Critical Design Features for Effective Carbon Pricing

A Business Perspective

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Contents

1. Executive summary

Multiple intersecting and compounding crises have made forthcoming climate negotiations in Sharm el-Sheikh in November 2022 the most challenging in recent history.

In the context of the current geopolitical situation and the energy crisis, the International Chamber of Commerce (ICC) recognises the imperative for governments to make short-term interventions to safeguard energy security and affordability. However, business is clear that effective climate action must be mainstreamed in the long-term economic response to both the Ukraine crisis and the lasting effects of the Covid-19 pandemic.

At our current trajectory, global temperatures will rise 3.2°C by the end of this century according to the Intergovernmental Panel on Climate Change (IPCC) latest reports. The most recent United Nations Climate Change report shows countries' increased climate mitigation efforts, but also underlines that current national plans remain insufficient to meet the Paris Agreement goals.

Carbon pricing has long been recognised as a cost-effective means to reduce greenhouse gas (GHG) emissions and achieve countries' Nationally Determined Contributions (NDCs). While not the ultimate solution, carbon pricing is increasingly considered as an important part of the toolkit available to policymakers to achieve current NDCs at the least cost, scale up much needed investment for climate mitigation and adaption efforts and encourage greater ambition in the future.

Predictable, effective and smartly designed carbon pricing as well as a coherent and consistent international approach are critical to unlocking the full environmental and economic benefits of market-based policies. The ten key carbon pricing principles that ICC launched at COP26 in Glasgow in 2021 set out an essential foundation for the convergence required to meet this goal.

ICC, as the institutional representative of 45 million companies, reaching more than 170 countries, and as the official UNFCCC Focal Point for Business and Industry, has a key role to play in contributing business perspectives to ongoing developments in this space and, in particular, at COP27, where governments will grapple with many of these challenges.

It is for this reason that ICC has drawn on the experience of its extensive global network of members to develop further work on the smart design of carbon pricing mechanisms, which should provide a helpful basis for governments to draw from when developing and implementing national systems to reduce carbon emissions.

A technical working group focused more specifically on the practical elements and design features for carbon pricing mechanisms, also taking into account further technical discussions on Article 6 of the Paris Agreement and its operationalisation. In that context, it examined five case studies to determine key design features that governments could consider when developing effective carbon pricing mechanisms. These case studies include Canada, New Zealand, the European Union Emissions Trading System (EU ETS), Indonesia and South Africa.

ICC engaged with various stakeholders, including government and business representatives and academia, and carefully assessed the selected case studies through the lens of the foundational ICC Carbon Pricing Principles and with a view to determine key design features and their significance for governments seeking to implement new carbon pricing mechanisms or improve existing measures.

This approach enabled ICC to align isolated design features with the ICC Carbon Pricing Principles, identify features that provide needed investment incentives and are effective at driving emissions reductions, and determine areas for further reflection. The insights in this report provide additional, concrete best practices to consider when designing pricing instruments.

ICC Carbon Pricing Design Features

General Insights

- Get started: set a pathway
- Include broad emissions scope
- Incorporate flexibility for adaptation
- Ensure affordability for all of society
- Factor price stability and predictability
- Engage all stakeholders in a transparent process
- Establish a robust Monitoring, Reporting and Verification (MRV) framework
- Allocate or redistribute revenue to support the most vulnerable and climate mitigation and adaptation efforts
- Integrate just transition considerations
- Understand interaction with other policies

Carbon Tax/ Levy Systems

Clearly determine:

- Tax base and tax rate: what to tax and level
- Taxpayer: who is liable to pay the tax
- Tax administration authority: who administers the tax

Include:

- A phased approach: increasing over time
- Measures to support industry decarbonisation
- Acceptability strategies for feasibility

Consider:

- Use of offsets
- Benchmarking for different sectors

Emissions Trading Systems

Clearly define:

- Scope, emissions sources and sectors, regulator
- Cap level for maximum emissions

Consider:

- A trading system of emissions trading allowances
- Unit supply and demand system
- Hybrid systems between carbon tax/ETS
- Use of offsets
- Market stability design features
- Linking and international cooperation for consistency/compliance
- Account for risk of carbon leakage
- Ensure alignment with WTO rules

Now, more than ever, it is imperative that all actors jointly take the necessary steps to meet the goals of the Paris Agreement, while safeguarding and strengthening energy security, access and efficiency as well as promoting investment in energy infrastructures to advance the transition towards a net zero future.

2. ICC Insights on Critical Design Features for Effective Carbon Pricing

Over the past year, ICC conducted an in-depth assessment of the various design features that exist in the primary compliance carbon pricing policies. ICC sought to identify which features work well, where questions arise and which areas can be improved. Five case studies were selected to cover different geographical regions, including three developed countries or regions with legacy Kyoto Protocol mechanisms and two that have introduced carbon pricing for the first time in the context of their Paris Agreement NDCs:[1]

- Canada
- EU ETS
- Indonesia
- New Zealand
- South Africa

The case studies were assessed through the lens of the foundational ICC Carbon Pricing Principles. The assessment proved the principles to be an effective measure and essential tool for governments in considering both national and international approaches to mitigating climate change through carbon pricing.

Based on the case study review and assessment outlined below, as well as building on existing work[2], ICC provides the following observations concerning key design features within these two principal carbon pricing mechanisms. The observations centre on the ICC Carbon Pricing Principles.

The list of design features is not exhaustive but highlights key features in existing systems, as introduced under the Kyoto Protocol and since modified or introduced pursuant to the Paris Agreement, which could be helpful to other countries looking to develop effective carbon pricing mechanisms.

General observations:

- **Carbon pricing mechanisms may develop progressively, but the key is to start**.
  Under the Kyoto Protocol, only industrialised countries were centrally allocated a carbon cap and required to introduce mechanisms to achieve it, which led to most of the pre-2015 Emissions Trading System (ETS) mechanisms. Under the Paris Agreement, the requirement to reduce GHG emissions is near global, affecting 197 countries. Carbon pricing mechanisms have proved effective in industrialised countries and are likely to be effective in less developed countries. The key is to make a start, even if the initial period offers negative pricing or excludes trade-exposed industries or sectors. However, to be effective at reducing GHG emissions, the mechanism must increase its ambition and scope over time.

- **Broad coverage/scope of emissions, taking into account country-specific circumstances**
  The scope of carbon pricing instruments should be broad enough to include a wide range of emission sources across the economy.[3] While the most effective results from carbon pricing

1 The Kyoto Protocol (1997) and Paris Agreement (2015) are international instruments that entered into force within the framework of the United Nations Framework Agreement on Climate Change 1992 (UNFCCC). The Kyoto Protocol assigned binding country-specific GHG emissions caps to developed countries only. The Paris Agreement, by contrast, places all 197 signatory states on a level playing field to set their own GHG emissions reduction targets and plans pursuant to NDCs, subject to certain top-down monitoring and stocktakes. It also recognises the principle of common but differentiated responsibilities and respective capabilities.

2 See World Bank Group Report (2017) The FASTER principles for successful carbon pricing : an approach based on initial experience http://documents.worldbank.org/curated/en/901041467995665361/The-FASTER-principles-for-successful-carbon-pricing-an-approach-based-on-initial-experience

3 For instance, carbon taxes can have broad coverage, applying to most stationary and specific non-stationary GHG sources including: (i) Fossil fuel combustion and electricity generation; (ii) fugitive emissions such as methane emissions from mining; and

are achieved if all GHG emissions are priced, an incremental implementation of carbon pricing systems, covering different sectors, stakeholders and sources, and differentiating stringency and price level in a transparent and predictable way, has proved to be more effective and may be preferred in certain circumstances. An incremental approach assumes increased coverage over time.

- **Incorporating sufficient flexibility in carbon pricing systems can help economies adapt to specific national circumstances, and economic, political and technological developments.**

  In a federal jurisdiction (i.e., with subnational states), a carbon pricing backstop system could be considered in the design of the levy that applies for regions/territories that do not implement a system that meets the minimum stringency requirements.

  For example, a performance/output-based pricing system for large emitters could be considered to ensure that they face a carbon price and have the incentive to reduce emissions at a benchmarked carbon price, whilst also providing flexibility to trade emissions and find the most cost-effective way to reduce emissions. If emitters meet the criteria for the performance-based pricing system, they are exempted from the fuel charge, but need to provide compensation for a portion of their emissions.

  Emissions reduction obligations can be determined using an output-based standard, which can vary depending on the industrial activity and the competitiveness of the sector. It is important that the output-based system applies stringent benchmarks to ensure that absolute emissions decrease to meet the carbon reduction goals. The system helps reduce average costs of climate action and also takes into account carbon leakage and competitiveness risks.

- **Affordability is an important prerequisite for carbon pricing and greater climate ambition**.

  Carbon pricing should incentivise actors to seek the lowest-cost abatement options for their specific circumstances. In order to achieve that, low-cost abatement options must exist so that businesses or households are not disproportionately harmed. Carbon pricing policies to accelerate long-term transition need to be compatible with important short-term objectives, including sustaining economic growth and ensuring accessible and affordable energy. Carbon pricing policies therefore need to be demonstrably cost-effective and beneficial to society as a whole and need to be designed in a way to minimise short-term costs to society, including local business. Aligning cost-effectiveness with the long-term vision for emissions reduction will also be important.

- **Price stability and predictability is critical to incentivising both innovation and long-term investment.**

  A predictable and incrementally increased carbon price promotes a structural transition to a low and net zero emissions economy, while opening up new business opportunities, stimulating innovative business models and most importantly limiting economic impacts. Predictability is essential to support long-term investment decisions as well as reduce long-term uncertainty in national carbon budgets on how much abatement is targeted. Whilst a lower, but gradually increasing carbon price can create the right incentives, to serve its purpose, the carbon price set by a tax or ETS should be sufficiently high to send the right market signal and encourage the needed change in behavior.

