



Basic principles and design: a recap on previous PMR discussions

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Carbon Pricing: Latest Developments on
carbon taxes
Zurich, Switzerland
March 11, 2016

PMR carbon tax work stream

- ◆ PMR established carbon tax work stream in FY15
 - ◆ reflects interest in carbon taxes in a number of Implementing Countries
- ◆ Held first carbon tax workshop in Cologne, June 2014
 - ◆ Today's workshop intended to build those earlier discussions
- ◆ Key focus of work stream is a design guide for carbon taxes

Tax on GHG emissions: definition and rationale

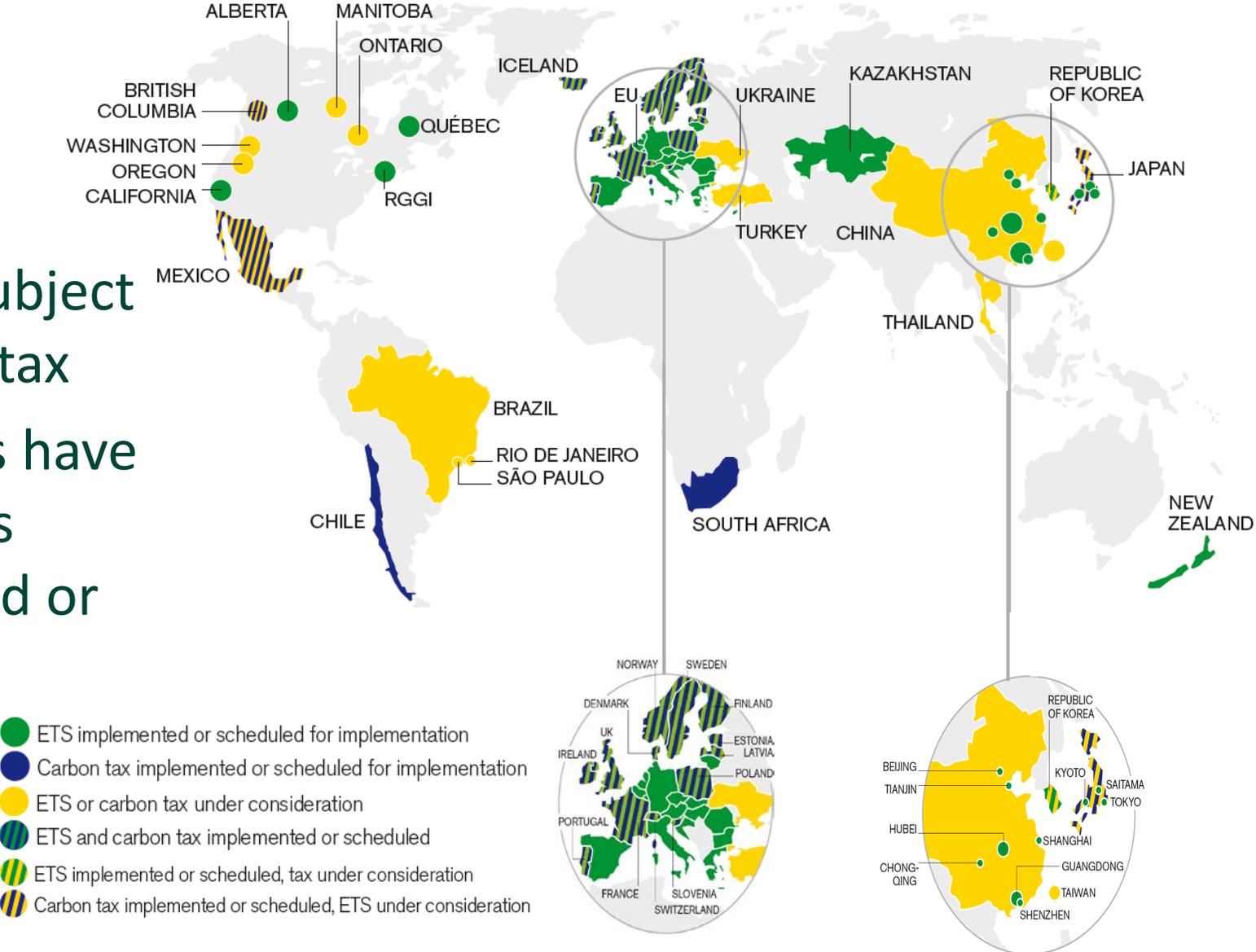
- ✓ **A tax, which level is directly linked to GHG emissions (usually expressed as ton of CO2 equivalent)**

Why taxing GHG emissions?

