

Carbon Taxation

Swedish Experiences

Panel Debate on Carbon Pricing
Global Conference on Environmental Taxation
Limassol, Cyprus
26 September 2019



Reasons for Taxing Energy in Sweden

Until 1980's

Primarily fiscal purposes

generally low tax levels

1990's and onwards

Environmental issues given high priority by Government and citizens

- increased focus on environmental taxes
- increased tax levels, step-by-step
- focus on increased carbon tax share of taxation of energy (“carbon tax heavy”)

Now

Energy tax:
fiscal and energy efficiency

Carbon tax:
climate



Green Taxes 1991 and Onwards



1990/1991 tax reform

- Reduced and simplified labour taxes
▼ - 6 billion \$
- Value Added Tax on energy
▲ + 1.8 billion \$
- Carbon tax introduced at a low levels combined with approx. 50% cuts in energy tax rates
▲ + 0.4 billion \$
- Certain investment state aid measures

Green Taxes 1991 and Onwards



Explicit green tax shift

- Raised environmental taxes, cuts in income taxes focusing on low incomes
- Exact monetary match of raises and cuts



Green Taxes 1991 and Onwards



2007-2013

2001-2006

1990/1991

Raised environmental taxes, significant cuts in labour taxes

- No explicit tax shift, each increase and cut on its own merits



Green Taxes 1991 and Onwards

2014 and onwards

2001-2006

2001-2006

1990/1991

- New environmental taxes introduced and investigated
- Phasing out carbon tax reductions
- Reform of vehicle taxation
- Implementation of reduction obligation scheme for biofuels



