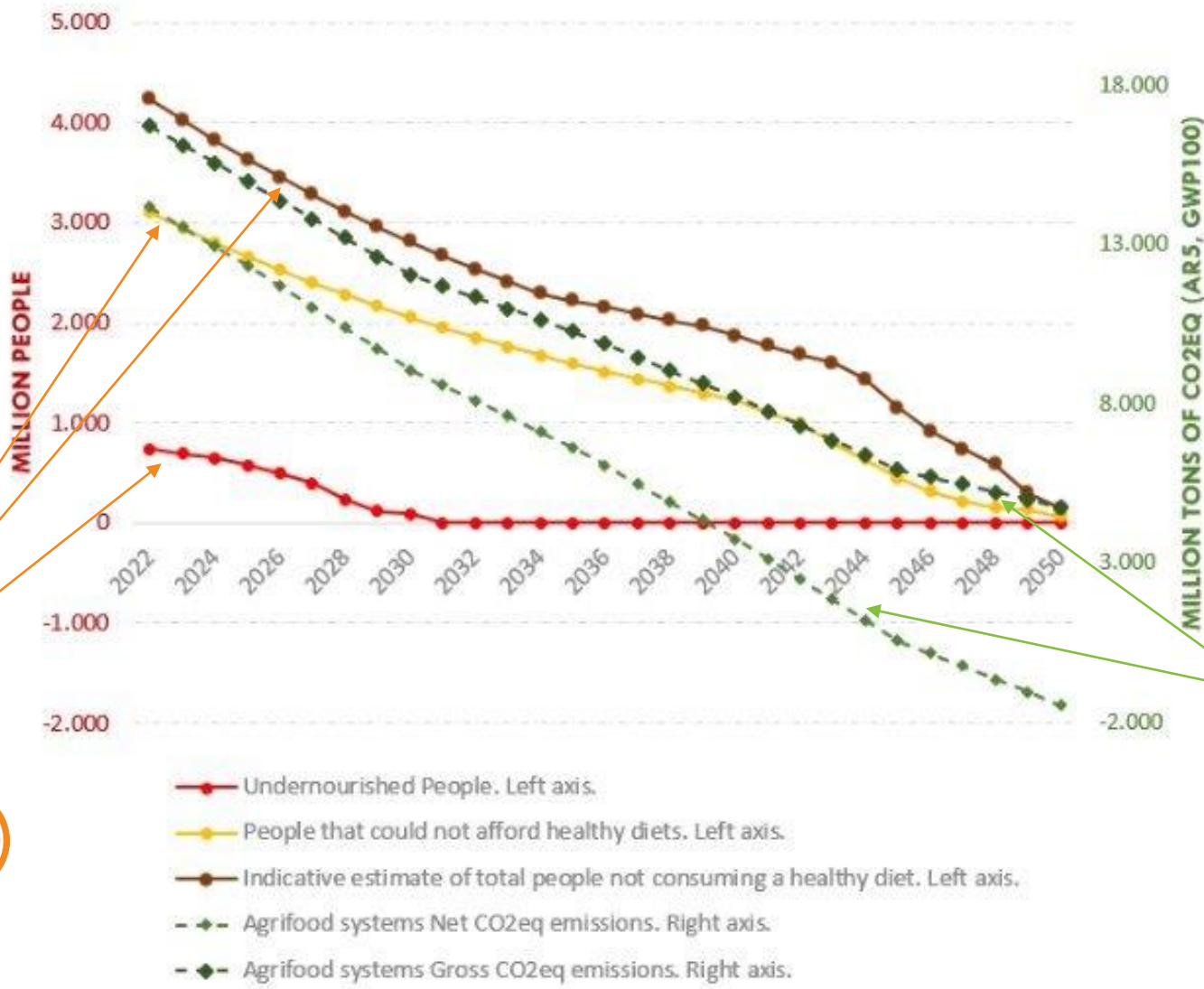
... So, we can achieve



Provide Good Food for All, Today and Tomorrow



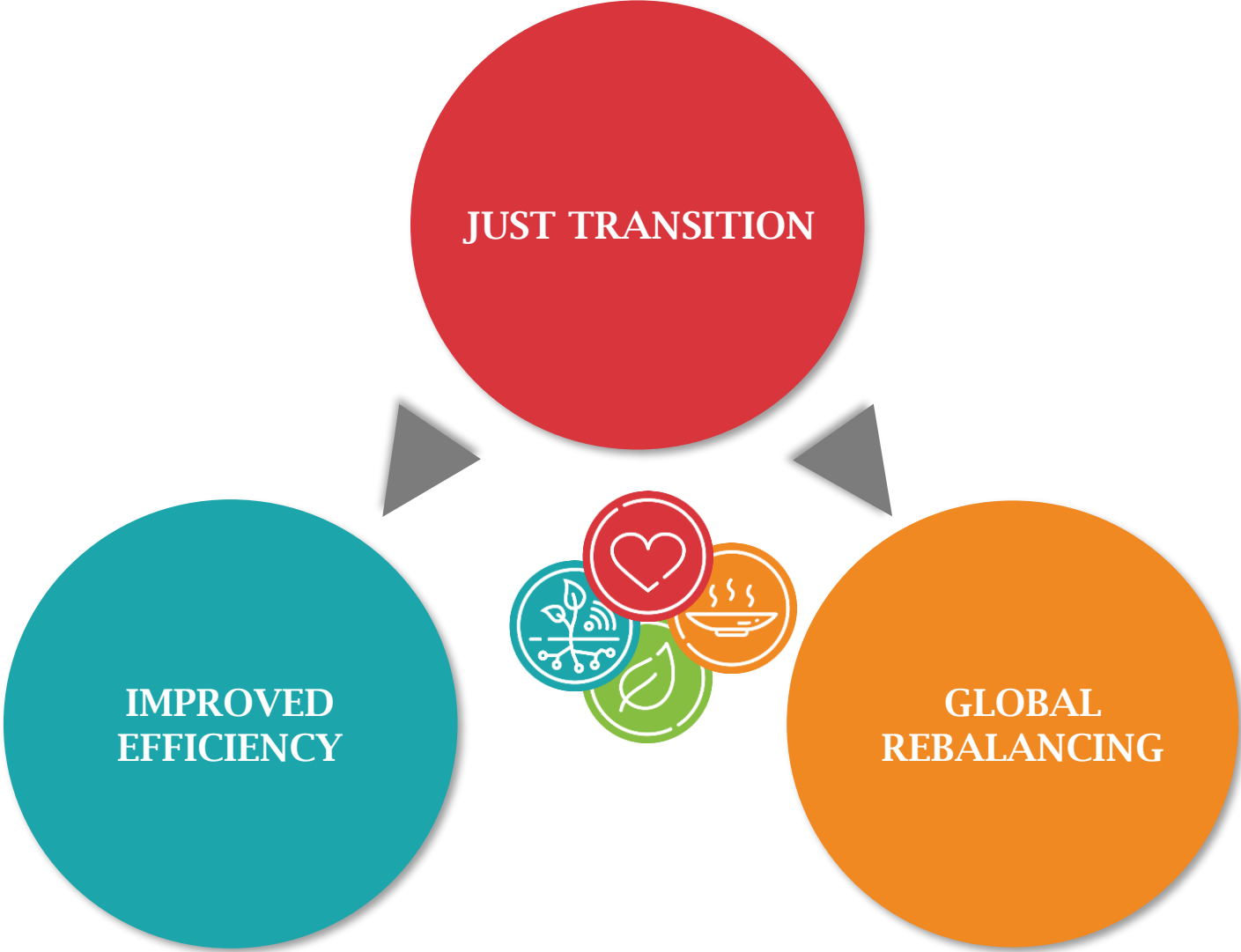
Eradicating hunger and providing healthy diets for everyone



While making agrifood systems net carbon sink and preserving planetary biodiversity



One principle - Two guides ...