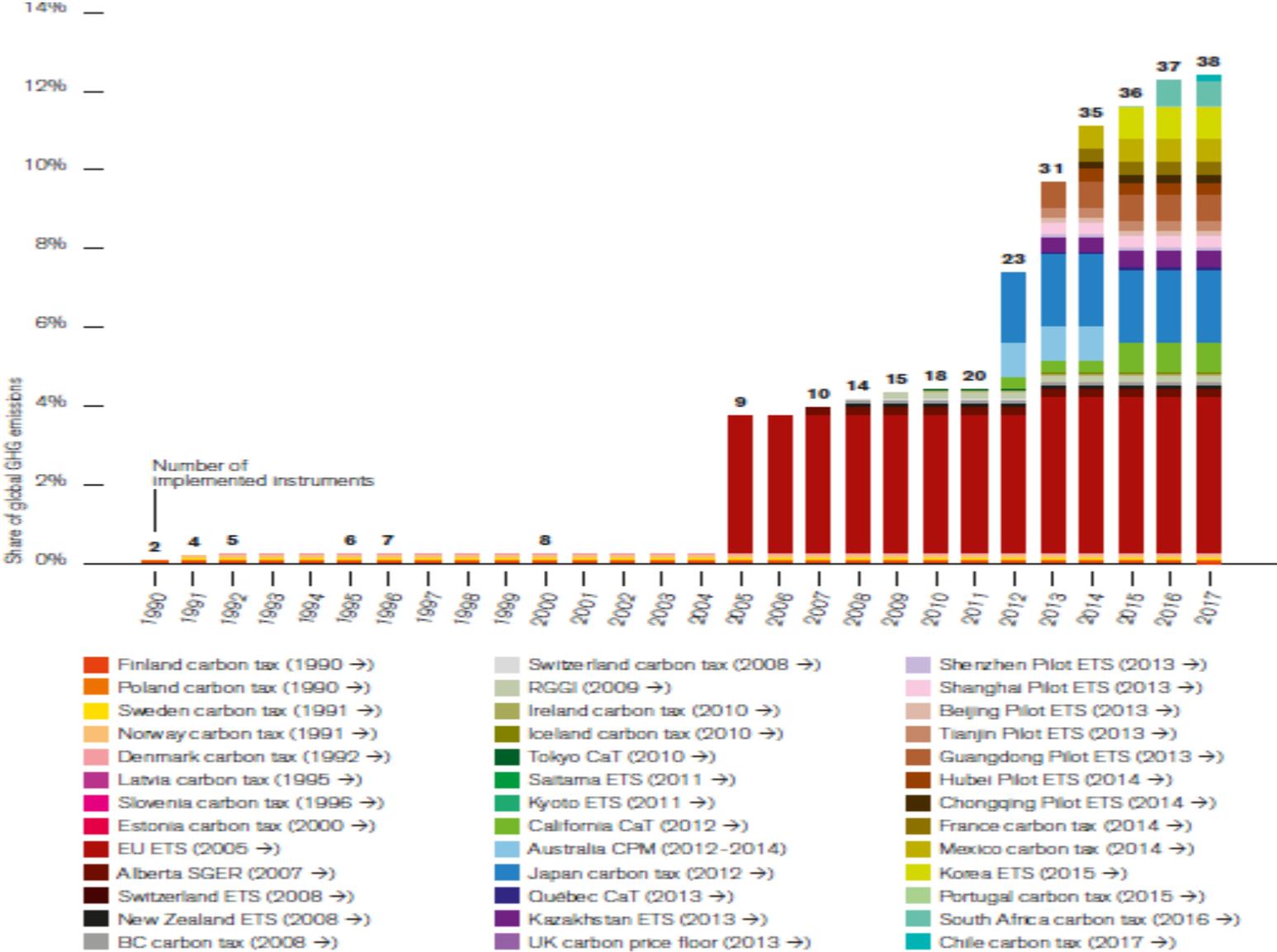
- ◆ **Economic efficiency: cost-effective emissions reduction**
- ◆ **Revenues to the government**
- ◆ **Low administrative costs, low evasion rates**
- ◆ **Can have a broad coverage of emission sources but can also be targets**

Carbon taxes around the world

- ◆ 4% of global emissions subject to a carbon tax
- ◆ 18 countries have carbon taxes implemented or scheduled



Long history to learn from



Key design elements of a carbon tax

- ◆ Tax base
- ◆ Tax rates
- ◆ Tax revenues
- ◆ Tax administration
- ◆ Measures to prevent emissions leakage

Tax base

- ◆ Coverage of fuels, sectors, and gases that will be taxed
- ◆ What commodities, products or activities will be taxed?
 - ❑ carbon content in fossil fuels, such as coal, natural gas, gasoline, diesel
 - ❑ Green-house gas emissions from point sources
- ◆ At which point of the value chain will it be taxed?
 - ❑ Upstream: suppliers of coal, at natural gas processing facilities, oil refineries, bulk importers;
 - ❑ Intermediate: (refined) products sales/imports and electric utilities;
 - ❑ Downstream: retail sales of fuel for transport and domestic consumption (e.g. British Columbia);
 - ❑ At the stack: at the point of carbon emissions to the atmosphere.

