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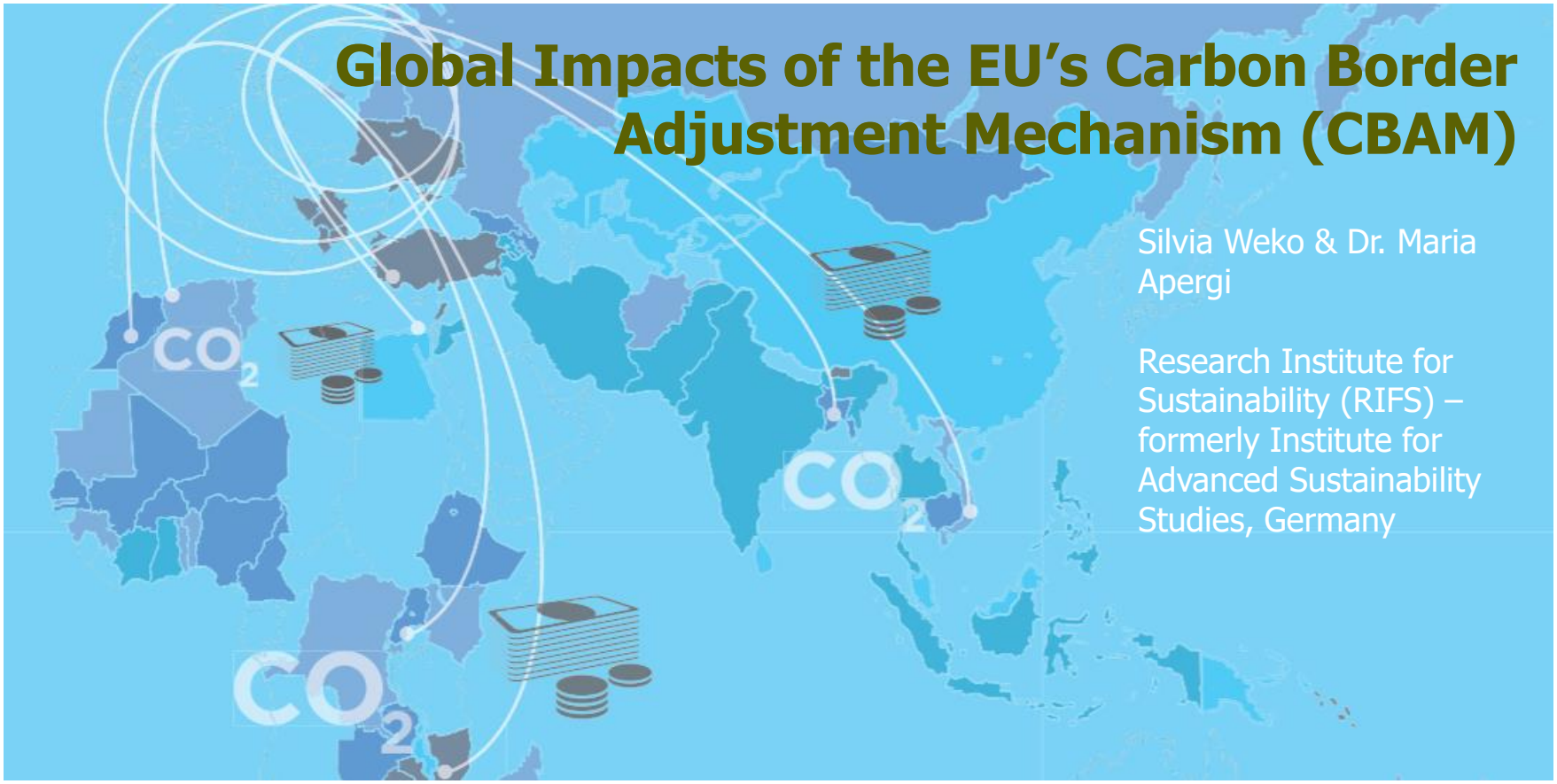
IASS POTSDAM

Global Impacts of the EU's Carbon Border Adjustment Mechanism (CBAM)



