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Policies to support steel industry in transition to climate neutrality

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Climate Friendly Materials Platform



Radboud University



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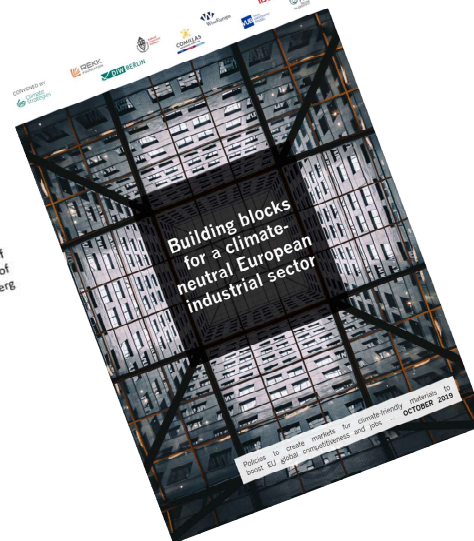


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Project Team:
Inclusion of Consumption in Emission Trading

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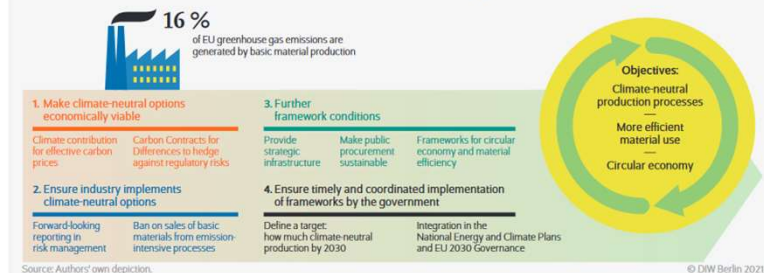
Requirements for enabling green transitions

1. Regulations for driving climate initiatives
2. Finance mechanisms to support adoption of green technologies and processes
3. Policy framework for guiding low-carbon transitions

www.diw.de/snapfi

Green Deal for industry: a clear policy framework is more important than funding

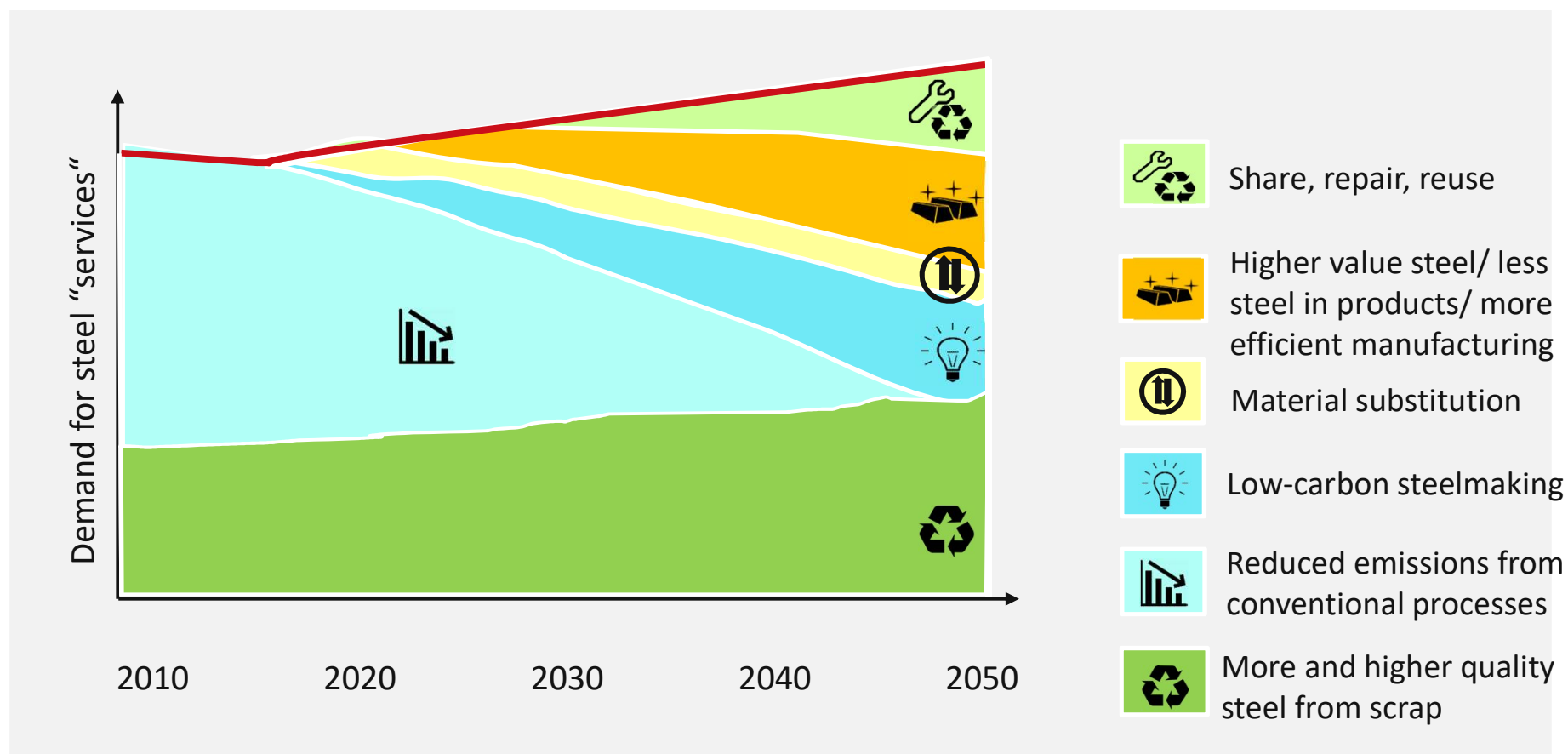
A package of measures is necessary for climate-neutral basic material production



