GHG Mitigation Instruments and the importance of Carbon Pricing

Bangkok
Sept 25, 2018

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CLIMATE CHANGE CARRIES COSTS FOR SOCIETY

Who pays?

PUTTING A PRICE ON CARBON

- This is one approach to reducing emissions, a key benefit
- A second benefit of this approach is that it provide revenue for the government
- Other benefits include:
  - Promoting green development
  - Local environmental and health improvements

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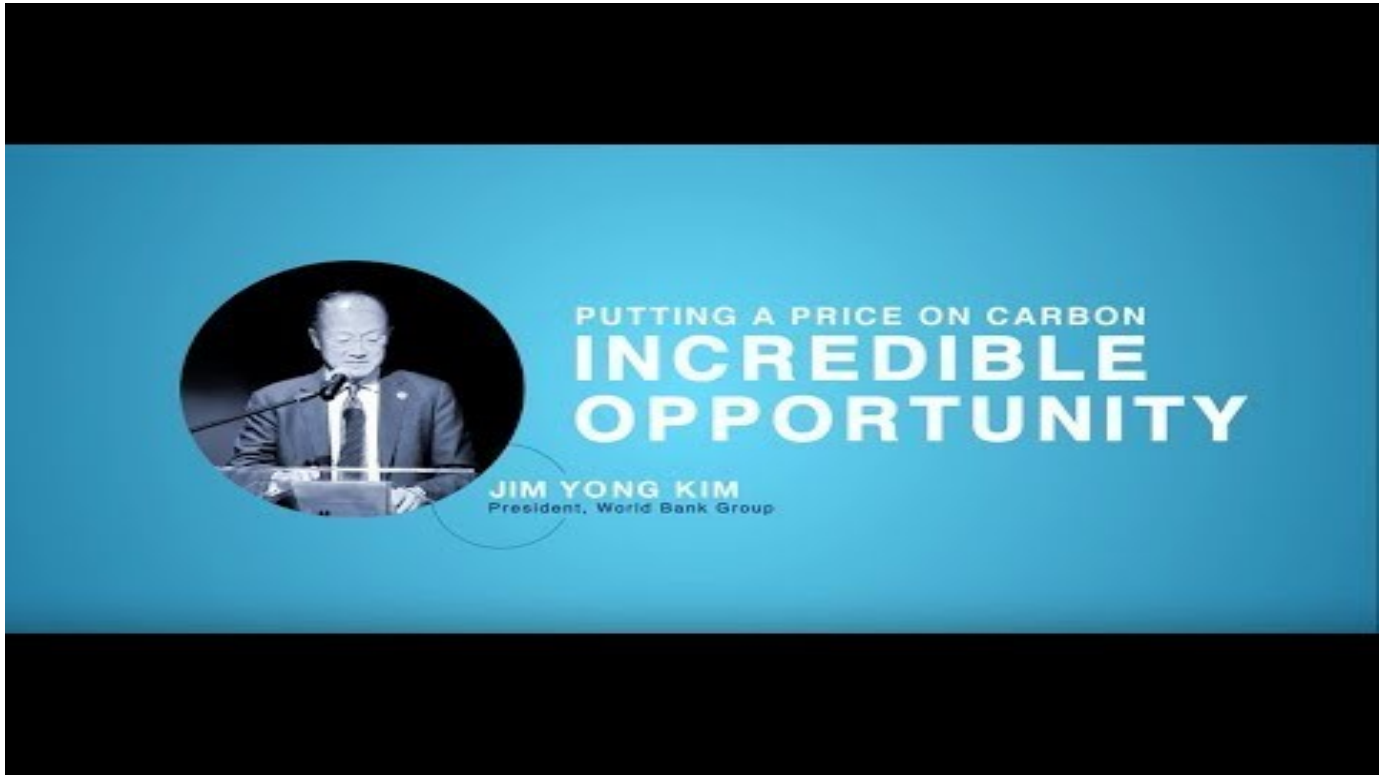
PUTTING A PRICE ON CARBON



https://youtu.be/5fvbD0Ev7eU

MAIN TYPES OF CARBON PRICING

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A **carbon tax** directly sets a price on carbon by defining a tax rate on greenhouse gas emissions or – more commonly – on the carbon content of fossil fuels.

- No need for an individual choice; carbon pricing mechanisms can be used together.
- The choice of the instrument will depend on national and economic circumstances.

Internal carbon pricing is a tool an organization uses internally to guide its decision-making process in relation to climate change impacts, risks and opportunities.

WHAT ARE CARBON TAXES?

Carbon tax | *ˈkär-bən ˈtaks* | *n.*

1. a tax that explicitly states a price on greenhouse gas emissions or that uses a metric directly based on carbon (that is, price per tCO_2e).

WHAT ARE THE EFFECTS?