(iii) industrial processes: cement, iron, steel, glass, ceramics. All activities that emit GHGs above a specified threshold will be liable.

The International Monetary Fund calculates that the average global carbon price is currently US$2 a ton and needs to rise to US$75/tCO2 by 2030[4] to curb emissions in line with the goals of the Paris Agreement in order to establish cost-efficient paths to reach net zero emissions. Latest studies suggest a global carbon price of more than $100/tCO2 would be required as early as the 2020s in order to achieve 1.5°C. However, the contrast between "ideal" carbon prices in energy system models and real-world carbon prices is still stark, and establishing the appropriate level of the carbon price and how it should change over time remains a challenge.[5]

- **Effective carbon pricing is designed and carried out transparently**.
  Transparency in terms of early, clear and regular communication and dialogue at all stages with all stakeholders involved in developing and implementing a carbon pricing system is imperative to create investor and societal trust and confidence, as well as encourage a multistakeholder and multilateral approach to developing and implementing effective carbon pricing instruments.

- **A robust Monitoring, Reporting and Verification (MRV) framework built on robust and stringent criteria provides the backbone for successful carbon pricing systems**.
  Carbon pricing systems that effectively monitor and verify emissions and mitigation efforts are critical to public trust and support. Processes to collect and structure emissions data in a manner that is complete, consistent, comparable, accurate and transparent are key to gaining public trust. Additionally, MRV programmes are the basis for understanding the reliability and effectiveness of carbon pricing policy to meet countries' climate objectives. MRV programmes also serve to provide emissions data needed to verify compliance and assess cost effectiveness. They have also proved important to regularly review and assess the actual performance of carbon pricing systems as well as evaluate the interactions between carbon pricing and other climate and energy, taxation and trade policies.

- **Revenue from carbon pricing should be allocated or redistributed in a way that adequately compensates both most vulnerable industrial emitters and poorer households for their adaptation and mitigation costs** as they face increasing energy costs and financial burden, in particular in the short term. An effective use of revenues from carbon pricing to support companies' and households' climate mitigation and adaptation efforts and alleviate the burden for most vulnerable communities and small business actors have been proven to be beneficial to reduce economic impacts of carbon pricing. This can help free up resources and facilitate political discussions on scaling up longer-term policy ambition on climate.

- **Ambitious carbon pricing and a just transition should go hand in hand**.
  Just transition considerations when developing and implementing carbon pricing schemes are critical to avoiding a disproportionate burden on vulnerable groups. Financial burdens arising must remain at a reasonable level. ICC believes that carbon pricing, if designed and implemented effectively, can contribute to the achievement of the Paris Agreement goals while also tackling social inequality.

  Specifically, governments should use carbon pricing proceeds to address the distributional impacts of the low and net zero transition and ensure that the economic and social benefits of moving towards a net zero emissions economy are inclusive and distributed in a fair manner, including through national plans for a just transition that supports workers, communities and economies affected by the energy transition.

4 See IMF/OECD Report for the G20 (April 2021) Tax Policy and Climate Change.

5 See https://www.annualreviews.org/doi/10.1146/annurev-environ-102017-025817

A just transition approach in carbon pricing is even more urgent now that climate change, energy and financial crises have further accentuated the income and inequality gap. It could be useful to consider expanding access to low-carbon energy and mitigate the impact of any increase in energy costs on vulnerable communities, e.g., through financial support for energy charges and improvements in home efficiency. Some jurisdictions, including Canada and EU, are already taking concrete steps in this area that could be built upon and can serve as a useful example for other jurisdictions.

- **Consider interaction between carbon pricing and other policies for greater consistency and effectiveness**.
  Policy makers often apply a combination of different policy instruments, approaches and policy mixes to achieve specific climate-related objectives. Environmental and climate-related policies are frequently designed and implemented by different government entities. Carbon pricing can result from different instruments, or be comprised of one or more, or a combination of different policies. Governments and policy makers are encouraged to consider the interaction of different policy instruments when developing carbon pricing mechanisms, and where these may be complementary (or countervailing) in order to enhance greater consistency and effectiveness of policy approaches. Regular review and assessment of actual performances of systems in place as well as evaluations of interactions between carbon pricing and other policies are recommended.

Carbon tax/Levy systems

The primary purpose of a carbon tax is the reduction of carbon emissions, however, governments may have additional or complementary goals, such as generating public revenues, when implementing a carbon tax. As such, depending on country priorities and circumstances, governments may implement different policies or combine elements of two or more policy objectives.[6]

ICC recommends the following features for consideration as governments determine the right policy mix that suits their objectives and requirements.

- **Tax base[7] and tax rate[8]**

  The tax base and tax rate should be determined in the initial design phase of a carbon tax. The tax base defines what is to be taxed and constitutes part of the design choice. The tax base can be based on emissions, usually CO2, although it can be applied more broadly to other GHG emissions (Direct Emission Approach). Alternatively, it could be based on the fuels that give rise to CO2 emissions when combusted (Fuel Approach).

  The tax rate refers to the rate or price carbon emissions costs will be set at. The level of the tax should be **set a level that is effective in reducing emissions**. A carbon tax should aim to provide a clear and consistent price signal to producers and consumers of carbon intensive products, creating an incentive to reduce emissions and invest in low and net zero emissions technologies. If the level is considered to be too low businesses may prefer to pay the carbon tax than invest in renewable energy technologies. In line with ICC's Carbon Pricing Principles, policymakers should find a balance between reducing emissions and pricing at a level that does not overburden industry and impede consumer access to energy.

6 The UN Handbook on Carbon Taxation provides detailed insights related to the design and implementation of carbon taxation.
7 The tax base refers to the total amount of assets or revenue on which the government can levy a tax.
8 The tax rate refers to the rate or price carbon emissions costs will be set at. (UN Handbook)

- **Taxpayer**[9]

  It is essential to clearly determine who is liable to pay the tax to the public authorities—the taxpayer must be clearly identified and regulated. In this respect, in the design of a carbon tax, the 'polluter pays' principle should be taken into consideration for large emitters where all activities that emit GHGs above a specified threshold will be liable. It is also important to note that the taxpayer is not necessarily the one who bears the tax burden, commonly referred to as the tax incidence. Considerations may be given to the carbon tax incentive effect in the design, namely as to whether the taxpayer is able to transfer the cost of the tax down to the supply chain or the consumer.

- **Tax administration authority**[10]

  This is usually the tax authority, but environmental agencies may be considered, particularly for verification and control of emissions data submitted. Considering who administers the tax early in the design process will help provide clarity regarding those involved in the design and implementation of the carbon tax.

- **Phased approach**

  Consider a phased approach for the introduction of a carbon tax, with a political commitment to increase rates over time to reach a specific emission reduction target. Carbon tax rates could be coupled with tax free allowances and adjusted over time to facilitate a structural transition to a low, carbon-resilient economy in a cost-effective manner. The considerations for a phased approach should also take into account strategies for acceptability as outlined below, which will be key to ensuring feasibility.

- **Revenue recycling measures and additional measures to support industry decarbonisation** should be considered to complement the carbon tax regime to:

  i. address concerns about the impacts of the carbon tax on the competitiveness of firms operating in international markets (e.g., via tax reductions, tax incentives);

  ii. help address any potential negative impacts on the welfare of poorer households (in particular on the cost of energy and transport). Targeted reliefs on the fuel charge for farmers, fishers, small businesses and or specific remote communities for the fuel that they purchase should also be considered.

  iii. Drive further climate change mitigation and adaption action.

  Evidence shows that well-designed redistribution of just a portion of tax revenues to vulnerable consumers and business actors is enough to address the regressive effect, while also maintaining the overall incentive to lower emissions and switch to low emissions technology.

- **Strategies for acceptability**

  Governments interested in the implementation of a carbon tax must consider strategies and conditions to achieve acceptability of the measures, which is an essential component for the feasibility of the mechanism. Some examples could include effective communication providing adequate information for all stakeholders, multistakeholder consultations and roundtable discussions, as well as measures to compensate households for the additional cost burden, exemptions and allowances, allocation of a portion of revenues for climate mitigation/environmental objectives, etc. The specific measures needed should be assessed considering the contextual factors of the jurisdiction that implements the tax.

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9 The taxpayer is the economic agent that pays for the tax (UN Handbook)

10 The tax administration refers to the public body responsible for administering the tax or overseeing its administration and is a key consideration in designing carbon taxation. (UN Handbook)

- **Offsets**[11]

  In comparison to an ETS, carbon taxes do not establish a carbon market for exchange/purchase of permits. Nevertheless, as with an ETS, governments could consider using mechanisms such as offsets, which should be additional and allow economic actors to pay for an equivalent amount of emissions to be reduced or absorbed elsewhere. This option could provide tax-liable entities the option to take advantage of the potential for lower abatement costs across or between economic sectors.

- **Benchmark**[12]

  Where a carbon tax system cuts across a number of different sectors, it would be useful to consider benchmarking as some industries have very unique operations and sizes.

Emissions trading systems

Under an ETS, the government imposes a limit (cap) on the total emissions in one or more sectors of the economy over a certain period of time and issues a number of tradable allowances not exceeding the global carbon budget. Clearly defining the intended role of an ETS is fundamental to allow the initial design of system characteristics to be tailored to its objectives. ICC highlights below some key considerations for the design and implementation of an ETS.[13]

- **Clearly defined scope and diversity of sources and sectors**

  The scope, including geographic area, sectors, emissions sources, and GHGs to be regulated, and the entities to regulate, should be clearly defined from the onset. A broad coverage makes an ETS system more efficient at providing least cost emissions reductions, as well as helping to provide a more stable price. The system should be designed to cover the large majority of emissions, including fossil fuels, industrial processes and waste. An emissions unit could represent a determined carbon dioxide equivalent and can cover both emissions and removals. A gradual extension of scope in terms of coverage of different sectors, stakeholders and sources, and in terms of stringency and price level could be beneficial in certain jurisdictions and country circumstances. It should be noted, however, that authorities should clearly communicate any changes in scope, specifications and implementation timelines to give the market/relevant actors sufficient time to adapt.