https://www.diw.de/documents/publikationen/73/diw_01.c.813281.de/dwr-21-10-1.pdf

<https://climatestrategies.org/projects/european-climate-friendly-materials-platform/>

Illustration for European steel sector (no numerical simulation)

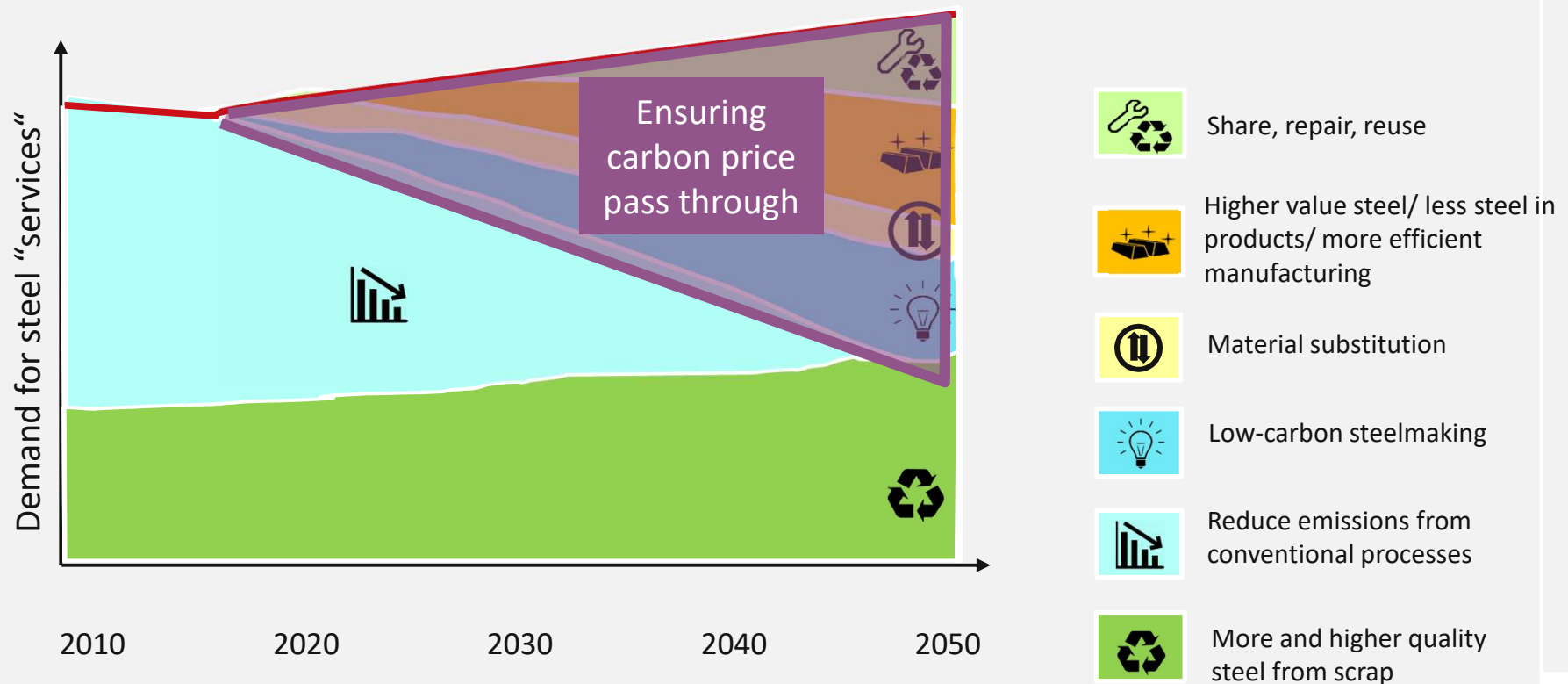


Source: DIW's illustration. See [Neuhoff et al. \(2019\) "Building blocks for a climate-neutral European industrial sector"](#)