Aspirational goals & implementable solutions



10 DOMAINS

- Livestock, Crops, Fisheries and Aquaculture, Forest and Wetlands, Soil and Water, Food Loss and Waste, Enabling Healthy Diets for all, Data and Inclusive Policies

120 ACTIONS

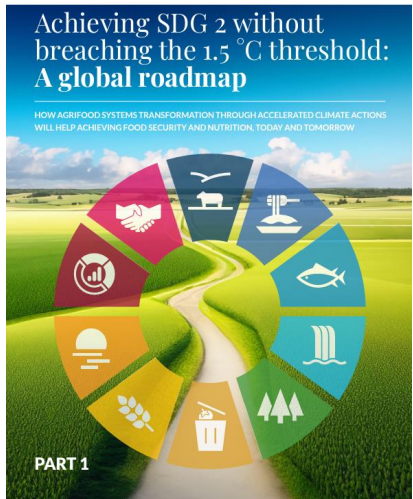
- Actionable options based on core FAO materials and new evidences and requiring to be contextualized

20 MILESTONES

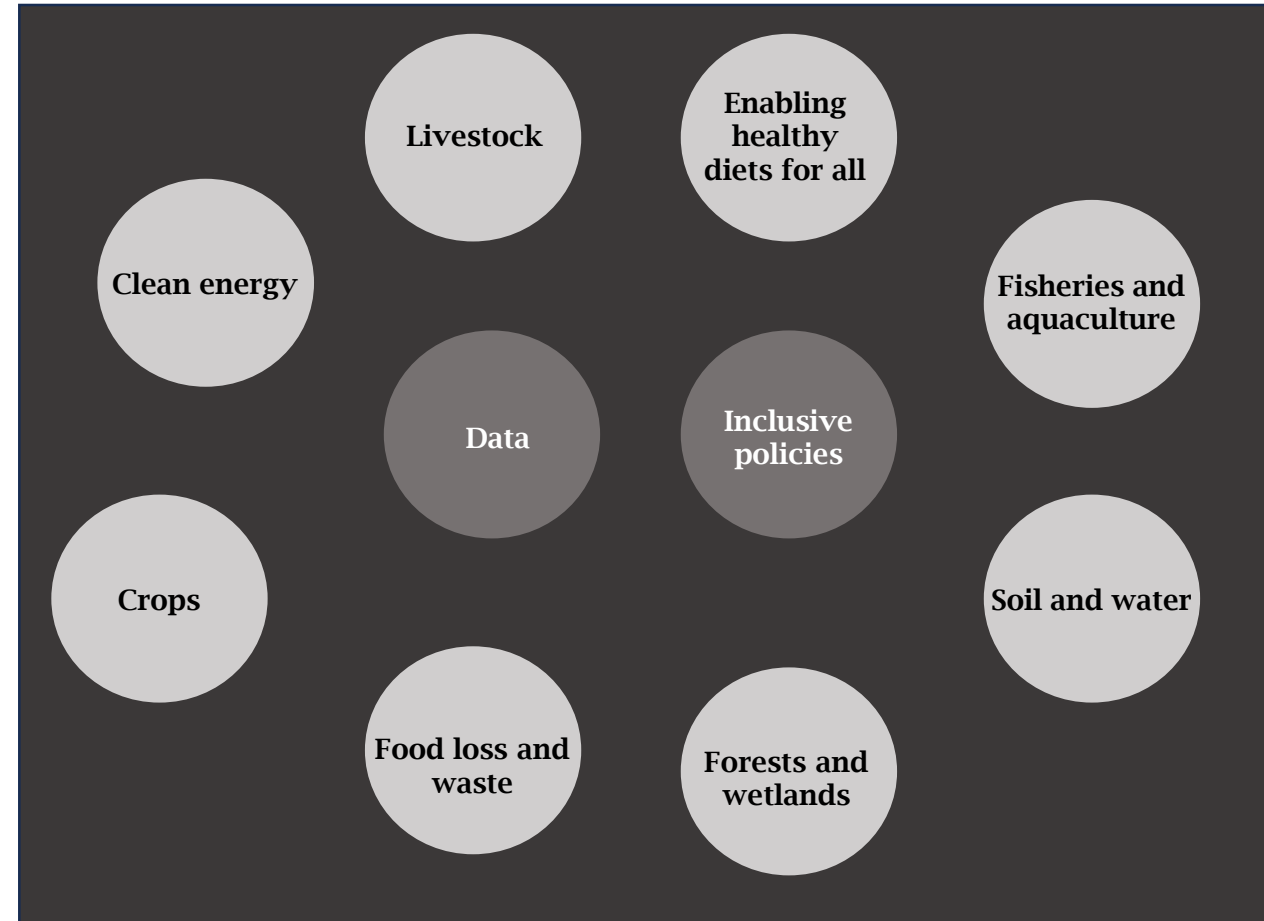
- Simple steps to monitor and foster progresses



