Investing in Nature as a Climate and Development Opportunity for Mongolia

Korea Green Innovation Days

Washington DC, October 21, 2025

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NVESTING IN NATURE AS
CLIMATE AND DEVELOPM
PPORTUNITY FOR MONGO

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EAST ASIA PACIFIC

MONGOLIA

World Bank Group

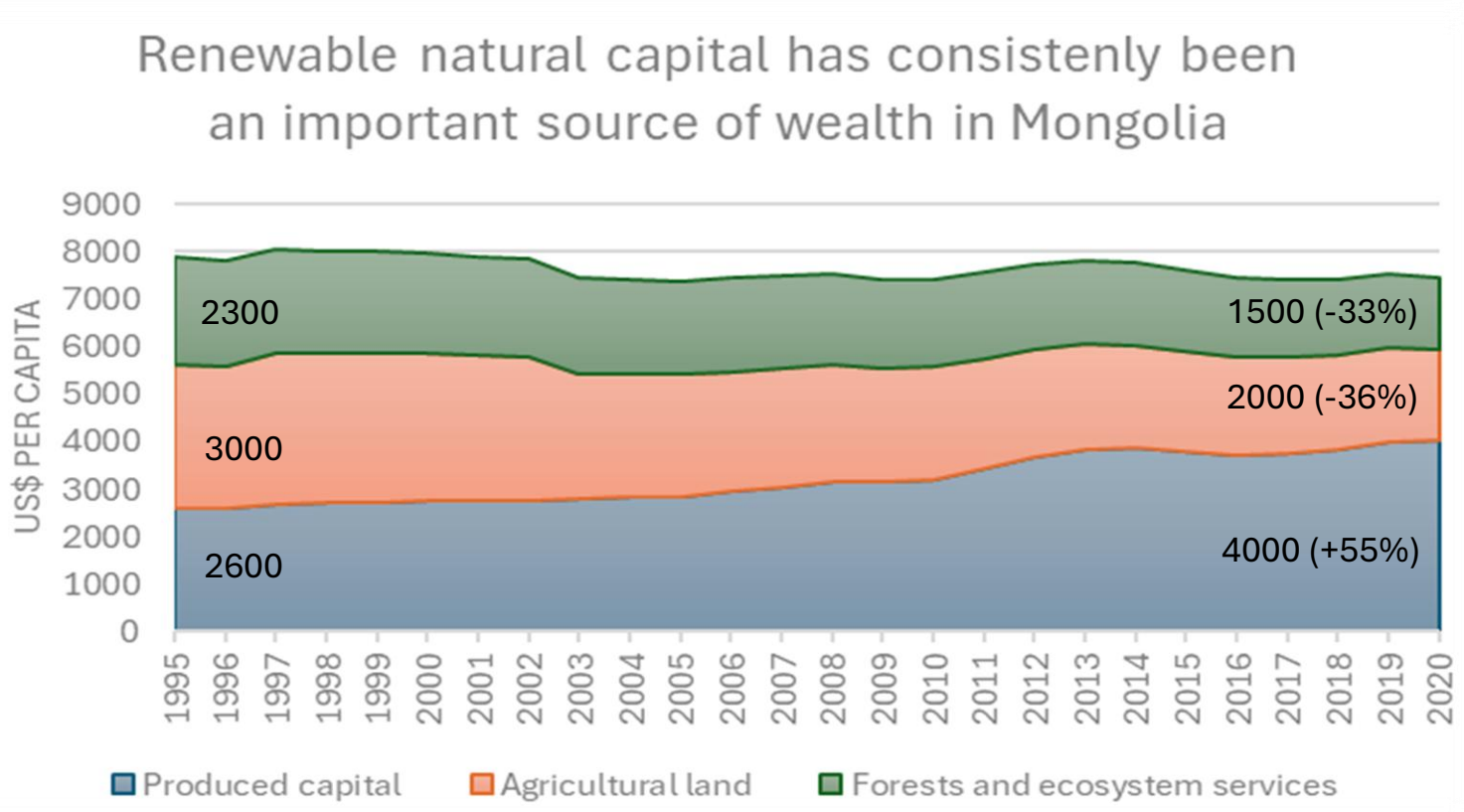
COUNTRY CLIMATE AND DEVELOPMEN REPORT

2024

1. Where is the wealth of Mongolia?

Mongolia's growth trajectory is closely linked to its natural resources (not only mineral NR, but also renewable NR)

- Vast Land Area and Sparse Population
  - 18th-largest country with 1.564 million square kilometers
  - Population of 3.5 million, making it the most sparsely populated country
- Rich Natural Resources
  - Minerals (1/3 of GDP)
  - Grassland, wetland, and forest ecosystems
  - Biodiversity that supports economic sectors
- Importance of Natural Resource Management
  - Crucial for sustainable growth and improving livelihoods
  - Supports key economic sectors like agriculture and tourism