Engagement, information and training programs

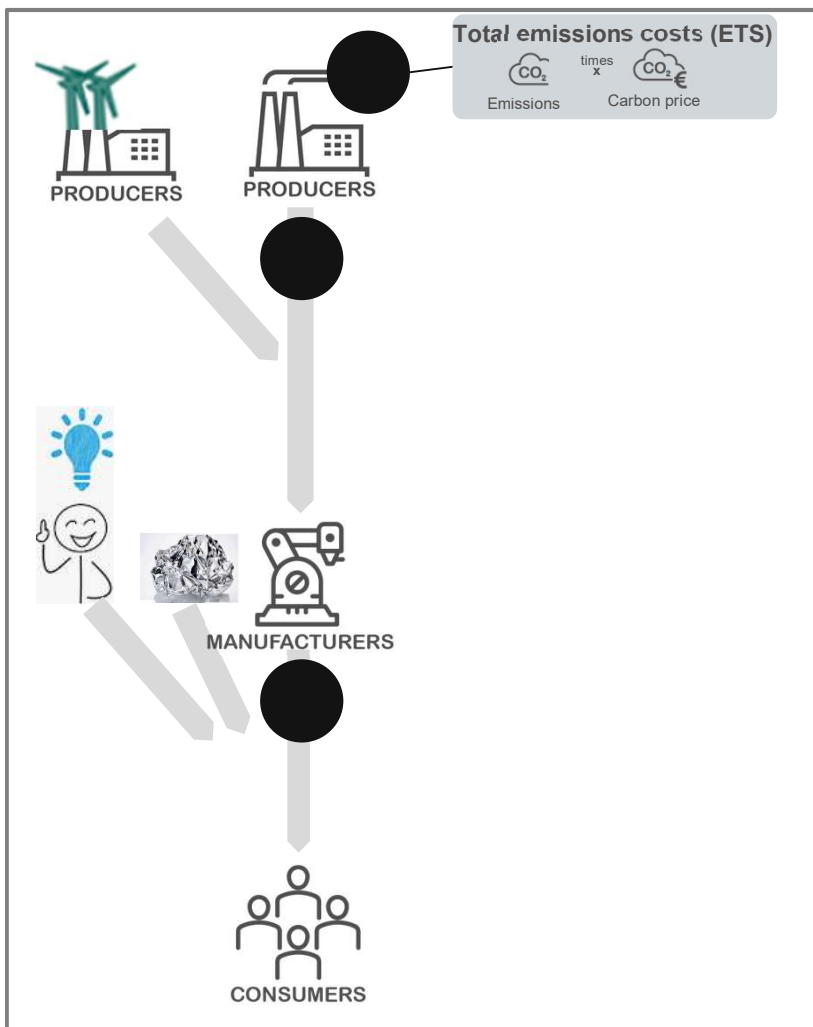
Public support for investment in infrastructure* and innovation