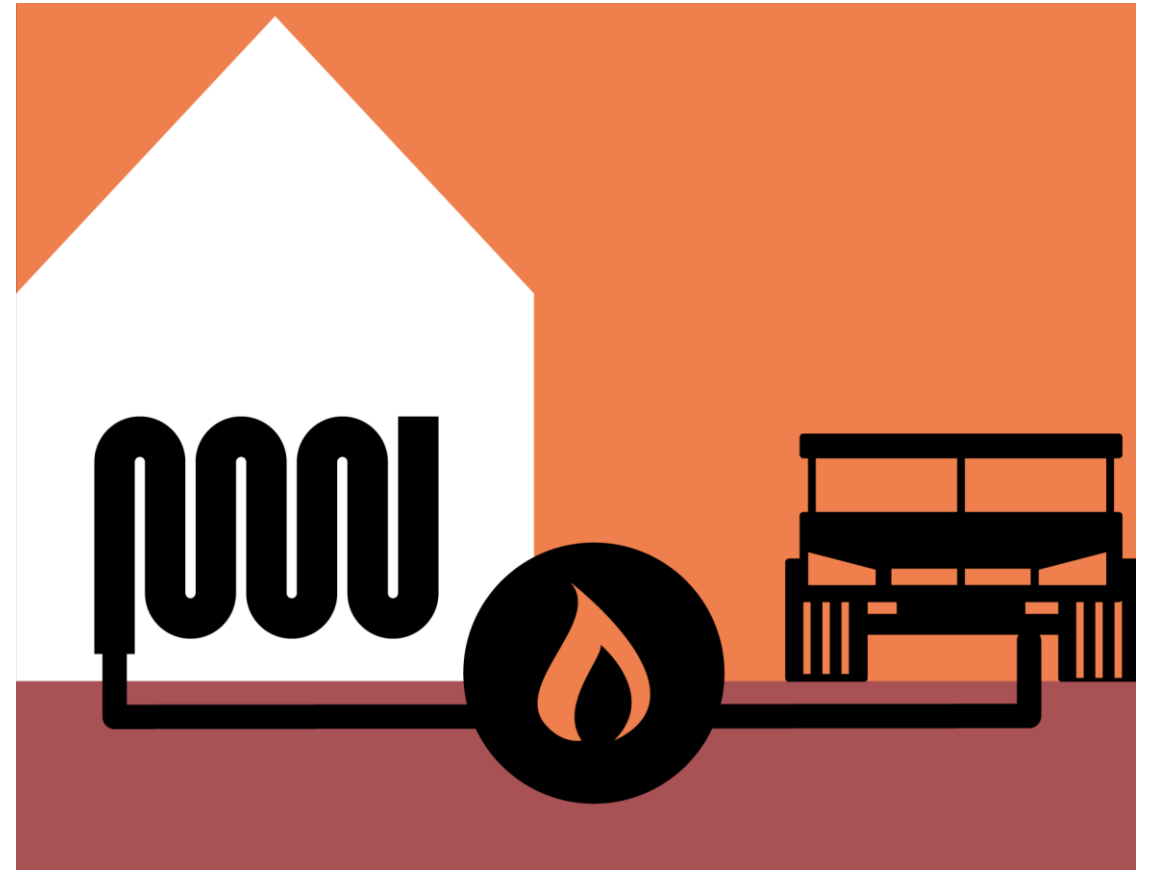
Swedish Carbon Pricing



Carbon Tax

on Motor Fuels and Heating Fuels

Based on fossil carbon content of fuels.



