Carbon Tax – a Good Idea for Developing Countries?

Presentation at the 13th

Global Outlook

Why is a carbon tax important now?

- The Paris Climate Agreement
  - Cost-effective tools are needed to deliver
  - Enhanced role of Finance Ministries in the UNFCCC climate conferences
  - Developing countries are facing huge challenges
  - Increased revenues are essential
    - Outside technical support and funding
    - National taxation? Carbon taxation?
- Sweden has had a carbon tax since 1991
  - What lessons can be learned?

Global Outlook

Why a carbon tax can work well across the globe ….

- Low administrative costs
  - is simple to administer, can be added to existing fuel tax system
  - sets a price on fossil carbon – national conditions will determine the choices made by households and firms.
- Taxation point can be chosen up-stream – few tax payers
- Start with low tax rates; step-by-step approach
- Revenues can be used to
  - enable options to fossil fuel use (e.g. public transport, substitutes to fossil heating, such as district heating or cooling systems using household

Swedish Energy and Carbon Taxation
A long history that started in1924

- Taxation of energy – two components
  - Energy tax on fuels (1924 gasoline; 1937 diesel; 1957 heating oil and coal; 1985 natural gas; 2013 biofuels blended in gasoline and diesel) and electricity (1951)
  - Carbon tax on fossil fuels (1991)
- Two levels of carbon tax, per tonne fossil CO_2
  - High for motor fuels and heating fuels in households and service
  - Low for heating fuels in industry – raised step by step
- No carbon tax on installations covered by EU ETS (EU Emissions Trading Scheme , Large part of heavy industry, heat and power installations)
- Carbon tax has since 1991 been the key driver behind Sweden's success in cutting emissions

Reasons for Taxing Energy in Sweden

Increased focus on environmental taxes

- Until 1980's: Primarily fiscal purposes
  - generally low

How Environmental Tax Laws are Decided in Sweden

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Green Taxes 1991 and Onwards ….

1990/1991 tax reform

- Reduced and simplified labour taxes (- 6 billion €)
- Value Added Tax introduced on energy (+ 1.6 billion €)
- Carbon tax introduced at a low levels combined with approx. 50% cuts in energy tax rates (+ 0.3 billion €)
- Certain investment state aid measures

In Sweden no earmarking of revenues …. but it may be a solution in other national contexts.

