Umwelt Bundesamt

DEHSt
Deutsche Emissionshandelsstelle

Taiwan-Germany Climate Policy and Carbon Pricing Forum

Carbon Pricing Potential in East and South Asia

Carbon Pricing Potential in East and South Asia

Prof Dr Daniel Klingenfeld

Head of Department V 3 – DEHSt: Energy Installations, Aviation, Registry and Economic Aspects

Taipei, 19 September 2023

Overview

- Intro: UBA/DEHSt – International activities
- General project outline
- Theoretical framework
- Key findings & recommendations

Intro: UBA/DEHSt – International activities

UBA/DEHSt – International activities (1)

Role of UBA/DEHSt in international activities targeted to support decarbonisation via carbon pricing instruments (CPI)

- Long-standing history of frequent involvement in capacity building efforts with jurisdictions worldwide
  - Engaging with governmental agencies, research institutions and think tanks in order to share knowledge and experience on carbon markets
  - Frequent participation in various formats of exchange on carbon pricing on all levels (e.g. workshops, in-house trainings, in-country visits)
- Cooperation with the ongoing capacity building programme run by BMWK, specifically targeted to support jurisdictions aiming to introduce CPI
- Current focus of activities on jurisdictions in Asia (e.g. Taiwan, Indonesia) and South America (e.g. Chile, Brazil)

UBA/DEHSt – International activities (2)

Role of UBA/DEHSt in international activities targeted to support decarbonisation via carbon pricing instruments (CPI)

- UBA/DEHSt has regular research programms on topics relating to dissemination of knowledge on CPI, e.g. “Carbon Pricing in Asia” research project
- International newsletter to inform on projects, products, capacity building and other international activities (issued twice yearly)

General project outline

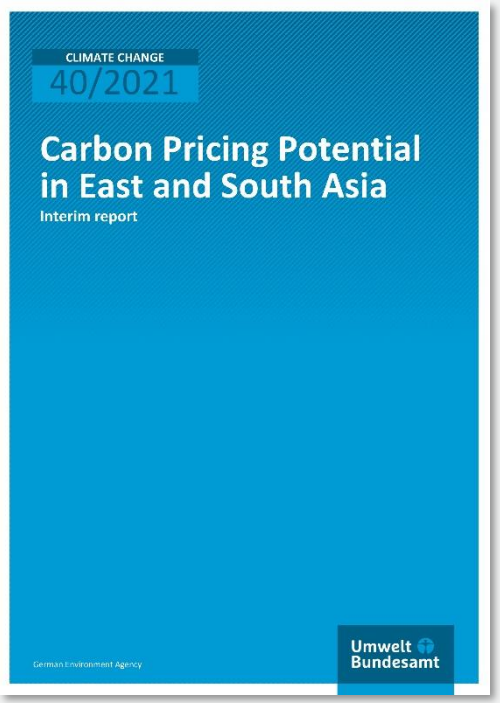
General project outline (1)

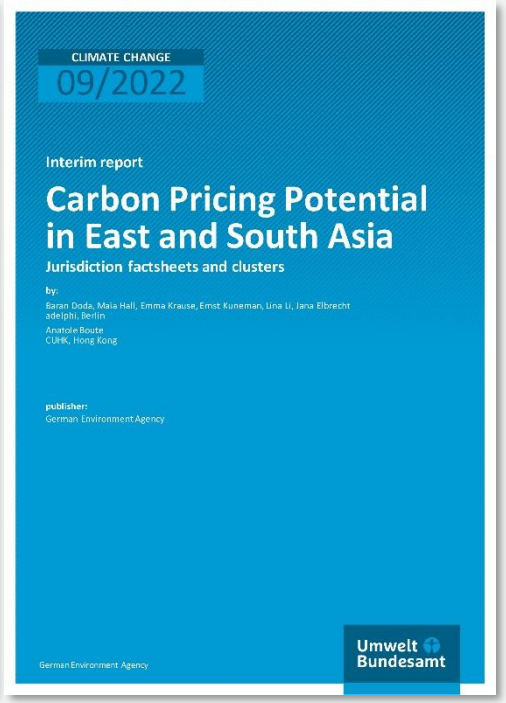
Research project “Carbon pricing in Asia – Opportunities & Challenges”