Carbon Tax on Motor Fuels and Heating Fuels

28 \$ (24 €) in **1991**

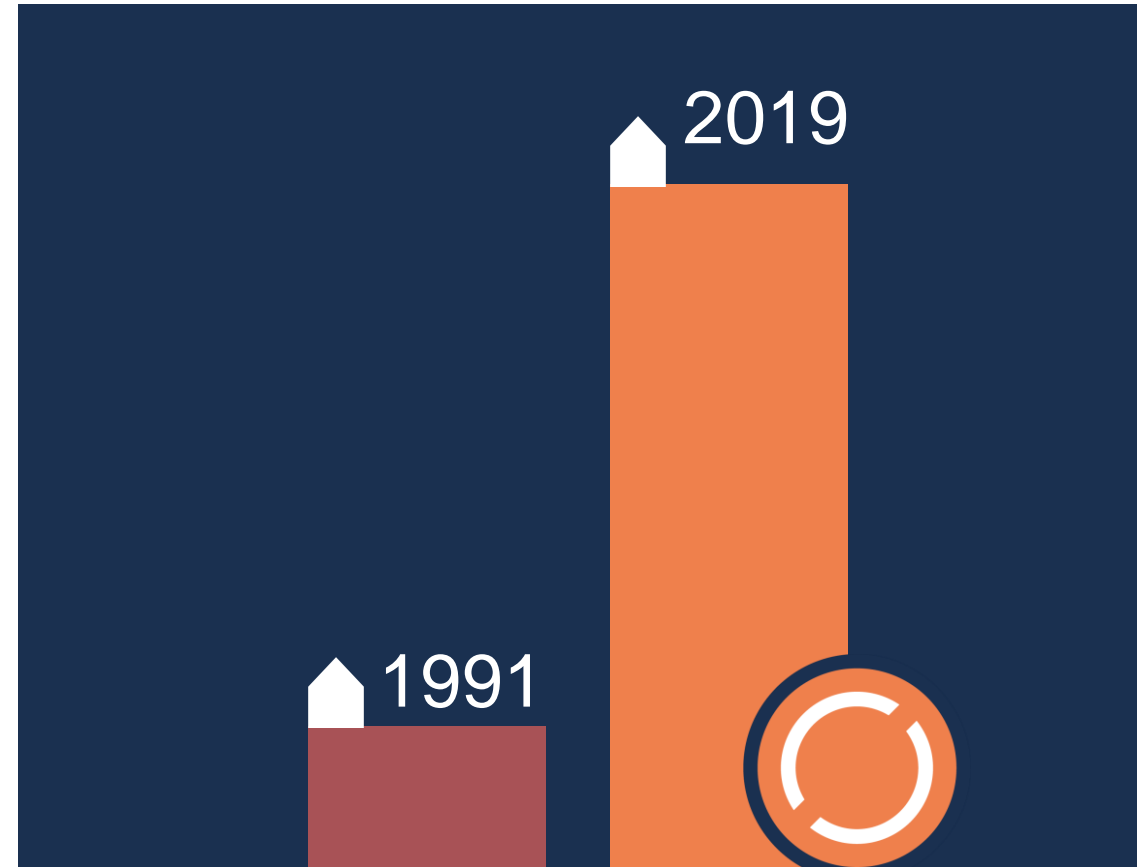
133 \$ (114 €) in **2019**¹

¹ Exchange rate from 1 Oct 2018

1 USD = 8.9 SEK

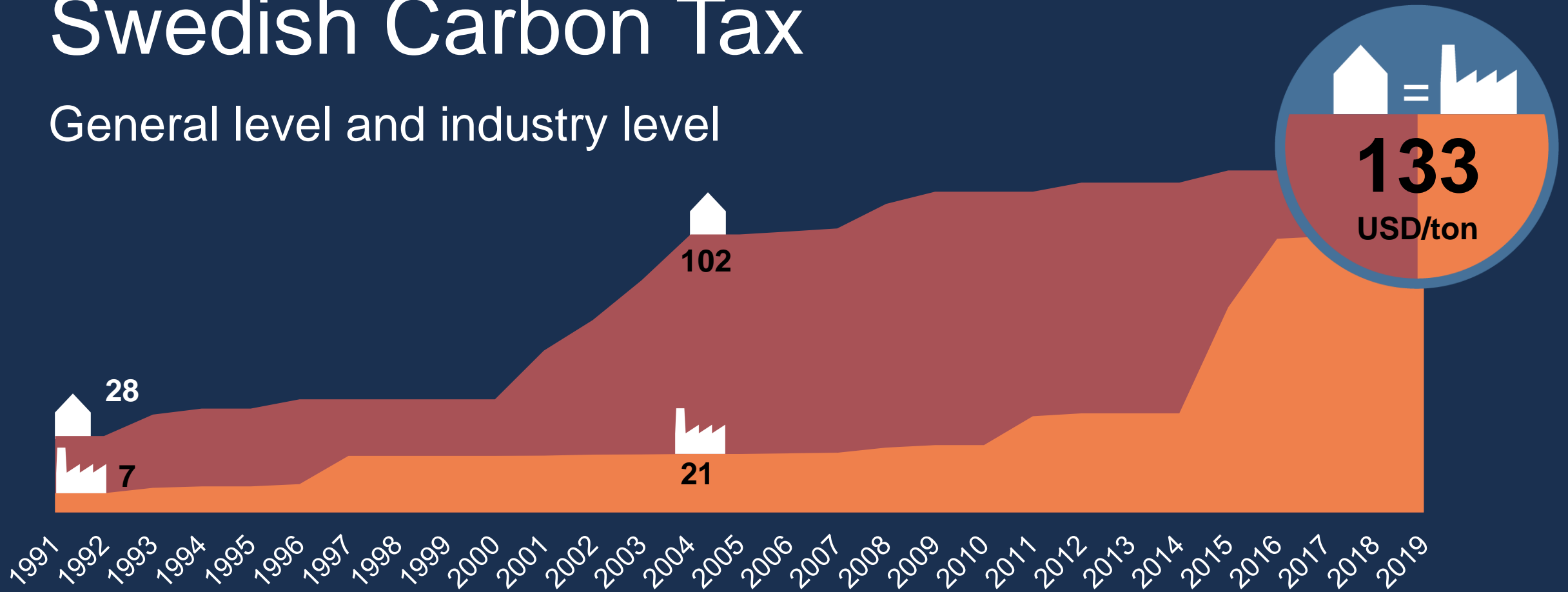
1 Euro = 10.33 SEK

Introduced with a **high** level for motor fuels and heating fuels in households and service and a **low** for heating fuels in industry.