- **Determined cap**[14] **level**

  Governments and policymakers should collect robust emissions data to determine the cap level and the long-term trajectory in line with relevant climate change ambitions. Central to the stringency and initial ambition of the instrument is the level of the overall emissions cap. At the outset, the total emissions target must be calibrated as accurately as possible with real emissions levels and should be set on a downward trend that represents a departure from a business-as-usual trajectory. The 'cap-and-trade' system sets an absolute limit or cap on the total amount of certain GHG that can be emitted over a certain period of time by the entities covered by the system. This cap is reduced over time so that total emissions fall. It is important that the emissions cap is reviewed at regular intervals, taking into account macroeconomic developments.

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11 Carbon offsets: A unit of carbon emissions is offset when it is compensated by removing an equivalent unit of carbon from the atmosphere (or avoiding or sequestering it). (UN Handbook)

12 A benchmark can be defined as a standard or point of reference against which things may be compared. In the context of carbon pricing, countries can reference existing carbon tax rates and carbon pricing instruments as a standard against which to set their own.

13 Useful resources: World Bank: Emissions Trading in Practice: A Handbook on Design and Implementation; IEA Implementing Effective Emissions Trading Systems

14 A limit on the maximum level of emissions

- **Trading system of emissions trading allowances**[15]

  Emissions trading allowances can be considered useful and effective, and can be allocated for free or auctioned and provide some flexibility to the entities covered by the scheme to decide on taking action or buying emissions trading allowances depending on the price. Allowance distribution reflects the overall cap and also considers potential carbon leakage and distribution impacts. A regular control of the supply of allowances and re-evaluation of its effectiveness should go in accordance and coordination with the adjustment of the cap to ensure that the ultimate emissions reduction objectives of the ETS are achieved. Instead of regular review and revisions of cap and allowance supply, the design of automatic response measures to alter either the number of allowances circulating in the market (a market reserve) or the price at which they are auctioned (a reserve auction price) may be considered. The regulating authority nonetheless is responsible for guaranteeing the proper functioning of an ETS—an advisory body could be considered for adapting provisions as required.

- **Unit supply and demand system**

  An ETS that is based on unit supply and demand could also be considered. The limit of emissions is defined by the number of tradable emission units in the market, which reduces over time. The government can allocate emission units into the market and ETS market participants trade emission units and/or surrender emission units for compliance. Businesses and households also receive an emission price incentive to choose lower-emission goods, services and activities.

- **Account for risk of carbon leakage**[16]

  Account for risk of carbon leakage can arise in any carbon pricing system in an open economy. The first option, generally considered at the design stage of an ETS, is to distribute free allowances to carbon leakage exposed sectors. The introduction of carbon border adjustment mechanisms is also viewed as an option to address carbon leakage as it takes into account the carbon pricing policies that may exist in other countries, applying an adjustment on the import side for countries that already have their own carbon pricing. The objective is that emissions are priced, preferentially in the country of origin and, if not there, then upon arrival in the destination country.

  Thoughtful analysis is essential to assess the reasons and environmental benefits of including specific sectors into the scope of a carbon border adjustment mechanism. Consideration could be given to sectors with a high risk of carbon leakage.

- **Alignment with World Trade Organisation (WTO) rules**[17]

  When designing a carbon border adjustment mechanism, it is imperative to carefully consider international trade rules, in particular the WTO rules, to avoid impeding or creating barriers to international trade and relations.

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15 Trading in emissions allowances ('emissions trading') refers to trade in emission capacity: the right to emit certain volumes of greenhouse gases. Purchasers and suppliers trade in emissions allowances, which results in a market price for CO2.

16 "Carbon leakage occurs when the carbon pricing in one jurisdiction results in increased emissions in another. If this happens, in practice, the carbon pricing policy would just displace carbon emissions from one area to another." (UN Handbook)

17 WTO rules refer to international treaties or agreements that cover goods, services and intellectual property. They spell out the principles of liberalisation, and the permitted exceptions. Carbon pricing systems are expected to be compatible with WTO rules and non-discrimination principles.

- **Use of offsets[18]**

  Governments can consider the use of offset credits, generated from uncovered sources and sectors in the ETS (if they have sufficient guarantee on the real additionality of the credits), in order to allow covered entities to meet compliance obligations under the cap at a lower cost. Timeframes would need to be determined for the reporting and compliance period, as well as limits on the use of offsets.

- **Establish a clear and robust monitoring, reporting and verification framework**

  Governments must consider the approach for enforcement and government oversight, including the technical, legal, and administrative considerations around the monitoring, reporting, and independent verification of emissions, penalties for noncompliance, and oversight of the market to address risks of fraud and manipulation. Monitoring should apply to both the compliance and financial aspects of an ETS to ensure the proper functioning of the system.

  In some instances, participants can follow a self-assessment model for emissions monitoring, reporting and verification, although the government can exercise the right to conduct audits as well as prepare compliance reviews.

- **Market stability design features**

  Governments should consider measures to address the potential volatility of and uncertainty about prices, in the design of an ETS. Options for design will depend on whether they adjust the quantity of allowances or impose constraints on the price. These could take the form of price floors/ceilings, or allowance reserves. Another suggestion could be implementing a market stability reserve aimed at providing price stability for installations covered under the ETS scheme and establishing certainty and confidence in the carbon pricing system. This reserve withholds a certain amount of auction volume based on the total number of allowances in circulation. Design elements for market stability would help support investment in mitigation and new technologies, and essentially the transition to a low-carbon economy.

- **Linking and international cooperation**

  Linking whether directly or via the Paris Agreement's Article 6 provisions allows regulated entities to use allowances or credits issued under an ETS in another jurisdiction's system as valid currency for compliance. Linking broadens flexibility as to where emission reductions can take place. It can also improve market liquidity, help address leakage and competitiveness concerns, and facilitate international cooperation. Ensuring the integrity of the different systems that should be based on robust, internationally agreed transparency criteria, is central for successful linking.

- **Hybrid systems**

  Elements of carbon tax design can be incorporated into emissions trading, and vice versa, to create hybrid systems. For example, Indonesia is currently exploring implementing regulations for a hybrid "cap-trade-and-tax" system. Alternatively, carbon taxes can be complemented with an offset system using credits normally destined for an emissions trading system, so that taxed entities can choose to purchase credits in place of part of their tax obligation. These hybrid systems can be effective at smoothing the political path of implementation for carbon pricing, though co-ordination in policy design becomes important.

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18 Offset credits are one of the types of emission allowances eligible for meeting compliance obligations. The use of one offset credit by an emitter covers one tonne of GHGs emitted by a covered establishment. Offset credits are therefore used to offset emissions that could not be reduced in an establishment.

Existing challenges and further areas for reflection

During ICC's assessment of the selected case studies, a number of perceived challenges were identified that ICC believes may warrant further reflection to improve the effectiveness of existing systems as well as in considering design features for implementing future carbon pricing systems.

- **Complexity**

  In Indonesia appears to be a certain level of complexity with respect to the relation between carbon tax and trade, and there is a lack of clarity regarding the interaction between the two. Similarly, in South Africa, the system is considered to be quite complex, which is compounded by the fact that a fossil fuel subsidy reform was not addressed before or at the same time as the introduction of the carbon tax. In Canada, differences between carbon pricing systems across provinces and territories may increase over time, with the risk of creating a patchwork of measures and creating additional complexities and higher costs for pan-Canadian climate policy than necessary. Similarly, differences in complementary policies—and differences in interactions between carbon pricing and other policies—can increase overall costs.

  ICC suggests that to the degree possible, governments should seek to **reduce the level of complexity** of carbon pricing systems and ensure that issues related to administration as well as interaction of policies and reform are aligned, addressed, and clearly communicated before introducing specific measures. This will enhance the effectiveness of implementation and avoid retroactive application and steps that could have been avoided beforehand.

  Where appropriate, ICC also underscores the need to promote **international linking of carbon pricing instruments** for greater harmonisation and consistency globally, which could push for convergence towards a global price for carbon.

- **The level of tax**

  In Indonesia, generally speaking, the level of the tax is considered too low to be effective in reducing emissions. Furthermore, there are no indications on how the level of tax will be increased in the future. ICC notes that it would be helpful for industry to have an indication on how taxes will increase in the future in order to make relevant investment decisions. Some reflection may also need to be given to consider the overall effect and impact of the policy in achieving emissions reduction.

  How the price is set can be challenging to determine and will need to address competitiveness, interaction with regulated prices and voluntary prices as well as dealing with cross-border effects and regimes. ICC believes that it is **imperative to get started**, even if an initial rate may be low, as this presents a first step to signaling a price for carbon and should include a **projected pathway to increase the rate** over time.

- **Address competitiveness risks while also ensuring that the incentive for mitigation and adaption action remains**

  Competitiveness remains a key concern for policymakers considering a price on carbon. Such risks exist primarily for highly emissions-intensive and trade-exposed sectors and countries that highly depend on such sectors. As became evident through the assessment, there are a variety of options to address competitiveness risks, including free allocation of emission rights and border measures, locally tailored policy design choices intended to protect trade-exposed industry from unfair international competition. While **there is no perfect measure to address such risks**, it became clear that **any approach should be based on a data-driven, careful evaluation of impacts**. Once implemented, these measures should be periodically re-evaluated to ensure their effectiveness and usefulness.