Forest Resources

Forest covered area: **8.45%**

Forest fund: **19,103.2** thousand ha

Boreal forest: 74.6%

Saxaul forest: 25.3%

2. Nature is a form of capital and infrastructure

Livelihoods in rural areas depend on well-managed ecosystems

- **Provisioning services of ecosystems**
  - **Livestock production**, which depends on grassland, contributed 87 percent of total agricultural output in 2020 and is the second most important export sector after mining.
  - Rotational grazing preserved 40% more vegetation cover than continuous grazing (University of Mongolia, 2017).
  - Healthy pastures recover 50% faster post-dzud. During the 2010 dzud, regions with managed pastures saw 20% lower livestock mortality (World Bank, 2012).
  - **Firewood**: 60–80% of rural HH in Khuvsgul, Khentii rely on it for heating and cooking, especially during harsh winters (National University of Mongolia, 2019).
  - **NTFPs**: Wild berries, nuts, mushrooms, and medicinal plants supplement diets and incomes for 30–40% of forest-adjacent households (UNDP, 2020). For example, pine nut harvesting in Khentii Province generates $5–10 million annually for local communities (Mongolia Ministry of Environment and Tourism, 2022).
  - **Forest undergrowth and foliage**: provide 20–30% of winter fodder for livestock in mixed forest-steppe zones (FAO, 2018).
  - **Timber**: In Khuvsgul Province, community-led reforestation and sustainable logging increased household incomes by 20% while restoring 15,000 hectares (UNDP, 2021).
- **Cultural/nature recreation services**
  - Protected areas like Khan Khentii Strictly Protected Area and Lake Khuvsgul National Park attract tourists, creating jobs for guides, homestays, and handicraft sellers. Ecotourism generates $12–15 million annually in forested regions (Mongolian Tourism Association, 2021).

Natural disasters, especially drought and dzud, are increasing in frequency and severity leading to the increased economic losses

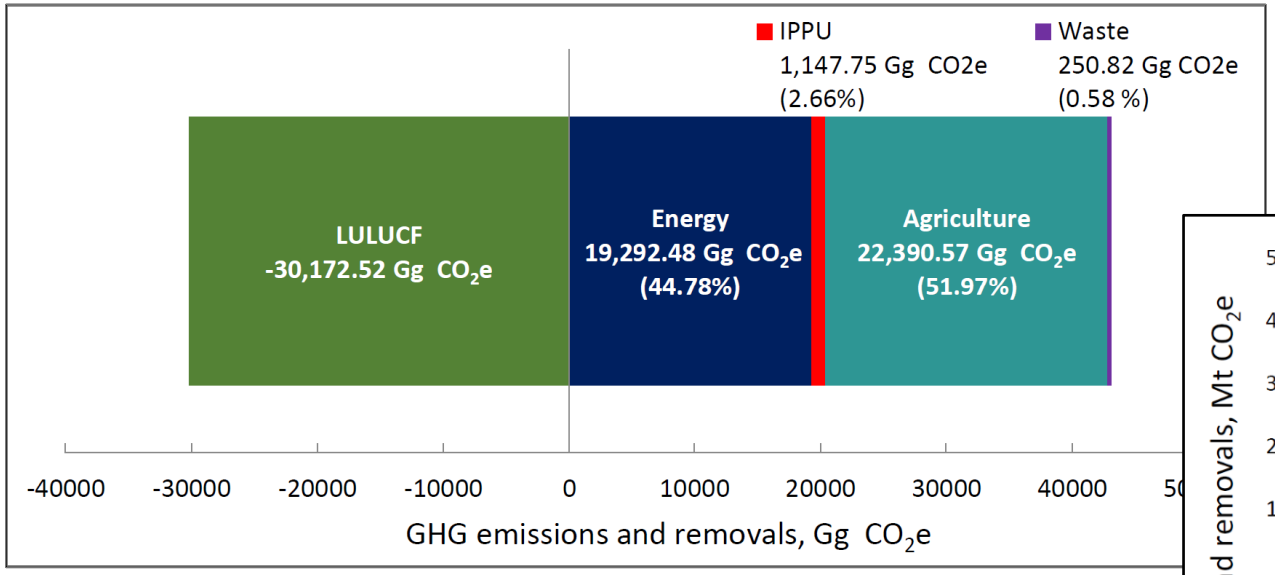
- Incidence of natural disasters has risen nearly 3 x over last 30 years
- From 2000-2020 frequency of road disasters (mainly due to flooding) doubled
- Projections to 2050 show frequency of drought will increase from 5% to 45%, dzuds from 5 to 40%.
- Floods will cover areas 21% greater than in the past

