

#### **ENGAGE**

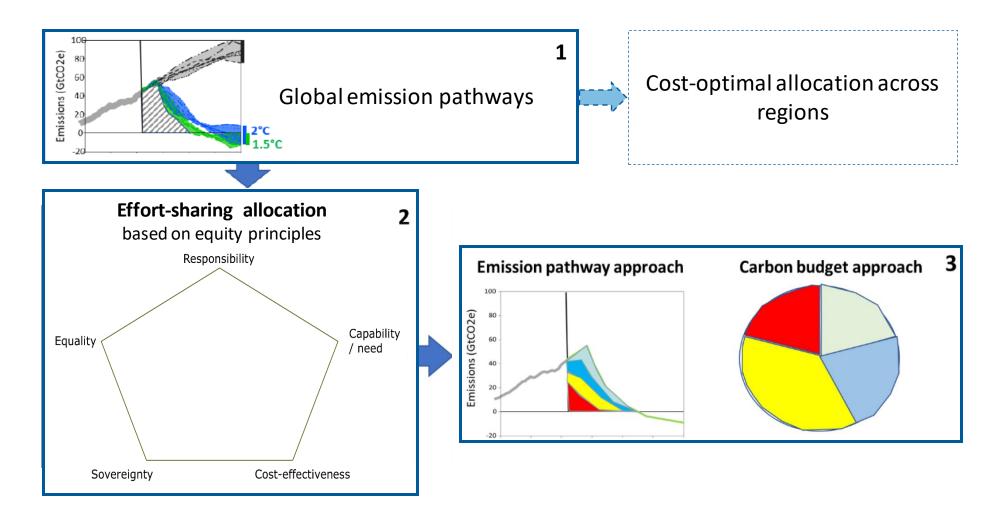
Exploring National and Global Actions to reduce Greenhouse gas Emissions

# Equity principles - how do we share the challenges of decarbonization in a fair way?

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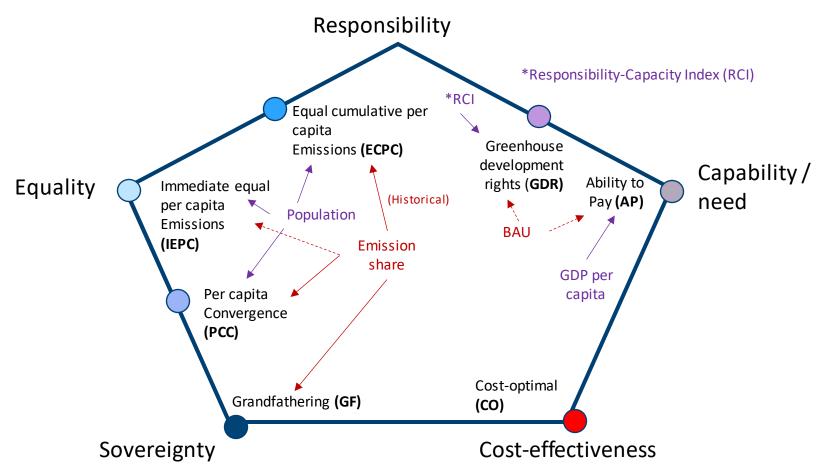