- Industry investment decisions
- Consumer choices and demand
- Source of government revenue

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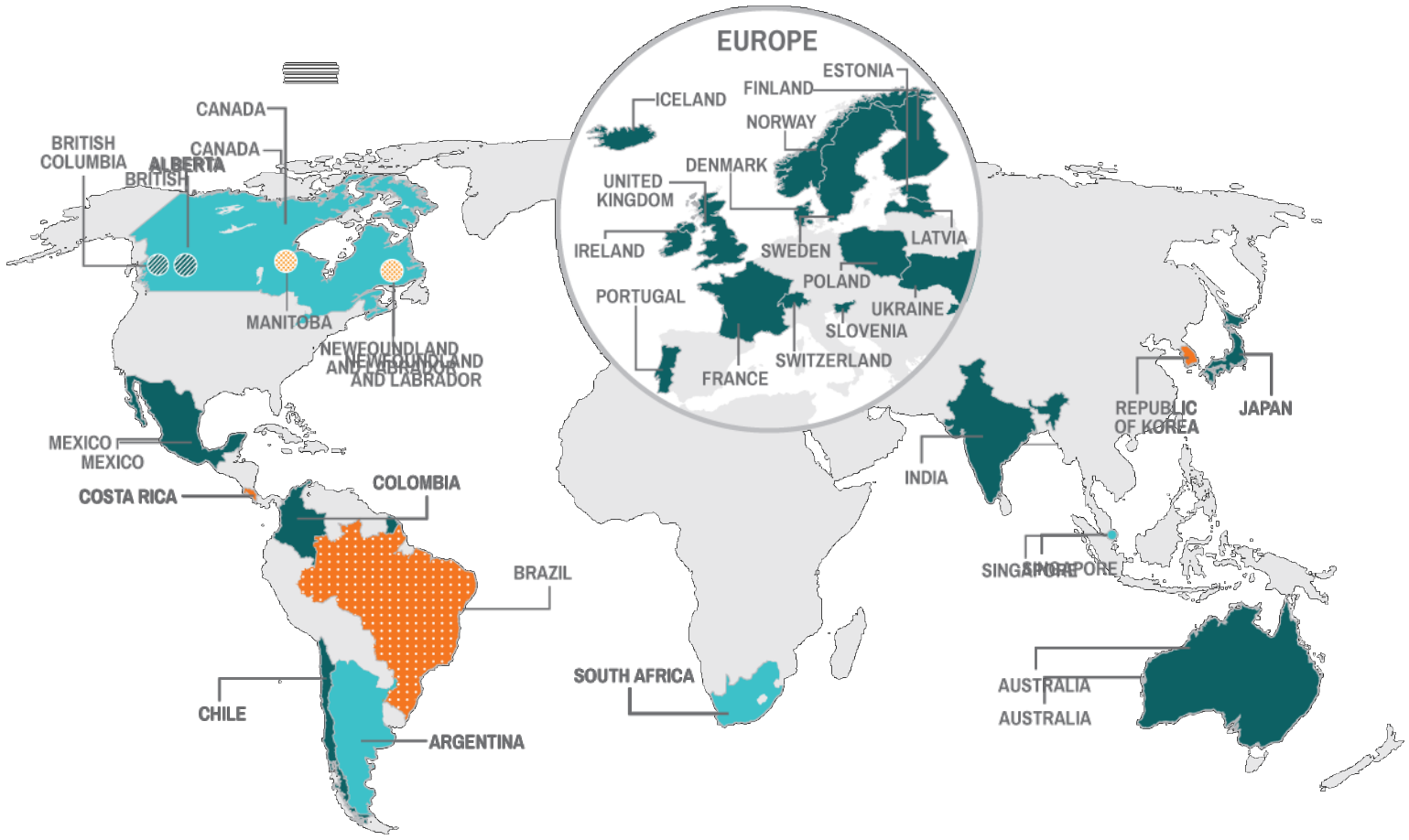
CARBON TAXES AROUND THE WORLD