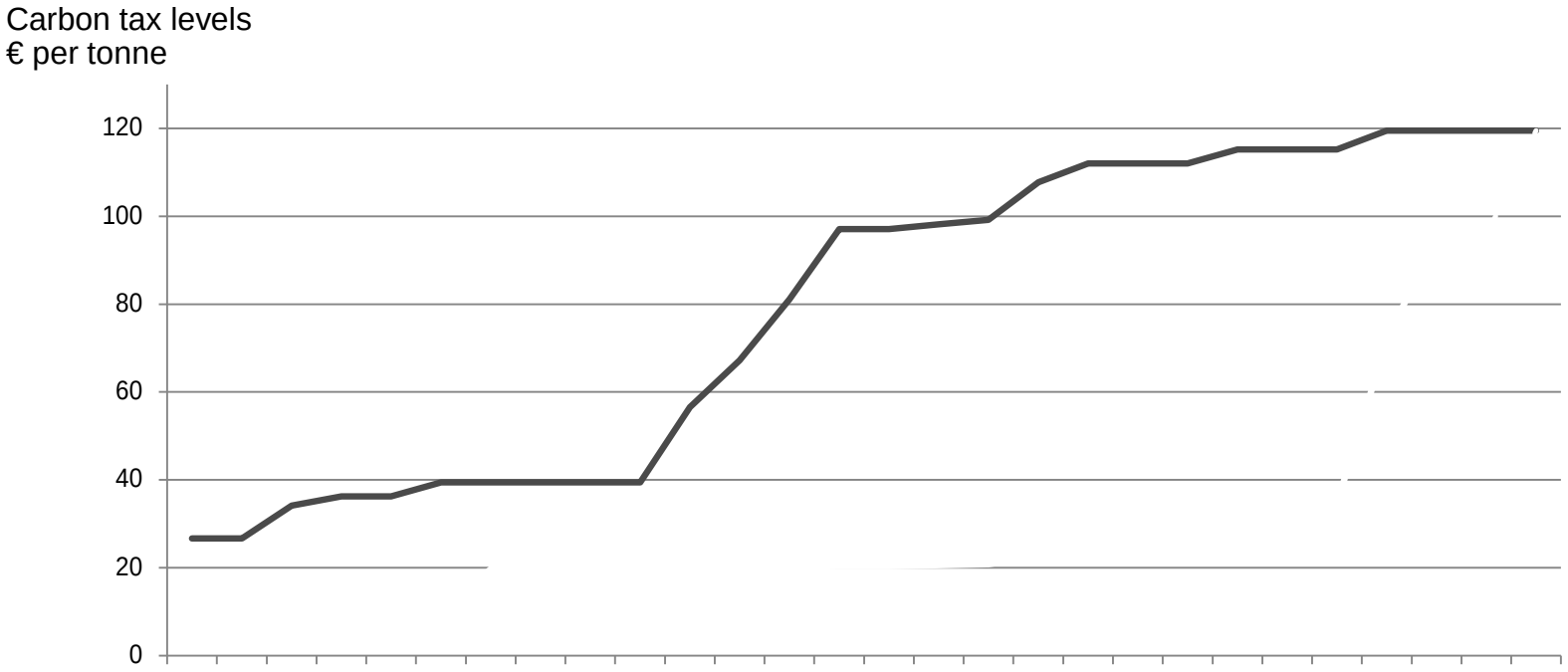
Since 1991

- 2001-2006 Green tax shift 1.6 billion € ; raised environmental taxes, cuts in income taxes (focus on low incomes).
- 2007-2013 Increased environmental taxes (+0.6 billion €), significant cuts in labour taxes (– 8,6 billion €).
- 2014 and onwards
  - Increases in taxes on pesticides and natural gravel as well as energy tax on transport fuels
  - Phasing out carbon tax reductions
  - New tax on chemicals in electronic products
  - Public inquiries in different environmental tax areas (e.g. vehicle taxation, road distance tax)

Development of the Swedish Carbon Tax

- Two levels of carbon tax, per tonne CO_2
  - *High* for motor fuels and heating fuels in households and service: *26 € (29 $) in 1991; 117 € (131 $) in 2016*

