

Developing a theoretical framework for just transitions scenarios to net-zero carbon emissions for all (JustTrans4ALL)

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Klimaszenarien und Gerechtigkeit

1.5C IPCC Bericht und politischer Einfluss



UN Secretary General at COP26 World Leaders Summit
Credit: UNFCCC

“we must keep the goal of 1.5 degrees Celsius alive. This requires greater ambition on mitigation and immediate concrete action to reduce global emissions by 45 per cent by 2030”

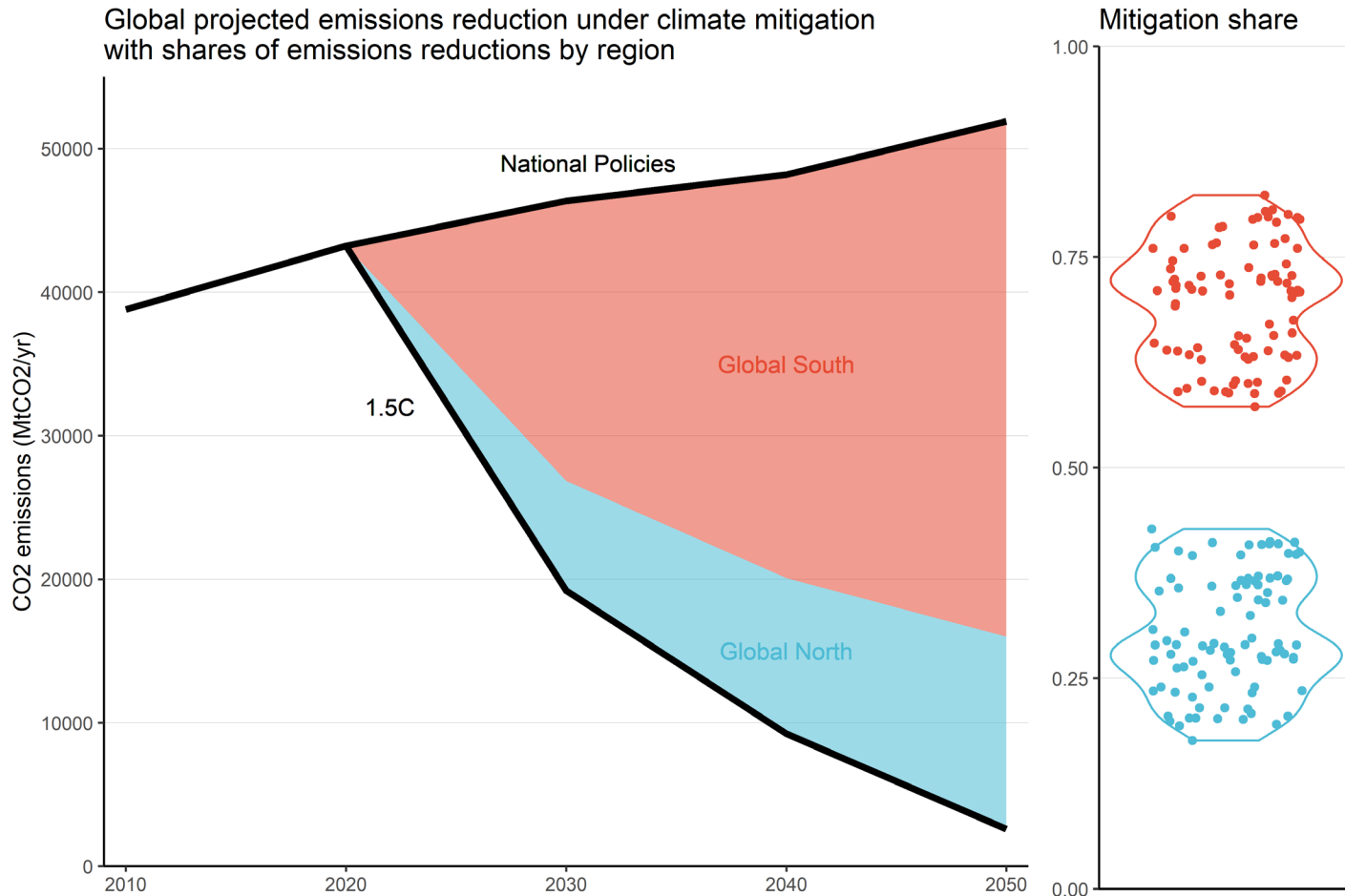
Source: <https://unfccc.int/news/un-secretary-general-cop26-must-keep-15-degrees-celsius-goal-alive>

ABER:

“Multiple sources involved in the virtual session told Nature that the negotiations to finalize the report were bogged down as government delegates hashed out perennial arguments over climate mitigation. In particular, negotiators for India raised questions about emissions scenarios in the report, arguing that they assume too much action on the part of developing countries and do not adequately reflect questions of equity and responsibility.”