Disasters and damages	*Unit*	*2000*	*2010*	*2015*	*2020*	*2021*	*2022*	*2023*
Number of disasters and accidents	**number**	**2,547**	**2,976**	**5,422**	**3,977**	**4,053**	**4,299**	**4,484**
Forest and field fires	number	264	104	354	142	65	179	101
Burnt forests and fields	million hectares	1.1	1.0	6.5	0.3	0.2		2.5
Property fires	number	2,220	2,541	4,561	3,036	2,671	3,075	3,054
Strong dust and snow storm	number	7	32	21	51	91	56	75
Heavy rain and flooding	number	2	14	23	64	74	35	107
Deaths caused by disasters and accidents	number	76	223	198	143	319	247	320
Damages caused by disasters and accidents	billion tugrugs	87.1	534.8	79.9	31.3	25.8	33.2	52.1

Source: Statistical Yearbooks of Mongolia, www.1212.mn

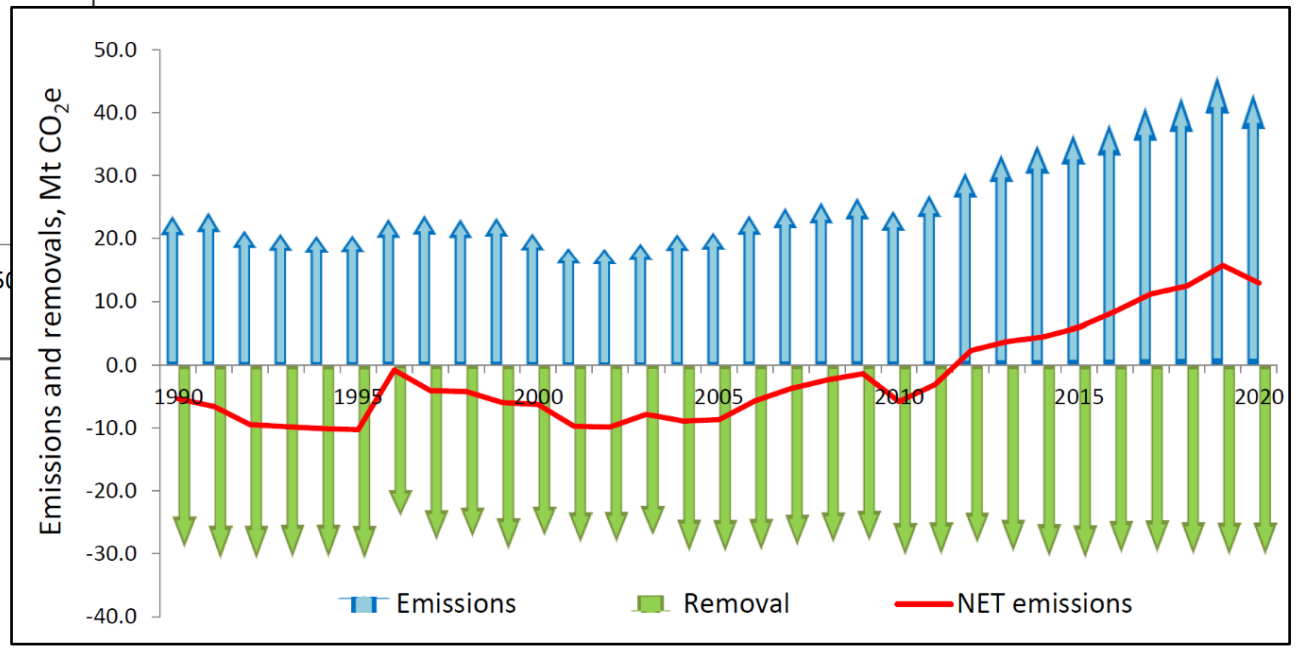
Forests have historically been a major contributor to carbon neutrality

