

London Climate Action Week

Managing embodied emissions to improve global climate governance



SUPPORTED BY
MAYOR OF LONDON



London Climate Action Week

Greater London Authority (GLA)

Key Messages

Climate Emergency

1. The Mayor has declared a climate emergency
2. In response London is hosting 1st LCAW
3. It will bring together London's world leading climate expertise
4. The events will showcase practical and new climate solutions

Lobbying Asks

- 1....
- 2...
3. Devolve powers to London and other cities to improve the performance of our buildings

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Overall structure

- Nino David Jordan (UCL ISR): embodied emissions in the built environment and global climate governance
- Athina Papakostas (SCS Railways): Details on embodied emissions in the built environment
- Simon Sturgis (TargetingZero): Whole-life carbon and investment risk
- Matthew Adams (World Green Building Council): How sustainable building councils tackle embodied emissions
- Questions from the audience
- Reception with drinks and nibbles

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This presentation's structure

- Challenges to global climate action
- Border carbon adjustments as response
- California in the vanguard
- Role of EPDs
- Green building schemes
- Synergies between building standards, procurement benchmarks and border carbon adjustments
- Window of opportunity for action on emissions embodied in trade
- Tackling embodied emissions beyond buildings



Challenges to global climate change action

G20 Osaka Leaders' Declaration, 28-29 June 2019:

“The United States reiterates its decision to withdraw from the Paris Agreement because it disadvantages American workers and taxpayers.”

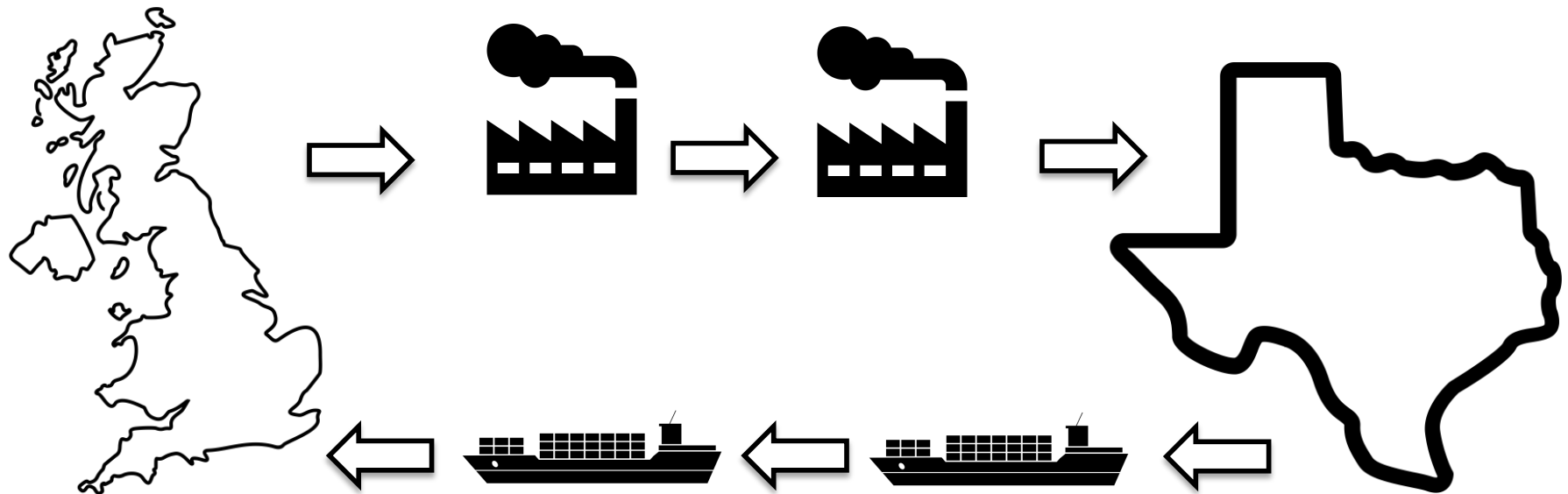


Nino David Jordan

Carbon leakage

Carbon pricing

No carbon pricing



The economists' recipe against carbon leakage:

U.S. Economists' Statement on Carbon Dividends (17 January 2019):

“To prevent carbon leakage and to protect U.S. competitiveness, a border carbon adjustment system should be established. This system would enhance the competitiveness of American firms that are more energy-efficient than their global competitors. It would also create an incentive for other nations to adopt similar carbon pricing.”