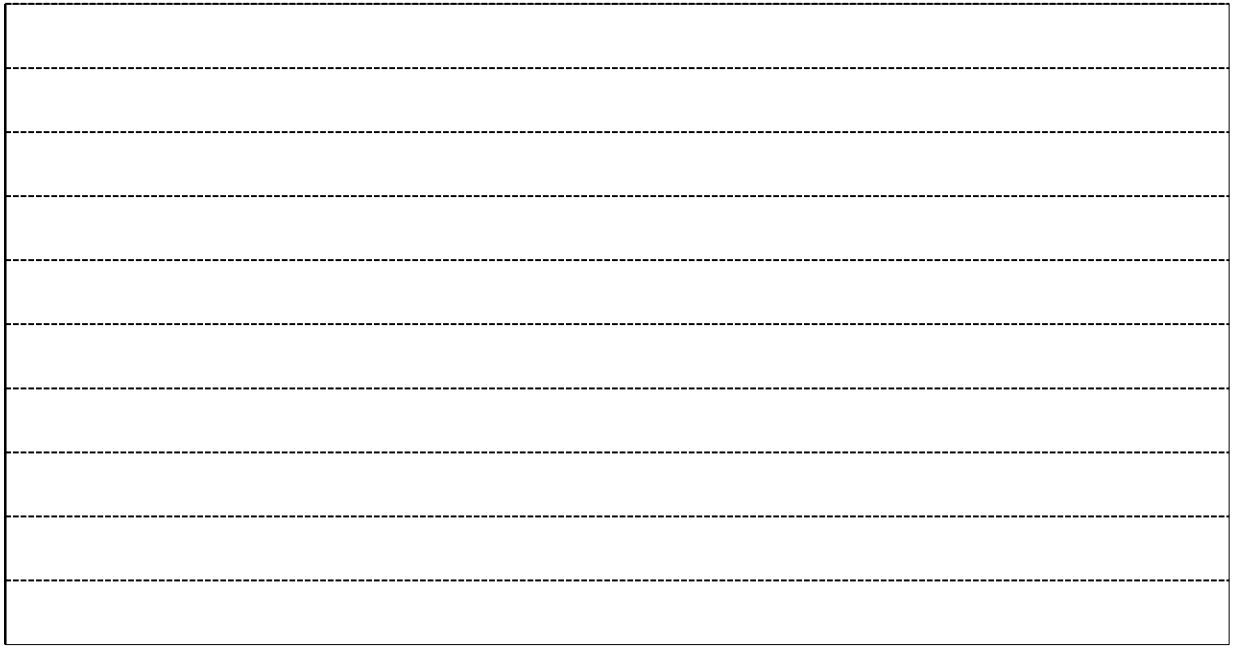
Development of the Swedish Carbon Tax
General level and industry level



NOTE: from 2008 industry outside EU Emissions Trading Scheme (EU ETS)

Real GDP and Domestic CO_2e Emissions [1] in Sweden, 1990– 2015

Index (1990=100)



[1] In accordance with Sweden's National Inventory Report, submitted under the UNFCC and the Kyoto Protocol. CO_2 = approx. 80 % of total CO_2e emissions. Preliminary data for 2015.

Sources: Swedish Environmental Protection Agency, Statistics Sweden

Distributional Effects
Business

- Industry within EU Emission Trading Scheme (ETS): Generally energy intensive.
  - No carbon tax from 2011, lower energy tax.
- Industry outside EU ETS: Generally less energy intensive.
  - Step-wise increase to general tax level 2011 - 2018.
  - In general low costs for energy and high costs for labour and capital.
- Large shares of the SE industry's use of energy consist of bio fuels (36 %, mainly paper and pulp) and electricity

What Does the Public Think?

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Easy to Administer

- In the tax law, carbon tax rates are expressed in normal trade units (weight or volume)
- State legislators use average CO_2 emission factors for different fuels to calculate tax rates
  - Internationally acknowledged emission factors
  - No need to measure at point of emissions to air
- Tax payers are distributors or large consumers
- The carbon tax is administered in the same way as the energy tax on fuels
- Low administrative costs for tax authorities and business
  - Administrative costs for Swedish Tax Administration is 0.1 % of total revenues for energy and carbon taxes.