2018



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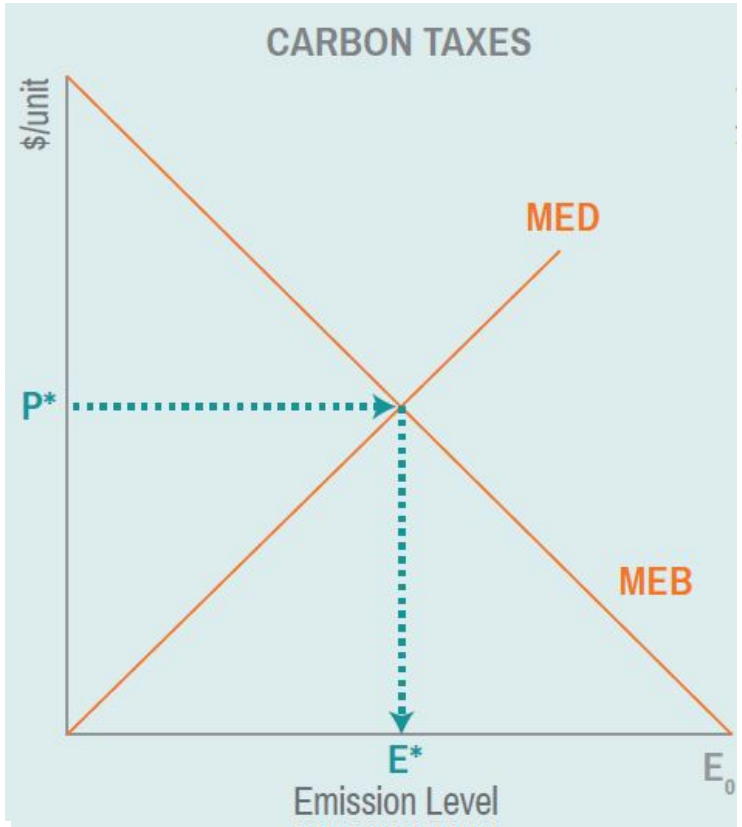
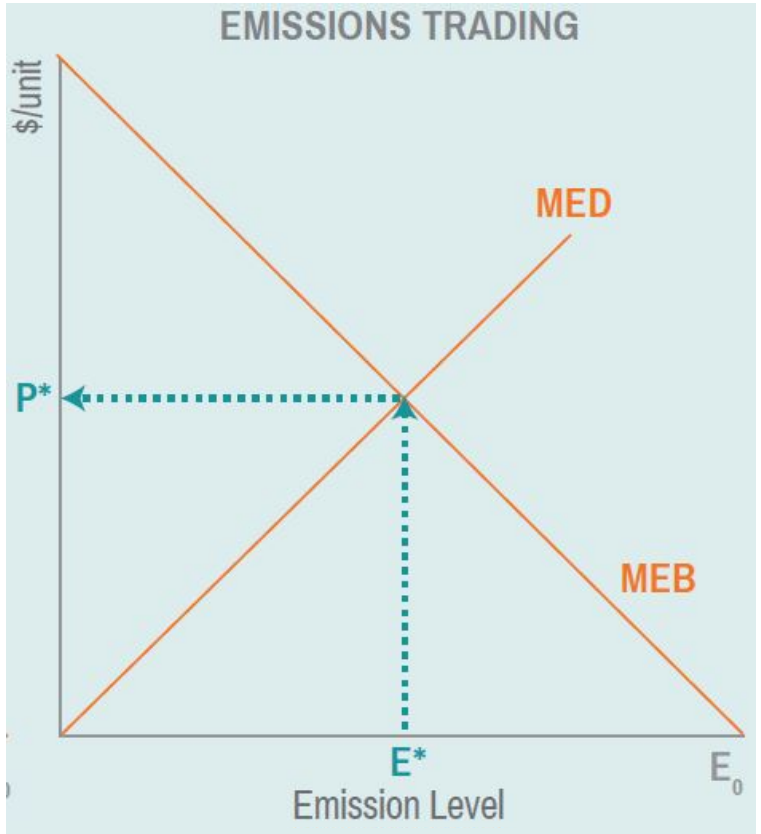
ETS AND CARBON TAX