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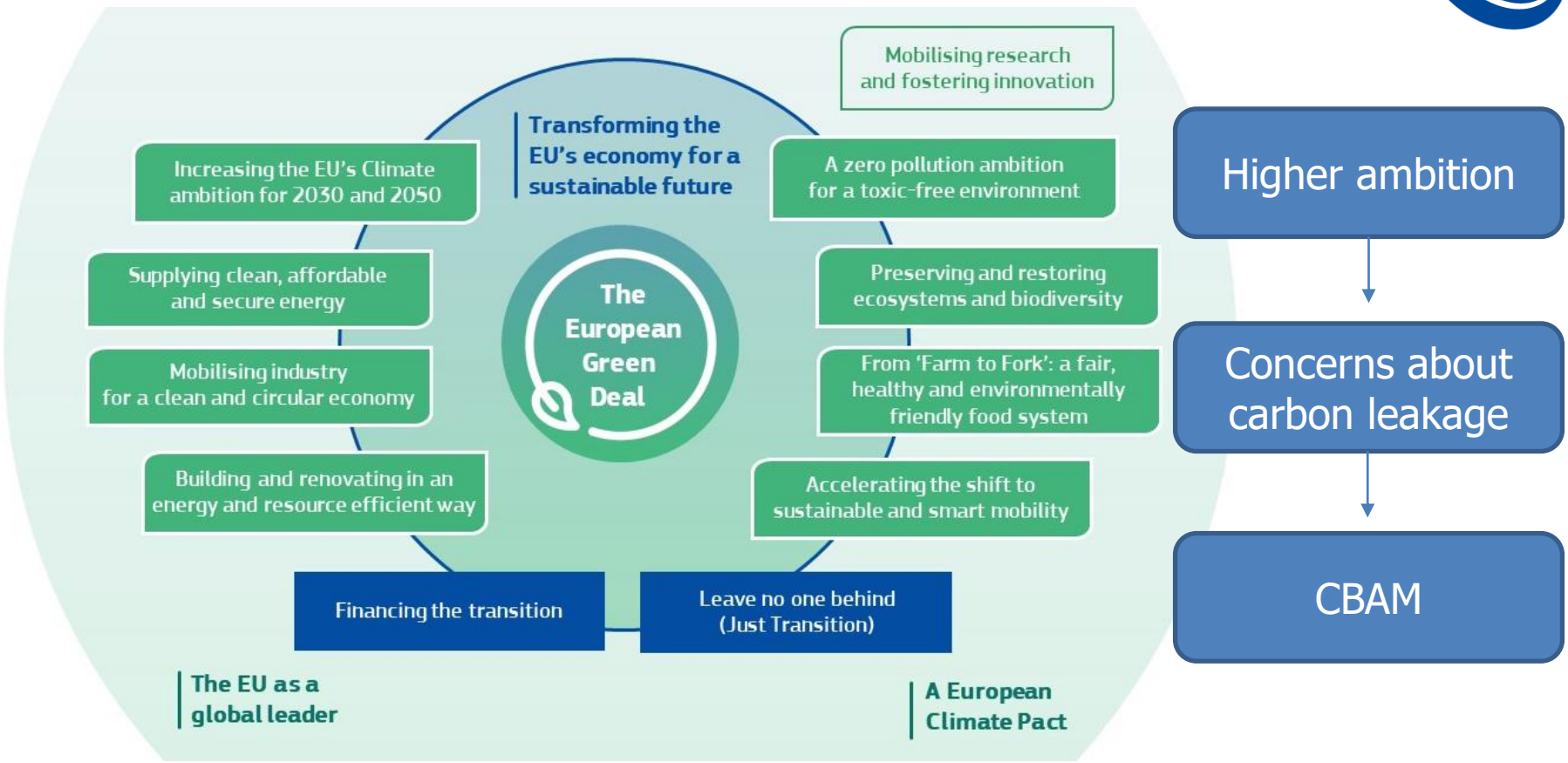
Based on the paper by Eicke, Weko, Apergi & Marian (2021), Pulling up the carbon ladder? Decarbonization, dependence, and third-country risks from the European carbon border adjustment mechanism. https://doi.org/10.1016/j.erss.2021.102240

