



**Department of
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The Fraught Politics of Measurement: Greenhouse Gas Accounting and Climate Governance

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Production vs. consumption accounting

The United Nations Framework Convention on Climate Change requires national governments to submit national GHG inventories that reflect their country's responsibility for *production* rather than for *consumption*.

Production-based inventories

A production-based inventory measures total GHG emissions directly from production activities within a particular country.

Consumption-based inventories

A consumption-based inventory measures emissions associated with consumption in a given country.

Effects of production-based accounting on mitigation efforts

Policymaking that focuses on minimizing domestic production-linked greenhouse gas emissions rather than total GHG emissions undermines effective mitigation efforts.

(1) Domestically, it results in **unbalanced mitigation policies** because local production technique is emphasized over the scale and composition of consumption.

(2) Internationally, it undermines the pursuit of **environmental efficiencies and environmental comparative advantage**.

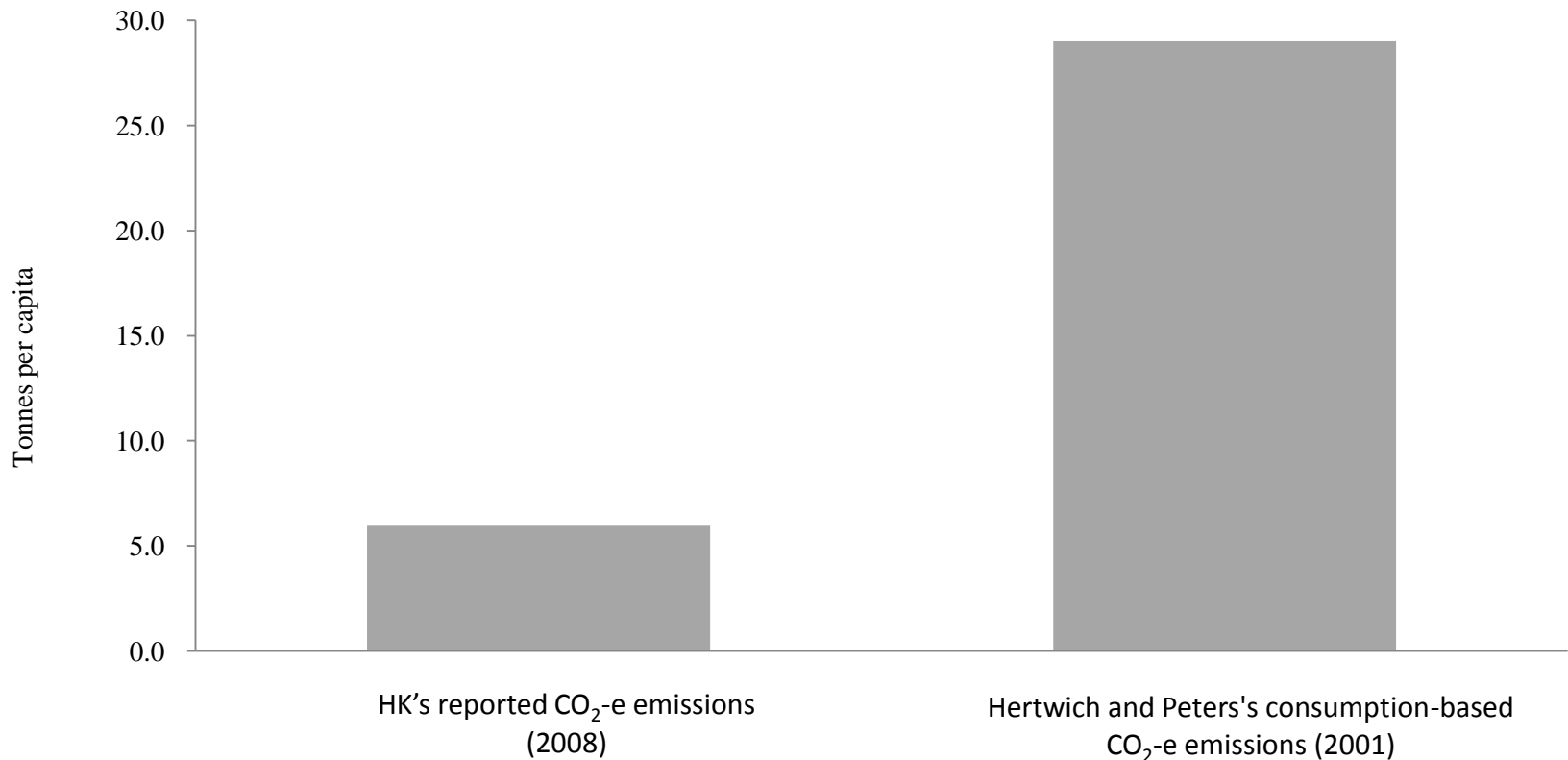
(3) It encourages “**carbon leakage**” from developed to developing economies.

Norm Hierarchy and the climate change regime

Ascendant Norms	Subsidiary Norms	Description of Conflict
Statism	Neoliberal environmentalism	While the Kyoto protocol's flexibility mechanisms create the potential for global application neo-liberal market solutions, national production-based emissions targets remain the dominant emissions control measure; production accounting is inconsistent with efficient emissions reduction via national targets.
<i>Common but differentiated responsibility</i>	Reciprocity	Most developing states are supporters of a strict interpretation of common but differentiated responsibility; developed states typically support a greater level of reciprocity in climate mitigation policies.
<i>Right to economic development</i>	Ambitious emissions-reduction targets	To date the right to development has been prioritized over adoption of global emissions-reduction targets that would limit global warming to a safe level.

An illustration of the problem: GHG accounting in Hong Kong

Hong Kong's GHG inventory captures those emissions linked to local **production** but does not include emissions embodied in **consumption** of imported products.



Source: Hertwich, E., and G. Peters (2009), 'Carbon footprint of nations: A global, trade-linked analysis', *Environmental Science and Technology*, 43, 6414-20 .