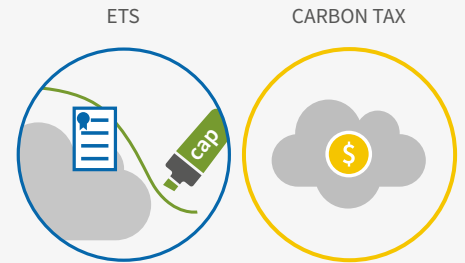


## EMISSIONS TRADING AND CARBON TAX: TWO INSTRUMENTS, ONE GOAL

An emissions trading system (ETS) is a market-based instrument that can be used to reduce greenhouse gas (GHG) emissions. The government determines a limit (cap) on total emissions in one or more sectors of the economy and issues allowances according to this limit. Companies in these sectors need to hold one allowance for every tonne of emissions they release. They may receive these allowances for free from the government or buy them in auctions organized by the government. With a carbon tax, the government sets a tax rate and entities covered by the tax must pay this amount for every tonne they emit.



### What do they have in common?

**1. THEY PUT A PRICE ON CARBON:** Both ETSs 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 companies 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 than other climate policies.

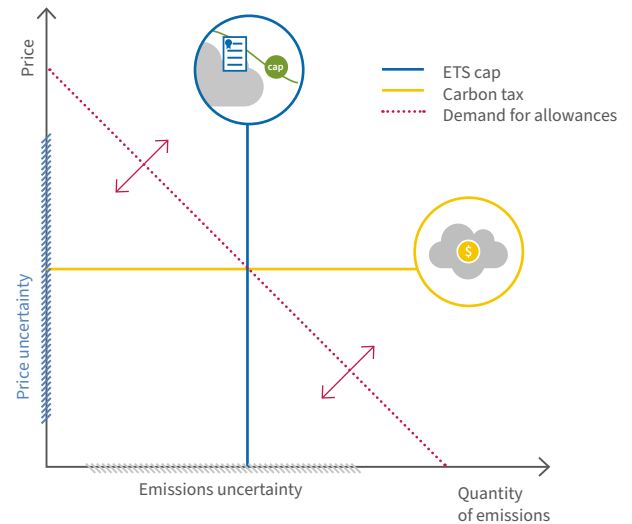
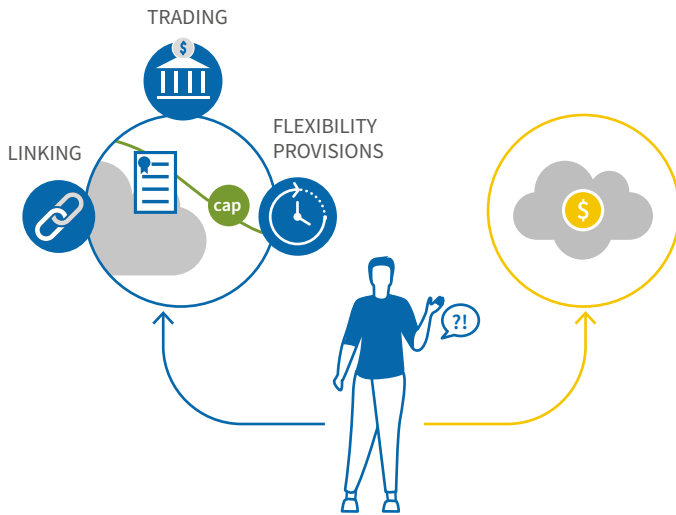


**3. THEY CAN GENERATE REVENUE:** Like other taxes, a carbon tax will raise public revenues, even as it discourages polluting behavior. An ETS that auctions allowances can also generate revenues. Carbon pricing revenues can be used, for example, to invest in climate and energy measures, finance tax reforms, pay down public debt, support social programs, or to compensate households. For more on using ETS revenues, see ICAP ETS Brief #6.

## What are their key differences?

### 1. EMISSIONS REDUCTION CERTAINTY VS. PRICE CERTAINTY:

By setting a cap, an ETS determines the total amount of emissions permitted and thereby assures the mitigation outcome of the policy, while the carbon price is determined by market dynamics. As a result, the carbon price in an ETS fluctuates depending on the demand and supply of allowances. The price may be higher when the economy is booming and lower during a downturn. In contrast, 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, an ETS provides more flexibility: for example, provisions such as offsetting, 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 ETSs 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 14 KAZAKHSTAN	SWITZERLAND EU ETS X 17 UK TOKYO SAITAMA MEXICO** INDONESIA***	ARGENTINA BRITISH COLUMBIA CANADA* CHILE URUGUAY COLOMBIA JAPAN SINGAPORE SOUTH AFRICA UKRAINE

\* Canadian Federal 'backstop' measure is applied to provinces not already implementing carbon pricing. As of July 2023, this includes Ontario, Manitoba, Yukon, Alberta, Saskatchewan, Nunavut, Nova Scotia, New Brunswick, Newfoundland and Labrador, and Prince Edward Island

\*\*Mexico has implemented an ETS at the national level and a carbon tax at the national level and subnational level. As of July 2023, this includes the States of Mexico, Querétaro, Yucatán, Durango, Guanajuato, and Zacatecas.

\*\*\* Indonesia has implemented an ETS for the power sector and has a carbon tax planned for the near future. The hybrid mechanism would eventually work as a "cap-tax-and-trade" system, where facilities that fail to meet their obligations under the ETS will be subject to the tax, the rate of which will eventually be linked to the price of the domestic carbon market.

## The best of both worlds

Both instruments have evolved over time to become more flexible, adjustable, and stable. Hybrid approaches have also emerged, such as ETSs with price floors and ceilings or provisions for emitters to be able to submit offset credits instead of paying a carbon tax. With a range of design options available, carbon pricing – no matter what kind – is a key tool for jurisdictions to be able to costeffectively reduce their emissions.

**ABOUT THE INTERNATIONAL CARBON ACTION PARTNERSHIP:** ICAP is an international forum for all levels of governments focusing on best practices in emissions trading. Its work centers on three main pillars: technical dialogue, 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 \(X\) @ICAPSecretariat](#) and [LinkedIn](#) (International Carbon Action Partnership).