Development of the Swedish Carbon Tax

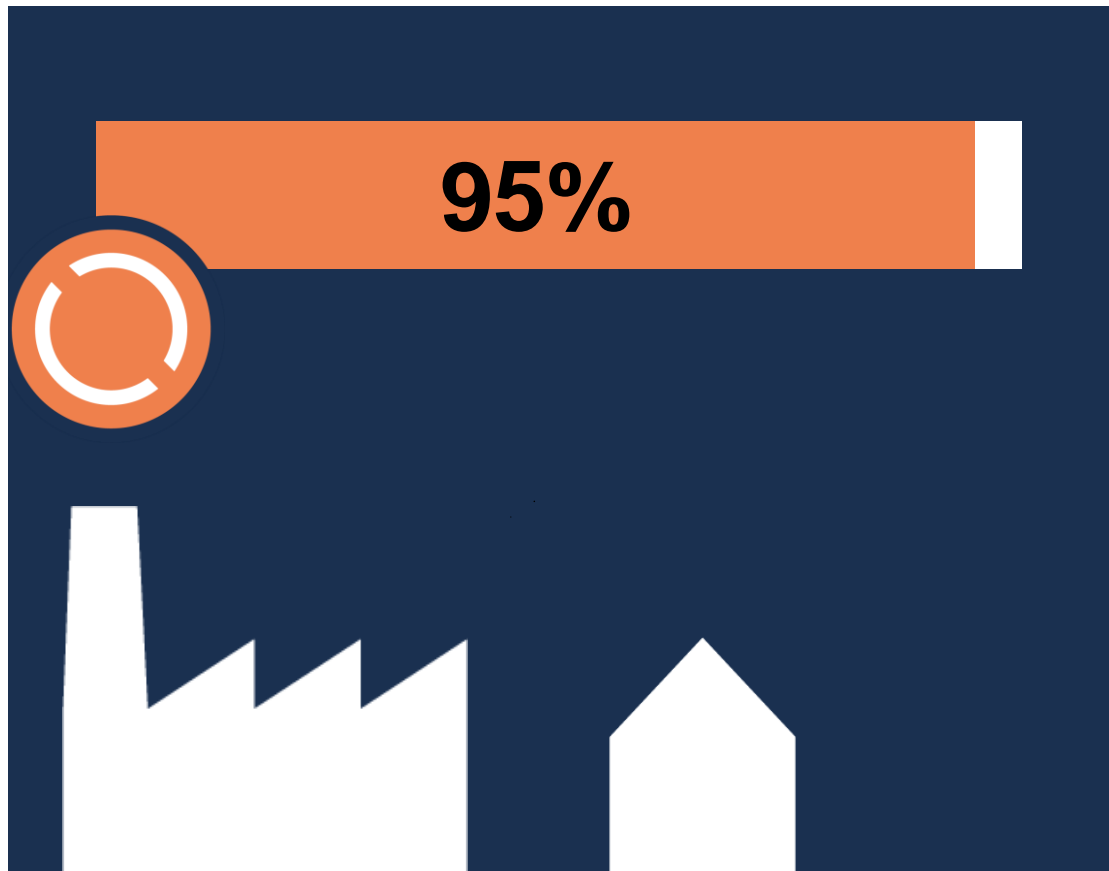
General level and industry level



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



EU Emission Trading Scheme (EU ETS) and the Swedish Carbon Tax



EU Emission Trading Scheme (EU ETS) since 2005

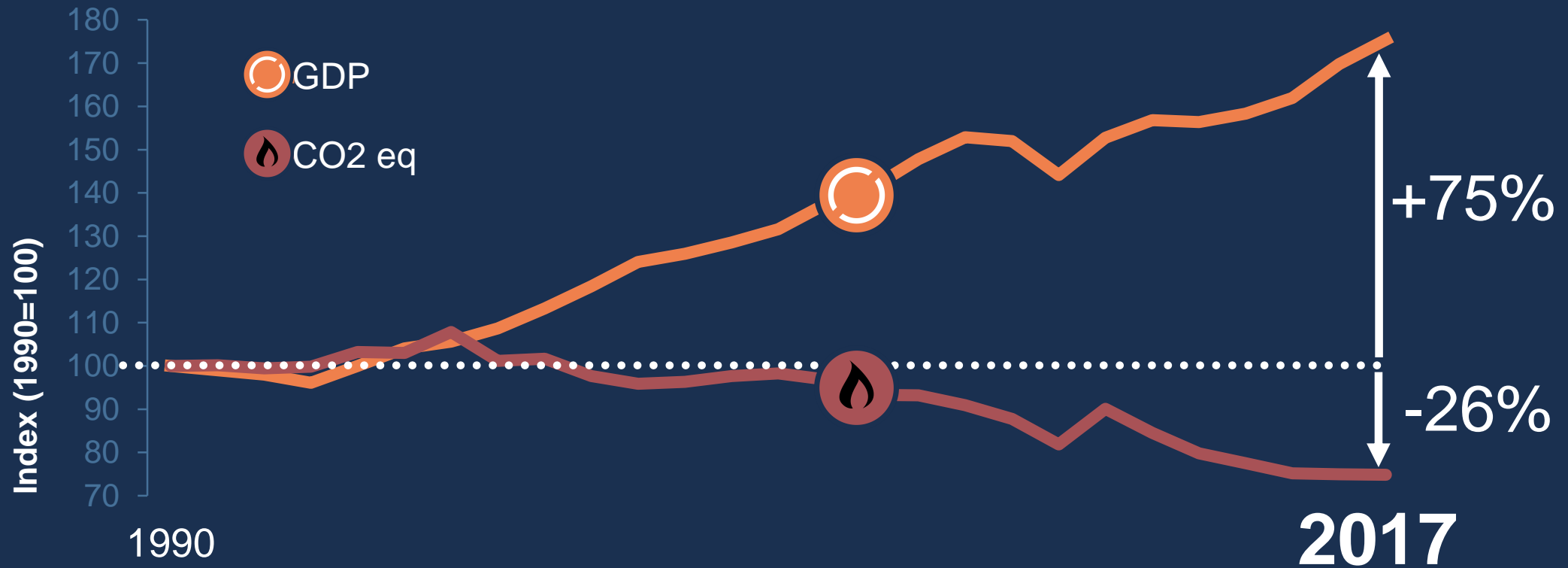
- Emissions of fossil CO₂ and other greenhouse gases.
- Large part of heavy industry.