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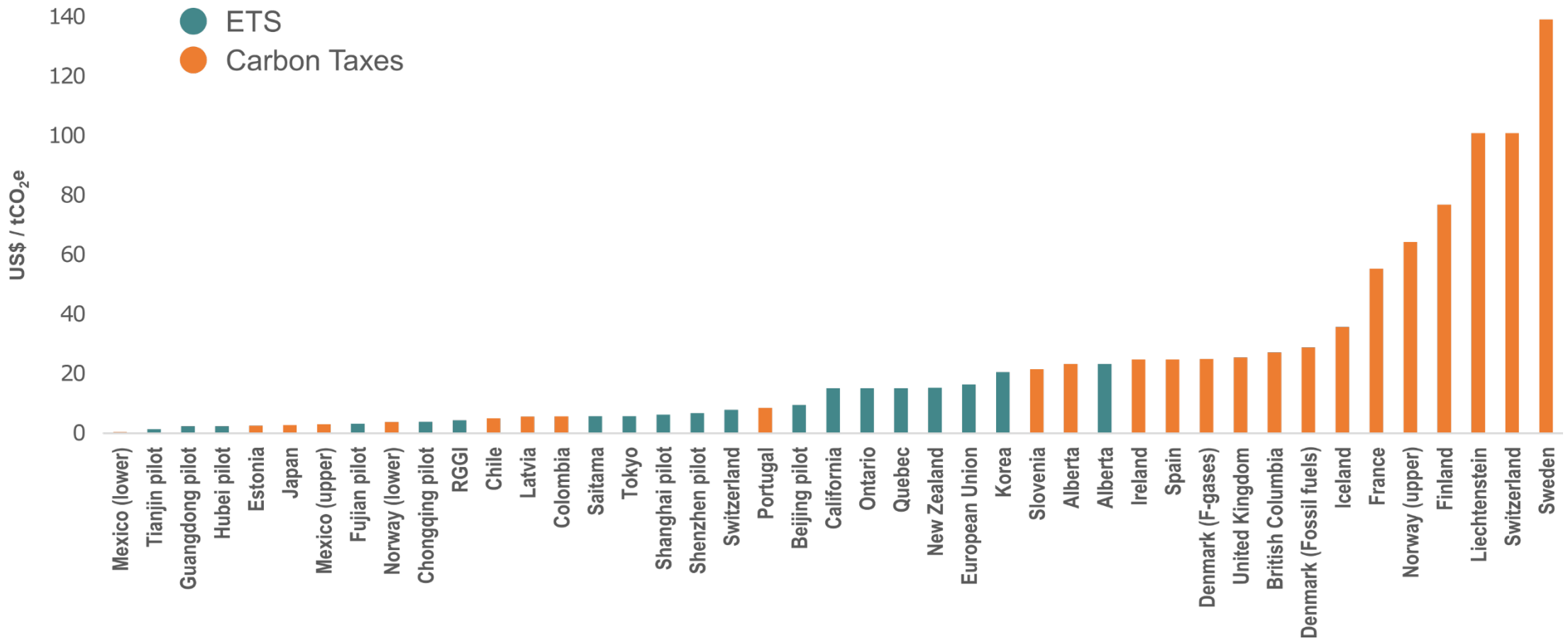
ETS AND CARBON TAX

Taxes	ETSs
Price certainty	Mitigation target certainty
Tend to be higher in practice	Economic efficiency gains
Can be simpler to administer	Transaction costs & market power considerations in thin markets
	Other policies can reduce prices

CARBON PRICES IN PRACTICE



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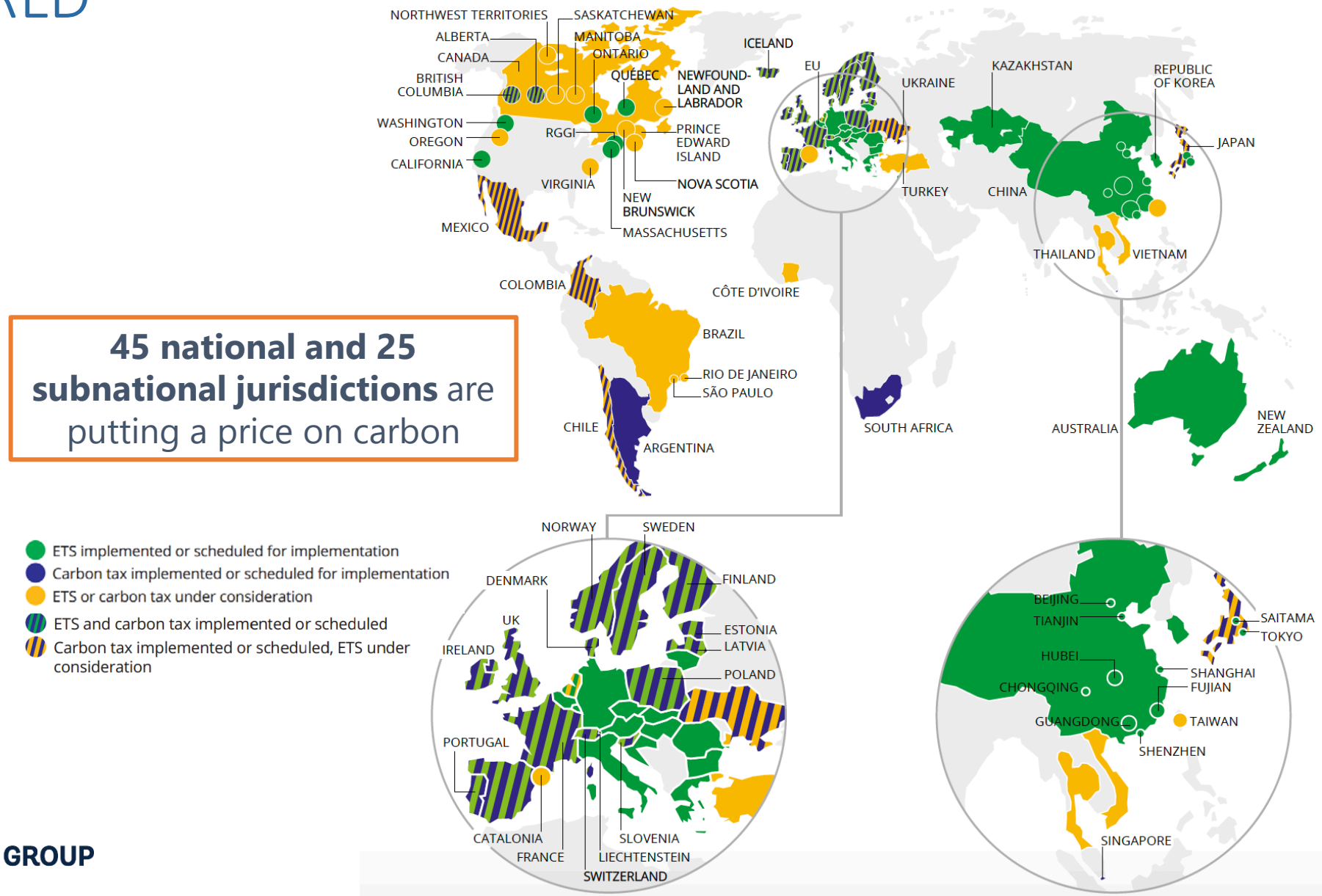
STATE AND TRENDS OF CARBON PRICING