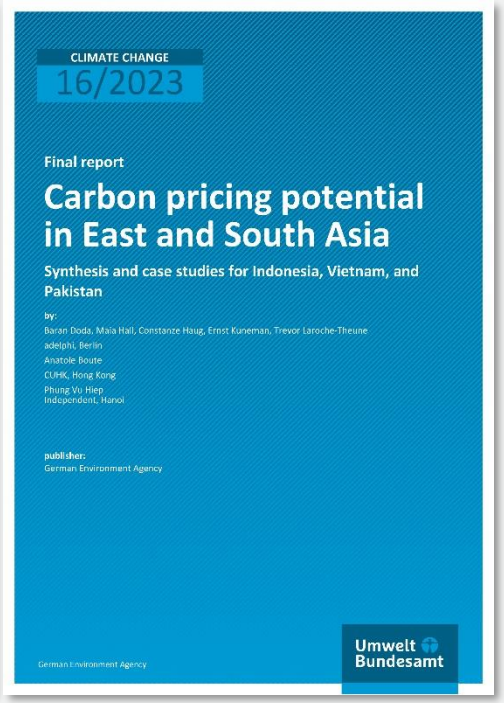
- Three year project running from 2020 to 2023
- Led by adelphi, in cooperation with Duke University and the Chinese University of Hong Kong
- Rationale of the project:
  - Vital role of carbon pricing instruments in policy mix to combat climate change / decarbonisation of emission intensive sectors
  - High potential of emissions reductions in Asia; coal dependency in many jurisdictions
  - Various levels of efforts and progress across jurisdictions in the region
  - How best to advance climate policy and carbon → identification of core issues
- Project output: 3 reports published and 1 webinar: https://www.youtube.com/watch?v=xoQhpRSgIvg&feature=youtu.be

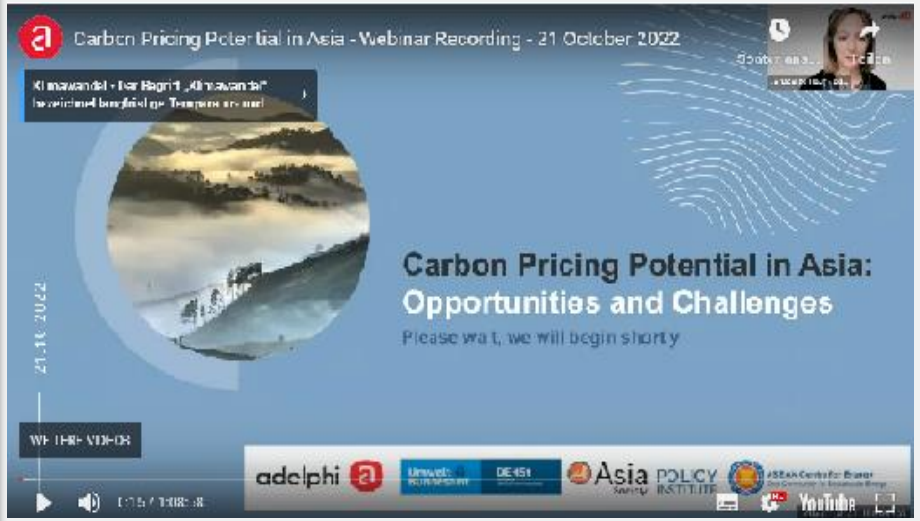
General project outline (2)

Research project “Carbon pricing in Asia – Opportunities & Challenges”









May 2021 February 2022 April 2023 October 2022 – International webinar

Links to reports:
https://www.umweltbundesamt.de/sites/default/files/medien/5750/publikationen/2021-05-19_cc_40-2021_carbon_pricing_asia.pdf
https://www.umweltbundesamt.de/sites/default/files/medien/479/publikationen/cc_09-2022_carbon_pricing_potential_in_east_and_south_asia.pdf
https://www.umweltbundesamt.de/sites/default/files/medien/11740/publikationen/2023-04-17_climate-change_16-2023_carbon-pricing_east-south-asia.pdf

Theoretical framework

Theoretical framework (1)

Three step approach applied:

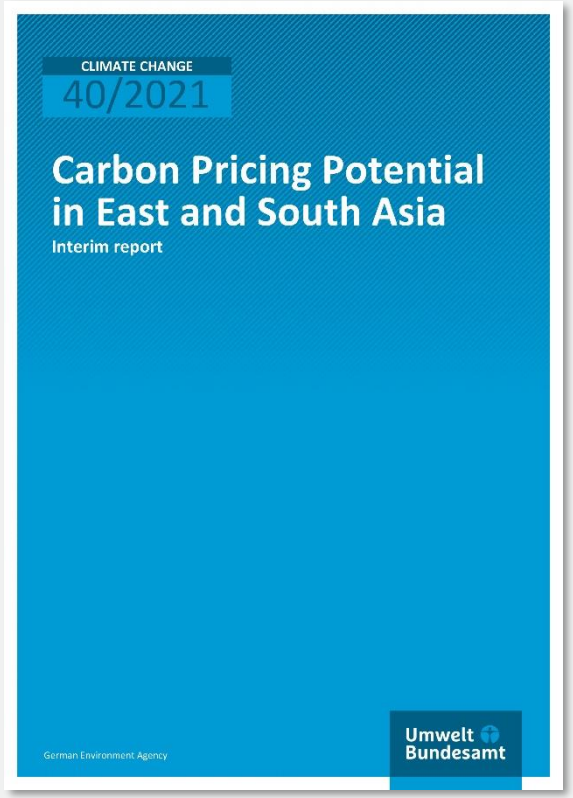
Step (1): Developing theoretical basis of framework

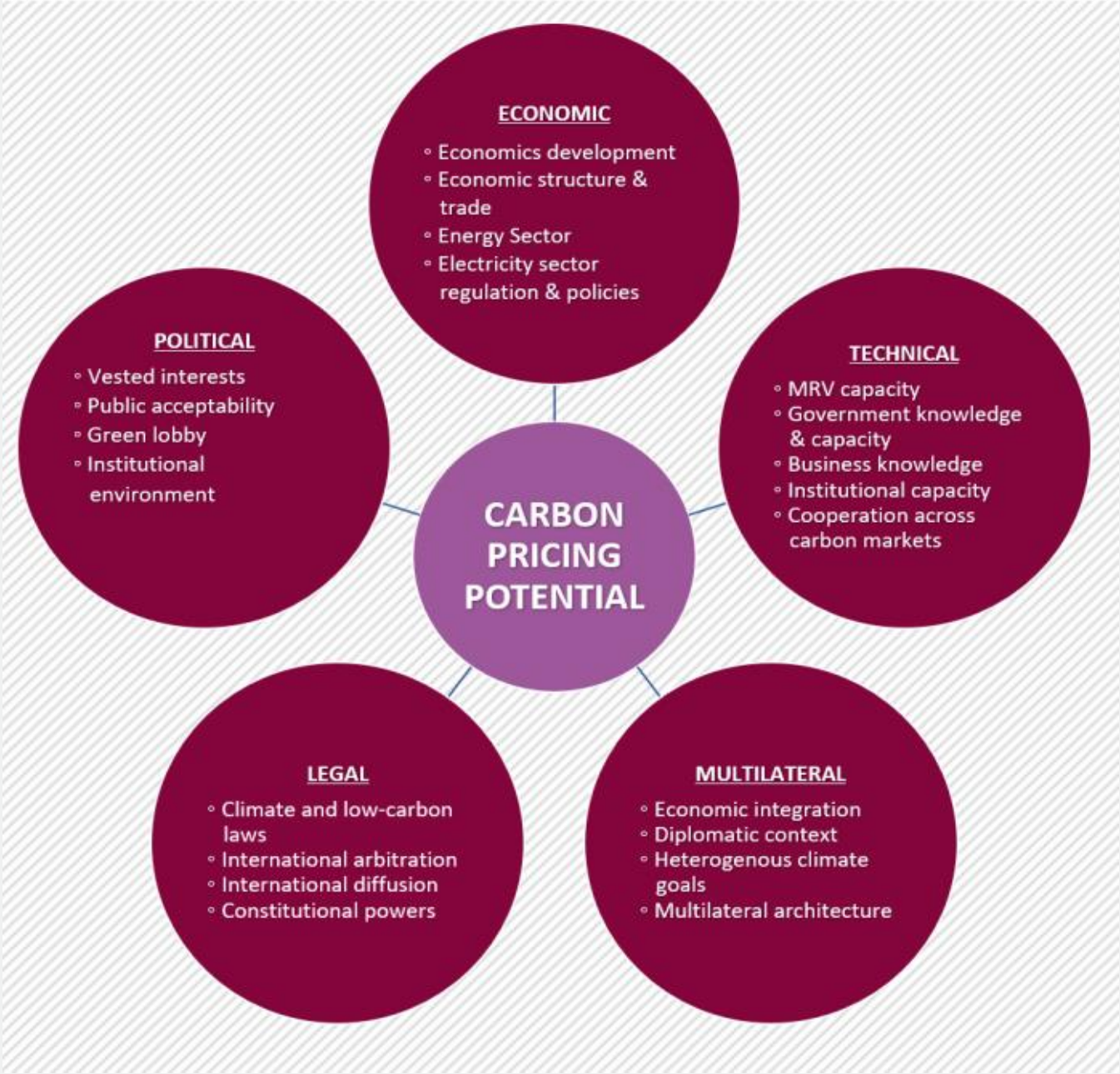
- Extensive literature survey to identify key drivers and obstacles to carbon pricing
- Building framework along political, legal, economic, technical and multilateral dimensions
- Identification of indicators and variables along each dimension to understand relevant conditions for carbon pricing readiness in a broader context
- Framework as theoretical basis to be applied in step 2