No carbon tax on industry covered by EU ETS

Approximately 95% of Swedish fossil carbon emissions are covered by carbon tax or EU ETS

Real GDP and Domestic CO₂eq Emissions¹ in Sweden, 1990–2017

¹ In accordance with Sweden's National Inventory Report, submitted under the UNFCCC and the Kyoto Protocol. CO₂ = approx. 80 % of total CO₂eq emissions.



Sources: Swedish Environmental Protection Agency, Statistics Sweden



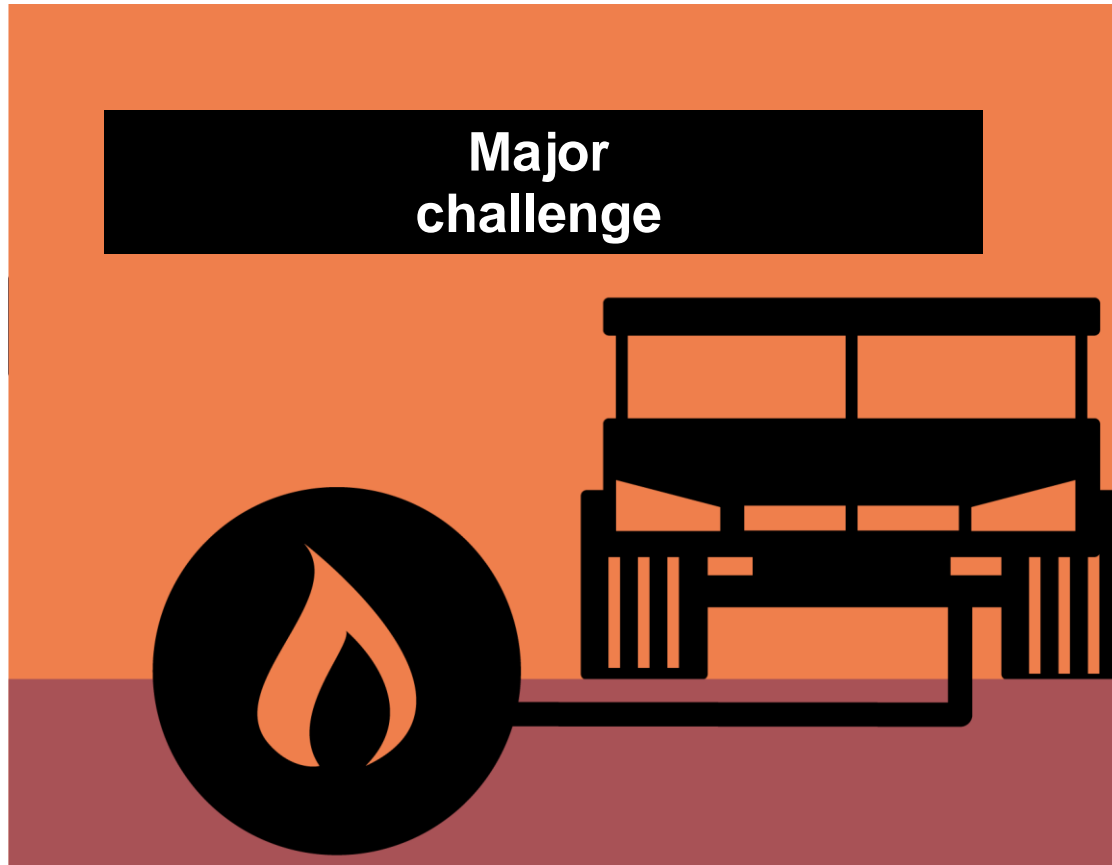
Distributional Effects Households 1(3)



Heating fuels: Fossil heating fuels has been phased out.