Tax rates

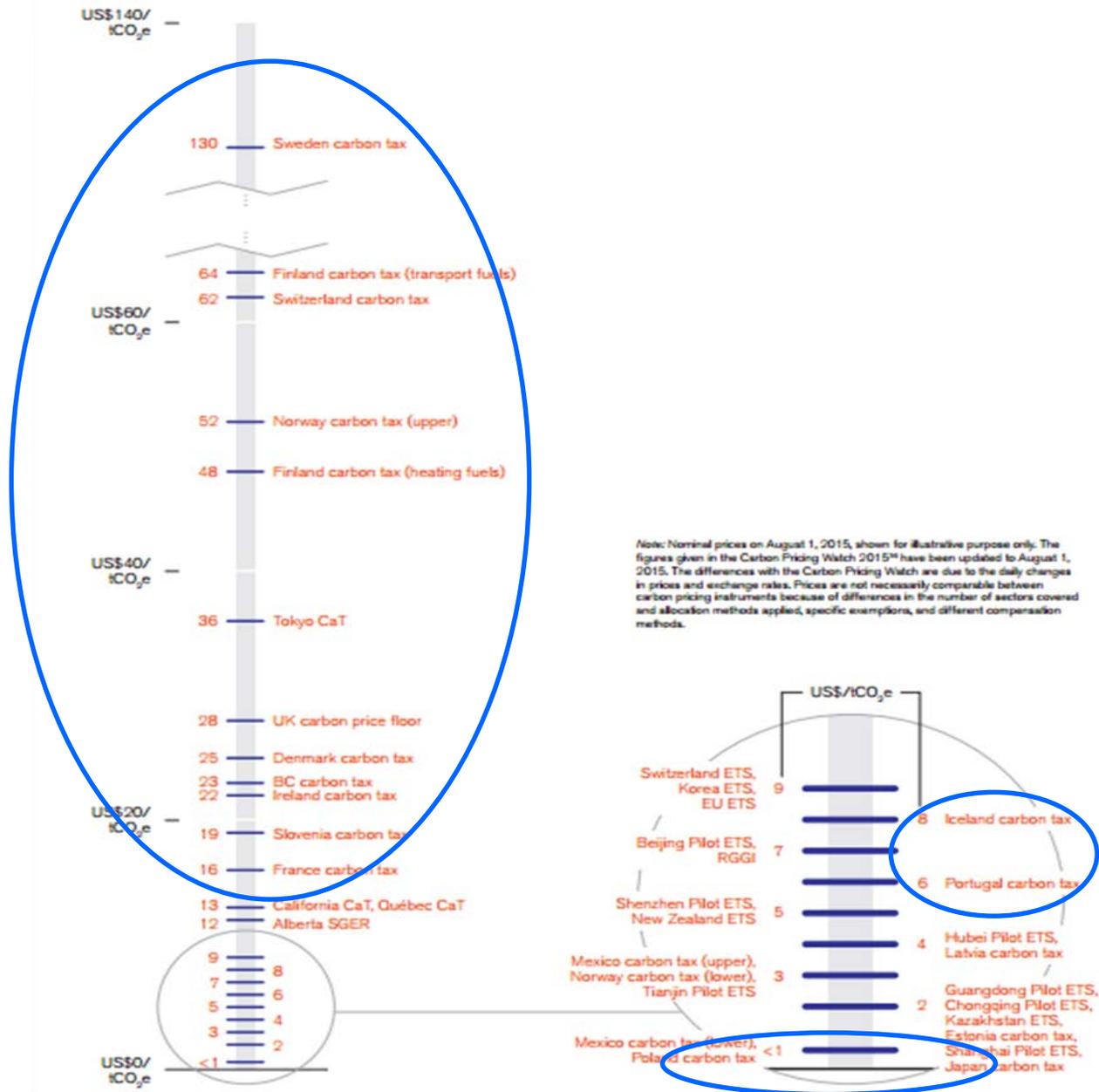
◆ Tailored to the intended objectives of a tax

- ❑ Change of behavior or technology targeted?
- ❑ Revenue raising target?

◆ Rate increase schedules

- ❑ Some countries begin with low rates, and publish schedule for rate increase (British Columbia, France), others increase rates discretionary
- ❑ Real terms increase: what index to use? (e.g. past or expected inflation)
- ❑ Variable rates (e.g. indexed to prices in related emissions trading markets - Portugal)
- ❑ Adjusted to local conditions: e.g. business and capital turnover cycles

Figure 3 Prices in existing carbon pricing instruments



Source: World Bank, State and Trends of carbon Pricing 2015

Revenue potential of a carbon tax

- ◆ **2014 over US\$10 billion in government revenue raised worldwide through carbon taxes** (WB State and Trends of Carbon Pricing 2015)
- ◆ **Revenues of GHG emissions taxes are still very small compared to direct taxes on income** (British Columbia 3% of total revenue, Sweden ~1.5%)
- ◆ **IMF: Potential revenue can be higher: e.g. 3% of China or India's GDP assuming US\$30/tCo₂ tax rate and comprehensive coverage** (Coady, et al 2015)
- ◆ **Trade-off between fiscal stability and environmental effectiveness (erosion of tax base if behaviour is successfully modified), but can be managed**

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