Policies to create markets

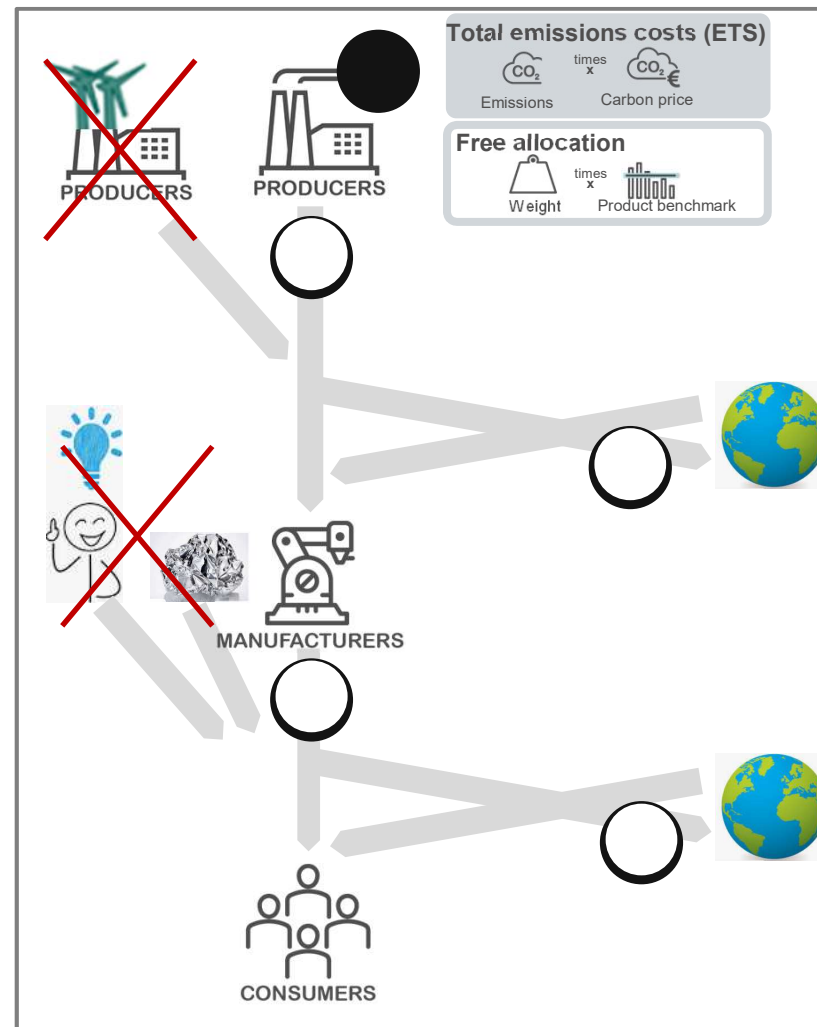


Global momentum towards carbon pricing but limitations of carbon pricing with free allowance allocation