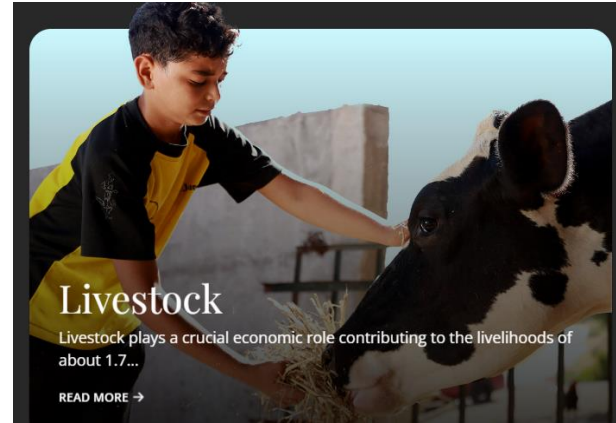
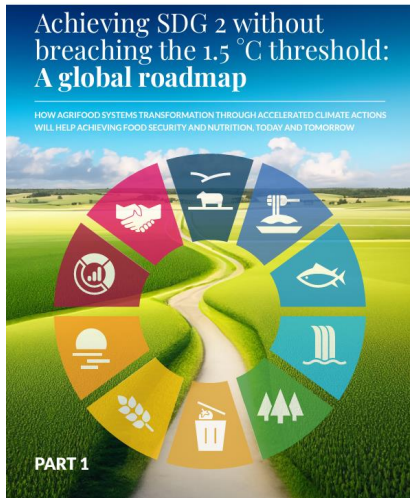
10 Domains



[Achieving SDG 2 without breaching the 1.5 °C threshold: FAO's global roadmap](#)



Domains & Actions



[Achieving SDG 2 without breaching the 1.5 °C threshold: FAO's global roadmap](#)

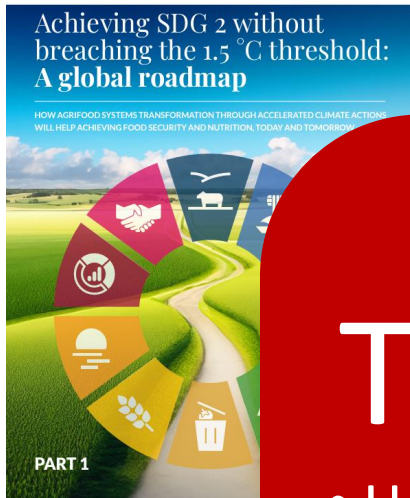
Livestock

Why it matters?

Livestock plays a crucial economic role contributing to the livelihoods of about 1.7 billion poor people and 70 percent of those employed in the sector are women. Livestock are a source of high-quality protein and micronutrients that are essential for normal development and good health. At the same time, the sector is responsible directly for 26 percent of agrifood system emissions (enteric fermentation, manure, etc.).