Mongolia's GHG Emissions and Removals by Sector in 2020



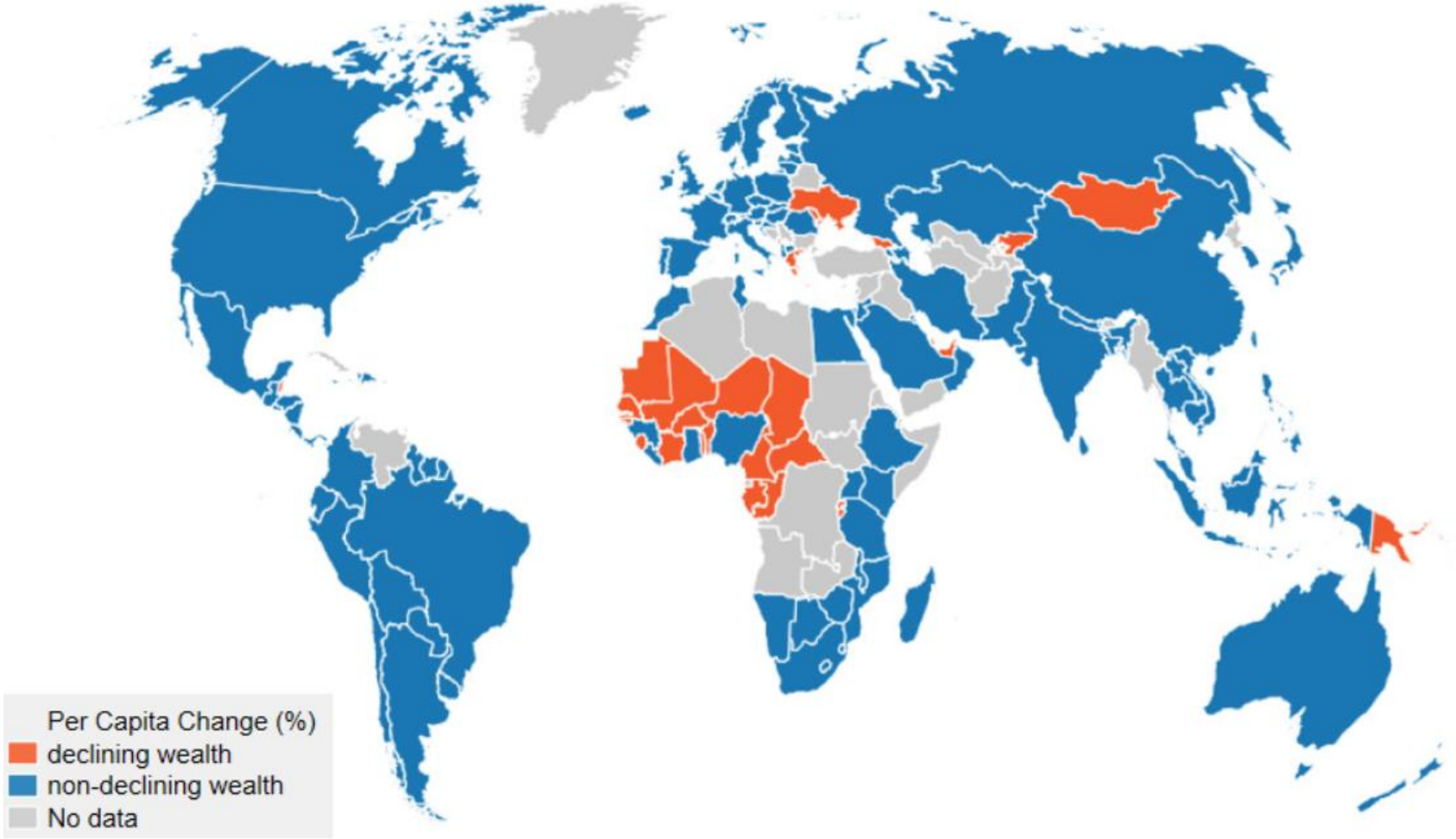
IPPU = Industrial Processes and Product Use; LULUCF = Land Use, Land Use Change and Forestry.

Mongolia's Total and Net GHG Emissions and Removals by Year, 1990–2020



3. But the value of natural capital is declining

Mongolia stands out as a country with declining real wealth per capita



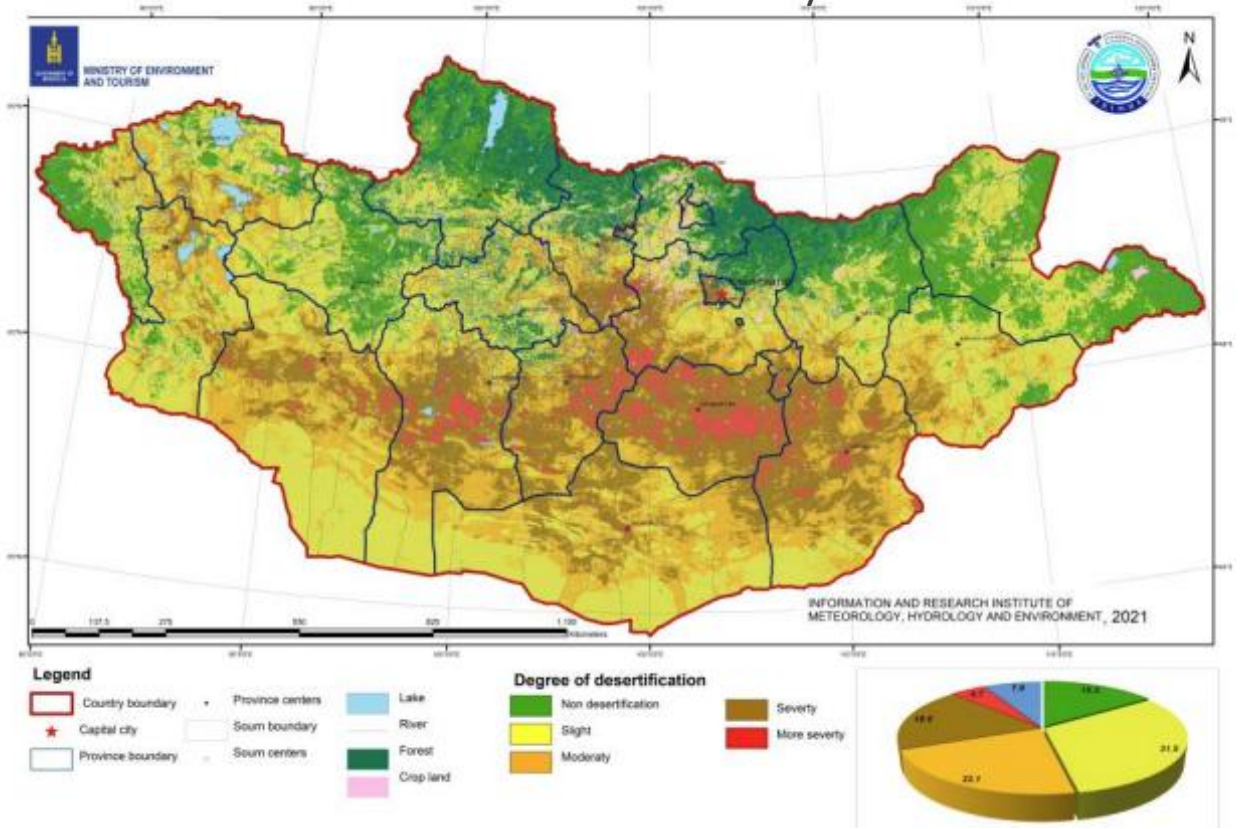
Countries with declining and non-declining real wealth per capita, 1995-2020