INITIATIVES CONTINUE TO EVOLVE AROUND THE WORLD

45 national and 25 subnational jurisdictions are putting a price on carbon



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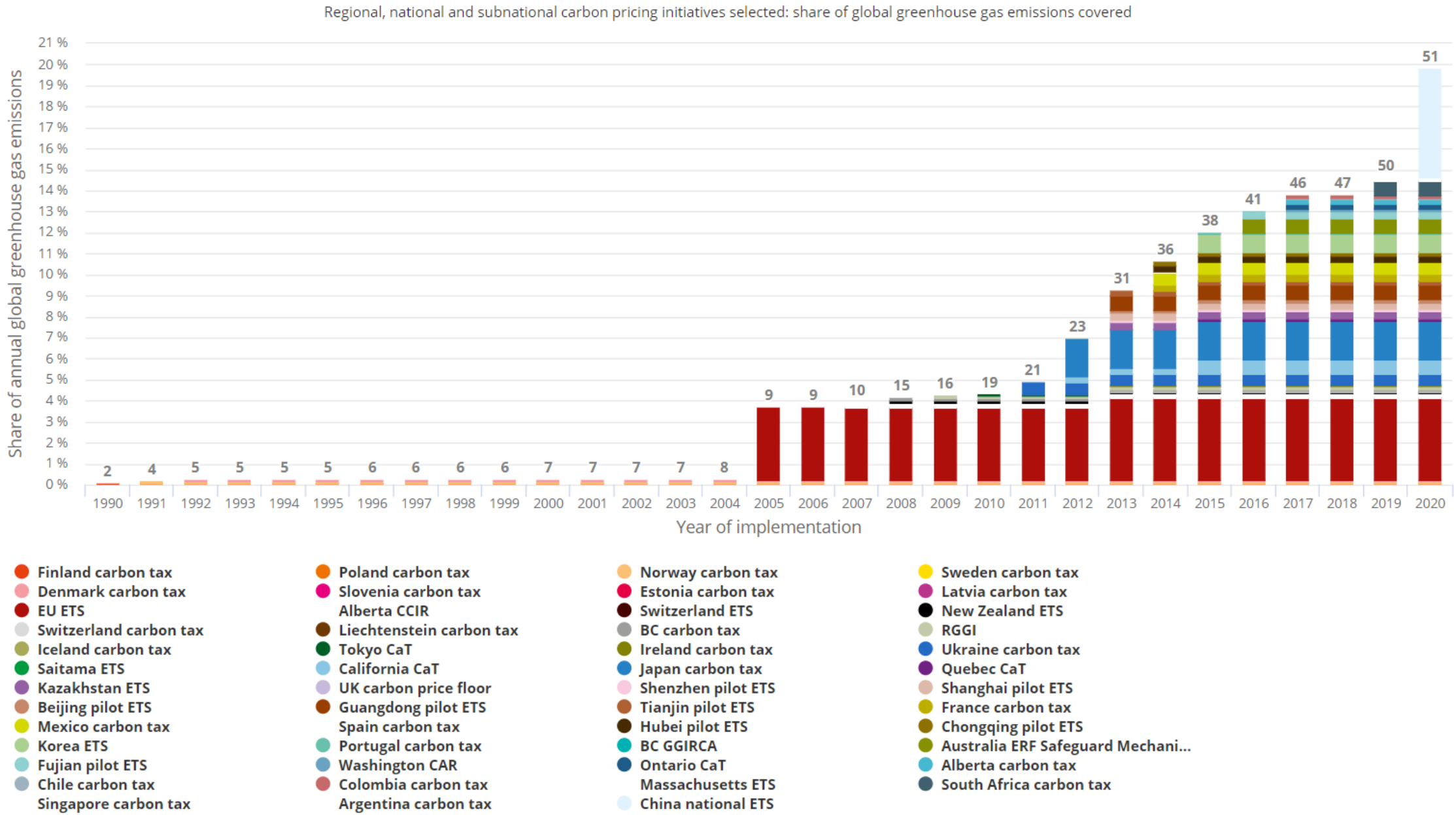
BROADER COVERAGE OF GLOBAL EMISSIONS