What can be done?

1. Improve livestock productivity through better genetics
2. Intensify livestock production in relevant locations and improve feeding practices
3. Protect animal health through improved veterinary services and animal disease surveillance
4. Change the feed industry and promote new sources of proteins for feed
5. Restore degraded pasture and improve grazing management practices



The role of contextualization

- Heterogeneity of socio and biophysical conditions
- Heterogeneity of economic and environmental cost and benefits of solutions
- Heterogeneity of political costs of reforms and policy processes

→ Local solutions in an integrated framework

[Achieving SDG 2 without breaching the 1.5 °C threshold: FAO's global roadmap](#)

genetics
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Milestones

10 DOMAINS

• Echoing, but not limited to, FAO’s core technical fields of expertise, with linkages to units, PPA and accelerators: Livestock, Crops, Fisheries and Aquaculture, Forest and Wetlands, Soil and Water, Food Loss and Waste, Enabling Healthy Diets for all, Data and Inclusive Policies

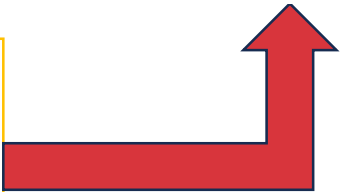
120 ACTIONS

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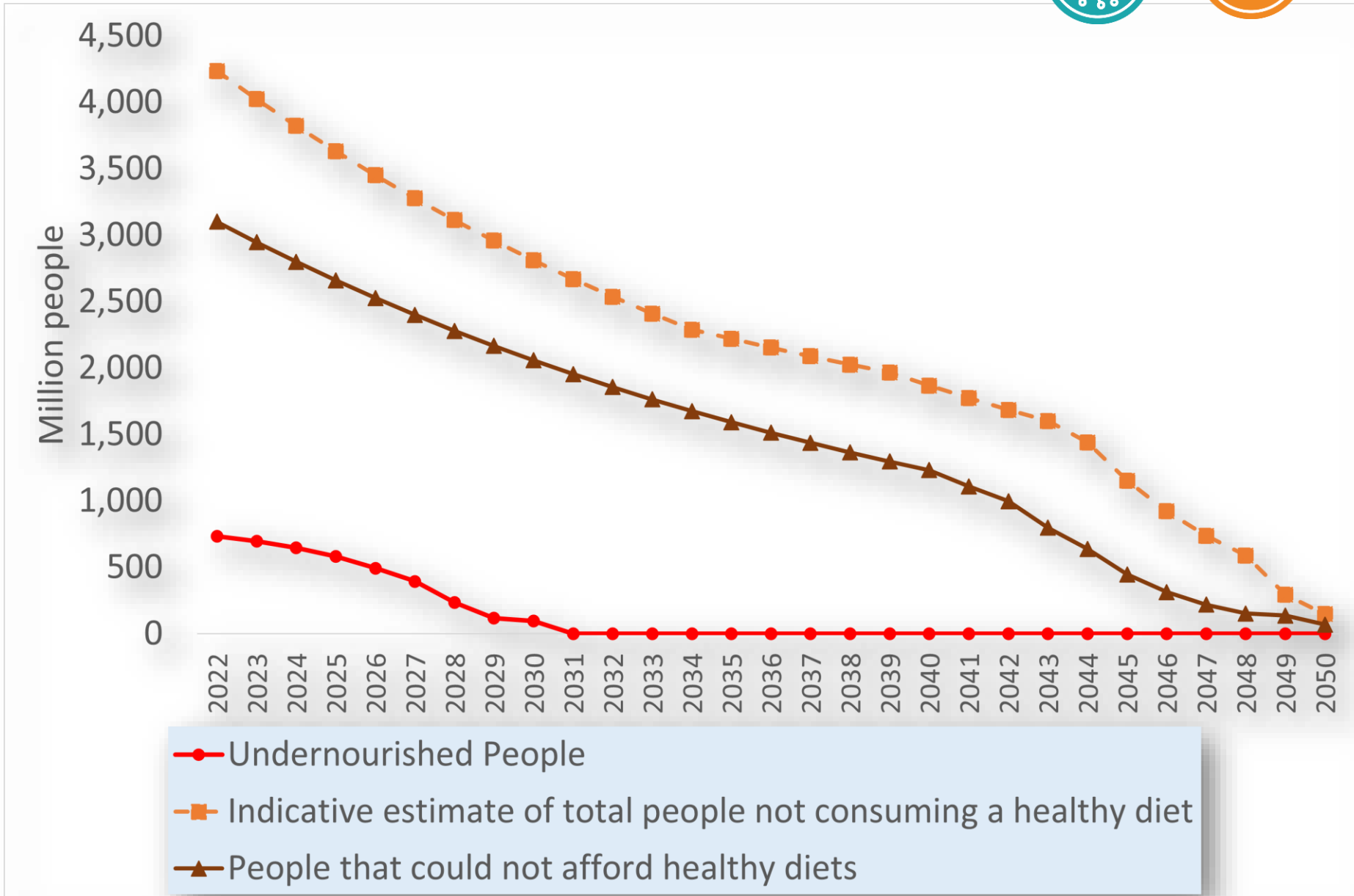
• Simple steps to monitor and foster progresses