Theoretical framework (2)

Three step approach applied:

Step (1): Developing theoretical basis of Framework (5 dimensions)





Theoretical framework (3)

Three step approach applied:

Step (2): Applying framework in Asia

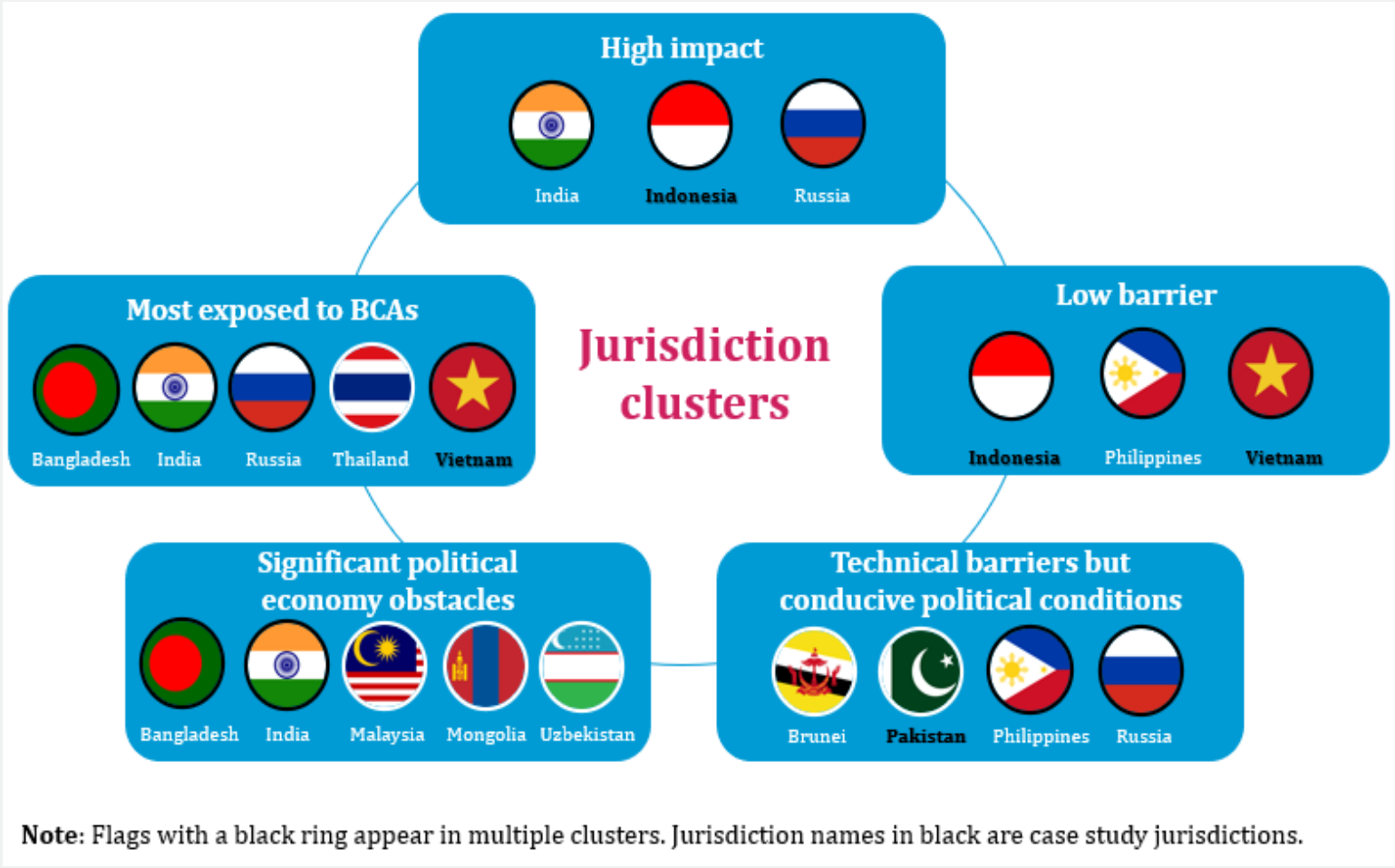
- Applied to 15 selected jurisdictions using quantitative and qualitative data
- Report comprises 15 factsheets, analysing the key drivers and obstacles to carbon pricing potential per jurisdiction (6-10 pages each)
- Undertakes a clustering of the analysed jurisdictions per the following aspects related to carbon pricing:
  - High impact on emissions
  - Low (political) barrier thanks to generally favourable political, legal, economic, technical, or multilateral conditions
  - Technical barriers but conducive political conditions
  - Most exposed to carbon border adjustment mechanisms (CBAM; BCA)
  - Significant political economy obstacles