Measured in chained 2019 US dollars

Source: World Bank 2024

Natural capital is also being depleted rapidly…

Land:
77% of land is degraded or undergoing desertification; causing economic losses at 1.3% of GDP annually.

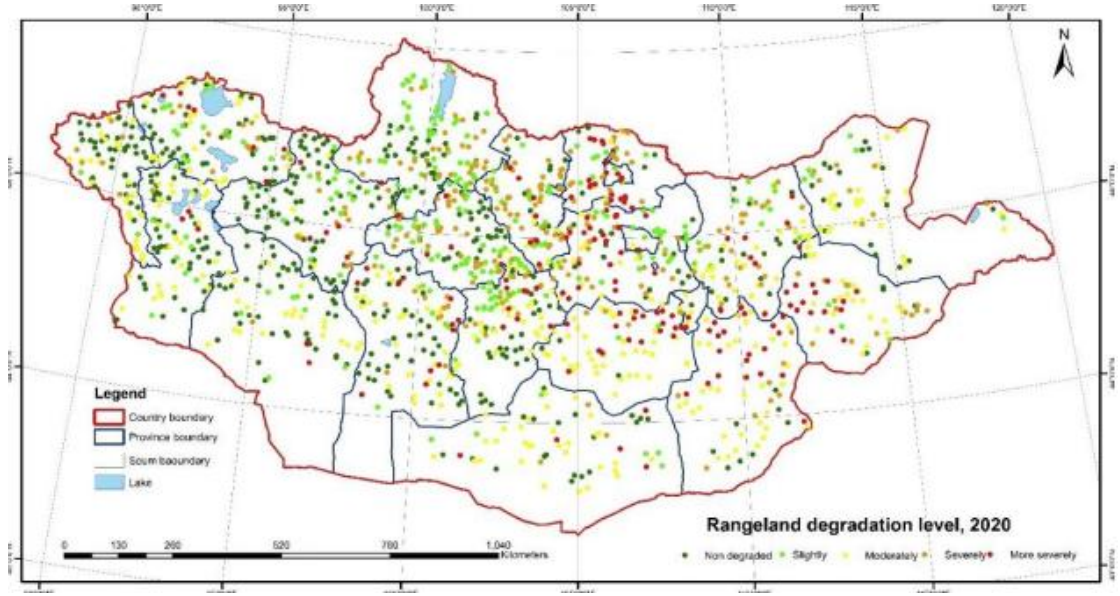


Map of Desertification and land degradation in Mongolia 2020
Source: MET, 2024

Forests:

- Out of total 19 million ha of forest fund, 1.5 million hectares of forest are degraded and in need of rehabilitation.
- About 0.15 percent of forests are lost annually.
- Production forests' average growing stock is half of its potential.

69% of total **pastureland** is degraded to various levels of severity.