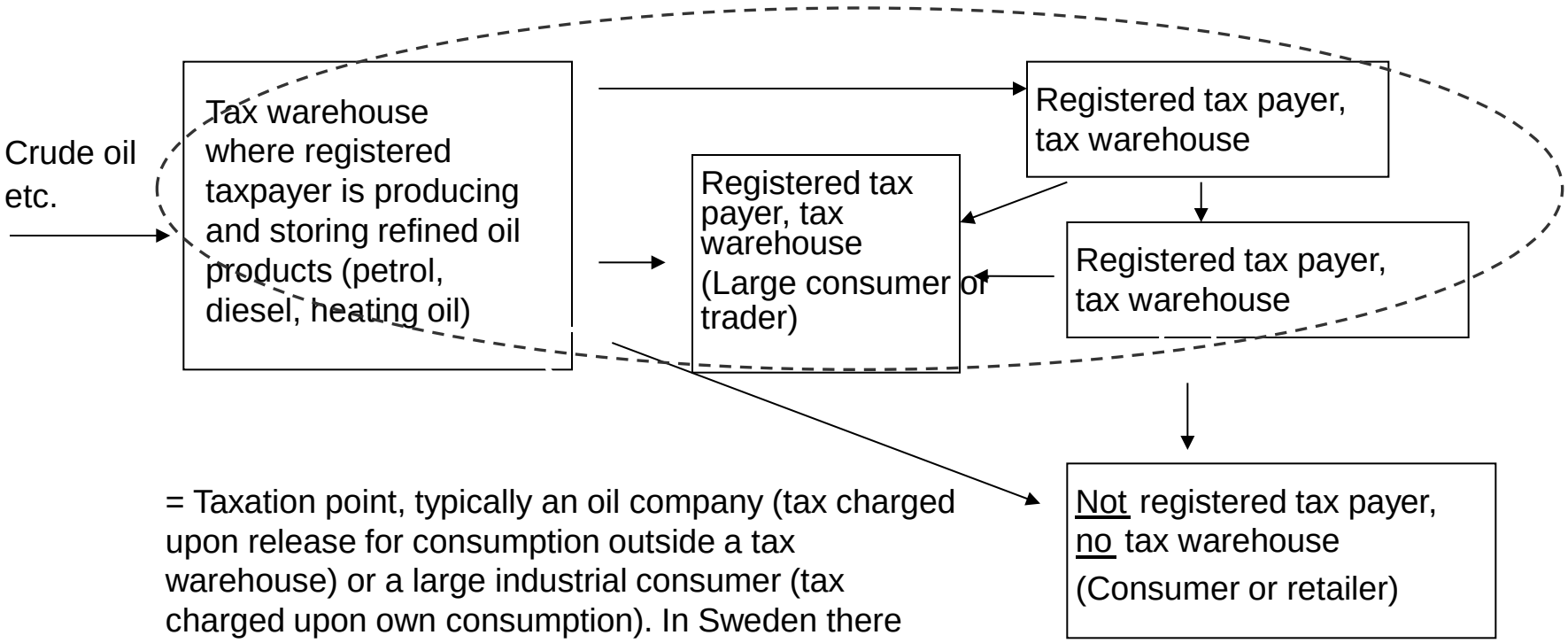
Thank you for your attention!

Questions?

Taxation Points for Taxes on Fuels *in Sweden (mandatory EU rules)*

General principle Fuels shall be taxed at the time of production (incl. extraction) or import.

Major exception Tax suspension regime



= Taxation point, typically an oil company (tax charged upon release for consumption outside a tax warehouse) or a large industrial consumer (tax charged upon own consumption). In Sweden there are roughly 300 registered tax payers.

= Tax suspension regime (products can be handled without tax being charged), enables taxation closer to consumption.

Calculations in Tax Declaration

Example (gasoline, 2016 Swedish tax rates)

	Page 1: Quantities, liters	Page 2: Tax calculations, SEK		
		Energy tax	Carbon tax	Total tax
	A	B=A*3.72	C=A*2.59	D=B+C
Deliveries to non tax payers	500 000	1 860 000	1 295 000	3 155 000
Own consumption	10 000	37 200	25 900	63 100
Deductions (tax exempted areas)				
- export	-5 000	-18 600	-12 950	-31 550
- non-fuel use	-15 000	-55 800	-38 850	-94 650
Tax to pay		1 822 800	1 269 100	3 091 900

Who Face the Tax Burden?

Example gasoline – Swedish context

- Tax payer: Oil distribution company A
  - Tax is paid when gasoline leaves A's tax warehouse
- Gas station receives gasoline after tax is paid
- Households and firms buy taxed gasoline
- Swedish gasoline retail price of ~13.36 SEK(1,39 €)/liter (5.92 $/gallon) consists of (2015):
  - Gross margin (12 %)
  - Product cost (22 %)
  - Taxes: Carbon, 0 Td226