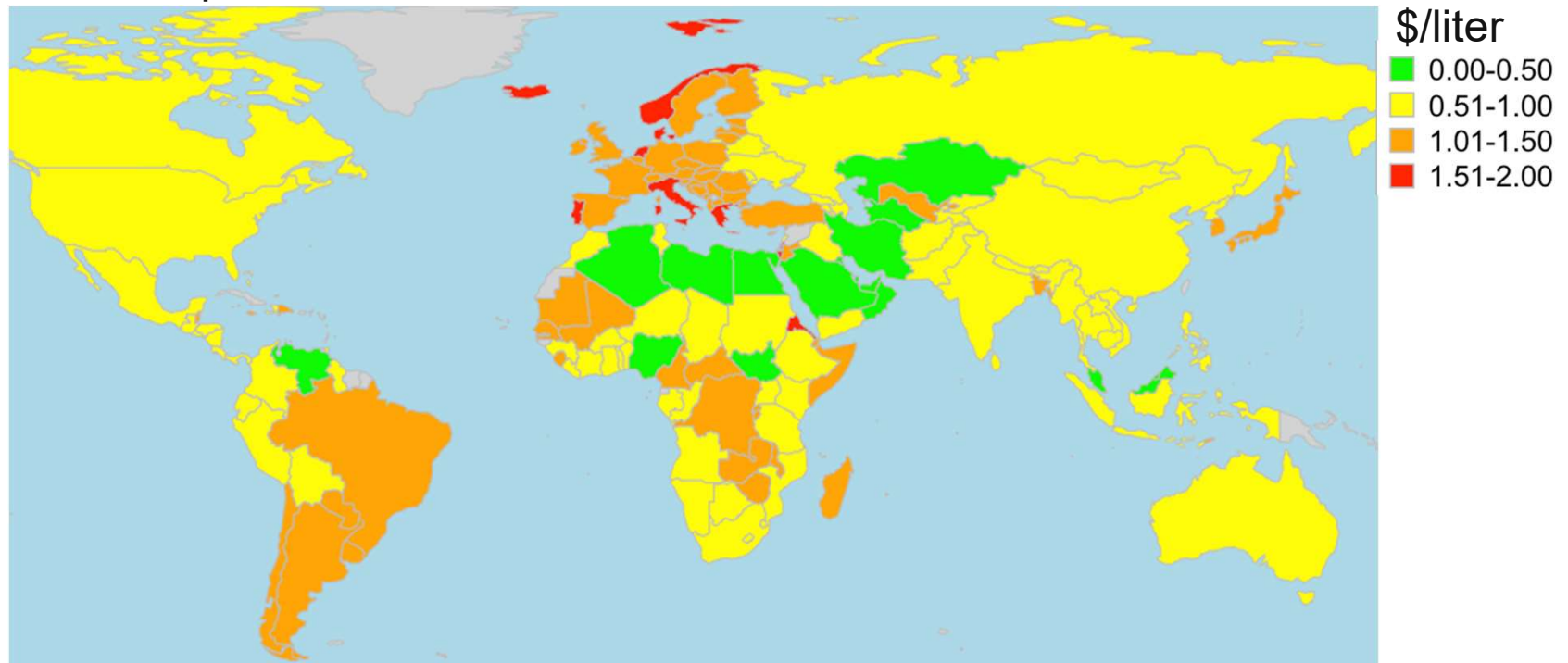
Desired incentives from carbon pricing



Carbon pricing & free allowance allocation



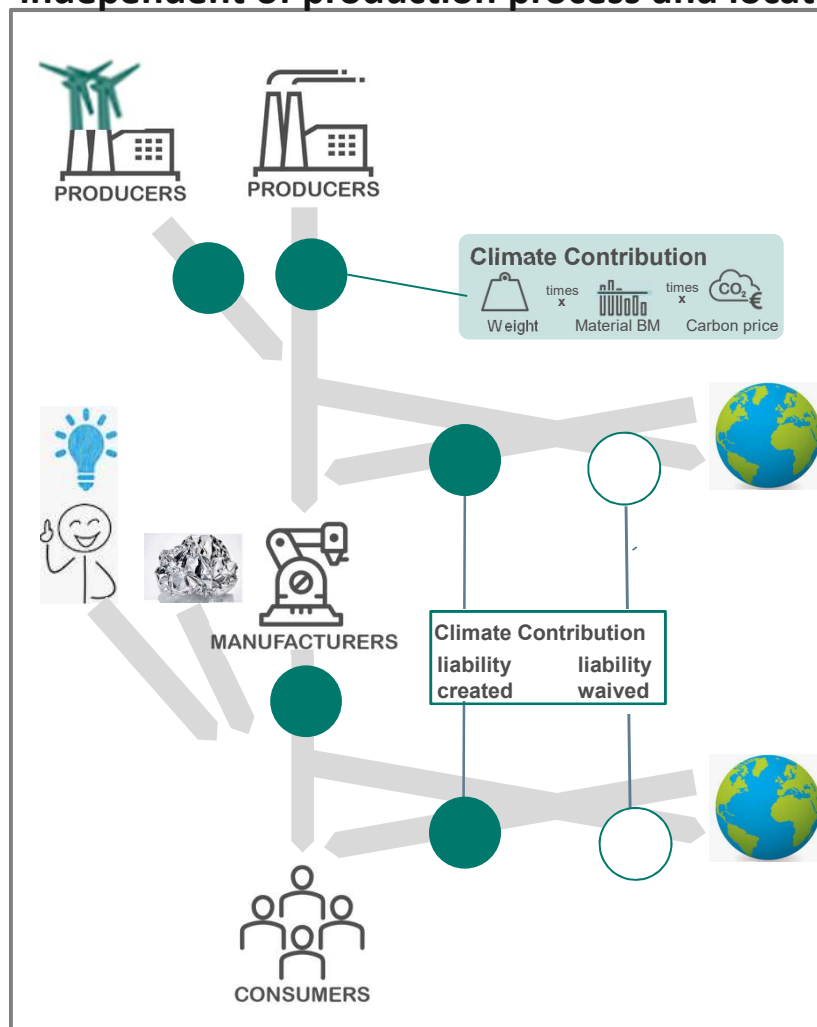
Gasoline prices



- Corresponds to experience: Charges and taxes are local not global
- Matches governance structure
- Can respond to timing and preferences of political process
- Can be integrated with policy package for just transformation

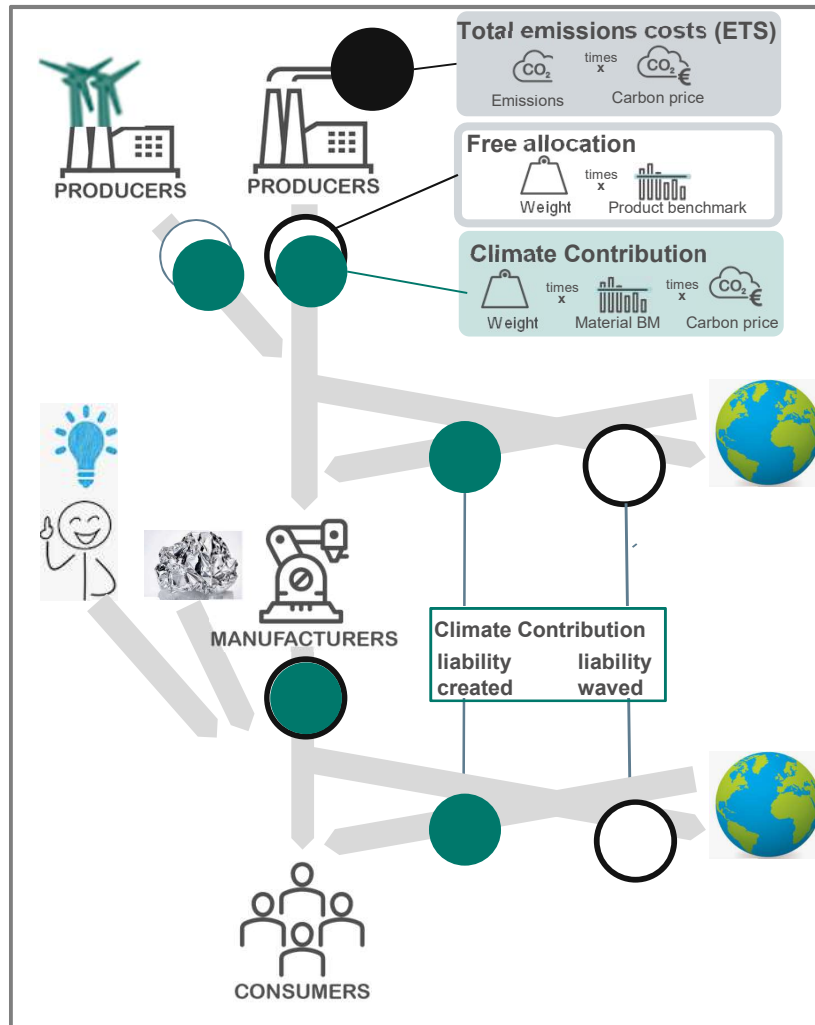
Can a climate contribution deliver an effective carbon price?