SIGNATORIES INCLUDE

- - > 3000 U.S. Economists
- 4 Former Chairs of the Federal Reserve
- 27 Nobel Laureate Economists

European Economists' Statement on Carbon Pricing (27 June 2019):

“To safeguard competitiveness, a border carbon adjustment system could be considered in a multilateral context.”

-- **European Association of Environmental and Resource Economists**



Border carbon adjustments

Too complicated?

- Helm et al. (2012): “the calculation of appropriate BCAs will be **devilishly difficult**”
- Nordhaus (2013): border tax adjustment approach is overly **complex**
- Tirole (2012): **difficulty** to assess the carbon contents of goods produced in **transnational supply chains**
- EU ETS expert from European Commissions DG CLIMA (2016): inclusion of consumption in emissions trading too **complex**

Sources: Dieter Helm, Cameron Hepburn, and Giovanni Ruta, *Trade, climate change, and the political game theory of border carbon adjustments*, Oxford Review of Economic Policy 28 (2012), no. 2, 368–394; William Nordhaus, *The climate casino: risk, uncertainty, and economics for a warming world*, Yale University Press, New Haven, 2013; [Tir12] Jean Tirole, Some political economy of global warming, *Economics of Energy & Environmental Policy* 1 (2012), no. 1, 121–132; Own interview with EC expert in 2016.



Buy Clean California Act (2017)



["going somewhere fast? : bay bridge, san francisco \(2013\)"](#) by [torbakhopper](#) is licensed under [CC BY-ND 2.0](#)

