



PIIE PETERSON INSTITUTE FOR
INTERNATIONAL ECONOMICS

The Macroeconomic Implications of Climate Action

*Discussion of “How to Cooperate” by Chad Bown and Kim Clausing and
of “Innovations for an Open Strategic Autonomy Clean Energy
Industrial Policy” by Reinhilde Veugelers*

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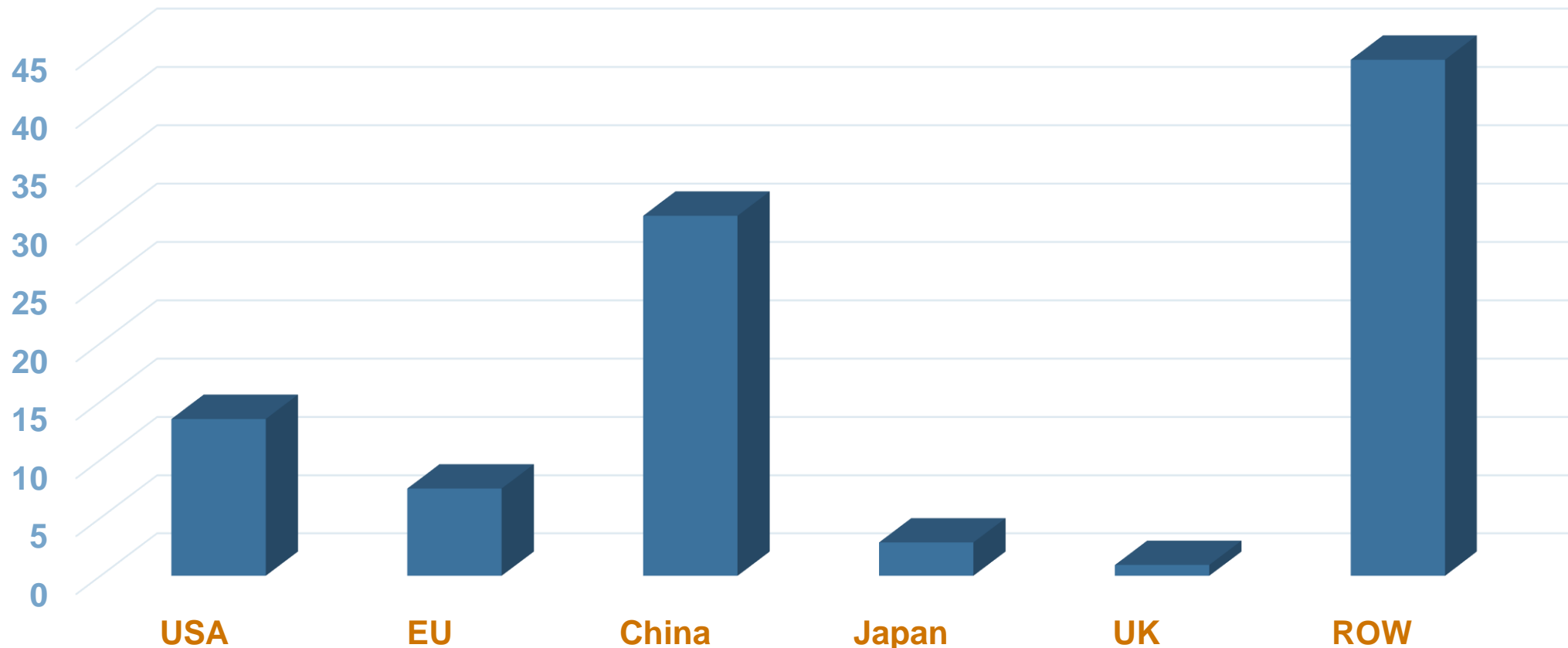
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Two excellent papers

- Bown and Clausing focus on frictions owing to the very different US, EU, and Chinese approaches to carbon emissions reduction
 - A key message is that there are risks that trade tensions will undermine efficient action for the common good
 - They suggest that the trio commit to a rules-based approach consistent with WTO obligations
- Veugelers focuses on EU and US industrial policies, but also on multilateral initiatives and organizations
 - She makes a strong case that existing R&D support for new sources of clean energy and modes of carbon mitigation are lacking or inefficient
- Both papers' messages need to be taken to heart