#### Approaches for achieving decarbonization pathways





#### Equity principles and effort-sharing approaches

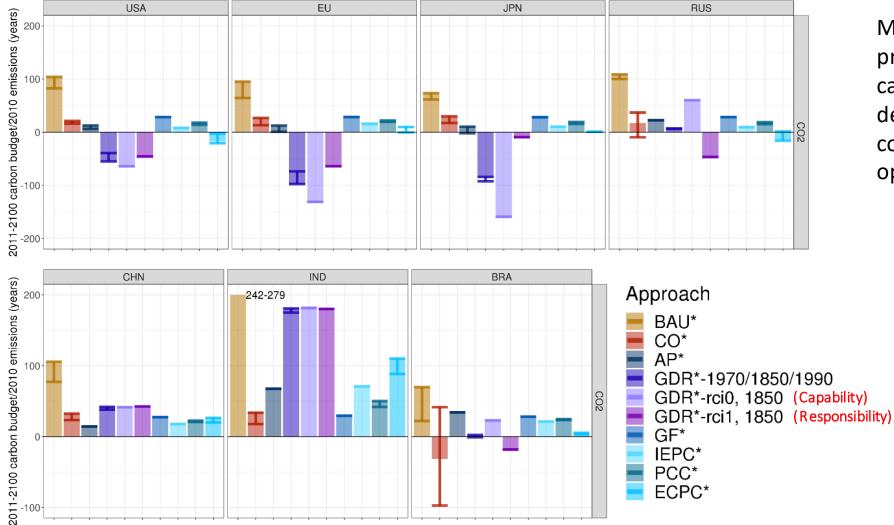


Adapted from (Höhne et al. 2013)

#### Carbon budget approach

#### ENGAGE

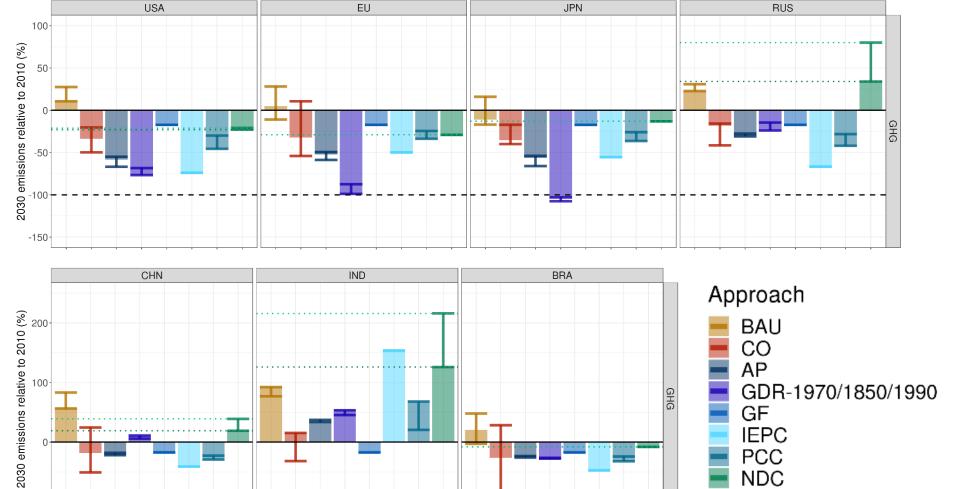
2011-2100/2010 emissions (in years)



Majority of equity principles imply lower carbon budgets for developed countries compared to costoptimal budgets



#### Emission pathways approach 2030/2010 (as %)



Majority of equity principles allocate less emission allowances to developed countries compared to cost-optimal budgets

(source: van den Berg, 2019)

NDC



## Towards equitable mid-century strategies

- Expand effort sharing analysis to inform long-term strategies consistent with 1.5/2 °C global targets
- Provide evidence for an equity-based strengthening of NDCs
- Explore different effort-sharing schemes according to stakeholder stated preferences
- Explore different governance archetypes that formulate the equity-based policy regimes

# Domestic scheme Domestic implementation of 2050 equity-based targets Joint commitment to mitigation action with weak coordination among parties

#### International scheme

Global implementation of cost-optimal efforts combined with equity-based permit allocation or financial transfers

Joint commitment to mitigation action with weak coordination among parties

#### Hybrid scheme

Formation of carbon club:

- Coalition of the willing to cover emissions gap (i.e. difference of regionspecific prefered equity-based target from cost-optimal levels)
- Club benefits (e.g. lower RES capital cost, trade agreements, technology diffusion, low-cost climate finance)
- Asymmetric commitment to mitigation action with partial coordination among parties



## Thank you for your attention