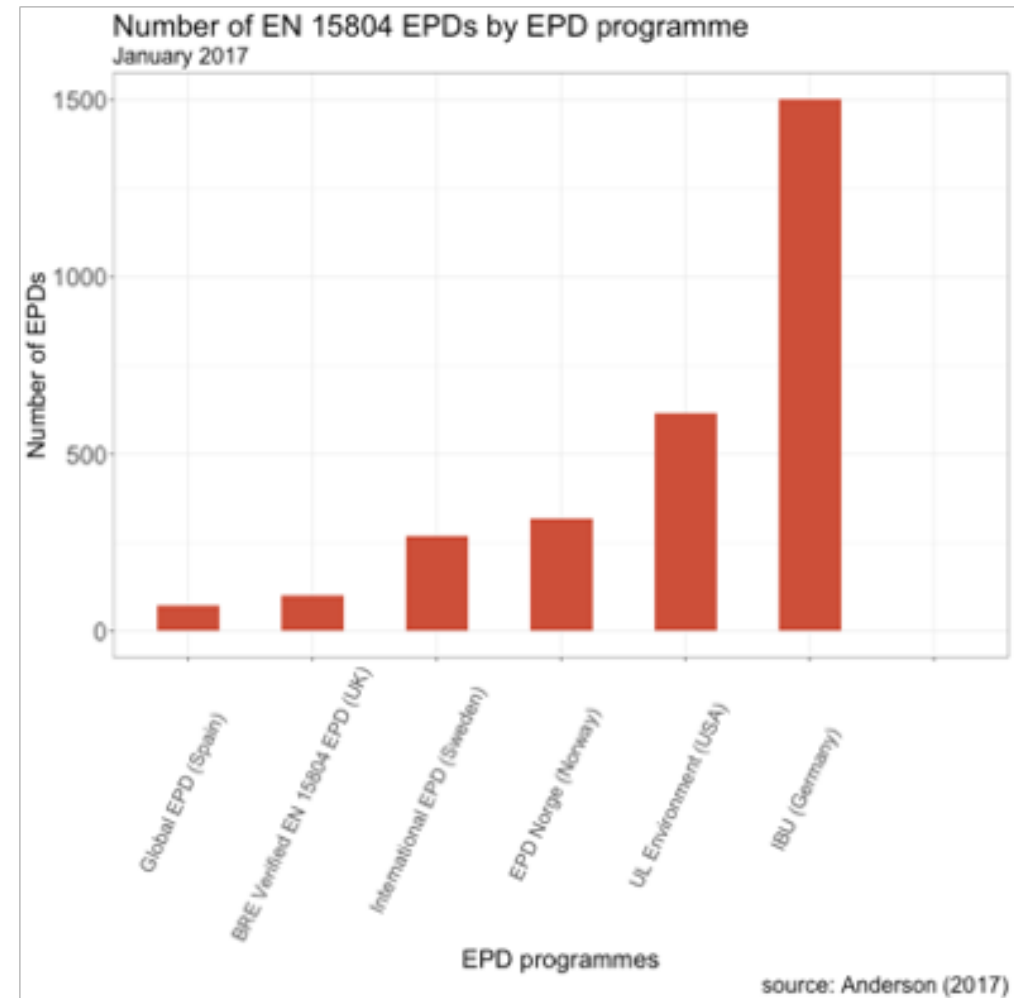
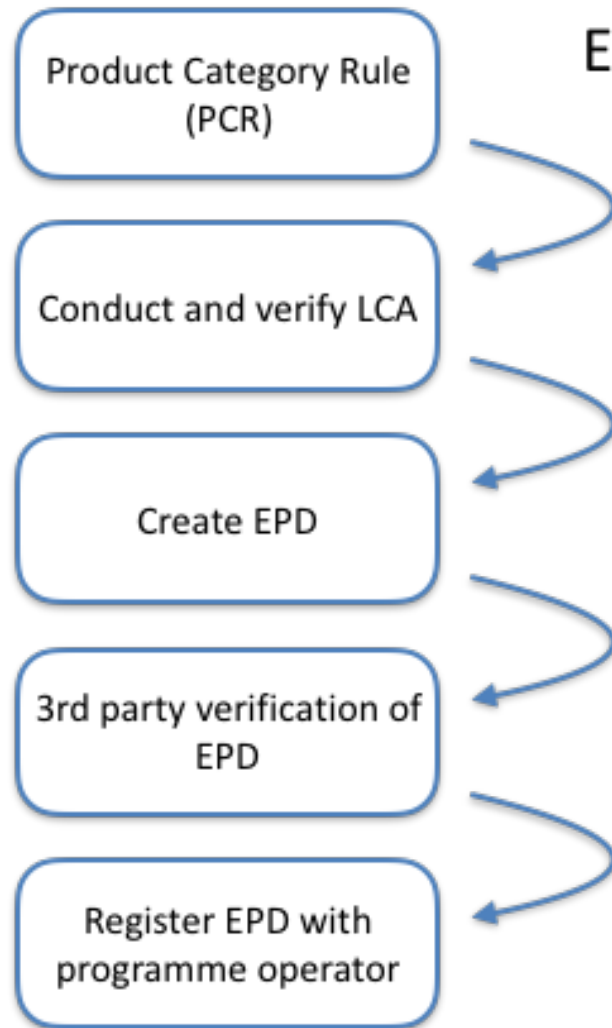
Maximum carbon intensities as public procurement criteria from July 2019:

- Steel
- Glass
- Mineral wool board insulation

Requires *Environmental Product Declaration* (EPD) or equivalent



Environmental Product Declarations



Support for greater role for EPDs

USA



California Act (2017)

- carbon steel rebar
- flat glass
- mineral wool board insulation
- structural steel

Germany / UK / EU / ...