The EU Green Deal

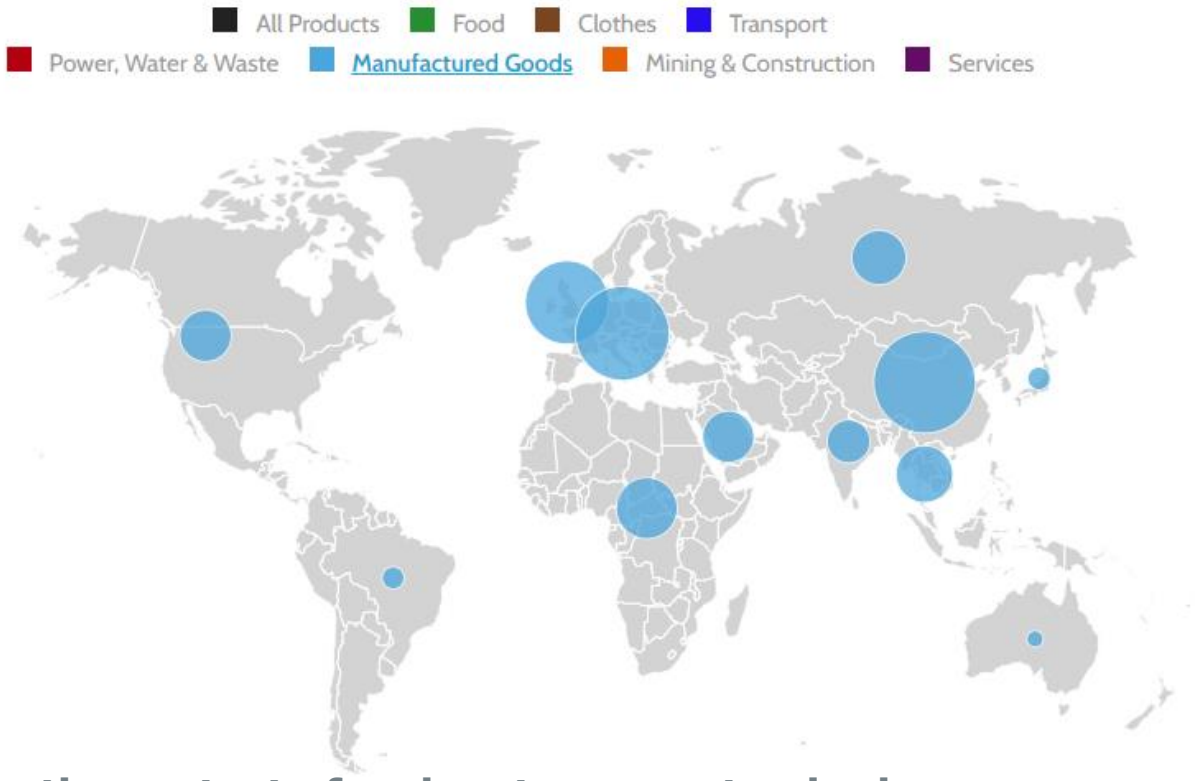


This Carbon Border Adjustment Mechanism should motivate foreign producers and EU importers to reduce their carbon emissions, while ensuring that we level the playing field in a WTO-compatible way."

- President Ursula Von der Leyen, 2020 State of the Union address

Carbon leakage definition

Generally: when production shifts to a different location, increasing the carbon footprint of a product. See below: emissions for production of goods consumed in UK



Example: if EU carbon taxes apply to steel production

→ EU steel more expensive compared to imported (hi-carbon) steel

→ Markets for EU steel shrink, producers abroad gain market share

→ Eventually steel is bought from China instead of produced in Europe

In the context of carbon taxes or standards:

Concern that production moves to a different location *because of the costs associated with climate action*

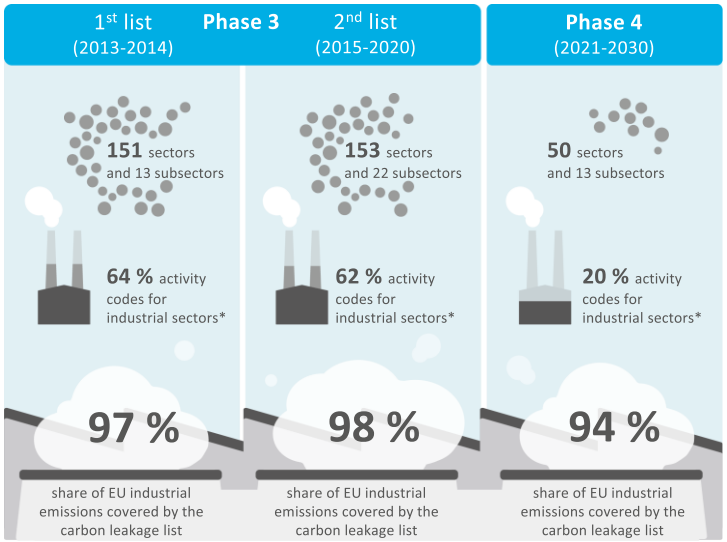
Certain goods are more exposed to carbon leakage

Emissions-intensive, trade-exposed goods (EITE):

- Iron, steel, aluminium
- Concrete
- Energy
- Chemicals and Fertilizers

Attempts to address carbon leakage

Exemptions



Sectoral agreements

Cement Sustainability Initiative

→ Problem: lack of incentives for industrial decarbonization

CBAM?

Carbon Border Adjustment Mechanism:
Fee or levy to price carbon on imported goods