Source: MET, 2024

Compounded by Climate Change effects

1940-2021:

Air temperature 2.5°C ⬆

Total annual precipitation

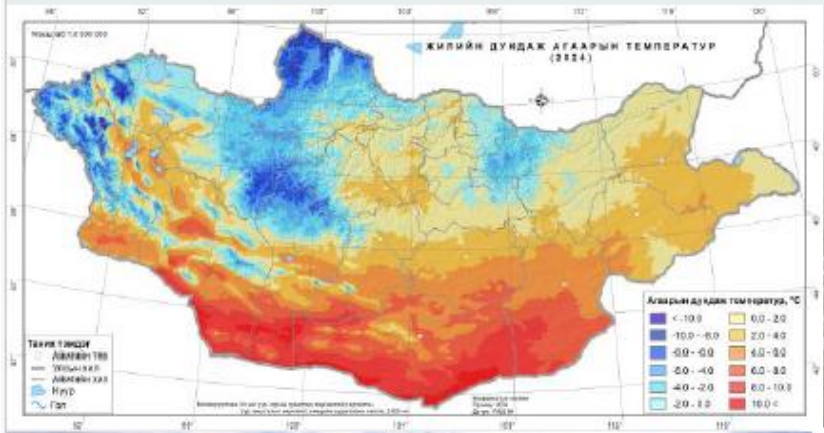
7.3% ⬇

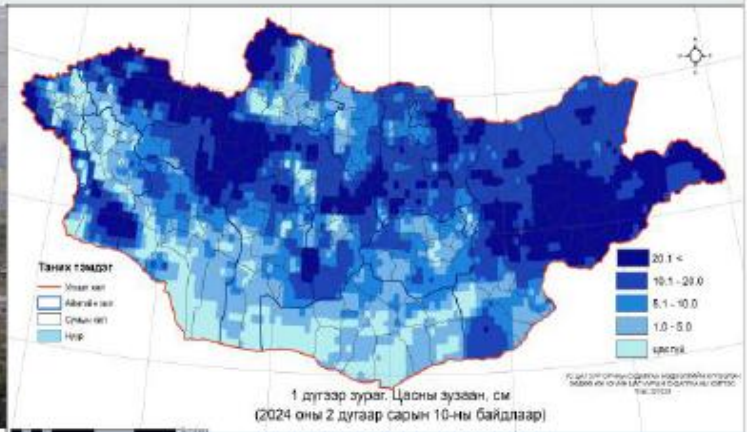
2023 Amount of precipitation 251.2 mm

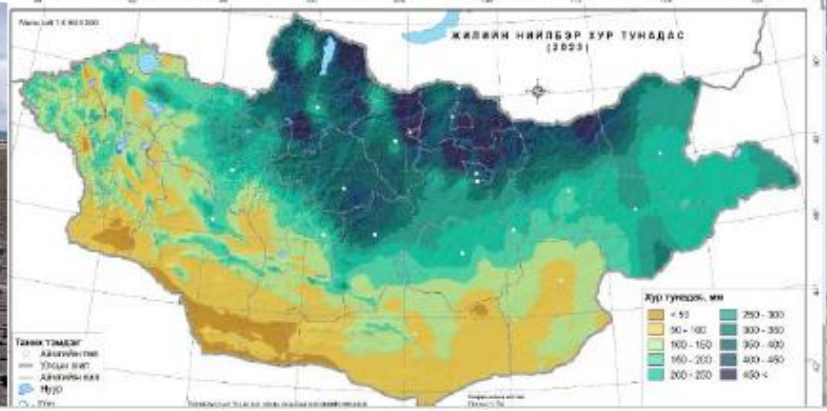
MAX 558.9 mm
MIN 36.4 mm

Meteorology-related disasters **2** ⬆

Snow depth increases: **MAX 60 см**
MIN 1-5 см







4. The way forward:

investing in integrated landscape management for improved livelihoods, resilience, and carbon neutrality

NBS and ecosystem services are at the center of the Government Program of Action (2024 – 2028)

- Reducing **water scarcity**, **desertification** and **drought** in **Kherlen-Toono** and **Orkhon-Ongi** through BTNM
- Restoring **Ongi River** and Ulaan Lake for **improved water supply and biodiversity**, decreased **soil erosion**, and **reduced desertification**.
- Protecting and restoring **ecologically important water reservoirs** such as **Khuvsgul Lake, Ganga Lake, Ögii Lake, and Kherlen River**, and ensuring water quality
- Introducing advanced technologies in **forest management**, reducing **forest loss and degradation**, and **protecting forest from insects and fire**.
- Applying **nature-based measures** to restore and increase agricultural buffer zones
- Developing **nature tourism** in **northern region (Khuvsgul Lake) and western region (Altai mountain range, Great Lakes and Otgontenger)**.
- Stopping **biodiversity loss**, expanding protected areas, improving management and protecting natural resources.