USA, EU, China about *half* of global challenge

Global CO₂ emissions shares, 2021

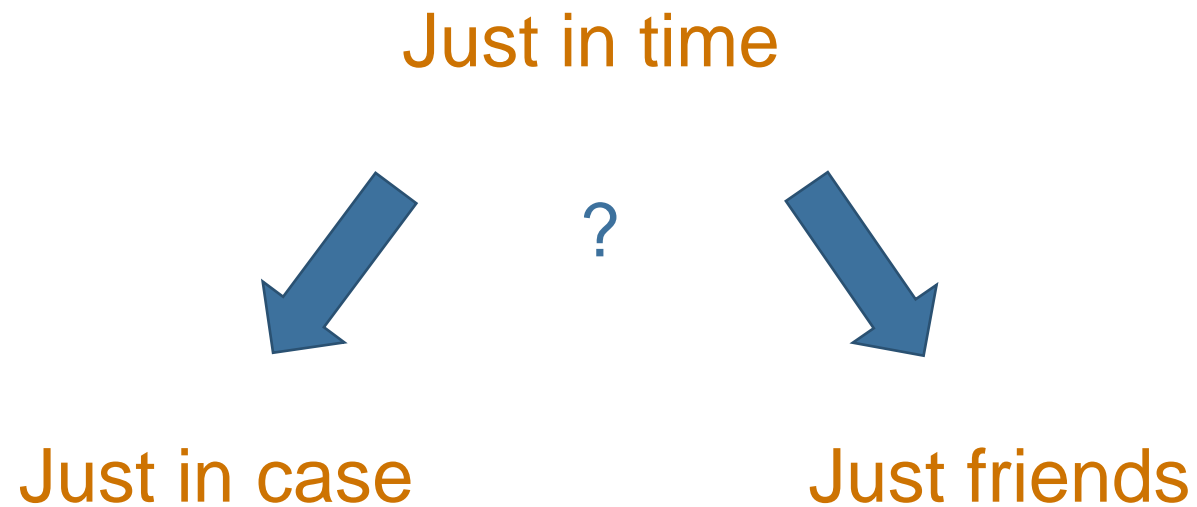


Source: OWID,
Accessed 6/3/23

Most of ROW emissions from L&MICs

- India is most notable, accounting for 7.3% of 2021 global emissions
- Indonesia accounts for 1.6% (76% more than the UK)
- Any solution to the global climate crisis must provide incentives, options, and capacity to the lower-income world
- While engaging China in a constructive fashion
- Shifting supply chains → geopolitical as well as economic spillovers

Supply-chain choices after 2020-2022 shocks



More resilience needed, but market won't deliver

- Just-in-time and just-in-friends overlap to the extent that potential shocks are geopolitical
- Theory tells us that networks can be very fragile – localized, small shocks can destabilize entire systems (for a survey, see Elliott and Golub, *Annual Review of Economics*, 2022)
- Resilience cannot be fully decentralized via market forces → government role
- Each agent may lack sufficient incentive to invest in resilience, not necessarily internalizing the beneficial effects on others
- More interconnection may be better for small shocks, worse for big shocks – security versus efficiency tradeoff?

How to bolster resilience while minimizing collateral damage?

- Beggar-thy-neighbor pursuit of resilience will alienate key partners in the process
- This includes hostile acts meant to ensure leadership in green technology – these risk forgoing international spillovers from R&D, LBD, and innovation
- Flouting WTO rules is especially threatening for smaller countries
- “Climate clubs” may backfire if poorer countries feel impoverished and penalized – most (e.g., Brazilian Amazon) are key custodians of the global commons
- Proposals like the US proposed Foreign Pollution Fee Act are discriminatory absent a US carbon price and amount to barely disguised tariffs
- Ideally countries would embrace similar carbon pricing models – with lower-income nations supported by private and official foreign resource flows
- Symbolism and substance of the SCC concept (not lost on Trump administration)

Bown and Clausing masterfully analyze tensions from divergent climate approaches

- Chinese subsidization
 - Non-transparent, causes trade tensions, fears of technological “dominance” and extortion
- EU more price-based approach, impending CBAM
 - Helps import competing sectors but not exporters, who also might have benefited on the cost side from more carbon leakage
 - VAT-style export rebate would look like carbon dumping
- US IRA subsidies with buy-American provisions
 - Complex workarounds to (partially) assuage allies (Bown, PIIE w.p., 2023)
 - Unambiguous WTO violation
- Silver lining: all pull in the same direction to curb carbon
- Possibility of net-virtuous policy competition (Clausing and Wolfram, *JEP*, forthcoming; Kierkegaard, PIIE blog, 2023)