**Excise on materials
independent of production process and location**



- Creates incentives for material efficiency and substitution
- **No** incentives for carbon efficient and climate neutral material production
- Does not create carbon leakage risks

Can a climate contribution together with ETS and free allowance allocation create an effective carbon price signal?

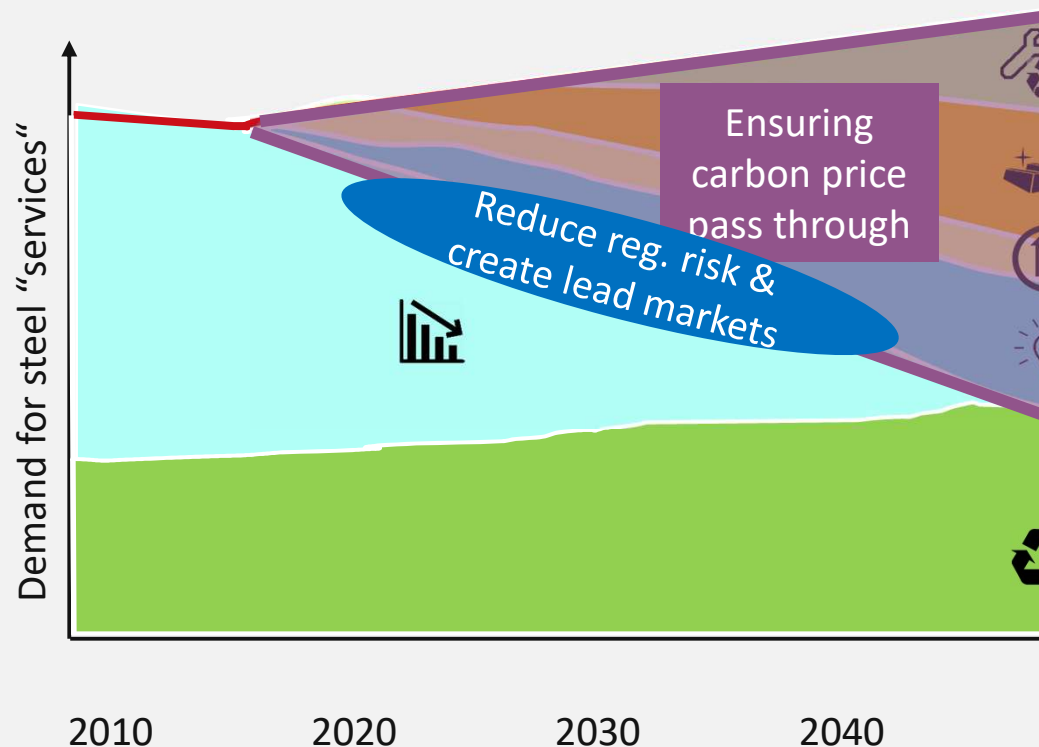


- Creates incentives for material efficiency and substitution
- Creates incentives for carbon efficient and climate neutral material production
- Does not create carbon leakage risks
- Creates resources, blue-print, and basis for global cooperation
- Compatible with global minimum carbon price (top up) & pathway to global approach.