- **Lack of interplay between compliance and voluntary markets**

  It is recognised that achieving the net zero goals will require a transformation of carbon markets in coming decades, including more **interplay between compliance and voluntary markets**. While the expansion of carbon taxes and ETSs is crucial, **voluntary markets for carbon credits can play a complementary role in incentivising emissions reductions and removals**. Well-designed voluntary markets may support mitigation in jurisdictions and sectors that do not have the readiness to implement a compliance system[19]

  It is noted that with respect to the Indonesian carbon tax, interaction between compliance and voluntary market should be a design feature in order to have effective carbon pricing. It is noted that it would be important to have these markets connect in order to have a more holistic, concrete and transparent approach. The current lack of understanding regarding the interaction between the compliance and voluntary market creates challenges for the voluntary market, which makes it unworkable in practice.

- **Synergies and consistency across policies**

  Across all the case studies analysed in the assessment exercise, the need for **positive synergies and consistency between energy, climate, trade and taxation policies** came to the fore. For example, in the EU, the Carbon Border Adjustment Mechanism (CBAM) initiative has been designed to avoid discrimination against third countries' producers, notably with a price alignment between ETS and CBAM certificates and the possibility to take into account carbon pricing mechanisms in the country of origin. In this respect, the need to align and ensure consistency across these policies in the course of the legislative process is reiterated.

Whilst there are dilemmas and challenges, and it is clear that there is no one perfect system, it is important to recognise that the process is a continuum with best practices, lessons and experiences to learn and draw from.

Many governments are already taking active steps to put into action their climate responses at a system level. As a part of that process, there are various policy choices to consider in establishing the pathway for a transition to net zero emissions—governments will use a mix of policy measures in developing national action plans to achieve their emissions reduction objectives.

ICC will continue to further its work on carbon pricing, taking into account the effectiveness of existing mechanisms and seeking to develop further guidance, drawing on business experiences globally, to help support governments in their endeavours.

19 (Institute of International Finance (2021) Getting to Net Zero: The Vital Role of Global Carbon markets. Available at: iif.com/Portals/0/Files/content/Regulatory/10_26_2021_netzero.pdf.)

3. Context

ICC, in its capacity as the official UNFCCC Focal Point for Business and Industry, played a central role at the last UN Climate Change Conference (COP26) in November 2021 by bringing the voice of the real economy to the negotiations, most importantly regarding the Paris Agreement Article 6 on market and non-market cooperative approaches that allow countries to collaborate with each other in the implementation of their NDCs.[20]

The Glasgow Climate Pact[21] marks a critical step but, in itself, is insufficient to keep the Paris Agreement goal of limiting global warming to 1.5°C within reach. The fundamental rules under Article 6 for trading GHG emissions across borders are now agreed on. They establish a baseline for elements of certainty and predictability. Significant further technical work on market and non-market approaches has been undertaken by parties under the Paris Agreement over the past months. At COP27, governments will endeavour to agree on the key remaining elements to fully operationalise the mechanisms[22].

Ensuring that the new mechanisms work for the real economy, whilst also protecting social, environmental and economic integrity is critical in this regard. Therefore, it remains vital for governments to continue working closely with the private sector to maximise the potential value of the new mechanisms in social, environmental and economic terms, as well as to ensure that these are implemented successfully and are able to deliver real and additional benefits for climate and society across all countries.

The recent 2022 IPCC reports[23] underscore that without urgent and concerted global action across all sectors, a rapidly closing window will be missed to tackle the climate crisis and prevent the most dramatic impacts on the planet and people. COP26 offered unprecedented mobilisation of business and, in particular, financial institutions. Non-state actors, including financial institutions and corporates, are increasingly setting their own corporate net zero targets and aligning investment portfolios with the Paris Agreement goals. However, pledges alone—by governments as well as the private sector—are insufficient. Meeting the Paris Agreement goals requires action: implementation through clear decarbonisation, transition and financing plans, targets and monitoring. Certain policy and regulatory-driven market correction strategies and mechanisms simply cannot exist without political will and action by governments. This will be critical to driving forward multilevel and multilateral collaboration between governments and non-state actors and to enabling the private sector to design and implement their own clear and credible plans. **Clear, effective and coherent policies will be integral to strengthening confidence for the business community to invest** further and faster in a net zero economy and lead to the ambition and action needed for COP27 and beyond.

Putting the world on the critical 1.5°C trajectory requires a surge in annual investment in clean energy projects and infrastructure to nearly US$4 trillion by 2030—representing a tripling of current investments. Effective carbon pricing can help unlock much needed investment. It is encouraging to see that carbon pricing is gaining momentum globally and now found in 68 states or sub-national states (see map below). According to latest studies, 80% of countries that signed up to the Paris Agreement have signalled their intention to use international market mechanisms

20 See https://unfccc.int/process/the-paris-agreement/cooperative-implementation and https://www.iccwbo.be/cop26-icc-sets-out-business-case-for-deal-on-emissions-trading/

21 See https://unfccc.int/process-and-meetings/the-paris-agreement/the-glasgow-climate-pact-key-outcomes-from-cop26

22 See IETA Briefing on importance of implementing Article 6 at COP27 https://mcusercontent.com/a56b93cff5b695d2a902de8d0/files/72816d4a-47f6-f223-2580-35bbbdee1add/IETA_Pre_COP27_Briefing.01.pdf and IETA key asks for Article 6 implementation https://ieta.org/resources/Resources/Position_Papers/June%202022%20IETA%20Article%206%20Discussion%20Paper.pdf

23 https://www.ipcc.ch/assessment-report/ar6/

or broad international support to meet their NDCs or increase ambition, while over 20% of countries have already actively engaged in at least one cooperative approach through bilateral agreements, MOUs or participation in pilot projects.[24] Whilst, it is not a complete answer to GHG emissions reduction, it is viewed by many political leaders and economists as an effective way to reducing emissions through market intervention.

Carbon pricing is referred to as "an approach to reducing carbon emissions (also referred to as greenhouse gas, or GHG, emissions) that uses market mechanisms to pass the cost of emitting on to emitters. Its broad goal is to discourage the use of carbon dioxide–emitting fossil fuels in order to protect the environment, address the causes of climate change, and meet national and international climate agreements."

In this context, last year ICC established a cross-commission technical working group, under the auspices of the ICC Global Environment and Energy Commission and the ICC Global Taxation Commission, that explored company experiences under the 68 existing state or sub-national carbon pricing regimes and established ten clear best practice principles, as further outlined in Annex I below, for their design and implementation. The paper, which was launched at COP26, makes the case for harmonising domestic carbon pricing regimes around a common set of best practices in order to help drive more ambitious global climate action in a manner that permits individual countries to manage the costs to the real economy within their own jurisdiction.

As highlighted earlier, in the second phase of its work this year, ICC further examined existing domestic carbon pricing systems, focusing more specifically on preferred policies and the composite design features within those policies that can provide the strong and long-lived investment incentives needed and that are effective at driving emissions reductions.

The carbon pricing systems that form the basis of this report are largely compliance-based systems (the government requires private sector participation and sanctions non-compliance). The two principal carbon pricing mechanisms are carbon taxes and ETSalso known as "cap-and-trade". An overview of carbon pricing policy mechanisms is provided in Annex II of the document and outlines the basic design features for each mechanism.

Policy decisions regarding the specific design features that will form part of a particular carbon pricing mechanism will ultimately depend on the economic, geographic, political and institutional context of the jurisdiction implementing the mechanism. Based on a country's NDC, broader policy priorities in terms of industry, trade exposure, energy, economic, employment and environmental factors, governments may prefer one mechanism over another, or choose to combine elements of two or more mechanisms.

ICC has also continued to monitor and factor into its work the ongoing state party technical discussions on Article 6 and its implementation[25]. Article 6 (the two market provisions 6.2 and 6.4) introduces cross-border voluntary carbon trading as between state parties and creates a central UNFCCC mechanism to trade credits from emissions reductions generated through specific projects that allows for the participation of companies and other non-state actors, with mandatory rules applicable to both mechanisms.

The International Emissions Trading Association (IETA) highlights the potential benefits of governments and the private sector cooperating to achieve countries' NDCs using Article 6, with potential financial flows estimated at $300 billion per year in 2030 and up to $1 trillion per year

24 See IETA Briefing on importance of implementing Article 6 at COP27 https://mcusercontent.com/a56b93cff5b695d2a902de8d0/files/72816d4a-47f6-f223-2580-35bbbdee1add/IETA_Pre_COP27_Briefing.01.pdf

25 Add reference to ICC papers on Article 6

in 2050[26]. There are also opportunities to build on learnings from the pre-Paris Agreement Clean Development Mechanism (CDM), as introduced under the earlier and now superseded Kyoto Protocol. The IETA Implementation Time Pre-COP27 Briefing Report[27] highlights that the sooner that Parties at COP27 can agree on robust governance and structures for the new international market, the more confidence countries will take from the process, and the sooner they will implement measures at home to enable the market to function at all levels.

ICC strongly supports the use of market-based approaches and the successful implementation of a new phase of emissions trading under Article 6, enabling decarbonisation and enhanced international cooperation and recognises its importance for countries to meet their NDCs. Whilst the ICC report focuses on compliance-based carbon pricing principles and their application in specific jurisdictions and does not specifically explore the role of Article 6 in enabling international cooperation, or the voluntary carbon markets in contributing to additional GHG emissions reduction, the relevance of each of these is underscored by the ICC carbon pricing principle calling for international cooperation for greater consistency globally. ICC also continues to support members in the continuing improvement to voluntary carbon markets and the work to harmonise and raise integrity standards and practices on both the buyer and seller side of those markets.