Billion Tree National Movement (2021-2030)

PHASE

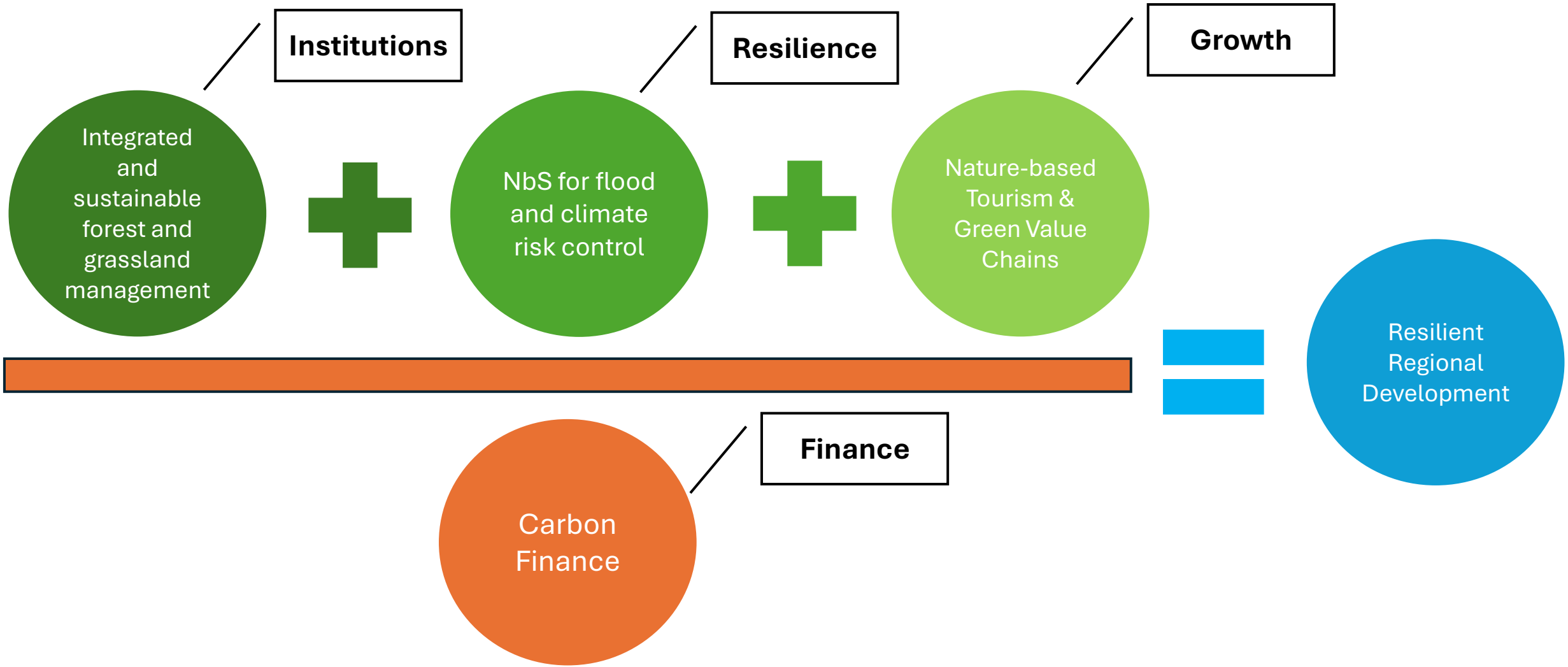
- **Preparatory** 2021-2024
- **Intensification** 2025-2027
- **Sustainable implementation** 2028-2030

- **Urban forest 186.919.684**
- **Desertification and land degradation 541.648.306**
- **Food supply 155.810.650**
- **Forest degradation 625.221.360**

Result	Target level				
	Baseline level	2024	2025	2030	2050
Forest covered area%	7.9% (2019)	**8.6%**	**8.7%**	**9.0%**	10.5%

Three investment areas underpinned by sust. finance

A whole-of-economy effort is needed, including public and private sectors, and leveraging diverse financing opportunities such as green value chains (eg NBT, SFM, etc) and carbon finance



How the World Bank is helping

Advisory Services and Analytics (ASA)

- Mongolia CCDR
- Policy Note on nature as green infrastructure for improving livelihood and resilience
- Livelihood dependence analysis on NRs

Investment design

- Investment projects in agriculture and water
- Design of green investment plans for integrated landscape interventions
- Green value chains

Attract carbon finance

- Improving forest carbon data and capacities
- Support for carbon market Readiness
- Support for LEDS development

The strategic relevance of the KGGTF TA

National green ambition…

- Mongolia has an ambitious NDC and the BTR identifies the role of the BTNM in further raising its ambition
- KGGTF grant objective: To support the operationalization of carbon finance opportunities in the forest sector.

Components:

1. Fill key (carbon) data gaps needed to apply available GHG methodologies in the BTNM
2. Training and capacity building for applying GHG accounting in the BTNM
3. Identify investment needs and business plans to operationalize carbon finance in the BTNM

Korean Partners: AFOCO

Timeframe: until April 2026

… and a Mongolia-WBG deepening dialogue on green growth

Analytics on NBS potential

Mongolia Climate and Development Report (CCDR)