Domain	Year	Description
Livestock	2030	Methane emissions from the livestock sector have been reduced by 25% compared to 2020.
	2050	Total factor productivity for livestock has grown at 1.7% per year globally.
Fisheries and aquaculture	2030	100% of fisheries under effective management and all illegal, unreported and unregulated activities phased out.
	2040	At least 75% growth in global sustainable aquaculture. Production compared to 2020 level.
Crops	2050	Total factor productivity for crops has grown by 1.5% per year globally.
	2050	Total factor productivity for crops has grown by 2.3% per year for low-income countries.
Enabling healthy diets for all	2030	All the countries have updated their food-based dietary guidelines to provide context appropriate quantitative recommendations on dietary patterns.
	2030	All countries have legislation restricting food advertisement targeting children.
Forest and wetlands	2025	Zero net-deforestation is achieved globally.
	2035	Zero gross-deforestation is achieved globally.
Soil and water	2030	Achieve universal and equitable access to safe and affordable drinking water for all.
	2040	10 Gt of CO ₂ eq of additional carbon have been sequestered in cropland and pasture soil between 2025 and 2050.
Food loss and waste	2030	Reduce by 50% per capita global food waste at the retail and consumer levels.
	2050	All food loss and waste are integrated in a circular bioeconomy and used for feed, soil enhancement or bioenergy production.
Clean energy	2030	No people are using traditional biomass for cooking.
	2050	CO ₂ capture from bioenergy reaches 1 263 Mt CO ₂ per year.
Inclusive policies	2030	All countries have implemented nationally appropriate social protection systems and measures for all, and ensure that all groups vulnerable to climate-related extreme events and other economic, social and environmental shocks and disasters, are covered.
	2040	Gender productivity gap in land productivity gap between female- and male-managed farms of the same size is halved compared to 2020.
Data	2030	All farmers and ranchers have access to globally recognised solutions to monitor their GHG emissions.
	2030	Total factor productivity for crops and livestock corrected for non-market inputs and outputs are monitored in all countries on an annual basis.