We recognise that important work on carbon pricing has also been conducted by different international organisations, which has been considered and referenced in the document. The ICC Working Group on Carbon Pricing will continue to exchange and engage with respective partner organisations in this area going forward.[28][29][30][31][32]

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26 IETA (2021) The Potential Role of Article 6 Compatible Carbon Markets in Reaching Net-Zero https://www.ieta.org/resources/Resources/Net-Zero/Final_Net-zero_A6_working_paper.pdf

27 See IETA Implementation Time Pre-COP27 Briefing Report

28 OECD Carbon Pricing and COVID-19

29 Pricing Greenhouse Gas Emissions: Turning Climate Targets into Climate Action

30 OECD Framework to Decarbonise the Economy

31 World Bank Group Carbon Pricing Dashboard

32 In the context of voluntary carbon markets, important work has been done and continues to be done by ICVCM and VCMI.

Current context

The current geopolitical situation, including the alarming energy crisis in certain regions, emphasises the urgency of policy responses that safeguard energy security and availability (at an affordable level), as well as energy sustainability. Policy safeguards may mitigate the effects of the crisis on consumers, business and society at large.

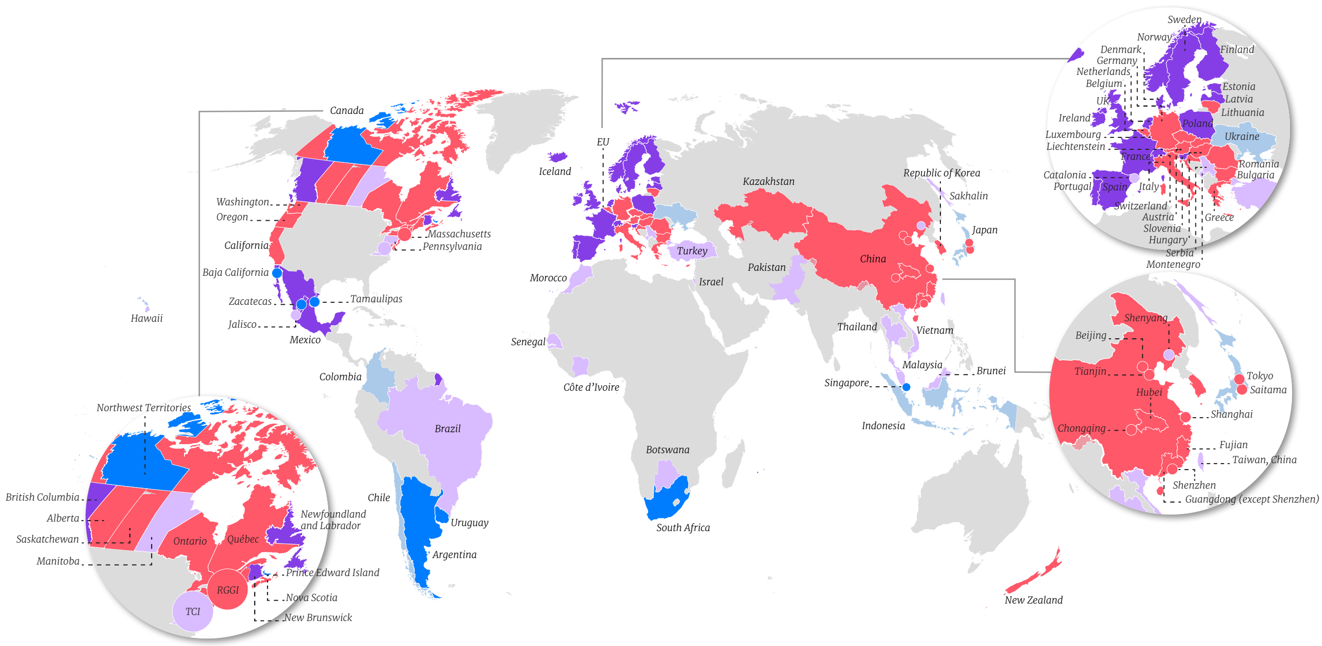
The energy crisis also highlights the need for global cooperation; in relation to the Paris Agreement and advancing the goal towards 1.5°C and net zero by 2050, it underscores an additional benefit of energy diversification through scaled up renewables and existing and breakthrough technologies. It is imperative that governments and non-state actors work together to achieve the Paris Agreement goals, safeguarding and strengthening energy security, access, efficiency and sustainability, including through the promotion of increased investment in energy infrastructure to advance the transition towards a low and net zero emissions energy system.

Sound and principles-based decision-making that recognises and factors the cost of carbon into government policy become even more critical in the context of the energy and climate crisis. The science upon which the Paris Agreement goals are based continues to reinforce the increasing environmental, economic and societal risks of non-action; the long-term benefits of limiting warming to 1.5°C and 2°C outweigh the costs and the continuing decline in the cost of certain renewables (in particular solar) is accelerating market-driven transition.

Government policies designed further to accelerate transition, including through carbon pricing mechanisms, need to factor in the energy crisis (if relevant to the region) and examine features to limit disruption to energy systems and energy-intensive industries and give due consideration to consumers' needs, including in the context of carbon pricing discussions.

Whilst it is recognised that the energy crisis is a current reality that may hamper efforts to reduce carbon emissions in the short term, the underlying conditions and analysis in support of effective carbon pricing, remain applicable and relevant. ICC recognises that further work and thinking may be required to consider workable design features that take into account persistent high energy prices, the implications on economies and society and the necessary balance to advance on effective climate mitigation and adaption actions.

Carbon Pricing Map (2022)[33]



- ETS implemented or scheduled for implementation
- Carbon tax implemented or scheduled for implementation
- ETS and carbon tax implemented or scheduled
- ETS implemented or scheduled, carbon tax under consideration
- Carbon tax implemented or scheduled, ETS under consideration
- ETS or carbon tax under consideration

33 See World Bank. 2022. State and Trends of Carbon Pricing 2022. State and Trends of Carbon Pricing. Washington, DC: World Bank. © World Bank. https://openknowledge.worldbank.org/handle/10986/37455 License: CC BY 3.0 IGO."; https://carbonpricingdashboard.worldbank.org/
URI

Annex I
ICC Carbon Pricing Principles

ICC developed a set of ten key principles highlighted in the diagram below, to form an essential tool for governments considering both national and international approaches to mitigating climate change through carbon pricing. The principles also may be considered in developing and implementing market-based instruments under Paris Agreement Article 6, and voluntary carbon markets, in order to:

- tackle climate change at the quantitative scale and timescale needed, irrespective of location, and at the lowest cost to consumers and society;
- avoid economic and competitive distortions between regions and sectors in order to achieve net emission reductions on a global scale;
- prevent shifting of emissions within sectors and between regions (carbon leakage); and
- give companies immediate, medium and long-term frameworks and provide clarity to support their investment decisions.

ICC Carbon Pricing Principles

01 **FOCUS** on GHG emissions reduction as prime target, including the prevention of GHG leakage

02 **CREATE** a reliable, predictable overall framework

03 **PROMOTE** consistency between climate, energy, trade and taxation policies

04 **CREATE** a clear and robust transparency framework

05 **MAINTAIN** accessibility to and affordability of low-carbon and clean energy sources

06 **PROMOTE** international linking of carbon pricing instruments

07 **RECOGNISE** that there is no “one-size-fits-all” single instrument

08 **COUPLE** carbon pricing with climate change mitigation and adaptation

09 **ENSURE** international co-operation for greater consistency globally

10 **DEVELOP** mechanisms through inclusive and transparent consultation with business and other key stakeholders

Annex II
Overview of Carbon Pricing Mechanisms

A state-imposed cost on GHG emissions (carbon pricing) is a compliance-based policy designed to mitigate climate change by reducing overall GHG emissions through a tax-based mechanism that motivates emitters to seek cost effective abatement options.

Carbon pricing can result from different instruments, including direct or indirect taxes, ETSs and crediting mechanisms. The purpose of this overview is to provide the framework used to assess existing carbon pricing mechanisms (or policies) against the ICC Carbon Pricing Principles. Carbon pricing within a single jurisdiction is likely to be comprised of one or more (or a combination) of the six key policies outlined below, which should be read and assessed together. A general overview of the policies is provided below.

Different types of policies and measures explicitly or implicitly put a price on GHG emissions. The World Bank Group States and Trends of Carbon Pricing report (2021)[34] outlines the policies for what is generally known as explicit and implicit carbon pricing.

> "Explicit carbon pricing policies are enacted by a government mandate and impose a price based on carbon content. They are primarily implemented to encourage cost-effective mitigation as they provide flexibility as to how and when emissions are reduced. They are enacted by a government mandate through either a carbon tax or an ETS."

Generally, the policies do not directly apply a cost to emitting carbon and are usually put in place to address other climate objectives and tackle nonprice barriers (e.g., fuel taxes and fossil fuel subsidies).

The main focus is on legally required carbon pricing systems. There are a wide variety of voluntary initiatives with different degrees of institutionalisation that could also be relevant. They tend to present broadly similar design features, but there are also significant variations (e.g., voluntary carbon offsets when purchasing a flight ticket, or so-called 'green investment schemes' which associate a pro-environment project to a transfer of allowances). For the purpose of this work, serving as additional support and guidance for governments and policy makers, we will focus on domestic compliance schemes, while also taking into account recent developments in the voluntary carbon market.

> "Implicit carbon pricing refers to the calculation of the equivalent monetary value per tonne of carbon associated with a given policy instrument which seeks to find a common means to compare the stringency of different mitigation policies."

34 World Bank Group State and Trends of Carbon Pricing Report (2021)

Policy 1: Emissions Trading Scheme (negative externality internalisation)

Definition: The regulator requires emitters to compensate for their emissions, which they may do by surrendering tradable credits. The two main forms of an ETS are:

- **Cap-and-trade**: where the government determines a limit on emissions ("the cap") in a particular period and allowances that make up the cap are either auctioned or allocated according to criteria. The market determines the carbon price. The size of those markets (meaning the volume of permits) represents the volume of emissions.
- **Baseline-and-credit**: baselines are set for regulated emitters. Emitters with emissions above their designated baseline need to surrender credits to make up for these emissions. Emitters that have reduced their emissions below their baseline receive credits for these emission reductions, which they can sell to other emitters. The size of those markets (i.e., the volume of credits) represents the emission reductions.

