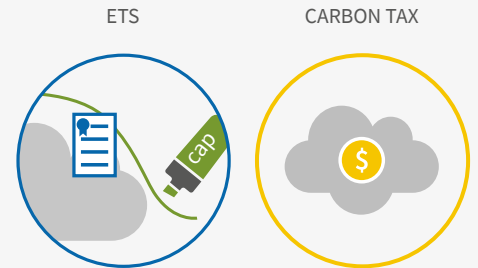


EMISSIONS TRADING AND CARBON TAX: TWO INSTRUMENTS, ONE GOAL

Emissions trading systems (ETS) and carbon taxes are two well-established carbon pricing instruments for cost-effective greenhouse gas (GHG) emissions reductions. An ETS works on the principle of ‘cap-and-trade’. The government imposes a limit (cap) on total emissions and companies are obliged to hold one permit for every tonne of emissions they release. They may receive, buy or trade permits and their value represents the carbon price. With a carbon tax, the government sets a tax rate and companies covered by the tax are obliged to pay this amount for every tonne they emit.



What do they have in common?

1. THEY PUT A PRICE ON CARBON: Both ETS and carbon taxes follow the polluter pays principle. They impose an explicit price on carbon, encouraging producers and consumers to internalize part of the social cost of GHG emissions. This helps to make low-carbon alternatives more attractive, changing consumption patterns and supporting low-carbon investments.

2. THEY ARE COST EFFECTIVE: A carbon price does not tell people what actions they must take to reduce emissions. Rather, individuals and firms decide how best to respond to the price. This means that across the economy, both an ETS and a carbon tax can achieve more reductions for the same cost as other climate policies.

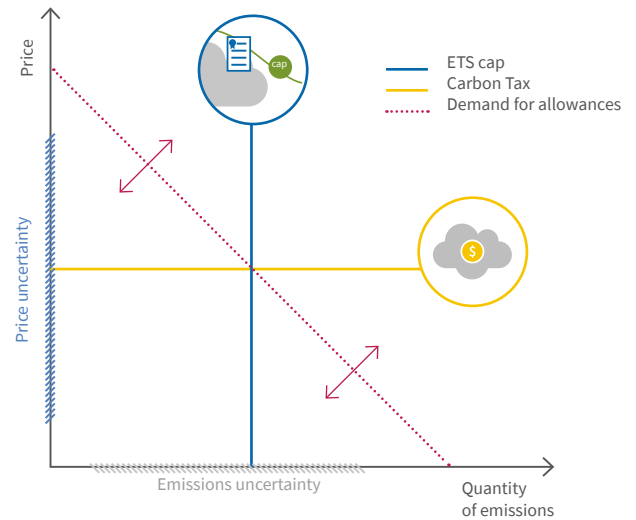
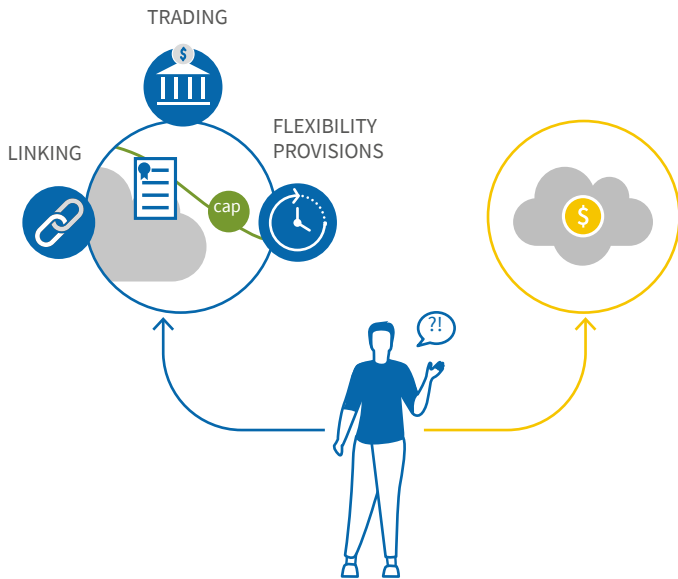


3. THEY CAN GENERATE REVENUE: Like other taxes, a carbon tax will raise public revenue, even as it discourages polluting behavior. An ETS that auctions allowances can also generate revenues. Carbon pricing revenues can be used, for example, to invest in climate and energy measures, finance tax reforms, pay down public debt, support social programs, or to compensate households.



What are their key differences?

1. QUANTITY CERTAINTY VS. PRICE CERTAINTY: By setting a cap, an ETS determines the total amount of emissions and thereby assures the mitigation outcome of the policy. As a result, the carbon price in an ETS fluctuates depending on the demand for allowances. The price may be higher when the economy is booming and lower during a downturn. On the other hand, a carbon tax provides price certainty but the resulting mitigation outcome cannot be set.



2. SIMPLICITY VS FLEXIBILITY: A carbon tax can be easier to implement as it uses the established channels of the tax system and does not require new infrastructure for trading allowances. However, ETS provides more flexibility: for example, provisions such as offsets, banking and limited borrowing give covered entities options for when and where to reduce emissions. Finally, there is the potential to extend ETS across borders by linking with other systems, which is not possible with a carbon tax.

Carbon pricing in practice

The choice between an ETS and a carbon tax depends on a jurisdiction's policy preferences and circumstances. The two are also not mutually exclusive: several jurisdictions have complementary ETS and carbon taxes covering different sectors. Others have implemented a carbon tax as a step towards establishing an ETS.

ETS ONLY*						ETS AND CARBON TAX			CARBON TAX ONLY**					
CHINA	CALIFORNIA	CHINESE PILOTS	EU ETS X 17	KAZAKHSTAN	GERMANY*	SWITZERLAND	EU ETS X 14	UK	ARGENTINA	BRITISH COLUMBIA	CANADA**	CHILE		
KOREA	NEW ZEALAND	QUÉBEC	NOVA SCOTIA	RGGI	MASSACHUSETTS	TOKYO	SAITAMA	MEXICO	COLOMBIA	JAPAN	SINGAPORE	SOUTH AFRICA	UKRAINE	

* As of 2021

** Canadian Federal 'backstop' measure applied to provinces not already implementing carbon pricing. As of October 2020 this includes Alberta, Manitoba, New Brunswick, Northwest Territories, Nunavut, Ontario, Prince Edward Island, Saskatchewan, Yukon

The best of both worlds

Both instruments have evolved to become more flexible, adjustable and stable. Hybrid approaches have emerged over time, such as price floors and ceilings in an ETS. Conversely, emitters may be able to submit offset certificates instead of paying the carbon tax. With a range of design options available, carbon pricing – no matter what kind – is a key tool for jurisdictions to lower their emissions cost effectively.

ABOUT THE INTERNATIONAL CARBON ACTION PARTNERSHIP: ICAP is an international forum for national and subnational governments focusing on best practices in emissions trading. Its work centers on three main pillars: technical dialog, knowledge sharing and capacity building. For more information see the [ICAP website](#) and its [ETS map](#) and [Allowance Price Explorer](#) or follow us on [Twitter @ICAPSecretariat](#).