PMI - Carbon market readiness

KGGTF – Operationalizing carbon finance in the BTNM

PROGREEN/GPS – Integrated landscape investment design

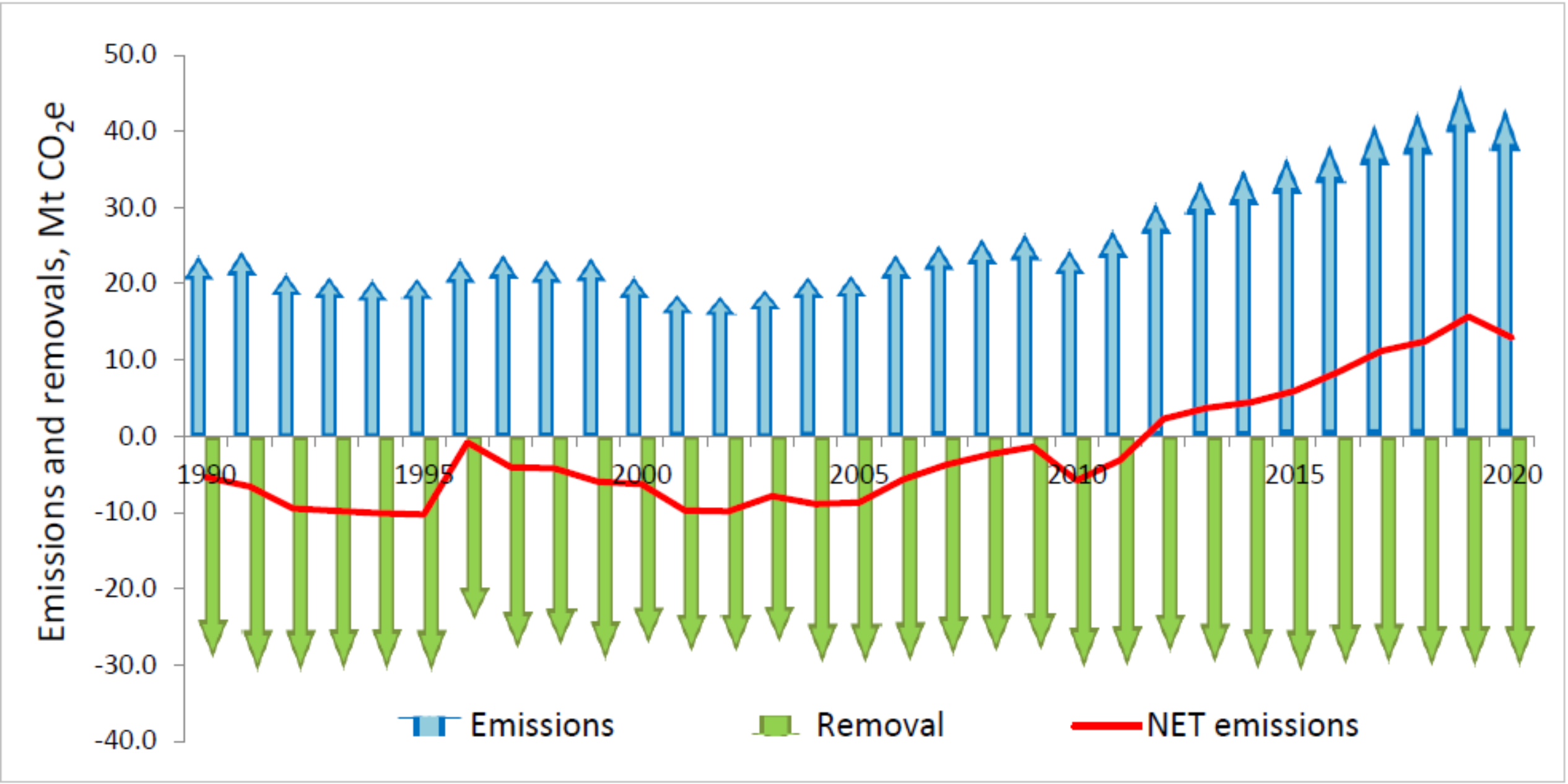


Figure 2-2: Mongolia's total and net GHG emissions and removals, 1990-2020 (Mt CO_2e)

Table 2-3: Mongolia's GHG emissions/removals by sectors in 1990 and 2020

Sector	Emissions and removals, ($Gg\ CO_2e$) 1990	2020	Change from 1990 ($Gg\ CO_2e$)	Change from 1990 (%)
Energy	12,086.55	19,292.48	7,205.92	59.62%
IPPU	284.98	1,147.75	862.77	302.75%
Agriculture	11,221.64	22,390.57	11,168.93	99.53%
Waste	55.62	250.82	195.20	350.95%
Total (excluding LULUCF)	23,648.79	43,081.62	19,432.82	82.17%
LULUCF	-29,027.19	-30,172.52	-1,145.33	3.95%
Net total (including LULUCF)	-5,378.40	12,909.10	18,287.49	340.02%

Takeaway Message

The BTNM represents a substantial opportunity to leverage carbon finance to create a positive investment loop for maximizing the economic and climate benefits of Mongolia's forest resources under an integrated landscape management approach that can deliver on growth and resilience

Thank you!