- Fossil heating fuel use has since 1990 dropped by 85 %.
- Replaced by district heating (in-put basically household waste and wood scrap; 92 % of all flats), wood pellets burners and heat pumps.
- Temporary aid schemes for conversion to renewable heating.

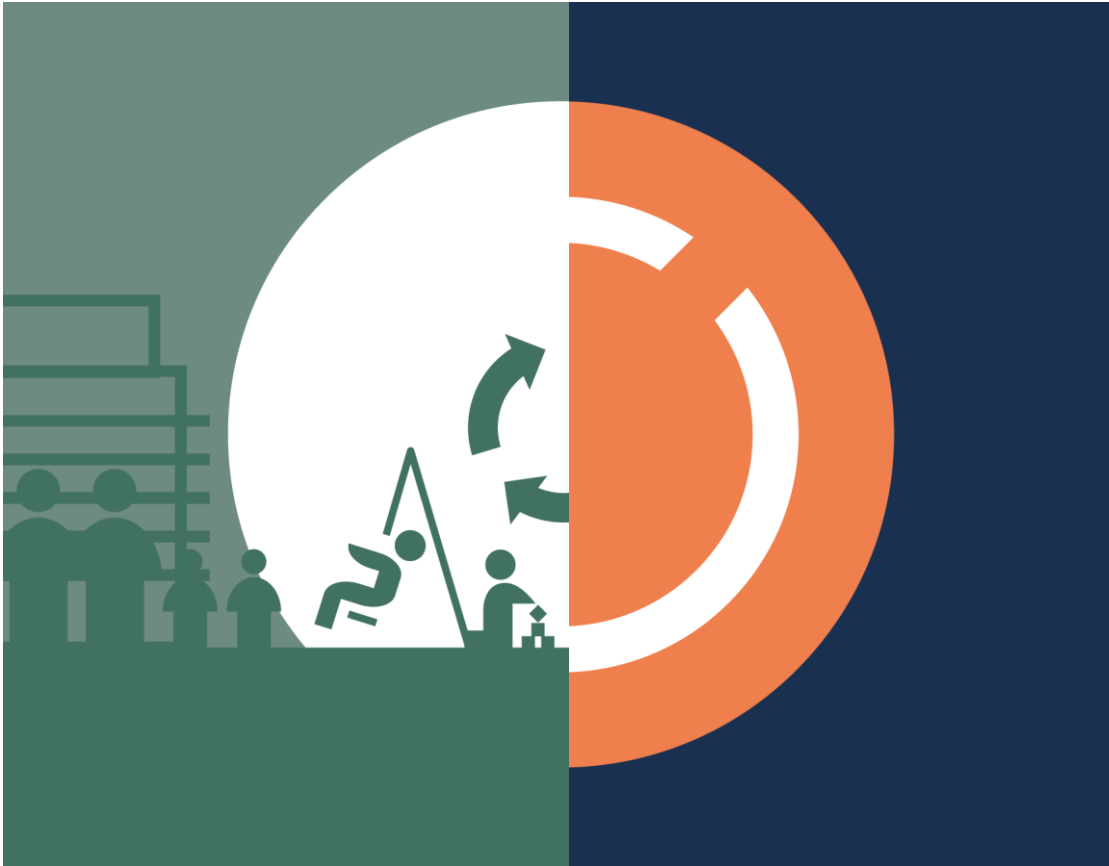
Distributional Effects Households 2(3)



Motor fuels

- Major challenge remains for a fossil free transport sector.
- 95 % of current carbon tax revenues from motor fuels.
- Reduction obligation scheme for fuel distributors; taking biofuel share into account when setting carbon tax rates for petrol and diesel.