Demands to include embodied emissions in building standards:



X



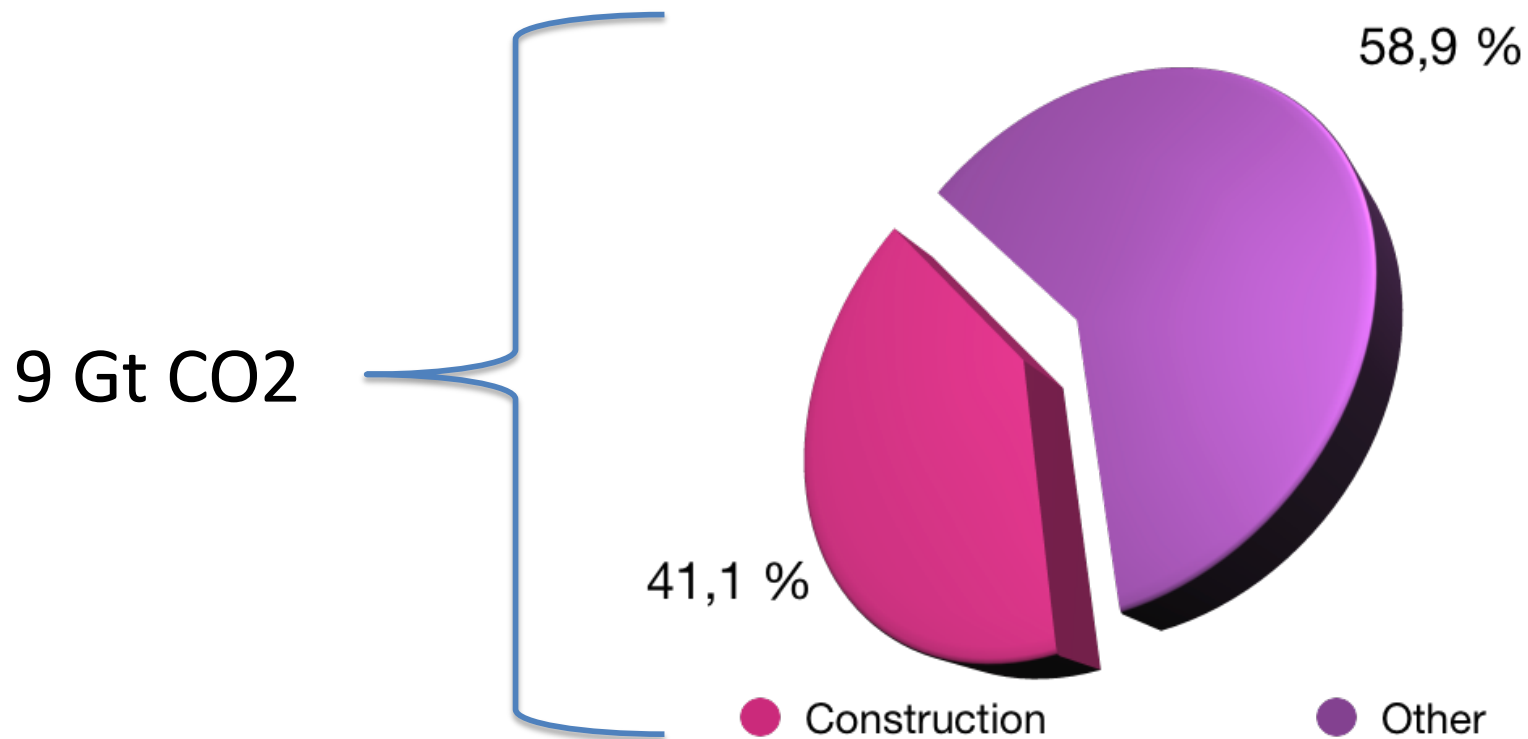
Green building certification schemes create demand for EPDs