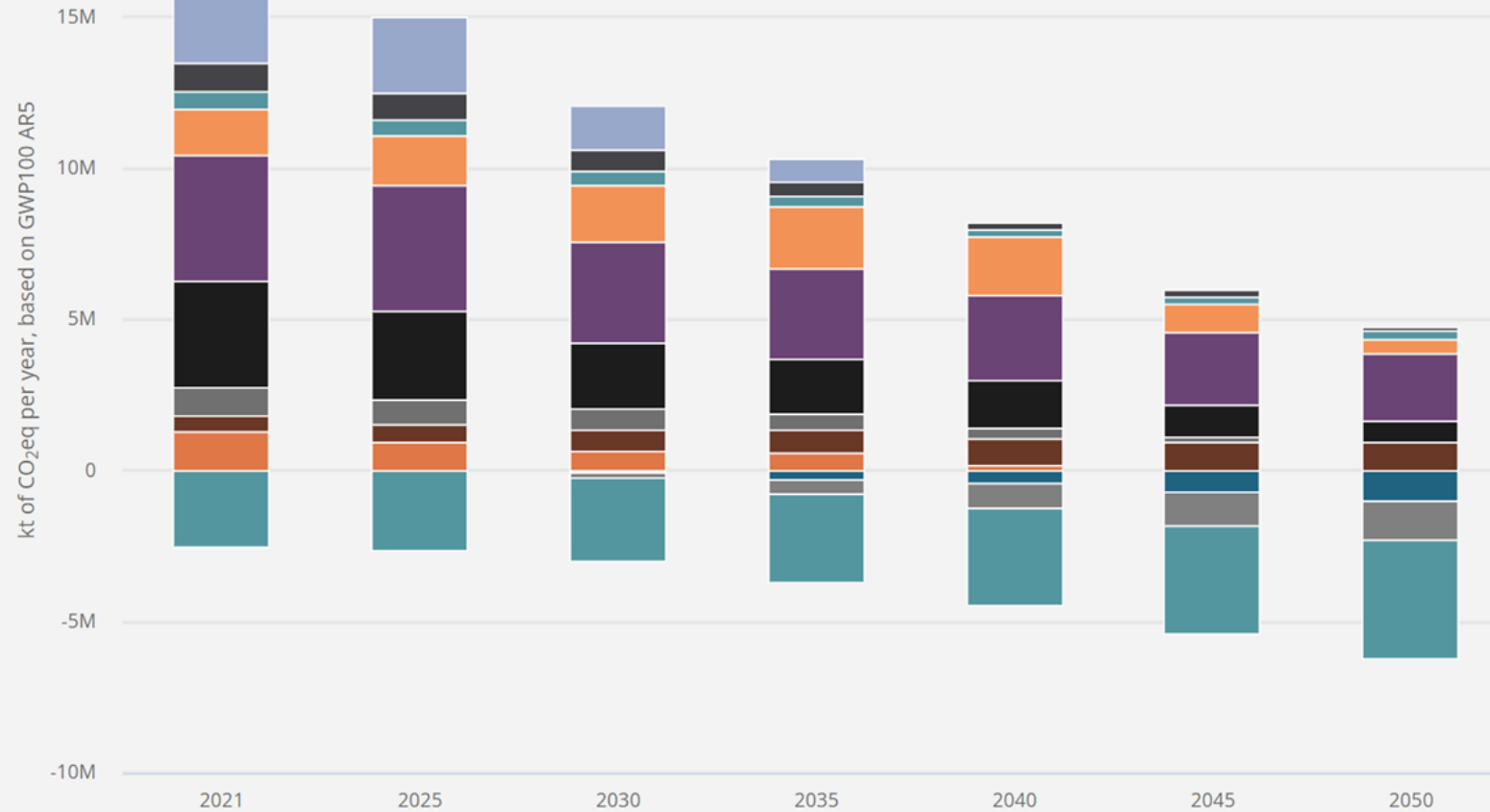


Walking with numbers

What we want to see



Emissions dynamics



- Deforestation
- Drained organic soils
- Other land use*
- Crops
- Livestock and manure
- Energy in agrifood system (downstream)
- Energy in agrifood systems (on farm)
- Energy in agrifood systems (upstream)
- Food waste
- Ecosystem restoration
- Bioenergy with carbon capture and storage (BECCS)
- Carbon sequestration in soil

Productivity dynamics



Thank you!

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