Distributional Effects Households 3(3)

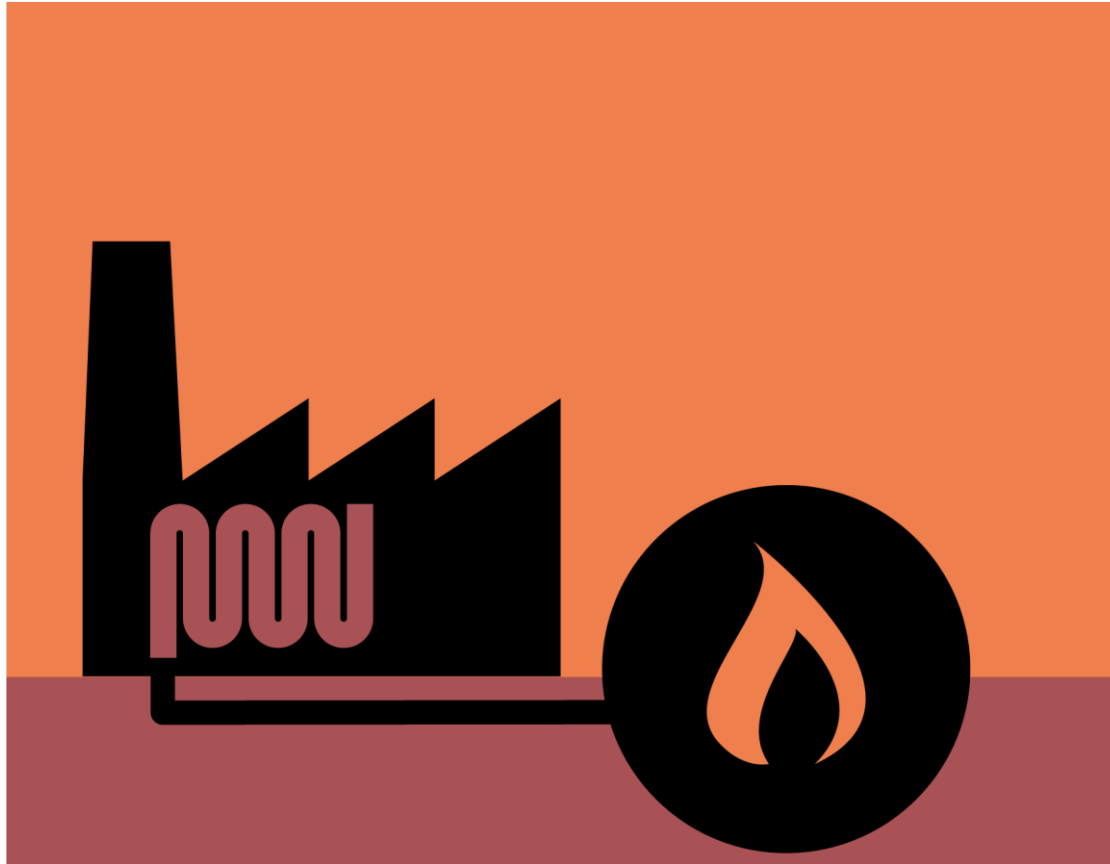


General welfare state

- Social transfers.
- Increased basic income tax reductions for low and middle income households.



Distributional Effects Business



Industry **within** EU ETS:

- 1 January 2011 No carbon tax, lower energy tax.
- Carbon tax reintroduced for heat production in CHP plants within the EU ETS
 - 1 January 2018 at a rate of 11 % of the general level.
 - 1 August 2019 at a rate of 91 % of the general level

Industry **outside** EU ETS:

- 2011–2018 Step-wise increase to general carbon tax level; lower energy tax.
- In general low costs for energy and high costs for labor and capital.

Service sector (e.g. offices, shops)

- Fossil fuels: 100 % energy tax, 100 % carbon tax
- District heating provides 77 % of space heating (100 % energy tax, 91 % carbon tax on fossil fuel in-put).

What Make Households and Firms Adapt?



- General environmental concerns, both from households and firms
- Broad political consensus
- Ensure that feasible options are available
(bio fuels, district heating, public transport, housing insulation etc.)
- Step-by-step approach combined with limited tax exemptions or reductions for certain areas of the economy

Why is Carbon Taxation a Good Idea?



- Reduced emissions can be combined with long-term economic development and prosperity
- Low administrative costs, ETS more complicated and costly
- Raises revenues, which can be used to make options available



Carbon Taxation is NOT Rocket Science

Make it happen – now!



- We know how to price carbon by a carbon tax
 - Economic theory is solid
 - More and more jurisdictions can share experiences
 - Ongoing discussions in many global fora
- Political courage not easy but necessary ... and gives revenues
- Policy packages make options available, step-by-step approach, targeted aid schemes, R&D etc.
- Cooperation between Governments, academia and stakeholders



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More information
on the Swedish carbon tax:
<http://www.government.se/carbontax>

