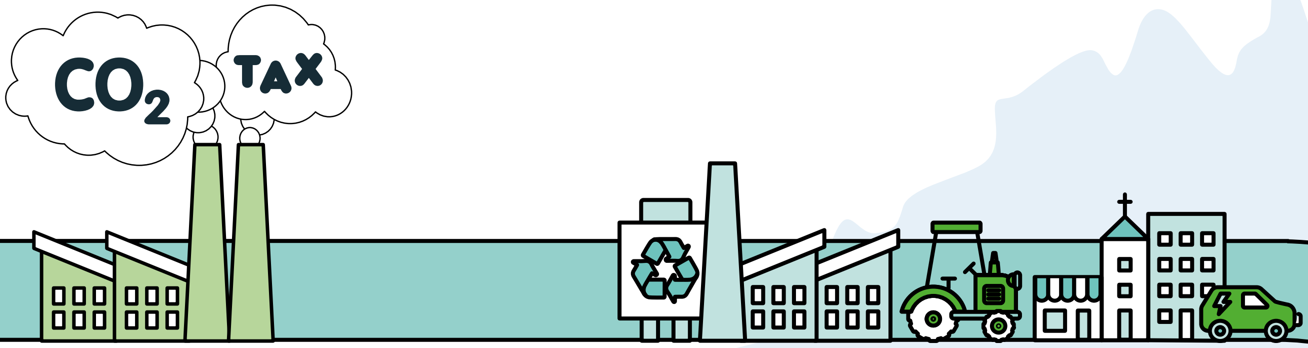
Sweden Energy and Carbon Tax Policy
Policy Case Studies

Rethinking Decarbonisation Incentives

Sweden was one of the first countries in the world to introduce a carbon tax considering climate change a national priority.



Policy Type: Carbon Tax

Key Features

The carbon and energy taxes are applied to the supply of fossil fuels and electricity. A rebate to the energy tax is granted if entities participate in a voluntary programme which involves auditing energy consumption and implementing energy efficiency measures.

Sectors Covered

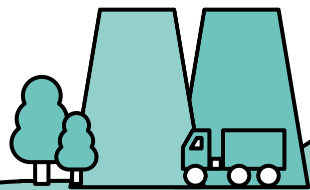
Power, Transport, Buildings, Industry[2], Agriculture[1], Waste[1].

Sectors Not Covered

Forestry.

Emissions Covered

77%



Carbon Price

€137

/tCO_2e in 2012

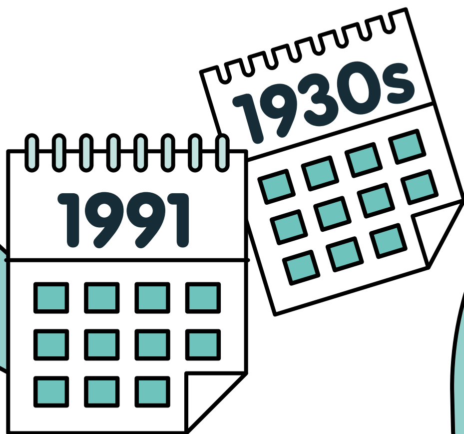
(~£111)[2]

Point of Regulation

Upstream. The tax is placed upstream on the supply of fossil fuels and electricity to any economic sector.

Key Dates

The carbon tax was introduced in 1991, building on the energy tax that dates back to the 1930s.



[1] Only energy emissions, associated with the combustion of fossil fuels, are covered.

[2] Exchange rate in 2012: €1: £0.81. Source: https://www.oanda.com/, accessed 06/07/2018.

Introduction

Sweden's longstanding energy and carbon taxation policy has been through numerous evolutions in its lifetime. Today, it covers all the fuel supplied and consumed within the Swedish economy.

Interactions with EU policy have been a major driver of change to the carbon tax design. When the carbon tax was introduced alongside the energy tax in the 1990s, electricity production and consumption were excluded. However, when Sweden joined the EU in 1995, the EU minimum tax directive for electricity use led to the removal of tax exemptions on electricity consumption. In addition, when the EU ETS was introduced in 2005, industrial entities were covered by both the ETS and the carbon tax. It was only in 2011 that this double regulation ended, with ETS entities exempt from the carbon tax.

The carbon tax has been designed to accommodate concerns of certain sectors. In particular, exemptions were included to protect industrial competitiveness and minimise policy overlap, with further exemptions based on geographical location motivated by social equity concerns.

Key Findings

Tax Design

- Throughout its history, tax exemptions have been granted to protect industrial competitiveness and avoid policy overlaps. For example, during 2005-2011, industries were subject to the EU ETS, carbon tax and electricity tax. In this period, only 20% of the carbon tax rate applied to industries.
- This has meant significant differences in the level of carbon tax applied to industrial and non-industrial sectors. This is particularly notable over the past decade, where the industry rate remained at approximately €20/tCO_2e, while for the remaining sectors this was increased to €40-120/tCO_2e.
- In 2011, the industries were removed from the carbon tax altogether as it was considered too burdensome given the direct overlap with the EU ETS.
- Further variations in the tax rates are granted based on the climactic variation in geographic regions. A lower rate is applied in the north where the colder climates mean domestic consumers spend more of their disposable income heating their homes than those in the south.

Policy Acceptance and Effectiveness

- Since its introduction in 1991 the tax rate for carbon dioxide emitted has risen by 500% and is one of the highest carbon tax rates in the world, at €137/tonne. Nonetheless, political support for the tax has remained high, since environmental concerns are a priority and significant discounts have been granted to industry to avoid adverse impacts.
- The tax has received strong support because it has lowered emissions while not negatively impacting the economy. Since 1995 Sweden's GDP has continued to grow while emissions have fallen
- The tax has been successful in driving demand for alternatives fuels, particularly the district heating sector which accounts for 60% of Sweden's heating demand.
- However, the longstanding acceptance is also partially attributed to Sweden having no fossil fuel industry of its own.

Definitions

Carbon Tax
A tax on carbon dioxide and possibly other greenhouse gas emissions.

Point of Regulation
The point in a chain of emission producing activities at which a regulator places the obligation to comply with emission reduction policy. The point is defined relative to the point of emission, either up or downstream from this.

Regulatory Standard
A regulatory obligation to achieve a particular outcome (e.g. emissions produced per unit of activity, proportion of low carbon fuel supplied) which is placed on an entity.