

Equity and effort sharing in climate change mitigation strategies

This research study investigates expert and stakeholder perspectives on ethical principles and effort sharing mechanisms for climate change mitigation strategies. It is based on a **5 minute online survey** (<http://www.engage-effort-sharing-survey.com>) that is administered to a sample of experts, policymakers, and stakeholders from a wide set of countries across the globe. **The survey data is anonymized and employed exclusively for research purposes.**

The survey has been developed by researchers at the Euro-Mediterranean Center on Climate Change (CMCC) in Milan and the International Institute for Applied Systems Analysis (IIASA) in Vienna. The contact person for the study is Professor Valentina Bosetti (E-mail: valentina.bosetti@eiee.org; Tel: +39 342 6133782).

The objective of the study is to assess preferences for climate mitigation effort sharing mechanisms based on different ethical principles, and to compare preferences of respondents in countries with different current and historical emission levels.

Table 1 and Figure 1 summarize the climate mitigation effort sharing mechanisms that are included in the study and the ethical principles they are based on.

Mechanisms		Criteria to allocate future emission allowances	Ethical principles
	Grandfathering	GF In proportion to current emissions shares	Sovereignty principle – ‘acquired rights’ of nations justified by established custom and usage
	Per capita convergence	PCC To converge over time to being proportional to population shares (equal per capita emissions)	Sovereignty and equality principles
	Immediate per capita convergence	IEPC Immediately allocated in proportion to population shares (equal per capita emissions)	Equality principle – equal value of all humans, having equal claim to global collective goods
	Greenhouse development rights	GDR Based on a Responsibility-Capacity Index combining past emissions, GDP per capita and income distribution measures	Responsibility and capability principles – idea of safeguarding people’s right to reach a dignified level of sustainable human development
	Ability to pay	AP Inversely proportional to annual GDP per capita, with richer countries undertaking higher emission reductions	Capability principle – ability to bear the burden

Table 1. Description of the selected climate mitigation effort sharing principles.

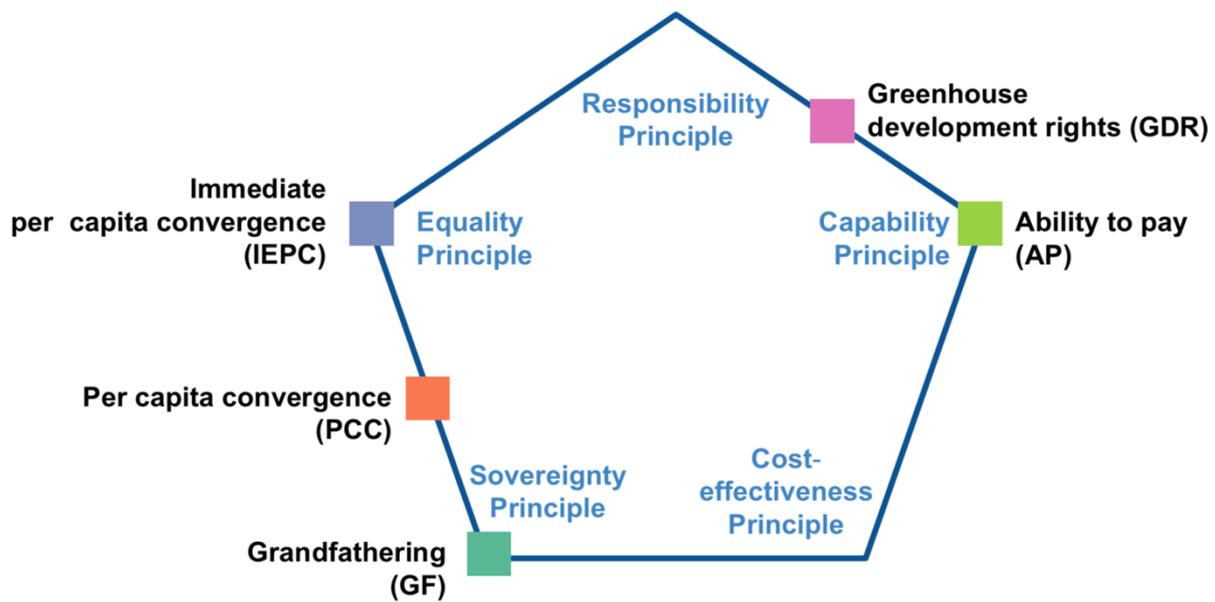


Figure 1. Graphical representation of ethical principles and selected climate mitigation effort sharing mechanisms.

An online interactive tool (<https://engage-effortsharing.netlify.app/>) has been developed to allow more in-depth exploration of the emission implications of the different effort sharing mechanisms.

The survey results will inform research on global climate mitigation strategies and the design of climate mitigation policies, as well as integrated assessment modeling efforts.

This study is part of the EU Horizon 2020 [ENGAGE](#) Research Project, which explores the feasibility of climate policies that can help meet the objectives of the Paris Agreement.

References

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