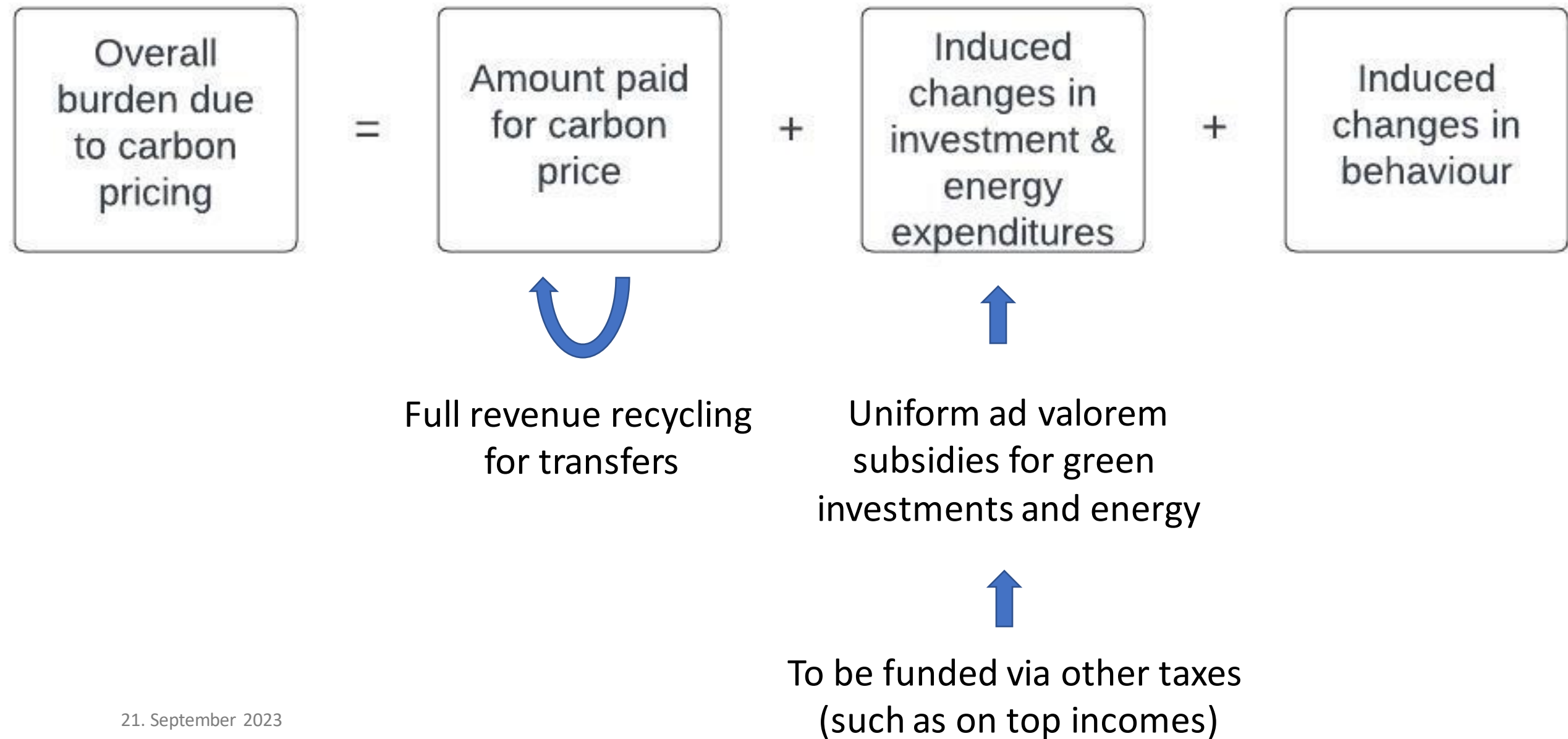


Making everyone win from carbon pricing in the building sector

Lennart Stern (PIK&MCC)

Based on joined work with Matthias Kalkuhl, Noah Kögel, Maximilian Kellner and Karolina Rütten

Compensating the 3 burdens of carbon pricing



Grandfathering à la gas-price brake?

Proposal: Each year, split the carbon pricing revenue between houses in proportion to their emissions in 2022.

Would initially achieve exact compensation.