→ Problem: complex, controversial, never been put into practice

Policy design still up for debate

Goals of the EU CBAM

→ level the playing field among competitors

→ create political leverage for more ambitious climate action across countries

→ generate revenues

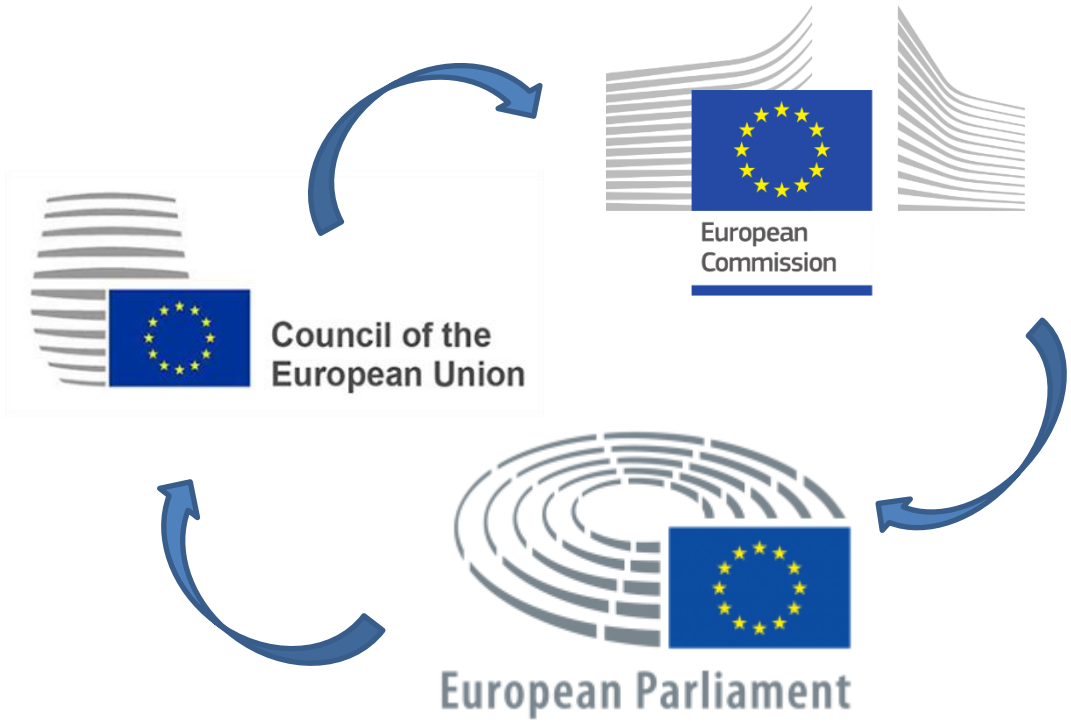
Currently in trialogue negotiations

Political balancing process

→ Voters want green policy

→ EU industry (& certain member states) want to stay competitive

→ International level: harms multilateral system, potential for trade retaliation by US, China

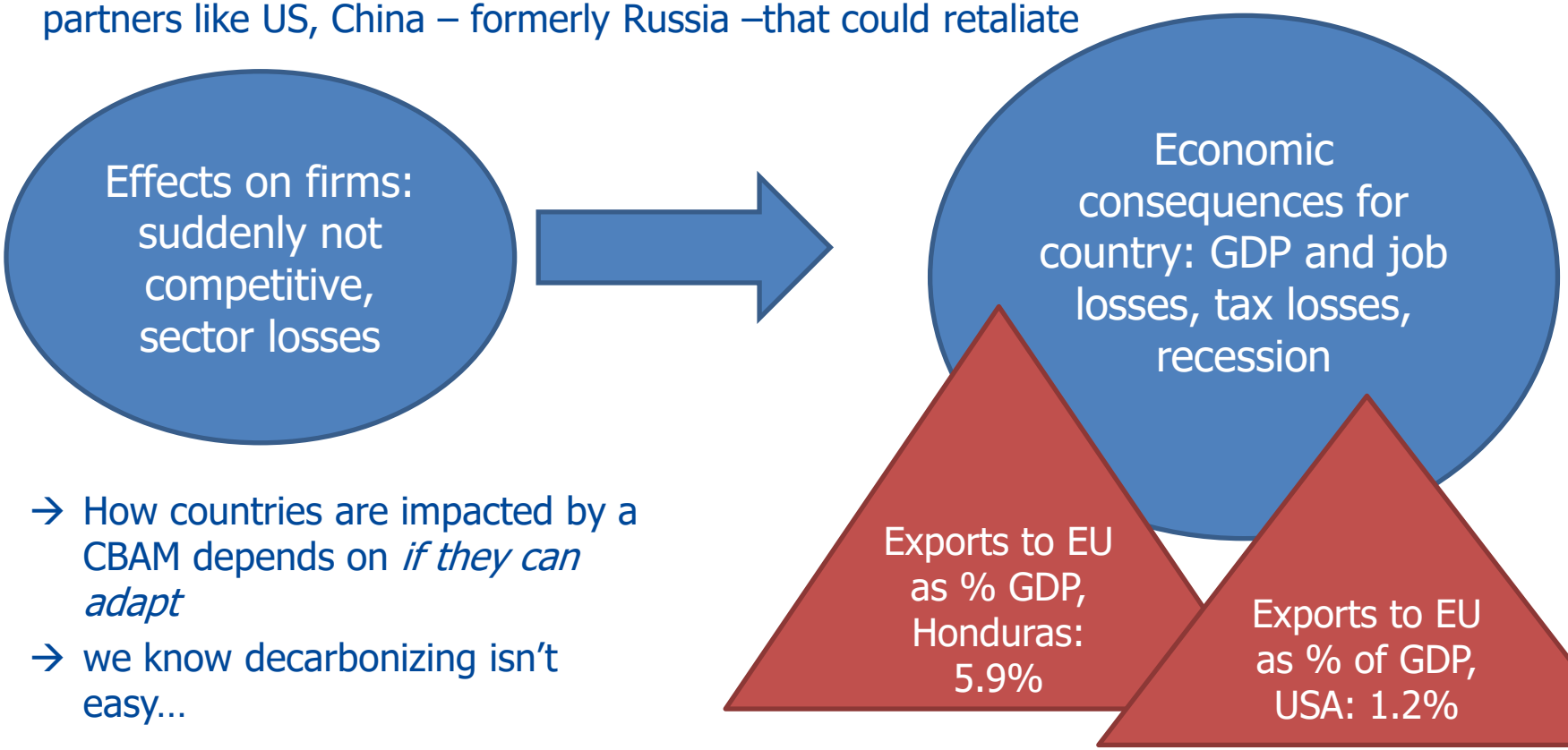


Policy design still up for debate

Topic	Commission	Parliament
Suggested timeline	Pilot 2023, implementation 2026	Implementation 2033, free allowances continue to fill gaps
Discussions on revenue use	Revenues go into EU budget basket for the green deal	+ financial support to LDCs decarbonization?
Discussions on product coverage	iron and steel, cement, organic basic chemicals and fertilisers	+ aluminium, hydrogen, polymers, energy?
Exports included	No	Maybe
Indirect emissions	Eventually	Yes