Theoretical framework (4)

Three step approach applied:

Step (2): Applying framework in Asia

Bangladesh
Brunei
Hong Kong SAR
India
Indonesia
Malaysia
Mongolia
Pakistan
Philippines
Russia
Sri Lanka
Taiwan
Thailand
Uzbekistan
Vietnam



Note: Flags with a black ring appear in multiple clusters. Jurisdiction names in black are case study jurisdictions.

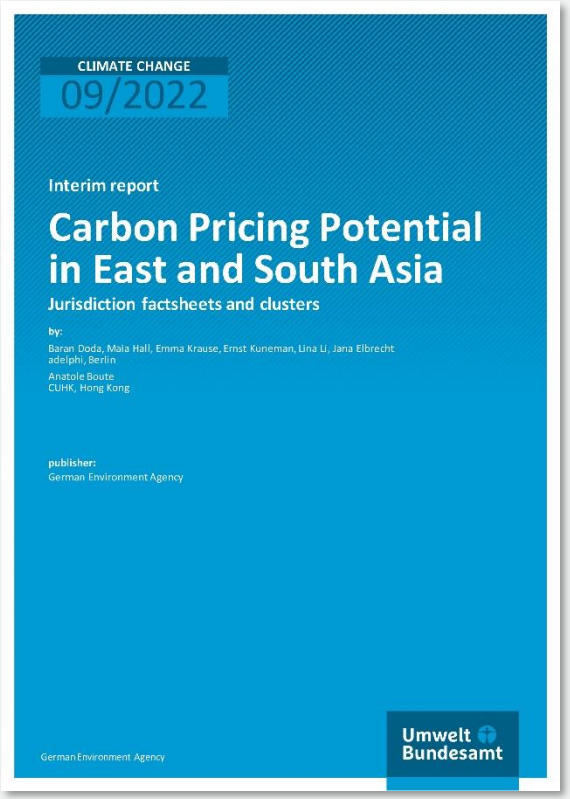
Source: Carbon Pricing Potential in East and South Asia – Interim Report UBA (2021)

Theoretical framework (5)

Three step approach applied:

Step (2): Applying framework in Asia

- Comprehensive report with 15 comprehensive factsheets focusing on relevant aspects of introducing efficient CPI
- 15 jurisdictions on very different stages reading CPI consideration and/or introduction as well as climate policy efforts in general
- Overall, climate ambition in the region is picking up pace!