Use of EPDs in green building certification schemes

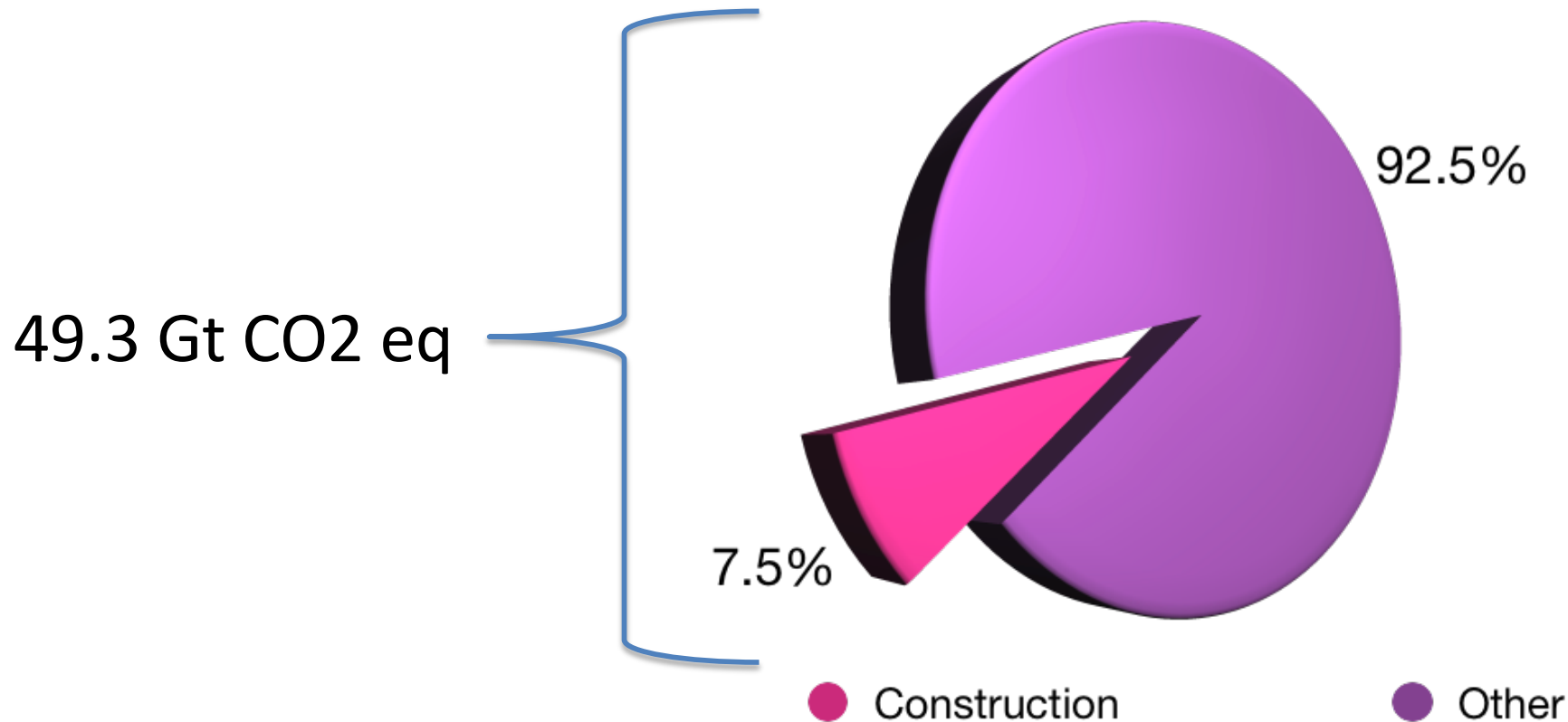
Countries	Certification schemes
Australia	Green Star
Austria	OGNB, klima aktiv, OGNI (planned)
Belgium	BREEAM, LEED
Canada	LEED
Germany	BNB, DGNB
France	HQE
Netherlands	BREEAM, LEED
Switzerland	Variants of MINERGIE, 2000- Watts-Development Sites, SGNI (DGNB CH), Standard for Sustainable Construction SNBS
UAE	LEED
UK	BREEAM
USA	LEED, Green Globes