Risk and Exposure to an EU CBAM

EU debate on international relations: focused mainly on WTO legality and large trade partners like US, China – formerly Russia –that could retaliate



→ How countries are impacted by a CBAM depends on *if they can adapt*

→ we know decarbonizing isn't easy…

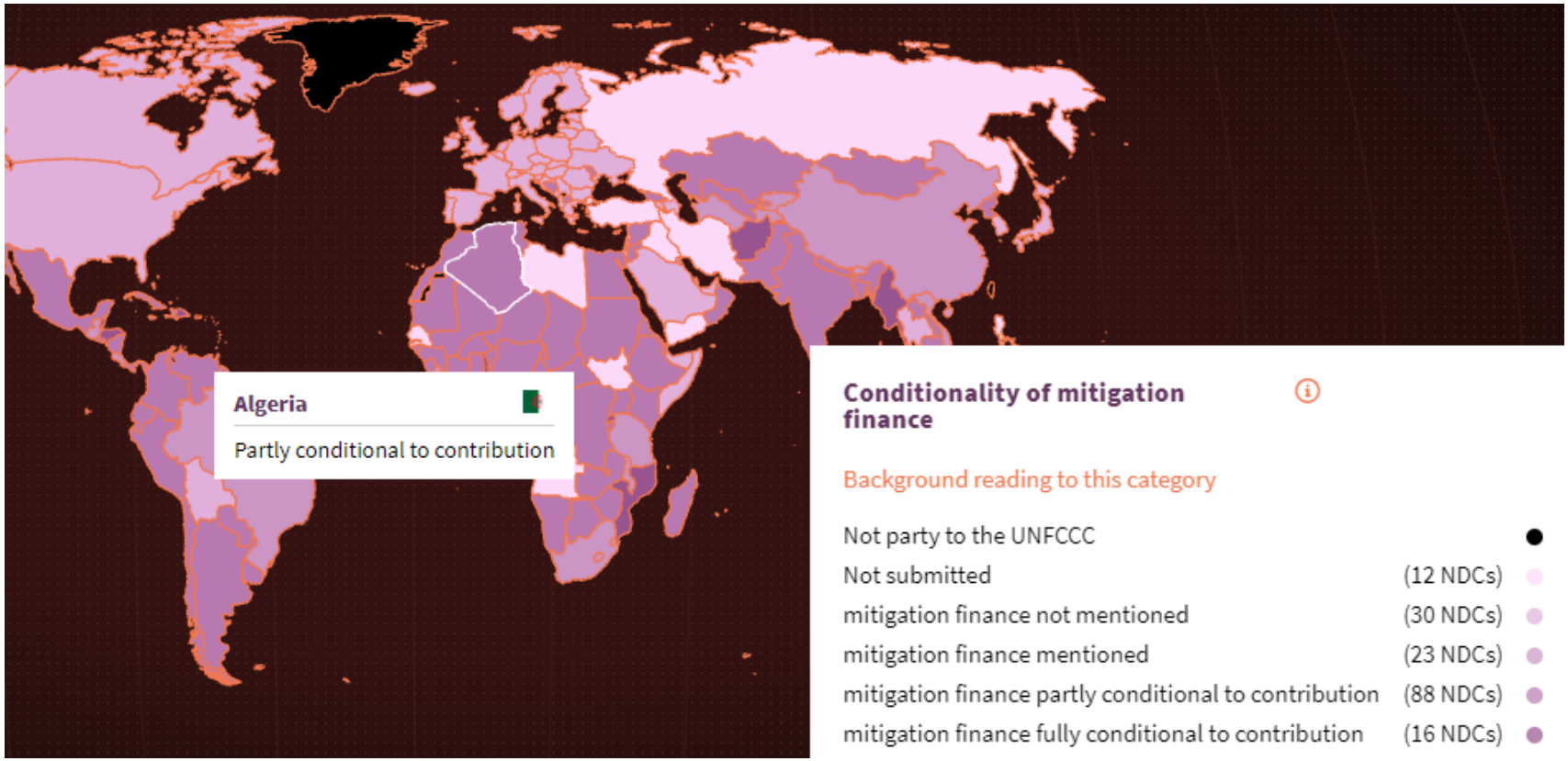
Our focus: smaller countries without the same kind of economic clout as China or the US

- How might the CBAM impact them?
- Would they be able to adjust by decarbonizing?

Can countries adapt to a CBAM by decreasing their carbon intensity?

To do so, countries would need:

- A lot of money to put into structural change, technological innovation
- Capacities to track emissions along complex systems of production



Who is at risk from the EU CBAM?