Design features:

A. **Regulator**: Regional regulator/State government/Substate government

B. **Coverage**:

  i. Gases: carbon dioxide/Other gases

  ii. Emitters by:
  - Sector
  - Facility type
  - Facility size
  - Facility location
  - New or existing

  iii. Emissions:
  - Cap-and-trade scheme
  - Baseline-and-credit scheme[35]

C. **Supply of credits**:
- Free allocation
- Auctioning/Purchase

D. **Price controls**:
- Direct price floors and cap
- Alterations to number of credits supplied
- 'Central-bank'-like supply
- Demand interventions to keep price within bands

E. **Nature of credits:**
- Time-validity
- Allowances and/or offsets
- Nature of underlying emission reduction or removal
- Relevant industries
- Relevant jurisdictions

F. **Compliance obligation**:
- Restrictions on combined credits used
- In case of shortfall: fee reflecting the market price for credits
- Inflated price for the remaining emissions
- Greater number of credits by a later date
- Administrative penalties and fines

G. **Revenue allocation**:
- Revenue-neutral
- Climate-related allocation
- Non-climate-related allocation

35 There is no fixed limit on emissions, but polluters that reduce their emissions more than they otherwise are obliged to can earn 'credits' that they sell to others who need them in order to comply with regulations they are subject to. Source

Policy 2: Crediting Scheme (Project-based offsets)/Positive externality internalisation

Definition: The regulator issues tradeable credits as an incentive to emitters who achieve emissions reductions or greenhouse gas removals. The project-based offsets allow emitters to compensate for emissions generated elsewhere through specific projects.

Design features:

A. Regulator:

- International regulator (e.g., CDM Executive Board)
- Regional regulator
- State government
- Substate government

B. Coverage:

i. Gases:
   - Carbon dioxide
   - Other greenhouse gases

ii. Activities:
   - Emissions removal
   - Emissions Reduction
   - Carbon removal projects
   - Operational reductions from BAU industries

iii. Jurisdiction:
   - Globally
   - Specified jurisdiction

C. Credit Amount:

- Baseline-based (emission reductions from BAU)
- Based on volume of GHG removed from the atmosphere by the project (removals)
- Cap on the number of credits

D. Nature of credits:

- One or more types of credits (e.g., under Kyoto: CERs, ERUs, RMUs)
- Time-validity of credits
- Certain types of emitters/industries/ certain jurisdictions
- Fungibility of credits
- Restrictions on use or transfers

Policy 3: Levy Scheme (negative externality internalisation)/Carbon tax

Definition: The regulator raises revenue in a manner that increases the costs of greenhouse gas intensive products or services—collected as a tax or as a regulatory charge. The government determines the price and lets market forces determine emissions reductions.

Design features:

A. Regulator:

- Regional
- State government
- Substate government

B. Legal nature:

- Collected as a tax or as a regulatory charge
- Raised indirectly by reducing subsidies available to GHG-intensive industries

C. **Coverage**: Types of emission/Types of products or services

   i. Gases:
      - Carbon dioxide
      - Other gases

   ii. Products and services:
      - Upstream products
      - Downstream at the point of consumption

D. **Price**:
   - Based on the GHG intensiveness of the good and granularity
   - Planned price increases for a certain number of years

E. **Revenue allocation**:
   - Revenue-neutral
   - Climate-related allocation
   - Non-climate-related allocation

Policy 4: Support Scheme (positive externality internalisation)

Definition: The regulator provides support, financial or otherwise, to those providing low greenhouse gas intensity products and services to support their viability.

Design features:

A. **Regulator**:
   - International fund (e.g., GCF)
   - Regional regulator
   - State government
   - Substate government

B. **Legal nature**:
   - Investment
   - Financial: Tax credits, tax rebates, preferential loans, loan support, equity injections or grants
   - Procurement: direct (low greenhouse gas intensity products, e.g., electricity from modern renewables) or indirect (local content requirements linked to direct procurement)
   - Mandates
   - Property: Legal protections for private investments in the target industries

C. **Coverage**: Specific industries/Products/Services

D. **Magnitude of assistance**:
   - Direct financial assistance
   - Increase costs paid as compared to higher GHG intensity alternatives
   - Other support like intellectual property rights

E. **Adjustments over time/Cancellation (pre-determined length of time)**

Policy 5: Carbon Border Adjustment Mechanism

Definition: The regulator uses trade-related measures to impose costs on imported goods with a view to equalising the GHG emissions costs faced by domestic and foreign producers.

Design Features:

A. Regulator:

- Regional regulator (e.g., European Commission)
- State government
- Substate government (if in charge of trade policy, e.g., Macau or Hong Kong)

B. Legal nature:

- Import-based, export-based or both
- Equalisation duty imposed at the border on foreign goods or at the point of consumption on all goods
- Regulation (e.g., extension of an emissions trading scheme to importers, or mirroring regulation imposing similar cost)
- Export rebates to remove internal GHG cost when good is exported
- Free allocation or other support to equalise situation of domestic producers

C. Coverage: GHG emission-based/Limited to certain goods and materials

i. Gases:

- Carbon dioxide
- Other gases

ii. Emissions: Schemes may vary in scope of the emissions they target (Scopes 1, 2 or 3 of the Greenhouse Gas Protocol)

iii. Goods and materials: Different goods and materials (raw materials, electricity and manufactured goods including those raw materials or electricity)

iv. Exemptions:

- origin-based exemptions
- subsequent equivalence-based exceptions
- specific good or flow carve-outs

D. Additional Cost Imposed:

- GHG pricing (based on home prices or some common standard)
- Administrative costs

E. Revenue allocation:

- Climate-related allocation
- No climate-relate allocation

Policy 6: Linking Mechanism

Definition: The regulator(s) create a mechanism by which pricing mechanisms, normally allowances and offsets, can be used in two or more linked jurisdictions.

Design features:

A. Regulator(s) of the linked schemes:

- Regional
- State government
- Substate government

B. Recognition:

- Unilateral
- Reciprocal
- Multilateral

C. Legal nature:

i. Type of recognition:

- Unilateral recognition
- Binding agreement between regulators (contract or treaty)
- Non-binding cooperative mechanisms

ii. Scope of the linking:

- allowances and/or offsets and/or compliance certificates with other pricing mechanisms
- GHG, project and industry coverage (depending on scope of linked mechanisms)

D. Degree of integration:

- Completely harmonised
- Restricted

Annex III
Case Studies

A. Canada

1. Introduction and Factsheet

Building on the momentum established by the passage and rapid entry into force of the Paris Agreement, in 2016, and various carbon pricing systems already in place at that time, Canada passed the Pan-Canadian Framework on Clean Growth and Climate Change[36] to achieve its emissions reduction targets, grow the economy and build resilience to a changing climate.

In the design of its carbon pricing system, on the four pillars of the Framework, Canada identified the following as key priorities: flexibility; complementarity with existing systems at the provincial level; broad application to emission sources; similar level of carbon price and stringency throughout the country and predictable ratcheting up of costs coupled with transparent reporting.[37]

In 2018, the Greenhouse Gas Pollution Pricing Act was passed to ensure carbon pricing applies broadly in Canada and provide minimum criteria for provincial and territorial systems and a federal backstop for operationalisation of carbon pricing as a crucial modality to enable domestic achievement of Canada's NDC under the Paris Agreement.[38]A federal carbon pricing system consisting of two parts was established: (i) a regulatory charge on fuel (federal fuel charge) as well as (ii) a regulatory trading system for industry—the federal Output-Based Pricing System (OBPS). All provinces and territories are subject to a carbon pricing mechanism, either by an in-province programme or by one of two federal programmes.[39]

In 2021, Canada provided an updated NDC outlining the target of reducing emissions by 40-45% below 2005 levels by 2030, up from previous 30% and achieving net zero by 2050.[40] Carbon pricing is again being identified as a key pillar of the Canadian 2030 Emissions Reduction Plan[41], which was released by the federal government in March 2022 to reach Canada's new net zero climate goals.

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36 Government of Canada, Pan-Canadian Framework on Clean Growth and Climate Change (2016), online: <www.canada.ca/content/dam/themes/environment/documents/weather1/20170125-en.pdf>.

37 PCF, at 6-7.

38 *Greenhouse Gas Pollution Pricing Act*, S.C. 2018, c. 12, s. 186, preamble. [GHG PPA]

39 In March 2021 the Supreme Court of Canada found that global warming causes harm beyond provincial boundaries and that it is a matter of national concern under the "peace, order and good government" clause of the Constitution. The decision noted that the federal Parliament has the authority to apply a price on carbon pollution in jurisdictions that do not have their own system that meets minimum national stringency standards.

40 Government of Canada, Canada's 2021 Nationally Determined Contribution Under the Paris Agreement (2021), online: www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Canada%20First/Canada%27s%20Enhanced%20NDC%20Submission1_FINAL%20EN.pdf.

41 See https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/climate-plan-overview/emissions-reduction-2030.html

Factsheet	
Year of Implementation	2019
Regulator	Federal Government, provinces and territories.
Policy mechanism(s)	Federal pricing system consisting of: i. a fuel charge/levy on fossil fuels; and ii. a performance-based pricing system for large emitters—the federal Output-Based Pricing System (OBPS). Provinces and territories have flexibility to develop their own carbon pricing systems as long as they meet the so-called “Federal Carbon Pollution Pricing Benchmark” - a set of minimum national stringency criteria[42]. The federal carbon pricing system applies in provinces/territories that request it or that do not implement a system that meets the minimum stringency requirements. A Federal carbon pricing backstop provides a backstop to provincial approaches that applies in any province or territory that does not have a carbon pricing system that meets the benchmark criteria.[43]
Targets	Achieving GHG emission reduction of 40-45% below 2005 levels by 2030 and net–zero by 2050.
GHGs covered	Carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulphur hexafluoride (SF_6), perfluorochemicals (PFCs), hydrofluorocarbons (HFCs)
Sectors covered	Oil and gas production; mineral processing; chemicals; pharmaceuticals; iron and steel; mining and ore processing; lime and nitrogen fertilisers; food processing; pulp and paper; automotive; electricity generation; cement.
Pricing	Following a progressive ratcheting up in price since 2018, 2021 price was CA$40/tCO2e, escalating to $50/t in 2022, and following the objective of increasing up to $170/t in 2030.