Theoretical framework (6)

Three step approach applied:

Step (3): In depth case studies for 3 selected jurisdictions

- Indonesia, Vietnam and Pakistan chosen to broadly represent the jurisdictional clusters
- Desk-research supported by multiple interviews with local and international stakeholders based on stakeholder mapping in each jurisdiction
- Case studies also contain detailed review of power sector regulation and its (potential) interaction with carbon pricing



Key findings & recommendations

Key findings (1)

Three step approach applied:

Step (3): Observations across all 3 case studies*

- Political dimension:
  - Strong political will in Indonesia and Vietnam to introduce CPI at the time of the study** → preparatory processes
  - Pakistan shows general political will, though no decision undertaken, yet
  - Influence of and opposition from vested fossil fuel interests (both private and public sector) relevant in all jurisdictions
- Legal dimension:
  - All three jurisdictions already have “flagship” climate laws, including RE and EE policy framework
  - Fragmented institutional environment → challenges regarding coordination across public institutions and distribution of power between national/sub-national government

Key findings (2)

Three step approach applied:

Step (3): Observations across all 3 case studies

- Economic dimension:
  - All three jurisdictions show high share of and rising power sector emissions, i.e. high dependency on coal in electricity generation; partly ongoing fossil fuel investments and subsidies applied
  - Energy market regulation and liberalisation at different stages in jurisdictions, though generally highly regulated → pivotal aspect regarding carbon cost past through and, hence, design of CPI
- Technical dimension:
  - Capacity and expertise regarding development and operation of MRV system and infrastructure one of the main technical challenges
  - In parts, lack of understanding of all technicalities of CPI, prevalent on institutional but especially on private sector level

Key findings (3)

Three step approach applied:

Step (3): Observations across all 3 case studies

- Multilateral dimension:
  - All three jurisdictions have drawn on carbon pricing support from international/regional organisations and/or other jurisdictions which have already implemented CPI → ongoing processes
  - Introduction of CPI not only motivated nationally but also internationally, as CPI implemented in all three jurisdictions' neighbours and major trade partners: e.g. EU, South Korea, Japan, New Zealand
  - EU decision to implement a carbon border adjustment mechanism (CBAM) as of 2026 → accelerator for other jurisdictions to introduce CPI and/or more stringent emission reduction measures

Key recommendations (1)

Key recommendations

- Economic/technical level: importance of aligning CPIs with power market regulation/liberalisation
  - Strong legal framework for both, CPI and energy market regulation → aligning carbon pricing with ongoing power market reforms
  - Early needs assessment and provision of (technical) capacities for CPI implementation & operation; especially MRV infrastructure
- Multilateral level: cooperation / dialogue with jurisdictions already with CPI and CP initiatives
  - Further leverage multilateral cooperation → draw support/inspiration from other jurisdictions with relevant experience to support technical capacity building; need assessments and exchange of best practices
  - E.g. through multilateral CP support initiatives, such as World Bank PMR, ICAP, and CIACA
  - Open and early conversation with trade partners to inform and to anticipate potential resistance/challenges
  - Foster climate cooperation under the UN framework as well as economic cooperation under ASEAN

Key recommendations (2)

Key recommendations

- Political/legal level: stakeholder engagement and reducing dependence from fossil fuel
  - Informing and raising awareness about CPI and explaining rationale of instrument and climate policy → broad stakeholder engagement at early stages (public, private sector; civil society; international)
  - (gradual) removal of fossil fuel subsidies and providing targeted support to industries to support a just transition, i.e. climate friendly transformation of sectors and/or processes
- Political/social level: socially acceptable design of CPI and revenue recycling
  - Importance of social acceptability, i.e. considering socially acceptable design of CPI to broaden social consensus
  - Relevance of revenue use generated under the CPI → financial means to accelerate decarbonisation as well as implementation of measures to compensate (potential) burden on companies and/or households
  - EU ETS 1, the national German emissions trading system (nEHS) as well as the its successor, the EU ETS 2, all comprise various measures of aforementioned compensation

Thank you for your attention!

Prof Dr Daniel Klingenfeld

E-Mail: emissionshandel@dehst.de

Internet: www.dehst.de