Global buildings-related carbon emissions in 2016



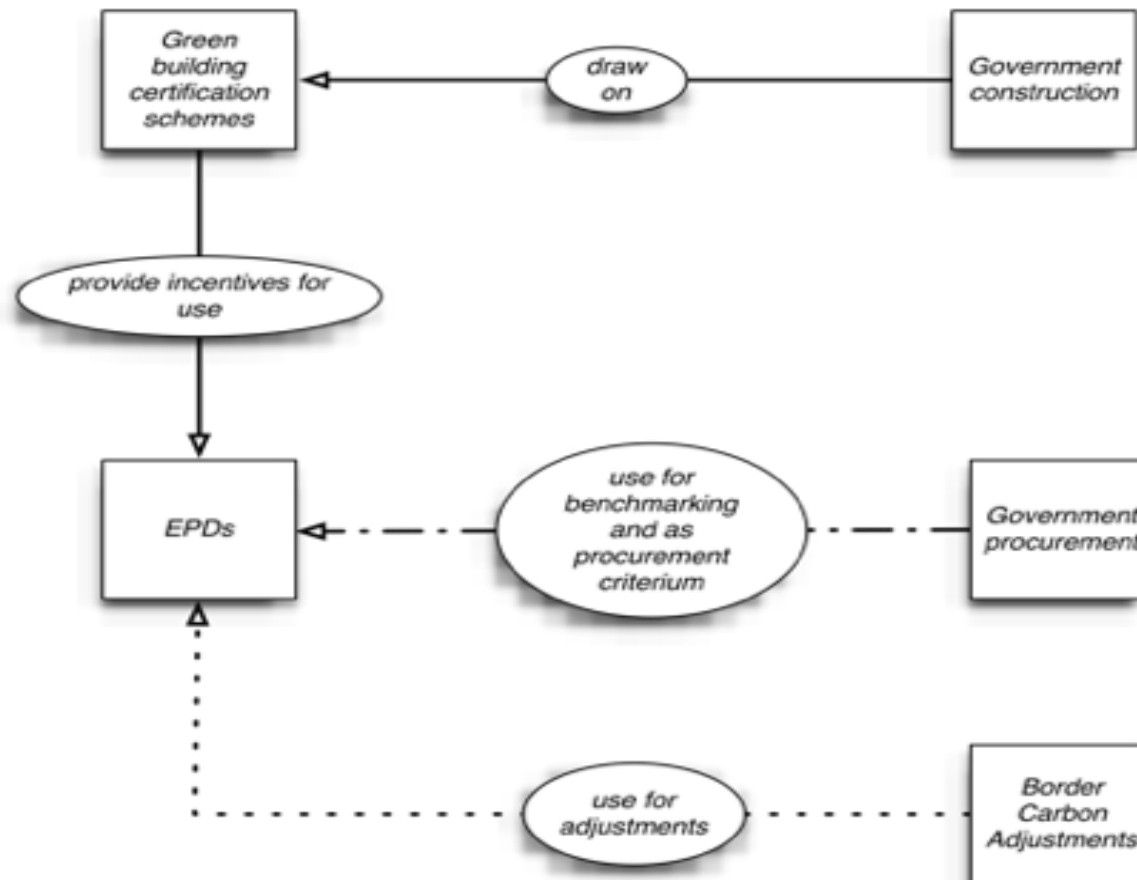
Total global greenhouse gas emissions in 2016



