

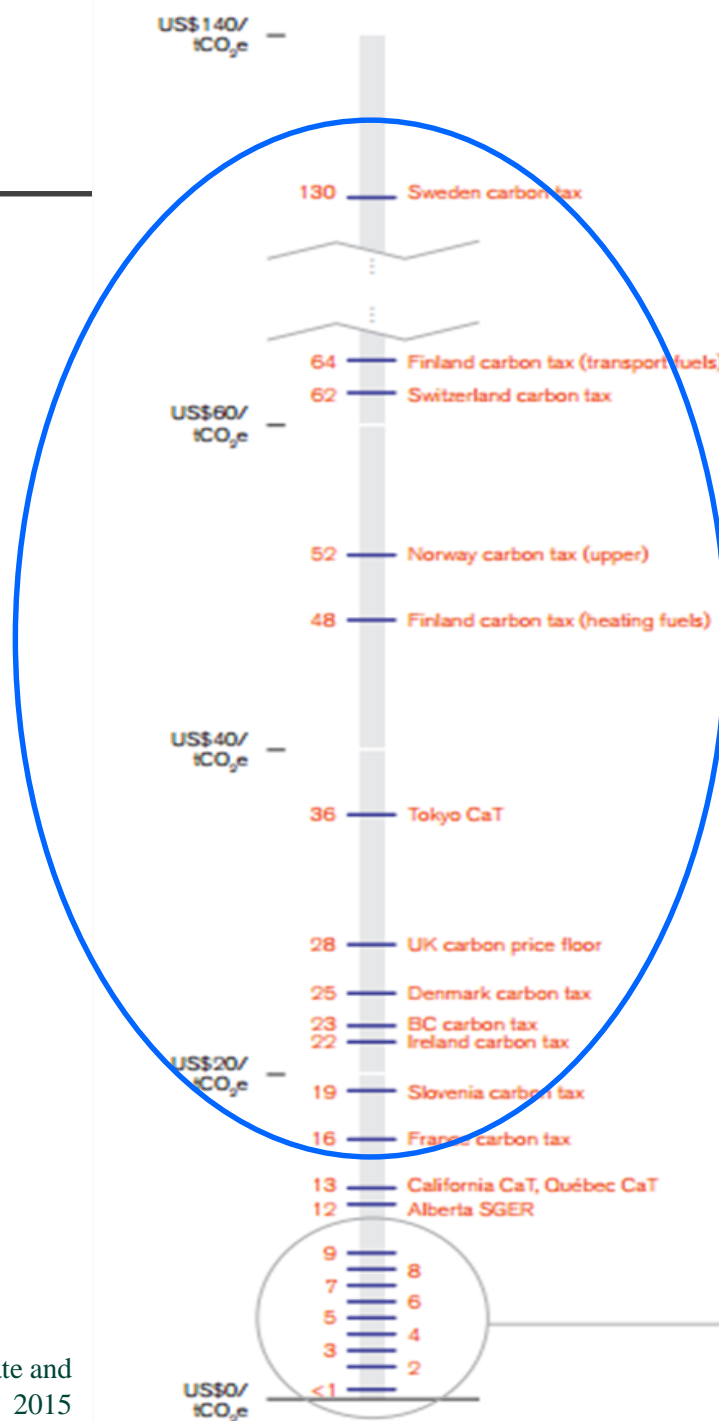


GHG EMISSIONS TAX

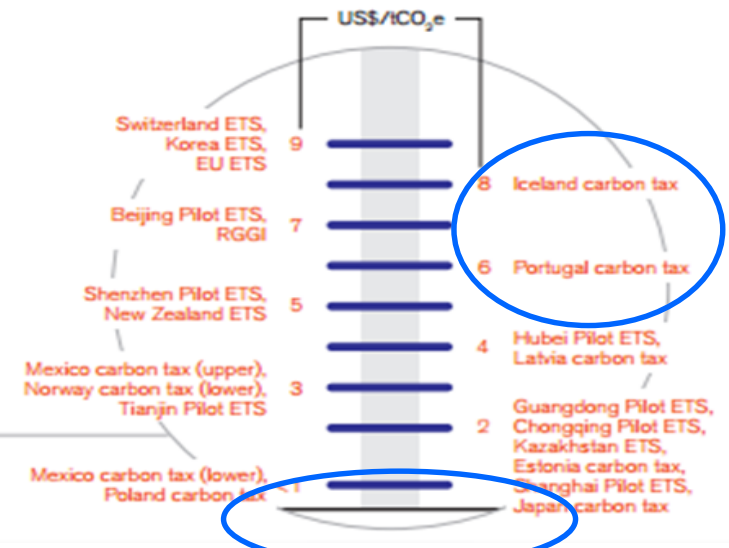
RATIONALE AND DESIGN ELEMENTS

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Carbon taxes often higher than ETS prices



Note: Nominal prices on August 1, 2015, shown for illustrative purpose only. The figures given in the Carbon Pricing Watch 2015¹⁰ have been updated to August 1, 2015. The differences with the Carbon Pricing Watch are due to the daily changes in prices and exchange rates. Prices are not necessarily comparable between carbon pricing instruments because of differences in the number of sectors covered and allocation methods applied, specific exemptions, and different compensation methods.