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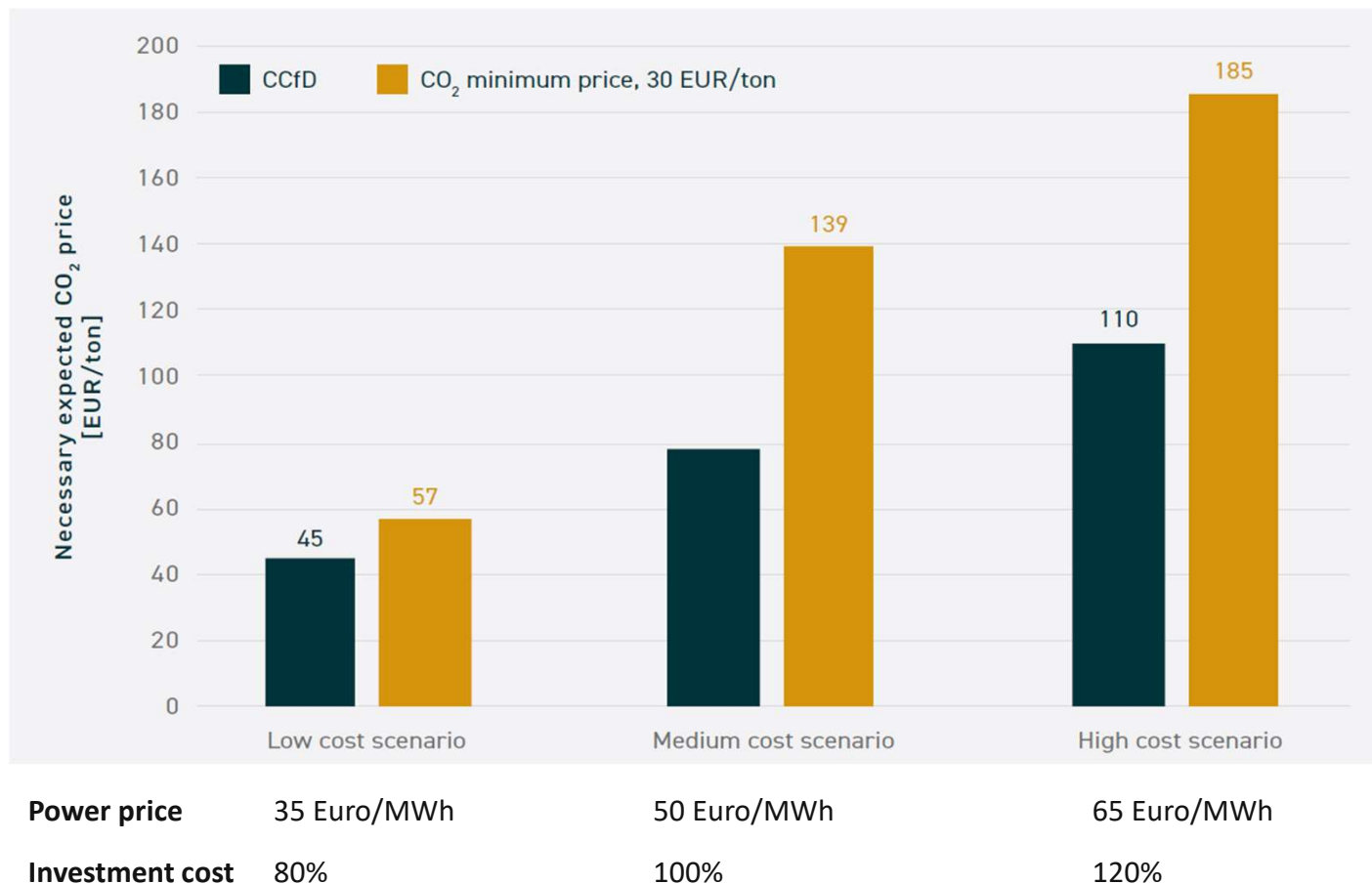


Project-based Carbon Contracts for Differences (CCfDs)

- Contracts between a government and a company developing an innovative low-carbon project
- Pay out the difference between ETS price and agreed “strike” price
- Stabilize revenue streams and reduce financing cost of low-carbon projects
- Allow government to create lead-markets for low-carbon processes and materials
- Address regulatory risk

Source: Richstein, J. (2017), “Project-Based Carbon Contracts: A Way to Finance Innovative Low-Carbon Investments”, DIW Discussion Paper No. 1714; Sartor, O. and Bataille, C. (2019), “Creating a business case for carbon-neutral basic materials: How Carbon Contracts for Difference could help kick-start commercial-scale projects”, IDDRI Study No. ST06-19

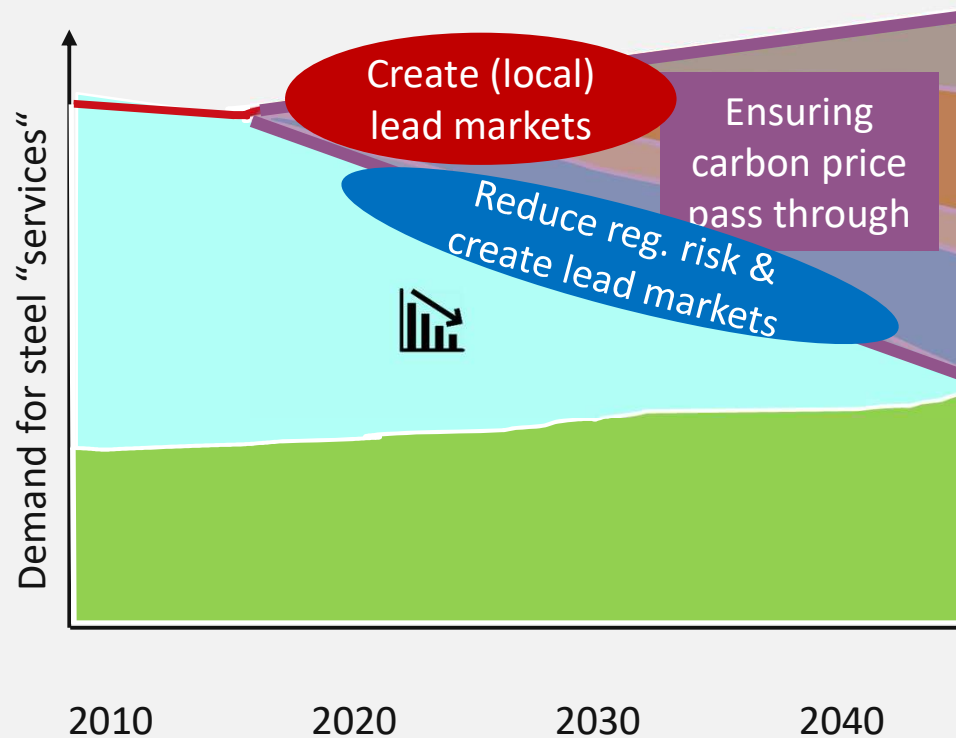
Quantifying the effect of Project-based Carbon Contracts for Differences