42 See https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/carbon-pollution-pricing-federal-benchmark-information.html

43 Please refer to the overview of current carbon pricing systems across Canada https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work.html

Factsheet	
Use of offsets	Entities can use offset credits from the Federal GHG Offset System, launched in July 2022 and recognised units from approved provincial offset systems (Alberta and British Columbia, since March 2021). Any offsets criteria need to meet certain robustness criteria.[44]
Revenue allocation	The federal carbon price is revenue neutral, that means that the federal government does not keep any direct revenues from carbon pricing schemes in place. The Government is also committed to helping households make investments to increase energy efficiency and further reduce emissions. The return of revenues follows a number of different pathways (see section below).

44 Please refer to the overview of current carbon pricing systems across Canada https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work.html

2. Principles Test and Assessment: Useful Features/Best Practices

ICC Carbon Pricing Principle	Application	Comments
1. Focus on GHG emissions reduction as prime target, including the prevention of GHG leakage	Alignment of carbon pricing systems with key goals to significantly reduce emissions levels by 2030 and achieve net zero by 2050 in line with the domestic NDC provides long-term prioritisation and certainty for investors, innovators, and operators. Encompassing a wide range of fuel and GHG types ensures the framework adequately captures the full scale of potentially harmful practices.	The system has been effective in terms of providing a price signal and mitigating carbon leakages and adverse competitiveness impact risks. Inclusion of a progressive ratcheting up the carbon price allows impacted organisations to adapt over time.
2. Create a reliable, predictable overall framework	Finding a basis in both federal and provincial law, the national approach to carbon pricing in Canada aims to provide a harmonised overall framework that consists of two parts with flexibility provided for nuanced differences at the provincial level. Differences between carbon pricing systems across provinces and territories increase may increase over time, with the risk to create additional complexities and higher costs for pan-Canadian climate policy than necessary. Similarly, differences in complementary policies—and differences in interactions between carbon pricing and other policies—can increase overall costs.	A continued focus on strong, supportive, predictable and responsive policies intended to complement and support carbon pricing efforts and grow supply and demand for low- and zero- carbon technologies will be instrumental to drive actions in Canada. Regular review and assessment of actual performances of systems in place as well as evaluations of interactions between carbon pricing and other policies is well advised.

ICC Carbon Pricing Principle	Application	Comments
4. Create a clear and robust transparency framework	The Pan-Canadian Approach to Pricing Carbon Pollution, which established Canada's approach to carbon pricing for the 2018-2022 period, set out the principles on which the pan-Canadian approach to pricing carbon pollution is based, and established minimum national stringency criteria that all systems must meet to ensure they are comparable and effective. In 2021, the Government published an update to the federal carbon pricing benchmark with more rigorous criteria that aim to improve further stringency and effectiveness of domestic carbon pricing systems. It builds on key principles identified by the 2016 federal-provincial-territorial Working Group on Carbon Pricing Mechanisms, including: "Reporting on carbon pricing policies should be consistent, regular, transparent and verifiable".[45] It is important to highlight that the updated federal benchmark includes a mandate on reporting. Provinces and territories must publish regular, transparent reports and/or information on the key features, outcomes, and impacts of their carbon pricing systems, as well as on compliance information and carbon market data where publication could enhance accountability, and carbon market function and oversight.	More rigorous reporting and accounting criteria is a critical step forward in improving the governance of the systems that were considered often opaque, with lack of key data needed to review systems effectiveness. Better data going forward is important to enable ongoing assessment and improvement in these policies over time.
5. Maintain accessibility to and affordability of low-carbon and clean energy sources	Canada returns carbon pricing revenues to households in the form of a tax rebate or through investments, offsetting about 80 percent of the burden and providing additional support to vulnerable communities and indigenous peoples.	ICC strongly believes that regardless of the carbon pricing instrument that is chosen, financial burdens arising from it must remain at a reasonable level, in accordance with the UN SDGs and the principle of just transition.

45 See https://publications.gc.ca/collections/collection_2016/eccc/En4-287-2016-eng.pdf

ICC Carbon Pricing Principle	Application	Comments
		Carbon pricing can lead to higher energy prices and can become a significant burden for households and consumers—particularly for lower-income families who spend a greater proportion of their income on energy. Under the current plan, the burden for the average Canadian household in 2030 will be about 2% of consumption[46]. Canada's efforts are especially important in the current socio-economic situation.
6. Promote international linking of carbon pricing instruments	Canada sees a strong potential in linking federal systems and provincial systems, as some of Canadian jurisdictions are very small and that could help provide greater flexibility and cost efficiency. From an international point of view, the federal government also believes that larger carbon markets could be more efficient and recognises the crucial role of Article 6 of the Paris Agreement and linking with other international markets in that regard.	For example, at the subnational level, the province of Quebec has linked its economy-wide emissions trading programme with the state of California, creating North America's largest carbon market. Canada has noted that further domestic and international linking of carbon pricing systems would provide considerable benefits in the longer term, lowering costs of compliance while mitigating carbon leakage. Further improving and strengthening the accounting and reporting framework over time and aligning it with the reporting, accounting and transparency provisions agreed under the UNFCCC and Paris Agreement can optimise chances for international alignment.

46 IMF news articles - four charts on Canada's carbon pollution pricing system

ICC Carbon Pricing Principle	Application	Comments
7. Recognise that there is no "one-size-fits-all" single instrument	Canada has recognised the existence of different carbon pricing systems already in place and developed an approach to build on and leverage these systems while also taking into account special circumstances and needs of certain jurisdictions, economic sectors and segments of society. Any province or territory can design its own pricing system tailored to local needs or can choose the federal pricing system.	Creation of a backstop in a federal context provides clarity for economic actors operating across multiple jurisdictions of the long-term policy priority while providing flexibility for provincial approaches. However, this flexible approach also comes with certain challenges, such as providing certainty and consistency over time, when there is a need to reassess systems, as well as increased complexity and administration for entities operating across several domestic systems. Some weaknesses in the Pan-Canadian carbon pricing framework also remain. These include the fact that provincial and territorial carbon pricing systems differ widely in terms of emission coverage, effective carbon price and cost burden on industry.
9. Ensure international cooperation for greater consistency globally	As noted above, Canada recognises the crucial role of Article 6 of the Paris Agreement and linking with other international markets in that regard	The Canadian government's efforts to promote harmonised international carbon prices and to explore potential for a border carbon adjustment can help mitigate the risks of carbon leakage while maintaining a strong price signal domestically. The Group of 7 leaders, including Canada endorsed in June 2022 the goals of an open and cooperative international Climate Club - aimed at accelerating decarbonisation while also addressing carbon leakage concerns.

ICC Carbon Pricing Principle	Application	Comments
		ICC strongly supports the idea of aligning climate ambitions amongst the G7 but encourages the G7 to closely collaborate with the countries of the G20, major emerging economies and beyond as well as the private sector on further exploration of "climate club" concept and to develop a credible operationalisation plan.
10. Develop mechanisms through inclusive, transparent consultation with business and other key stakeholders	Canada established a an interdisciplinary multistakeholder advisory committee to review and influence policy approaches supports an inclusive approach that can be responsive to localised or industry-specific challenges. In 2021, the Government of Canada announced its launch of an initial exploratory phase of consultations on border carbon adjustments, including discussions with the provinces and territories, industry associations representing those sectors most impacted, as well as labour and environmental organisations and academics with expertise on BCAs. Consultations with Indigenous Peoples were also an essential component of the Pan-Canadian Framework established in.	ICC recognises the value and necessity of a multistakeholder and multilateral approach to developing and implementing effective carbon pricing instruments. Continued consultation and dialogue with business and key stakeholders, in particular local and indigenous people communities as well as maximum transparency and clear communication is critical to creating investor and societal trust and confidence.

B. EU Emissions Trading System

1. Introduction and Factsheet

The European Union Emissions Trading System (EU ETS) has been a cornerstone and key policy instrument of the EU's strategy for cost-effectively reducing GHG emissions since 2005. The EU ETS is based on the principle of 'cap-and-trade' and covers around 40% of EU emissions, from the power sector, manufacturing industry and aviation within the European Economic Area (EU member states plus Iceland, Liechtenstein, and Norway).Since its introduction EU emissions have reduced by 41% in these sectors. The EU ETS is the world's first major carbon market and now second-largest ETS in force. Introduced in 2005, the EU ETS has gone through several reforms, and it is now in its fourth trading phase.

The latest reform of the ETS was proposed in July of 2021 as a part the "Fit for 55" package published by the European Commission—a set of proposals to revise and update EU climate, energy and transport legislation, which will contribute to the EU's climate goals of reducing net GHG emissions by at least 55% by 2030 and reaching net zero emissions by 2050.[47] The latest reform proposed includes major changes to the system, including a more ambitious EU ETS reduction target for 2030 of 61% compared to 2005; a faster reduction of the cap with fewer allowances on the market; inclusion and expansion of ETS to new sectors (shipping, buildings and road transport) as well as gradual phasing-out of free emission allowances for certain sectors (in parallel with the introduction of the carbon boarder adjustment mechanism).

The proposal has since gone through the EU's ordinary legislative procedure. In June 2022, the European Parliament and Council adopted their respective positions on the proposed EU ETS directive introducing several amendments[48] . While the Parliament is in favour of more ambitious goals for shipping decarbonisation, it seems Member States have not deviated much from the Commission's proposal. The European Parliament, Council and Commission have entered "trilogue" negotiations, and it is likely a compromise will result from the different positions.