<https://www.nature.com/articles/d41586-022-00951-5>

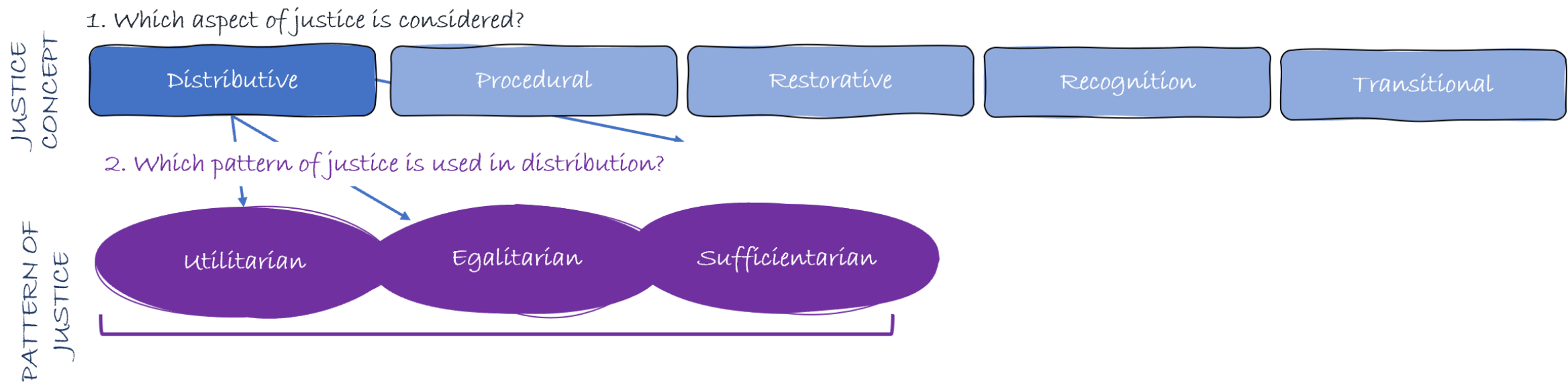
Gerechtigkeit wird in den Klimaszenarien nicht explizit berücksichtigt



- Viele Technologien zur CO₂-Reduktion werden dort eingesetzt, wo es am kostengünstigsten ist (somit werden die globalen Kosten minimiert)
- Aber wie gerecht sind solche Szenarien?

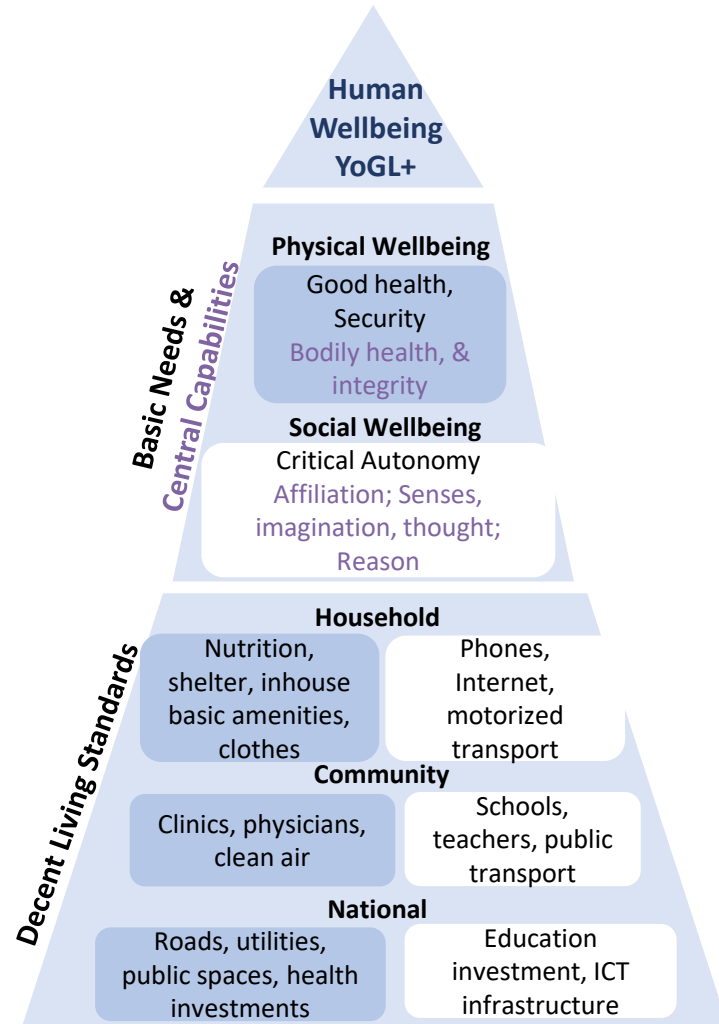
Was ist Gerechtigkeit und wie kann man diese im Kontext von Klimaszenarien operationalisieren?