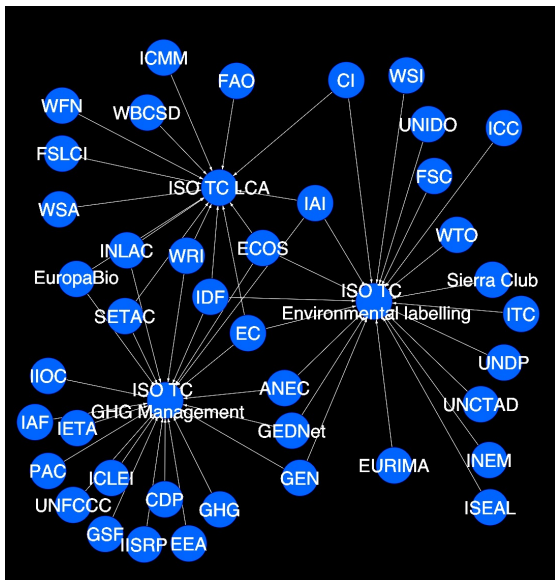
Based on: UN Environment and International Energy Agency (2017): *Towards a zero-emission, efficient, and resilient buildings and construction sector*. Global Status Report 2017. J.G.J. Olivier, K.M. Schure and J.A.H.W. Peters (2017): *Trends in global CO₂ and total greenhouse gas emissions: 2017 Report*. PBL Netherlands Environmental Assessment Agency



Synergies between building standards, procurement benchmarks and border carbon adjustments



Window of opportunity



WTO may accept EPDs



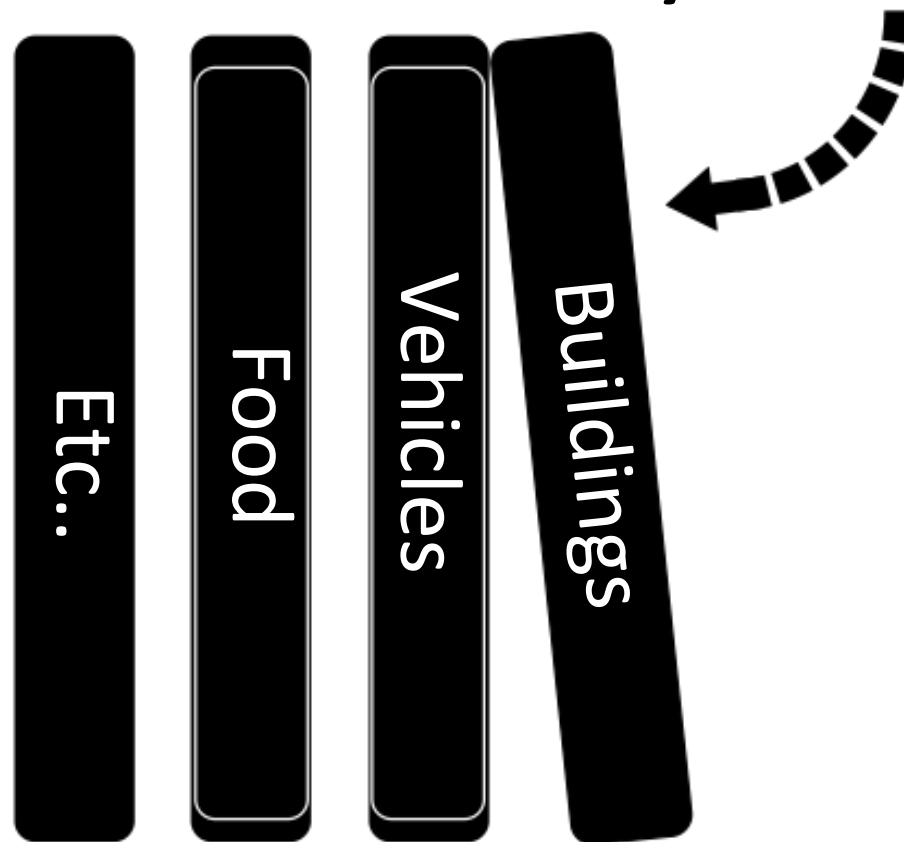
Destabilization of liberal trade regime



Opportunity for new tariff type

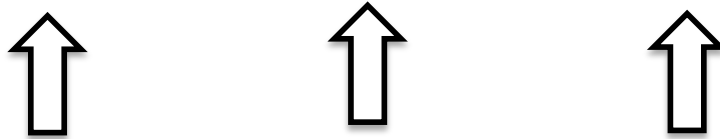


The embodied emissions domino theory



Take-home message

More effective global climate governance



London action on embodied emissions



Thank you for your attention!

Any questions?

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