Political economy barriers to carbon pricing

- Subsidization is path of least resistance
- Expansionary, not contractionary, in principle (but, Metcalf and Stock, *AER*, 2020) – carrots are easier to swallow than sticks
- Exceptionally strong fossil fuel influence in the US
- EU may be special in its wariness of subsidies that could upset the single market level playing field
- But: fiscal costs of subsidization
- Easier to do lump-sum (redistributive) rebates than to raise taxes

Canada put in place a federal carbon-price floor in 2019

- But not without domestic political strife
 - Conservatives made carbon charge a central issue in the 2019 election – and lost
 - Several provinces contested constitutionality of federal action in court – and lost
 - Ontario premier Doug Ford mandated gas pump stickers highlighting higher gasoline costs
 - Ontario supreme court ruled this was unconstitutional compulsory speech
 - Post-Trump US courts may not be as supportive – mifepristone is iceberg's tip ☹️



Carbon price necessary, but insufficient alone

“I believe that the most important place that economists can add value to the climate policy discussion now is by focusing on policies that drive low-carbon technical innovation... Ultimately, decarbonization will occur not by forcing consumers and businesses to choose expensive low-carbon technologies over inexpensive fossil fuels but by ensuring that those green alternatives are sufficiently low cost that they are largely chosen voluntarily.”

--Jim Stock (*NBER Macro Annual 2019*)

Pigouvian pricing central to the direction of innovation – but there are other externalities

- R&D and LBD externalities
- Network effects
- Critical mass (scale) effects – open markets help here
- Capital market imperfections – one example, but only one, is availability of developing-country finance

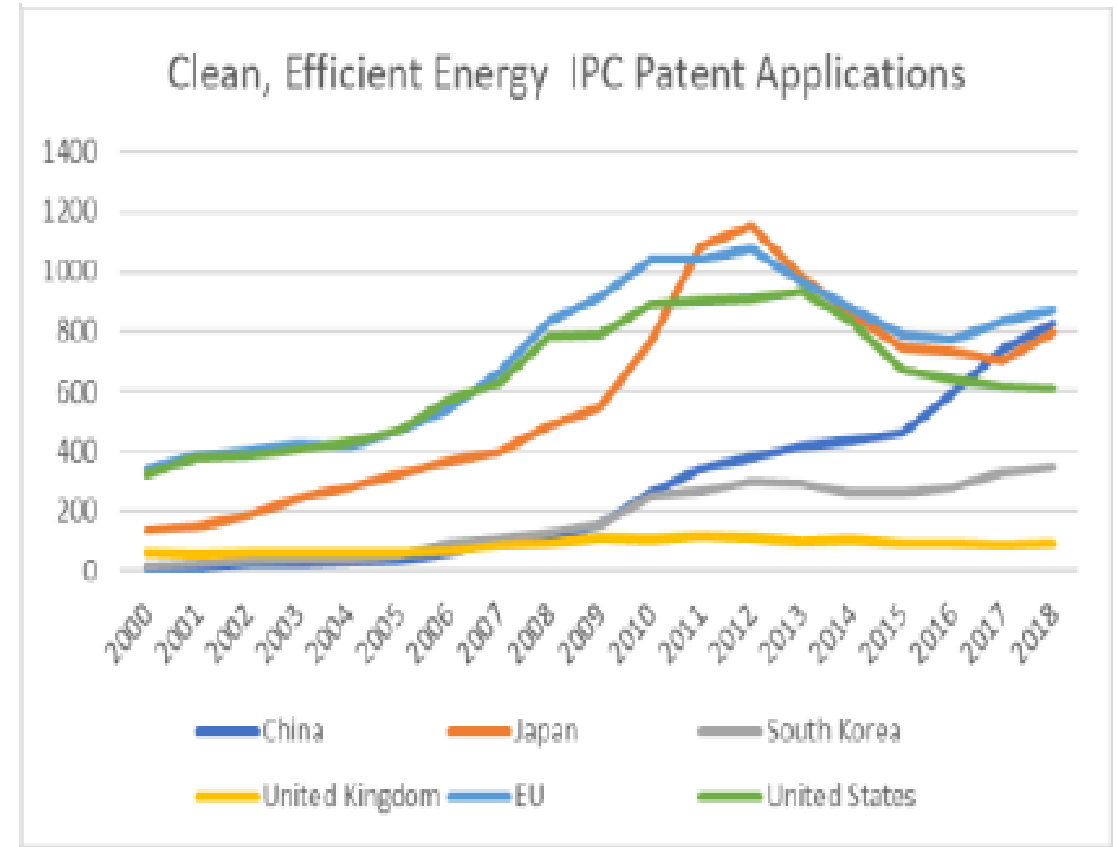
These are all areas where government action may be needed, and where there can be true global externalities warranting global cooperation – different from the spillovers (pecuniary externalities) from the largely zero-sum conflicts over IRA/CBAM