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

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: polluter pays principle
- ◆ Flexibility to affected entities: cost-effective emission reduction
- ◆ Revenues to the government
- ◆ Low administrative costs, low evasion rates
- ◆ Can have a broad coverage of emission sources

Key design elements of a carbon tax

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

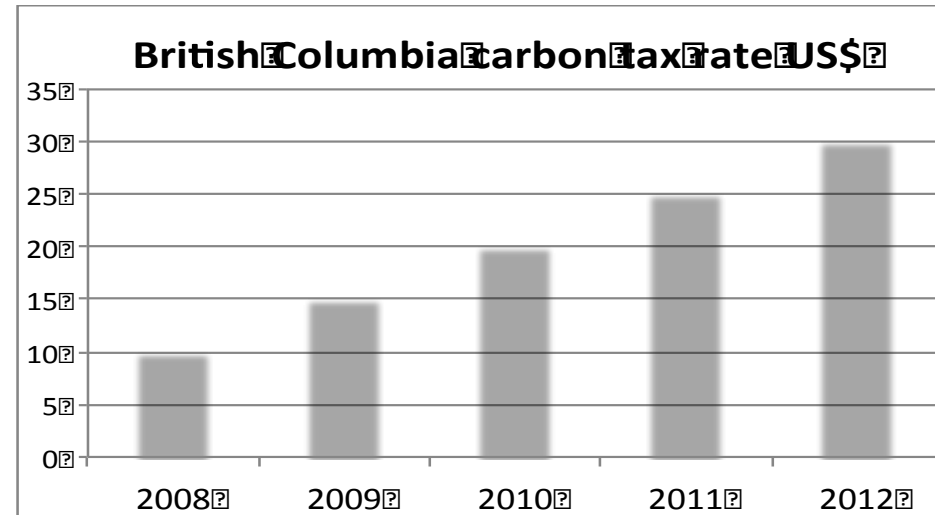
Tax base

- ◆ 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
 - ❑ Fugitive emissions
- ◆ 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
- ❑ Predictable investment signal while easing adjustment
- ❑ 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

Use of revenues

- ◆ **Reduce budget deficit**
- ◆ **Tax reform (reduction of other taxes)**
- ◆ **Social transfers to the poor and vulnerable**
- ◆ **Specific purposes (e.g. energy efficiency or low carbon technology investments)**
 - ❑ Risk of making un-productive use outside of the budget process
 - ❑ Risk of precedent for subsequent claims by other interest groups

Revenue potential of a carbon tax

- ◆ 2014 over US\$15 billion in government revenue raised worldwide through carbon taxes and emissions trading systems (WB State and Trends of Carbon Pricing 2015)
 - GHG emission taxes: over US\$10 billion
 - ETS: Almost US\$5 billion
- ◆ 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

In mio €

	2010	2011	2012	2013	2014
Energy taxes	988	974	1.077	1.076	1.076
<i>Excise duties</i>	957	944	1.020	968	969
<i>CO2 tax</i>	31	30	57	108	107
Transport taxes	145	144	143	163	170
<i>Motor vehicle tax</i>	40	38	35	29	27
<i>Registration fees on motor vehicle</i>	105	106	108	134	143
Pollution/resource taxes	29	31	31	33	33
Environmental taxes - TOTAL	1.162	1.149	1.251	1.272	1.279
as % of total taxes	9,0%	8,7%	9,5%	10,1%	9,7%

Source: Ministry of finance of Slovenia: Bulletin of Government Finance, May 2015

Slovenia:

Tax administration

- ◆ **Easy tax collection if tax paid by fossil fuel suppliers or retailers**
 - Building on existing tax administration
 - Concentrated sources easier to monitor
- ◆ **Monitoring verification and reporting**
 - Measuring and monitoring quantity and quality of fuel used
 - Estimating carbon content of fuel (to translate to 1 tonne of CO₂)
- ◆ **Low evasion rates (UK 2% for diesel tax vs. 11% VAT and 17% income tax)**
- ◆ **Brings informal sector into tax system (especially if used to reduce labor taxes) by:**
 - More labor in the formal (taxed) services market, and
 - Expanded tax base: Consumers of manufactured goods (including informal-sector laborers) are now taxed
- ◆ **Can improve overall efficiency of taxation if revenues used to reduce other distortionary taxes**

Measures to prevent emissions leakage

Integrated measures (designed within the scheme)

- tax free thresholds (e.g. South Africa proposal)
- Exemptions (e.g. Sweden CO2 tax)
- output based rebates (e.g. Sweden NOx charge)
- border tax adjustments (considered by California)
- correction of other taxes (British Columbia)

Complementary measures e.g.

- cash transfers or vouchers
- support for R&D
- Investment subsidies (Denmark, Ireland, British Columbia)

Integrated measures tend to be the main approach to dealing with leakage

- more transparent to stakeholders how leakage is being addressed
- value of support tends to flex with the carbon price