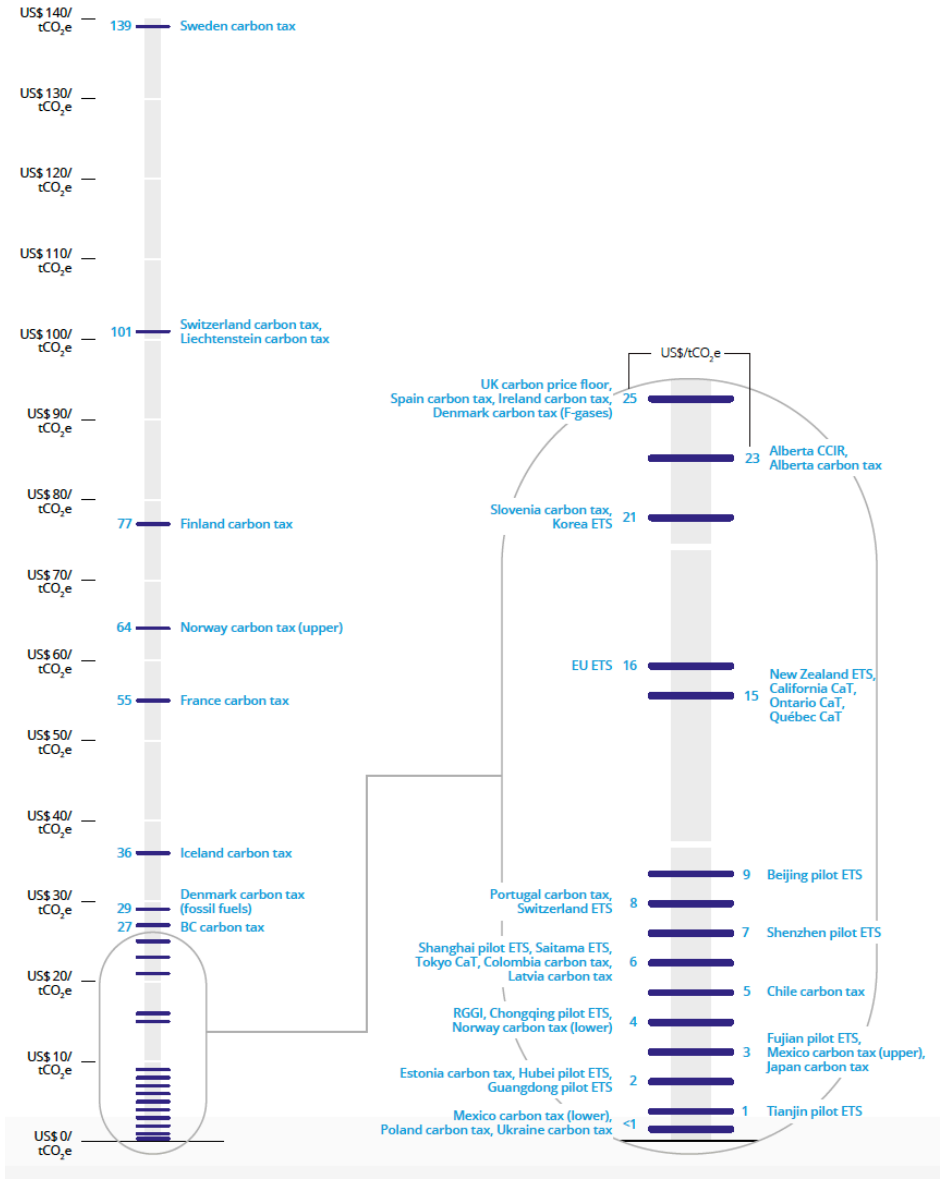
BROADER COVERAGE OF GLOBAL EMISSIONS

- **All seven newly implemented carbon pricing initiatives in 2017-2018 came from the Americas region:**
  - **In 2017:** carbon tax in Alberta, Chile, Colombia; ETS in Ontario; Clean Air Rule in Washington State
  - **In 2018:** ETS in Massachusetts, carbon tax in Argentina
- **Encouraging developments elsewhere,** e.g. China, Kazakhstan, Singapore, Catalonia, Costa Rica.