Reinforces Veugelers' messages

- Recent US legislation is falling short in promoting R&D
- EU innovation support is balkanized and not running at maximum potential
- Need EU-level subsidy regime for early stage research (also, Kleimann et. al, Bruegel, 2023), backed by fiscal resources
- But I would question where “protectionist measures against the use of foreign superior technologies, and support for reshoring” would fall on the trade-off between security and efficiency
- Think of China's stance on foreign vaccines
- For US, I worry about politics creating investment uncertainty

There is a larger analogy to the recent (and continuing) vaccine challenge

- Need to pursue many avenues, including long shots, and support complementary sectors
- New technologies will have to be spread to poorer countries with help to upgrade energy infrastructure, avoid carbon lock-in
- We should not seek to hold back China's innovation in this area
- All the more reason for less confrontation, more cooperation

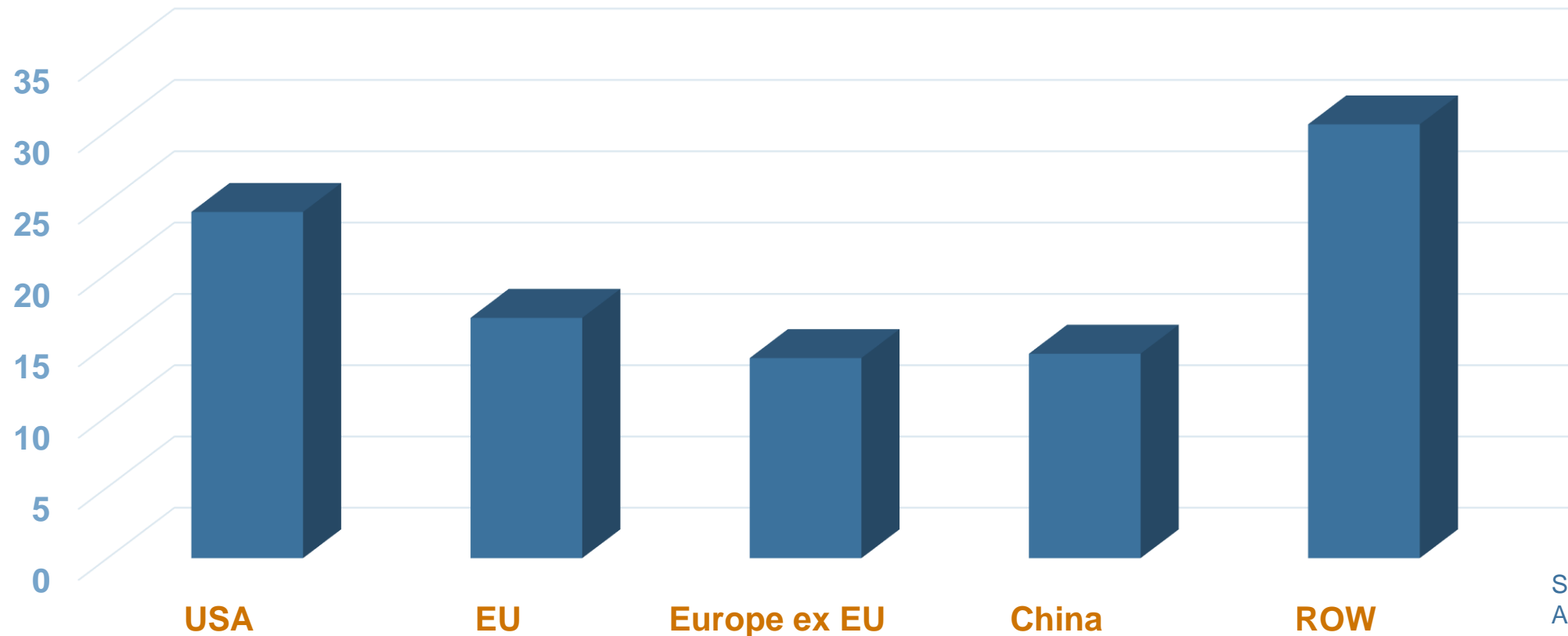


Source: Veugelers (2023)

Thank you.

Non-US, non-Europe CO₂ has added up

Cumulative emissions, 1750-2021 (shares)



Source: OWID,
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