1) Szenarien evaluieren



2) Neue Szenarien entwickeln

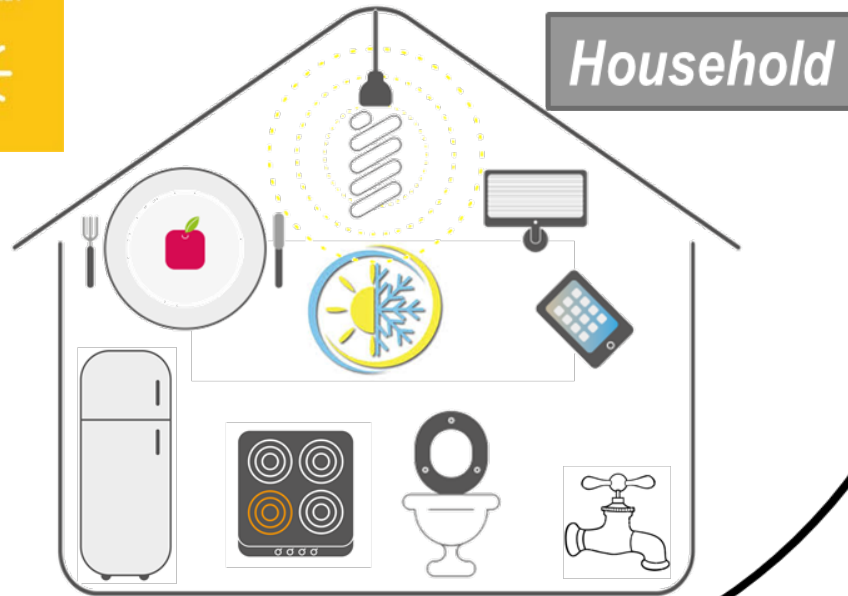
Gerechtigkeit bezieht sich nicht nur auf die gerechte CO2 Emissionen Verteilung



Adapted from Rao and Min 2018.

- Viele Studien analysieren Gerechtigkeit indem sie CO2 Emissionen Verteilung oder Auswirkungen auf GDP per capita vergleichen
- Basierend auf der Arbeit von **Rao & Min (2018)** schlagen wir neue Indikatoren vor: **Decent Living Standards** und **Human Wellbeing**

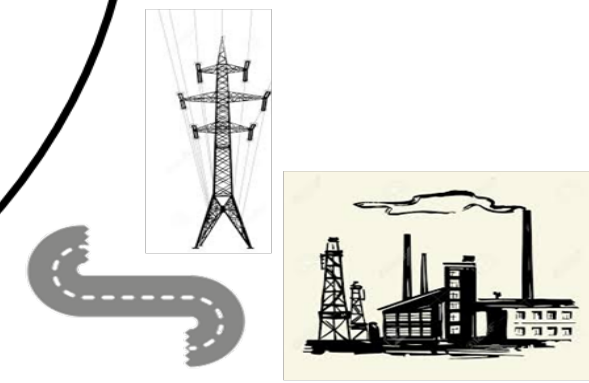
Decent Living Standards



Health
Education
Mobility



Supporting Infrastructure



Decent Living Standards

Material basis for well-being

DLS Indicators

Dimension	Unit
Food	kCal, Micronutrition
Shelter Comfort	m ² , Durable (°C, RH)
Basic appliances	Stove, TV, Fridge
Health/Educ	\$\$
Clothing	Kg
Water/Sanit	Access, m ³
Mobility	P-km