PRICES IN IMPLEMENTED CARBON PRICING INITIATIVES

While they remain too low, carbon prices in most initiatives are rising

About half of the emissions are now covered by carbon pricing initiatives priced at over US$10/tCO2e compared to one-quarter of emissions covered in 2017



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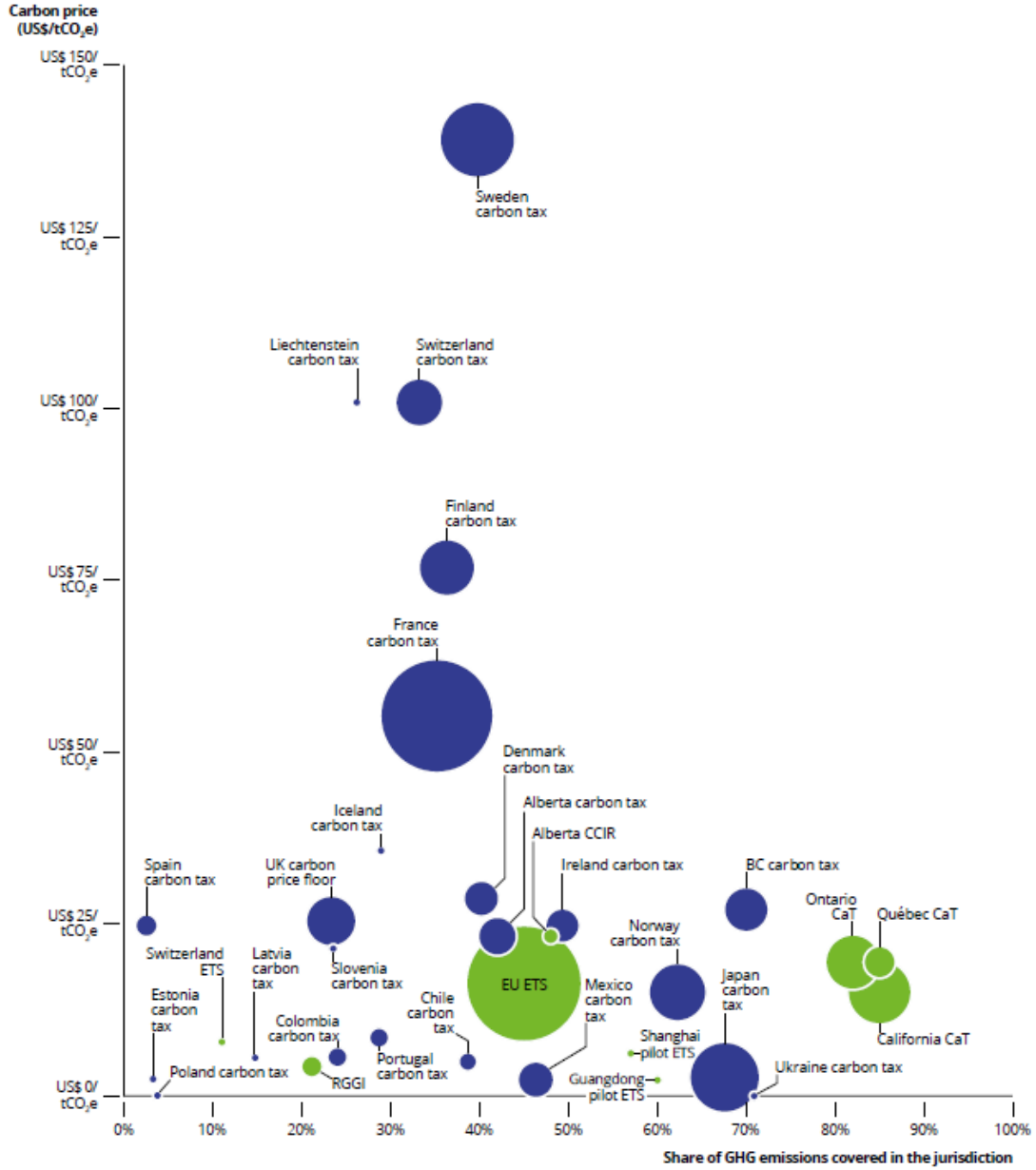
REVENUES ARE RISING