Level of risk = Exposure + Vulnerability (how system can adapt to stressors)

Countries ability to adapt and minimize risk depends on:

- Existing level of decarbonisation + climate policies for future decarbonisation
- Capacities to deal with administrative burden of tracking carbon content
- Trading patterns

Country A: high-risk

High exposure: large share of GDP from exports to the EU

High vulnerability: relies on trade with EU; emissions above EU average and no plan to decarbonise further; limited capacities to trace and report emissions

Country B: low-risk

Low exposure: small share of GDP from exports to the EU

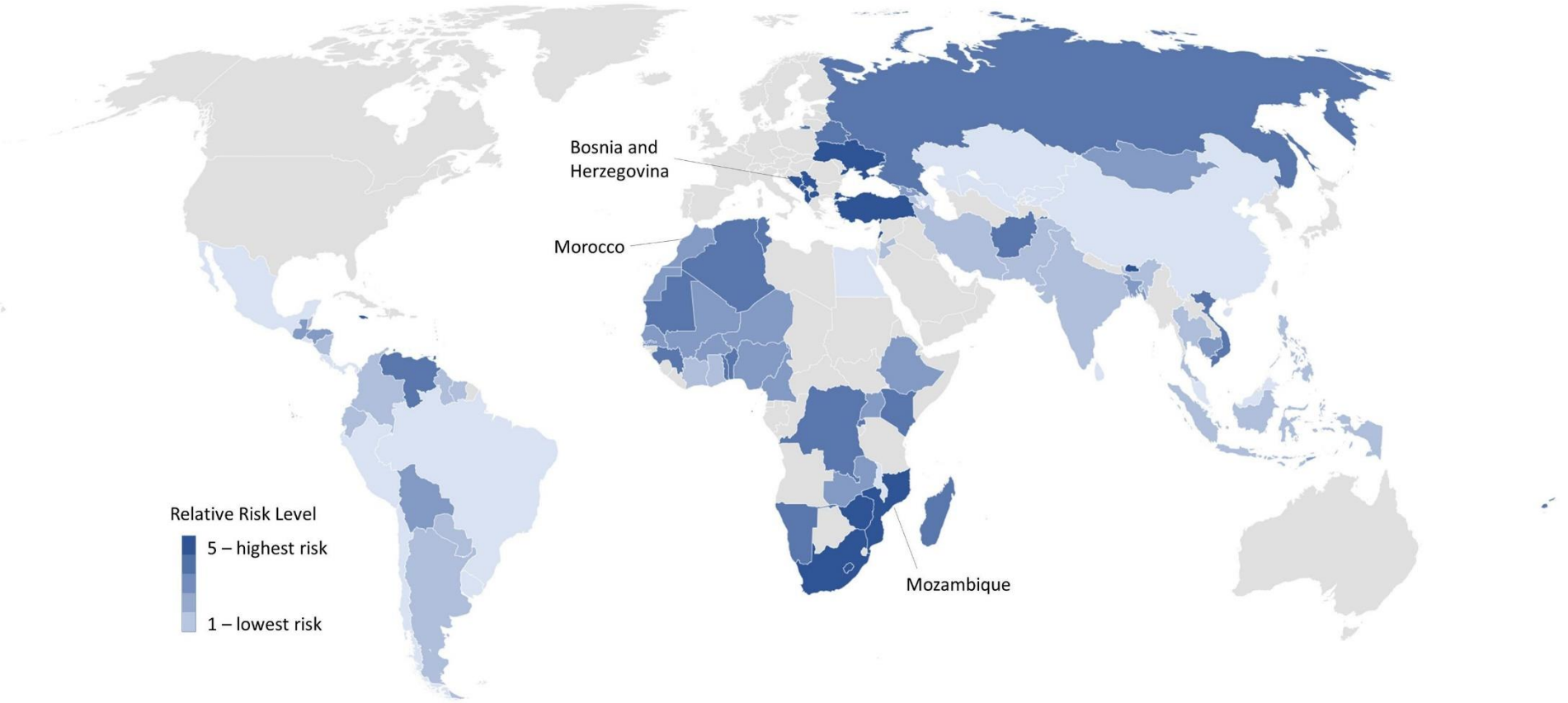
Low vulnerability: diverse trading patterns; emissions are below EU average and plans are in place to decarbonise further; high capacity to trace and report emissions

Risk and Exposure to an EU CBAM

	Framework	Short term Scenario 1: Risk Indicator	Long term Scenario 2: Risk Indicator
Exposure	Importance of trade with the EU for the national economy	EITE exports to the EU as proportion of country GDP	Exports to the EU as proportion of country GDP
Vulnerability	Reliance on trade with the EU	Diversification of exports : EITE exports as a proportion of total exports	Diversification of partners: Exports to the EU as a proportion of total exports
	Emissions, current and planned	Carbon intensity of total final energy consumption & Emissions Reduction Targets	
	Capacity to measure and report emissions	National statistical system and data quality	