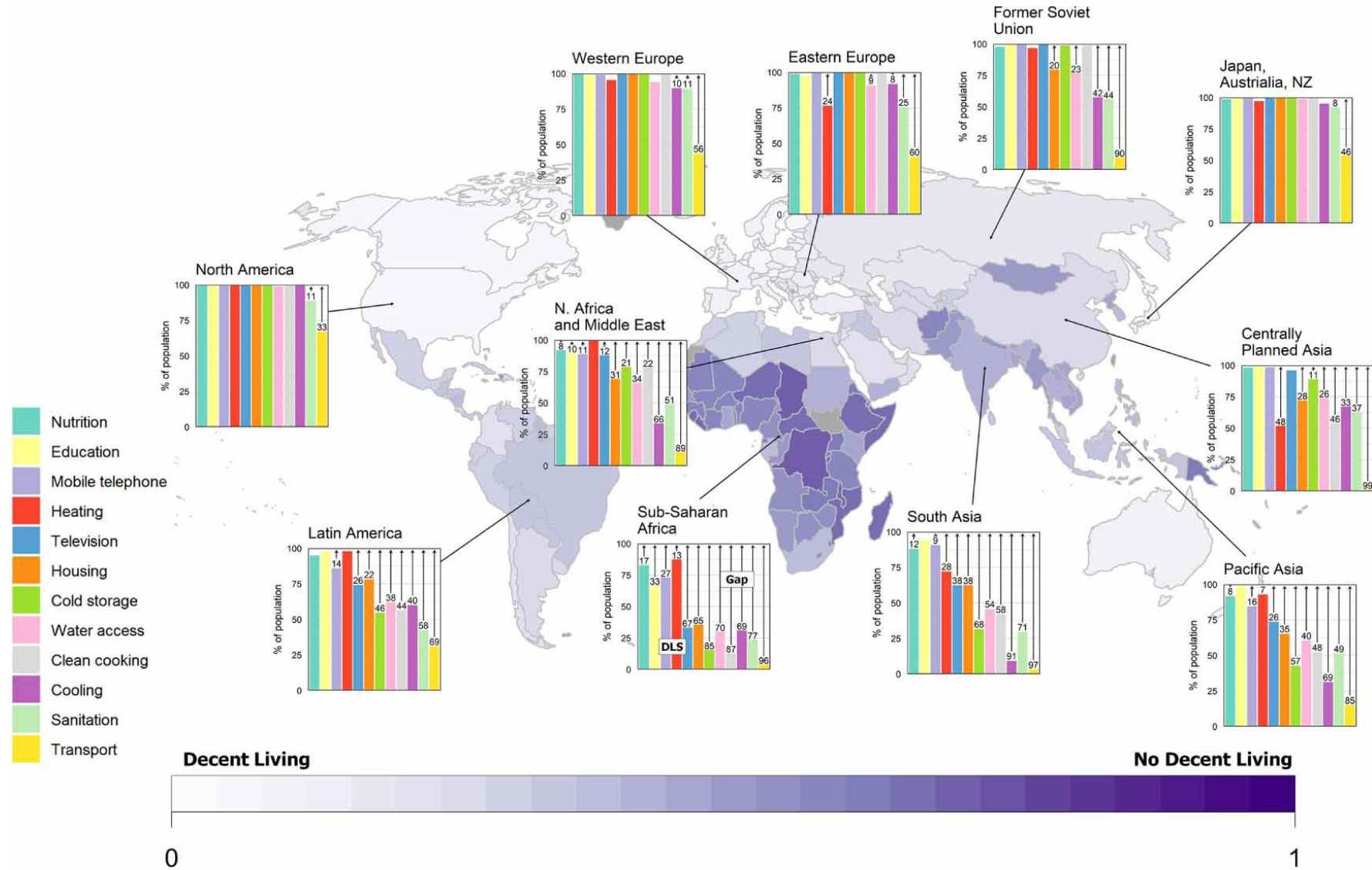
Physical Wellbeing

Dimension	Description/ (Minimum) Thresholds
Housing	Safe, durable (permanent), min space (10 m ² /cap)
Thermal comfort	AC Use (26°C, 60% Humidity), 1 bedroom, nights only. Heating to 18°C
Nutrition	Macro- and micronutrients (protein, zinc, iron, calories)
Clean ckg	LPG or electricity cook stoves
Water	65 l/cap/day, indoor access
Sanitation	Sewage distribution (urban only)
Appliances	Fridge: <200 l; TV; cell phone per adult
Health care	\$665 per capita (national)
Education	\$1000 -\$1500 per student (national)
Mobility Infrastructure	10K p-km motorized; paved roads; public transit

Social Wellbeing

Decent Living Gaps Today

Mean decent living standards deprivation indicator



Nächste Schritte

- 1) Weitere Datensammlung und Analyse: Welche Faktoren beeinflussen bessere und gerechte Verteilung von Decent Living Standards/Wellbeing?
- 2) Wie gerecht sind die neuesten Szenarien aus dem IPCC AR6?
- 3) Wie kann man eine neue Generation von Szenarien entwickeln, die Gerechtigkeit explizit berücksichtigen (welche Annahmen müssen verändert werden)?

On behalf of the JustTrans4All team, **thank you for your time.**

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