$22

$33



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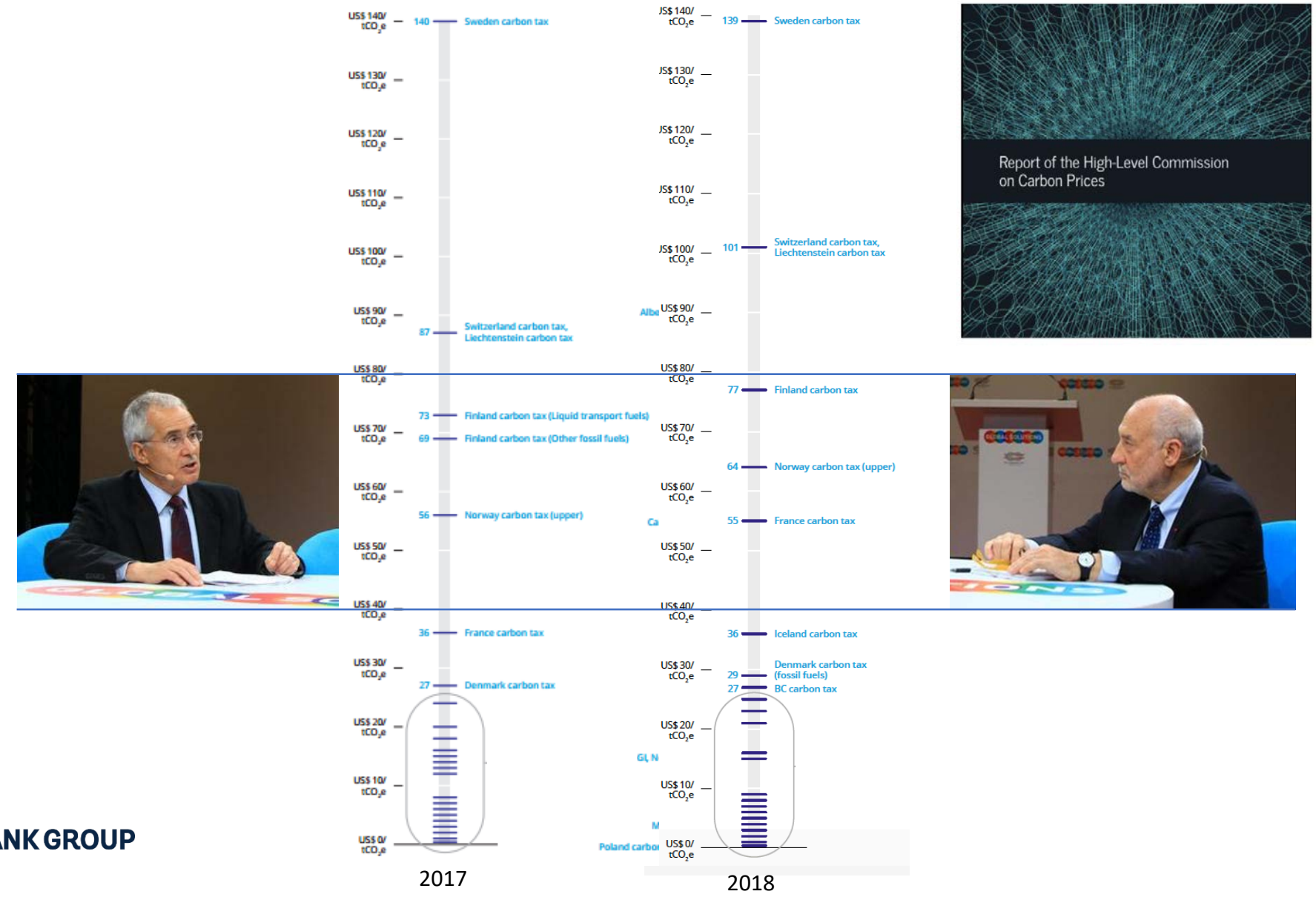
…BUT STILL LOW



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INTERNATIONAL DEVELOPMENTS

Looking forward, **great potential** with the implementation of NDCs, with 88 parties mentioning carbon pricing in their NDCs, representing 56 percent of global GHG emissions.

At the international level:

- **Aviation:** 73 countries, representing 88 percent of international aviation activity, intend to voluntarily participate in CORSIA from the start of the pilot phase in 2021.
- **Maritime:** IMO foresees for the first time in history a reduction in total GHG emissions from international shipping with a vision of putting the sector's emission reduction efforts on a pathway consistent with the Paris Agreement temperature goals.
- **Article 6 of the Paris Agreement**: Rulebook to be agreed at presented at COP

Topic of next session!!!

EXTRA SLIDES

Will the price on carbon work?

- Consumers and businesses are not equally responsive to price changes across goods and services.
- We measure this responsiveness through the Price Elasticity of Demand (PED).

$$PED = \frac{\%\ change\ in\ quantity}{\%\ change\ in\ price}$$

CARBON TAXES AROUND THE WORLD

Price increases by 20% and purchases fall by 40%, hence PED = (-40%)/(20%) = -2

$$PED = \frac{\%\ change\ in\ quantity}{\%\ change\ in\ price}$$

Price increases by 20% and purchases fall by 10%, hence PED = (-10%)/(20%) = -0.5

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ELASTICITY OF DEMAND FOR ENERGY