Mapping comparative risks: EITE goods

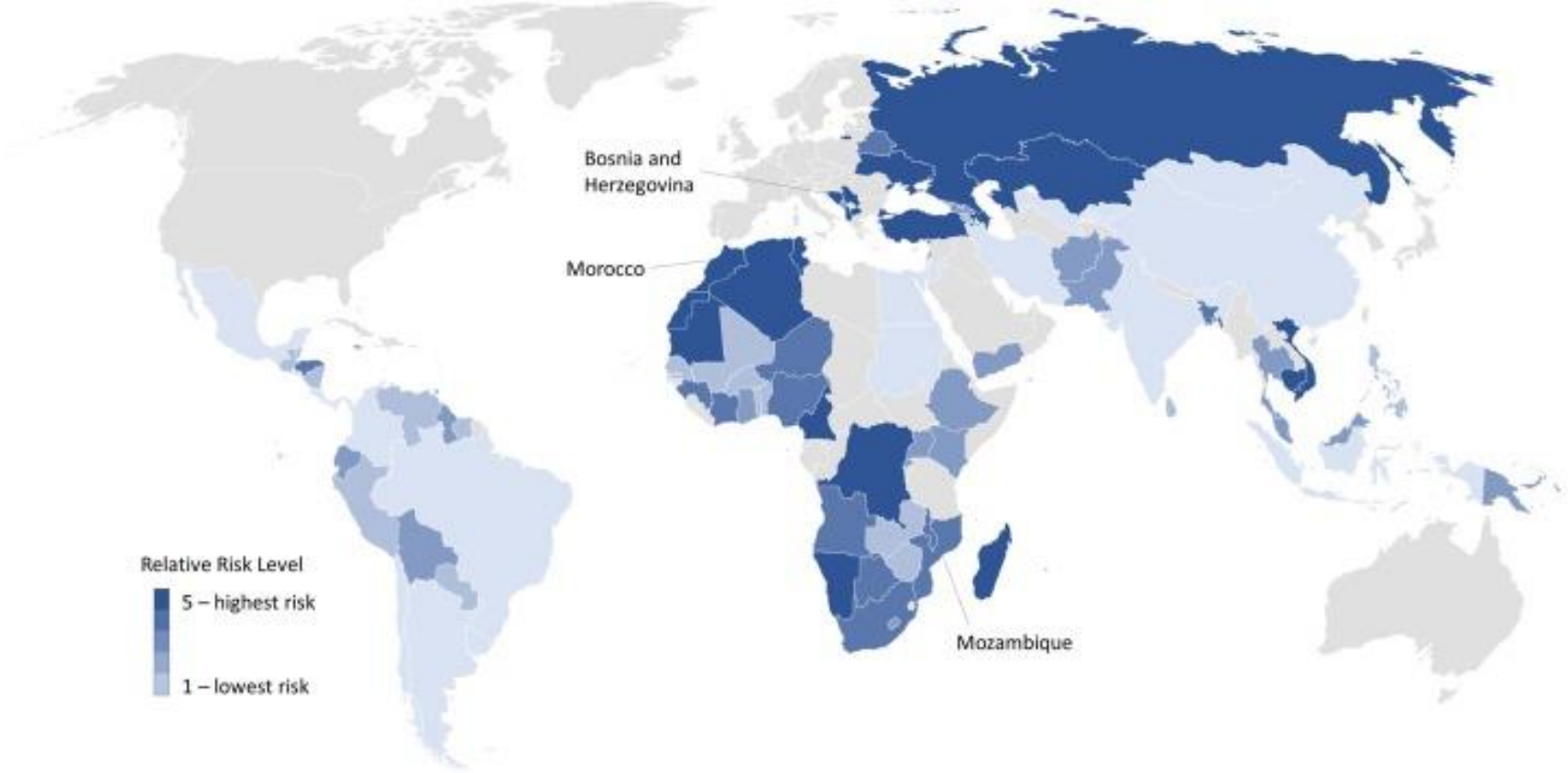
Global map displaying quintiles of country relative risk levels for an EU CBAM on EITE imports (Scenario 1).



Relative risks in Americas high for Jamaica, Saint Lucia, Venezuela

Mapping comparative risks: all goods

Fig. 3. Global map displaying quintiles of country relative risk levels for an EU CBAM on all imports (Scenario 2).



Relative risks in Americas high for Honduras, Trinidad and Tobago, Jamaica

Potential impacts of EU CBAM on Americas

Reporter	GDP from exports to EU	Carbon Intensity
Honduras	5.85%	16.63
Trinidad and Tobago	4.16%	12.58
Guyana	4.05%	31.59
Costa Rica	3.62%	8.86
Peru	2.95%	12.72
Ecuador	2.85%	14.58
Chile	2.70%	14.43
Nicaragua	2.47%	19.15
Brazil	2.09%	9.41
Bolivia	1.85%	16.58
Suriname	2.88%	42.24
Paraguay	1.78%	3.66
Mexico	1.57%	15.58

Risks if US implements CBAM likely higher. Example: 52% of Trinidad's exports are to the US, high-exposure products like ammonia, fertilizers, steel

Mitigating CBAM risk for third countries

Any government(s) implementing a CBAM should assess trade partner risks & countries should get ready for more resilient (decarbonized) trade

Exposure:
What is the share of GDP from trade with implementing country or region? What goods are traded?

Short-term exposure:

Goods likely to be immediately included: metals, chemicals, fertilizers, cement

Long-term exposure:

Most goods may be eventually included

Vulnerability

How could trade patterns be adapted to avoid major costs?