But: Houses differ in their cost of switching to a heat pump (floor heating expensive to retrofit).

Houses with high switching costs will (efficiently) switch late and get **undercompensated**.

Ex post: Political pressure to reset the baseline (e.g. in 2036 based on 2035 emissions).

Anticipation of reset undermines the incentives to switch.

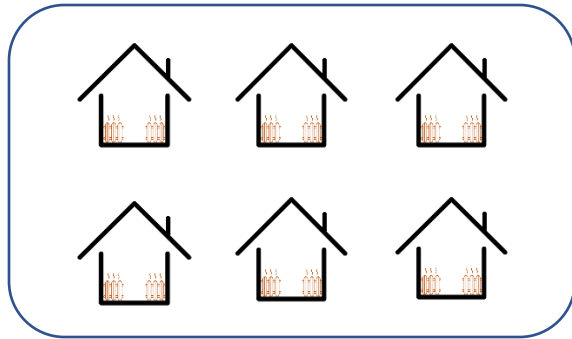
If reset is anticipated to happen on average ever 10 years, carbon prices need to **triple** to achieve the same incentives.

Category-based Transfers

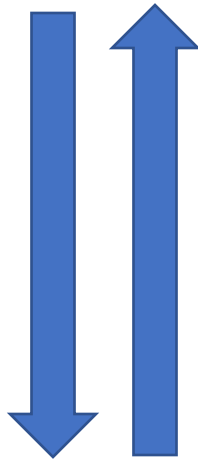
Category A:

single home, efficiency grade G

Ribbed radiators, built 1980-89



Each building
pays carbon
price on
individual
emissions



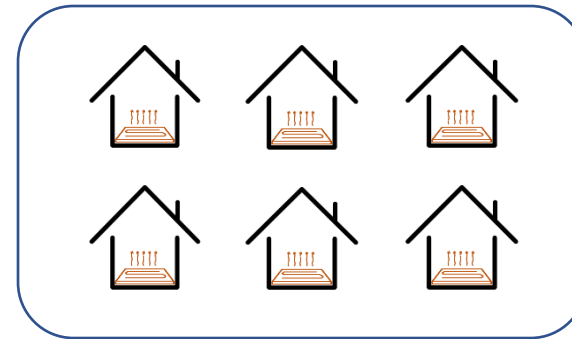
Every year,
all revenues
are recycled
back based
on area
share

€ € € € € €

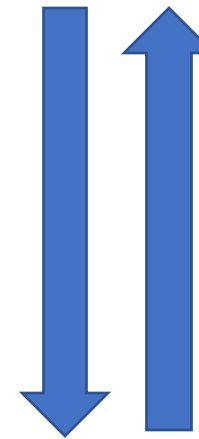
Category B:

single home, efficiency grade G

floorheating, built 1980-89



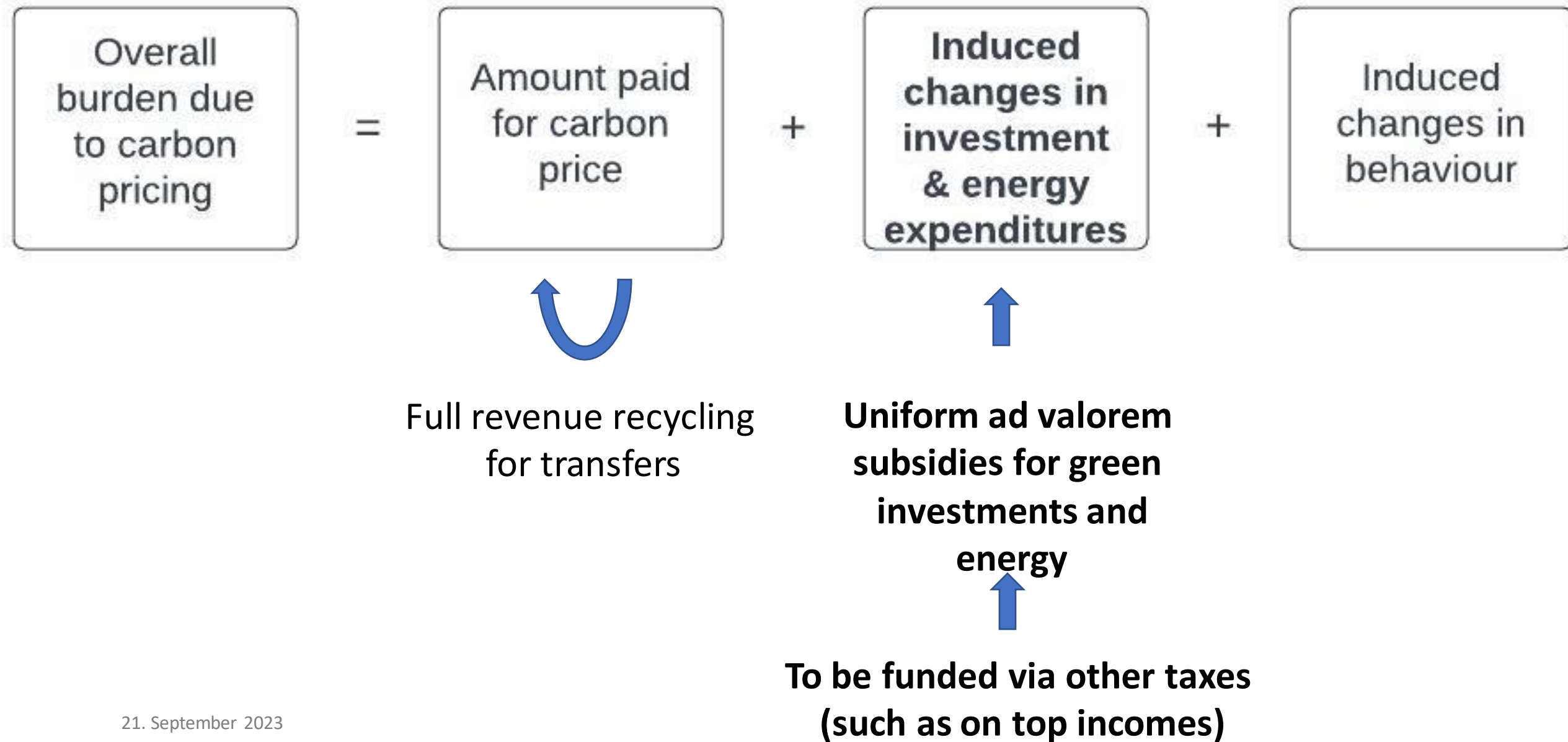
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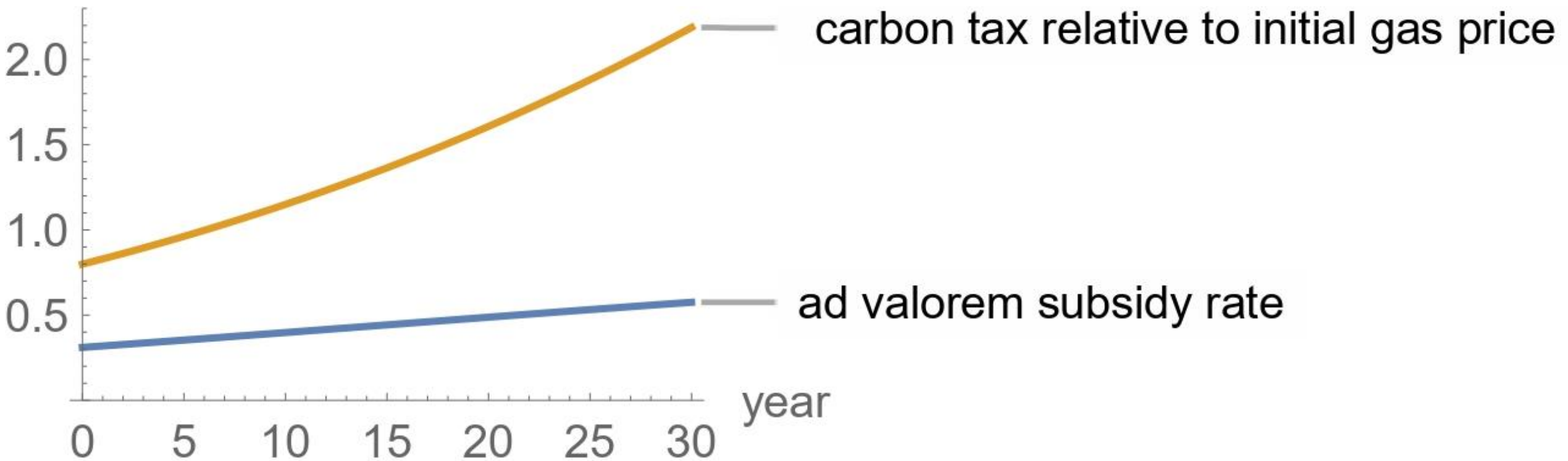
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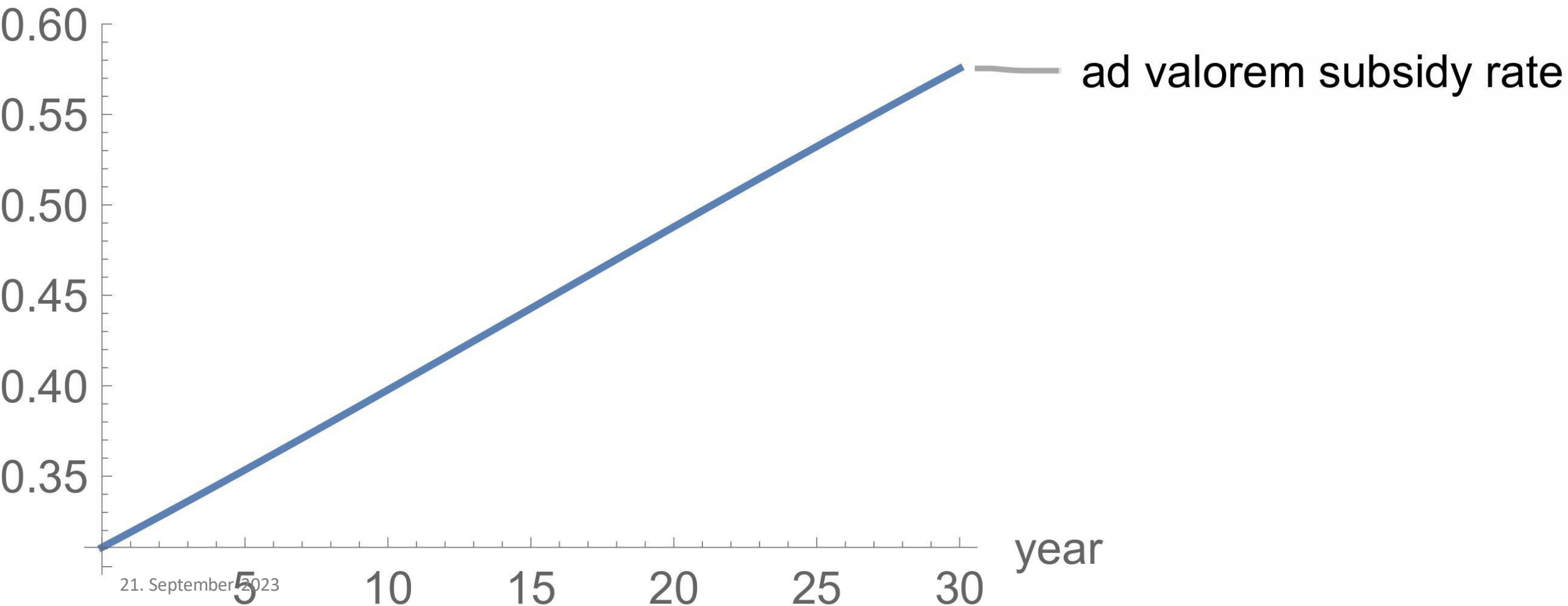
Uniform ad valorem subsidies



Uniform ad valorem subsidy rate on green investments and energy achieving exact compensation (if gas price grows at 2% p.a.)



Uniform ad valorem subsidy rate on green investments and energy achieving exact compensation (if gas price grows at 2% p.a.)



Funding the subsidies

Proposal for a club (within the EU)

Membership right: Propose "Global Externality Correction Reward Funds (GECRFs)" and vote on their eligibility.

(E.g. a fund splitting its budget between club members proportionally to their emission reductions relative to baseline path)

Membership obligation: charge a tax with a fixed rate on top incomes/wealth/luxury goods and allocate the revenue to the GECRFs