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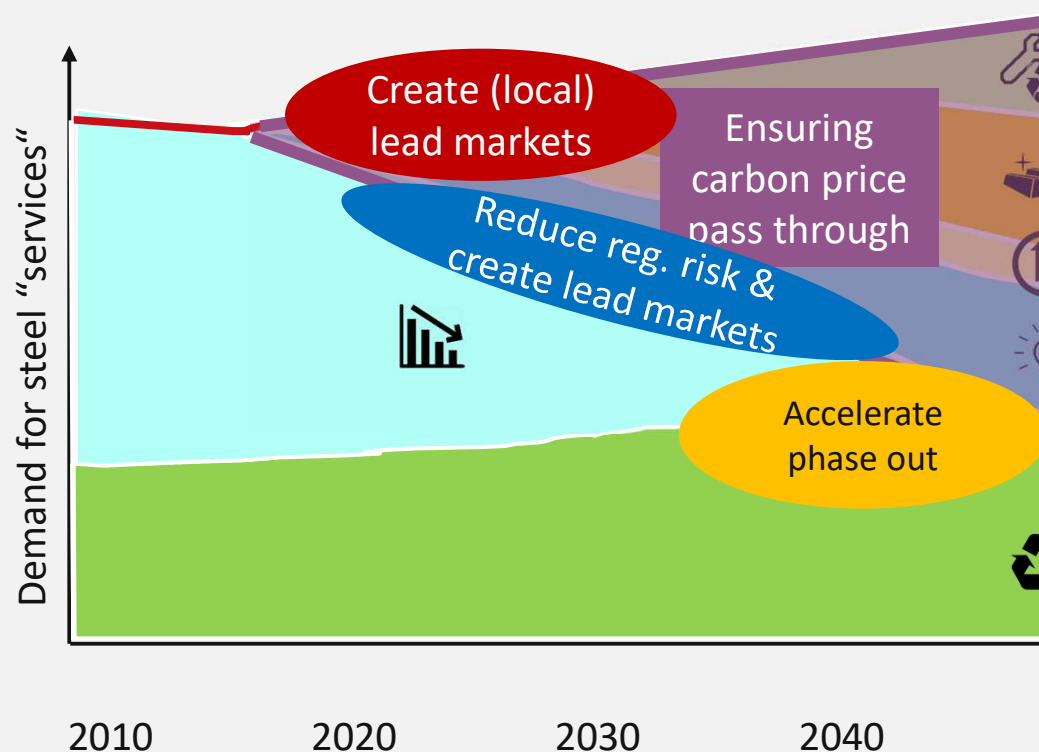
Green Public Procurement

- Accounts for the environmental impacts in the award of public contracts
- Includes shadow carbon price ($>$ ETS), functional carbon or technical requirements
- National/local authorities can create lead markets for climate-friendly product design, material choice and usage patterns
- Allows governments to respond to local initiatives and national and European emission reduction targets
- Consider providing financial support for incremental cost and capacity building

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Product carbon requirements

- Ban the use of materials produced with carbon-intensive processes
- Can help accelerating the phase out of carbon-intensive processes
- Can help signaling that new investment in BAU is unviable

Product design requirements

- *Could facilitate high-value recycling*
- *May enhance efficient material use*

Already global initiatives: green steel standards*

Source: Gerres, T., Haussner, M., Neuhoﬀ, K., and A. Pirlot, (2019) "Can governments ban materials with large carbon footprint? Legal and administrative assessment of product carbon requirements", DIW Discussion Paper No. 1834 (forthcoming in Review Of European Comparative & International Environmental Law)

*<https://www.responsiblesteel.org/>

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