Increase carbon-tracking capacities

- Low-hanging fruit: can prove lower carbon content and not be subject to tax if emissions are low

Decarbonization

- Must at least lower overall footprint of production (indirect emissions count)
- Must *also* decarbonize industries

Diversifying trade relations

- Goods must find a market elsewhere
- *And* new markets don't link trade and climate

Thank you for your attention.

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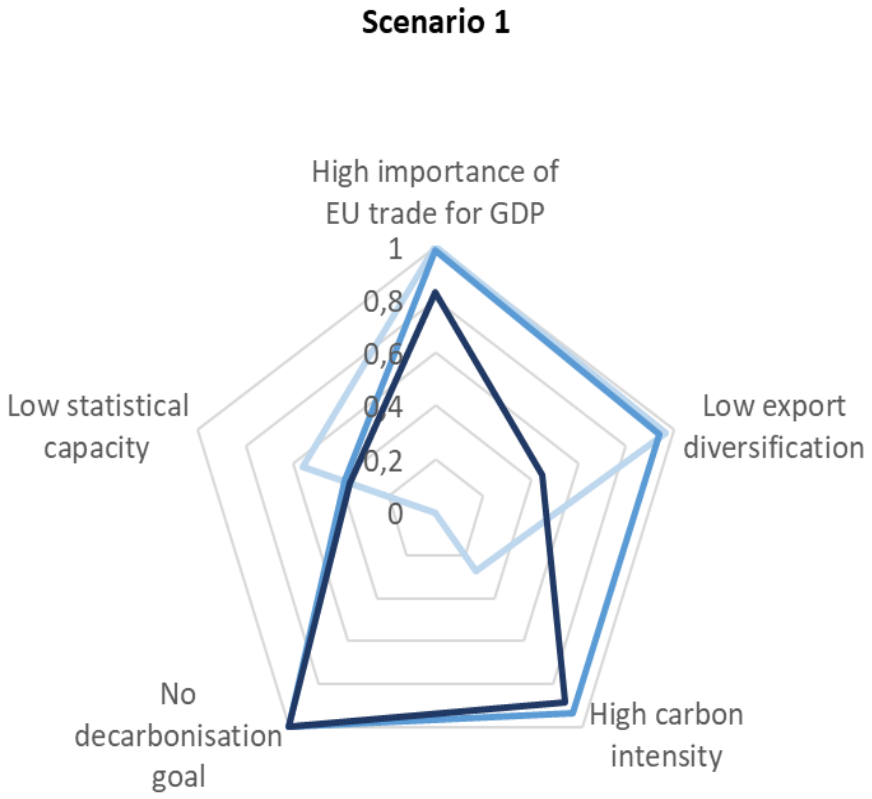
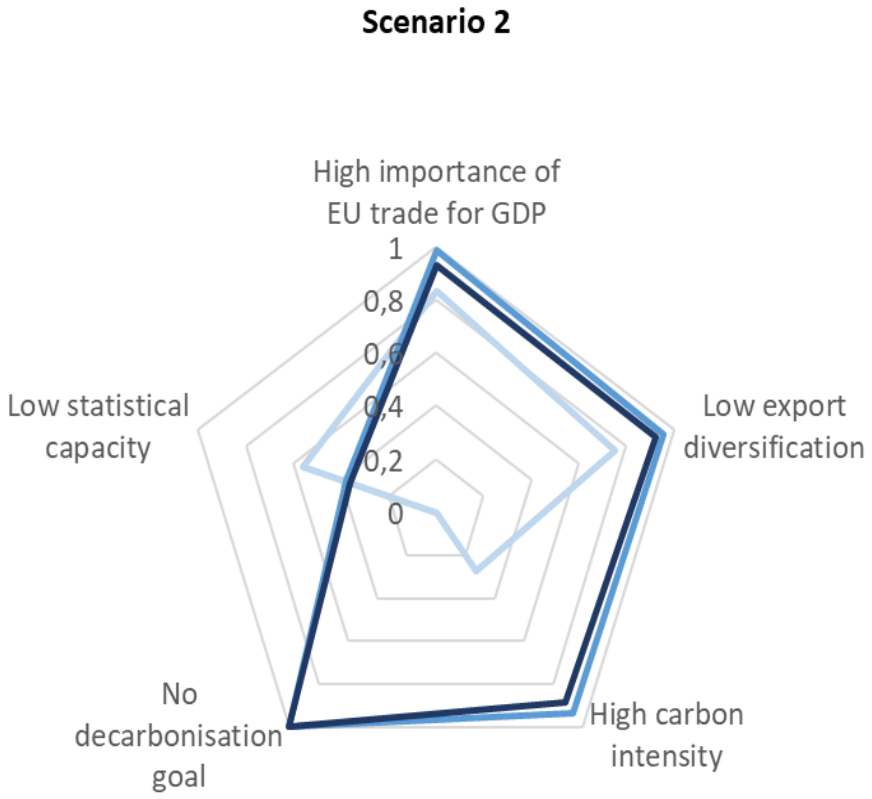
High risk levels stem from different sources





Mozambique Bosnia and Herzegovina Morocco