In January 2020, the EU ETS became linked to the Swiss ETS, the first linking of this kind for both parties. The link allows covered entities in both systems to use allowances from either ETS for compliance. Conversely, a link to the EU ETS was not introduced by the United Kingdom that stopped participating in the EU ETS upon officially withdrawing from the EU on 31 January 2020.

The EU ETS in its development over the years shows some significant achievements. One of its achievements is certainly given by the size of its market as well as its scope. As the world's major carbon market and cross border cap-and-trade system, it comprises 30 countries (the 27 EU Member States plus Iceland, Liechtenstein, Norway) and covers more than 11,000 installations.

The large scope of the EU ETS market, in particular increases competition among the economic actors involved and broadens the possibility to find buyers for the available allowances, by also encouraging participating entities to develop new technologies that can help increase emissions reductions. The EU ETS has also a symbolic value, which goes beyond purely economic considerations and demonstrates the EU's strong commitment to tackling climate change at the quantitative scale and pace needed.

47 See https://climate.ec.europa.eu/eu-action/european-green-deal/delivering-european-green-deal_en

48 See https://www.europarl.europa.eu/doceo/document/TA-9-2022-0246_EN.pdf and https://www.consilium.europa.eu/en/press/press-releases/2022/06/29/fit-for-55-council-reaches-general-approaches-relating-to-emissions-reductions-and-removals-and-their-social-impacts/

Factsheet	
Years of Implementation	Phase 1: 2005-07; Phase 2: 2008-12; Phase 3: 2013-20; Phase 4: 2021-30
Regulator	EU institutions following the EU legislative process. In 2012, EU ETS operations were centralised into a single EU registry operated by the European Commission. The Union Registry (EUTL—EU-ETS Transaction Log) serves to guarantee accurate accounting for all allowances issued and registers all EUA exchanges.
Policy mechanism(s)	The EU chose a "cap-and-trade" structure as the best means of meeting the GHG emissions reduction target at least overall cost to participants and the economy as a whole. The cap-and-trade system allows companies in the system to determine what the least-cost option is for them to meet a common fixed cap.
Jurisdictions	27 EU members states and three European Economic Area-European Free Trade Association (EEA-EFTA) states: Norway, Iceland and Liechtenstein.
Targets	Current cap for EU ETS of 43% by 2030, compared to 2005 emissions. In July 2021, the European Commission proposed to increase the EU ETS target to -61% by 2030, as the market system's contribution to the EU's overall climate target of -55% by 2030.
GHGs covered	CO_2, N_2O, PFCs
Sectors covered	Power and heat generation; industrial processes, including oil refineries, steel works and production of iron, aluminium, metals, cement, lime, glass, ceramics, pulp, paper, cardboard, acids and bulk organic chemicals, and aviation. As a part of the "Fit for 55" package, the European Commission proposed to include maritime shipping in the EU ETS as well as to establish a separate, parallel ETS for road transport and buildings.
Pricing	The carbon price is set by the market through trading and based on a wide range of factors.

Factsheet	
Revenue allocation	Under the current EU Emissions Trading System, most revenues from the auctioning of emission allowances are transferred to national budgets. At least 50% of auctioning revenues should be used by Member States for climate and energy related purposes and up to 25% can be used by Member States for indirect costs compensation. The EC proposed ETS reform includes the creation of the Social Climate Fund to address any social impacts that arise from this new system. Revenues from the ETS should also support EU stakeholders in the low-carbon investment challenge through the Innovation Fund and Modernisation Fund.[49] The European Commission also proposes to oblige Member States to spend all of their ETS revenues on climate action.

49 See https://ec.europa.eu/clima/eu-action/funding-climate-action/innovation-fund_en and https://ec.europa.eu/clima/eu-action/funding-climate-action/modernisation-fund_en
Since beginning of program: €69.7 billion (US$80.7 billion) Collected in 2020: €19.2 billion (US$21.8 billion)

2. Principles Test and Assessment: Useful Features/Best Practices

The purpose of this exercise is to apply the 10 carbon pricing principles released by ICC in November 2022 to the current EU ETS in all its components including CBAM, bearing in mind that many possible changes are currently under discussion in the trialogue process on the several pieces of the "Fit for 55" package, including the revision of the EU ETS Directive and the CBAM Regulation.

ICC Carbon Pricing Principle	EU ETS application	Comments
1. Focus on GHG emissions reduction as prime target, including the prevention of GHG leakage	The EU ETS, "cap and trade" scheme launched in 2005, covers GHG emissions. It aims to assist the EU in reaching its medium and long-term climate targets (by 2030 to get to at least 55% below 1990 GHG levels and by 2050 achieve net zero emissions[50]) by "promoting reductions of emissions in a cost-effective and economically efficient manner"[51]. The EU ETS works on the principle of 'cap-and-trade'. It sets an absolute limit or 'cap' on the total amount of permits distributed each year in the system. This cap is reduced over time so that total emissions fall. The main features of the EU ETS are the emission cap (a ceiling on the maximum amount) and the trading of EU Allowances (EUAs). The cap represents the maximum absolute quantity of GHG emissions that may be emitted by entities covered by the system and guarantees that total accumulated emissions are kept to a pre-defined level. In the current phase 4 (2021-2030), the cap for both stationary installations and aviation is set to decrease annually by the linear reduction factor of 2.2%.[52]	Both the Council and the Parliament respectively agreed on the Commission CBAM proposal in March and June 2022. The Parliament's position is largely in line with the Commission's proposal, except for sectoral coverage (suggests to also include organic chemicals, plastics, hydrogen and ammonia, and to extend CBAM to indirect emissions); faster phase out of free allowances by 2032 (three years earlier); inclusion of export rebate as well as use of CBAM proceeds to support decarbonisation efforts in least developed countries. ICC believes that addressing carbon leakage concerns is important until consistent carbon pricing mechanisms are applied globally. Any such approaches to prevent carbon leakage should be considered and designed carefully and proportionately. They should be compatible with WTO rules and non-discrimination principles.

50 Both updated targets (2030 and 2050) were enshrined into the European Climate Law on 9 July 2021.
51 European Parliament (2003) Art. 1, Directive EC/87/2003
52 See figure 1. Cap reduction applying the linear reduction factor of 2.2% as of 2021 (https://ec.europa.eu/clima/system/files/2021-10/com_2021_962_en.pdf)

ICC Carbon Pricing Principle	EU ETS application	Comments
	EUAs are allocated for free, or they are auctioned. The trading system provides some flexibility to the entities covered by the scheme as they can decide on taking action or buying EUAs depending on the EUA price. Installations that achieve reduction costs lower than the price are encouraged to take action, while emitters with high mitigation costs can buy EUAs complying with the GHG policy more cheaply. In July 2021, as part as part of the “Fit for 55” package, the Commission adopted its proposal for a regulation establishing a Carbon Border Adjustment Mechanism—a novel trade measure which seeks to address the risk of carbon leakage by imposing a levy on imports of certain GHG emissions intensive goods from outside the EU. The CBAM is due to progressively substitute to Free Allocations for the concerned products. The mechanisms should also encourage countries outside the EU to establish effective carbon pricing policies. Based on the Commission proposal, the CBAM will apply to cement, fertilisers, iron and steel, aluminium, and electricity, and is expected to enter into force as early as 2023 in a transitional form, and to fully apply from 2026.	The engagement and close consultation with G7 and G20 countries, governments outside these groups as well as business is imperative to avoid any unnecessary complexities and distortions.
2. Create a reliable, predictable overall framework	Addressing climate change requires stable and predictable policies which incentivise investment towards a low and net zero economy. The EU ETS and, more generally, all the pillars of the EU Climate Policy rely on a legal, predictable and accessible basis.	There are many uncertainties regarding the final content and the agenda of implementation of the “Fit for 55” package proposal due to the rising cost of gas and electricity for households and businesses.

ICC Carbon Pricing Principle	EU ETS application	Comments
3. Promote consistency between climate, energy, trade and taxation policy	The objective of coherence is at the origin of the genesis of the 'Fit for 55' package and the new EU Green Deal.	The CBAM initiative has been designed to avoid discrimination against third countries' producers, notably with a price alignment between ETS and CBAM certificates and the possibility to take into account carbon pricing mechanisms in the country of origin. Positive synergies and consistency between European energy, climate, trade and taxation policies are still to be determined/established in the course of the legislative process.
4. Create a clear and robust transparency framework	Despite achievements of the EU ETS, several shortcomings, which tend to weaken its effectiveness, have emerged in the implementation of the EU ETS over time. The key challenges identified that have hindered the functioning of the system, in particular in the first two phases are (i) price volatility, (ii) governance problems and (iii) monitoring problems. In 2019, the EC also implemented the Market Stability Reserve (MSR) aimed at providing price stability for installations covered under the EU ETS scheme and establishing certainty and confidence in the carbon pricing system This withholds a certain amount of auction volume based on the Total Number of Allowances in Circulation. It was introduced at first to remove an anormal surplus that accumulated in ETS in the phase 2 but it is also targeted to remove influence of other policies interacting on the ETS perimeter.	ICC Principle 4 clearly states that a complete, consistent, accurate and transparent monitoring, reporting and verification system is essential for creating trust in emissions trading and carbon pricing, from society and investors. Further assessment will be required in order to illustrate the degree of robustness of the ETS compared to another carbon pricing instrument. Setting up reliable impact assessments regarding the interactions of all the EU "Fit for 55" elements/policies is vital as well as regular and synchronised reviews of all climate and energy legislation could be a way to test the efficiency of the global package and adjust it if necessary.

ICC Carbon Pricing Principle	EU ETS application	Comments
		The European Securities and Markets Authority, the EU's securities markets regulator, published earlier this year its Final Report on the European Union Carbon Market, putting forward a number of key policy recommendations to improve market transparency and monitoring of the financial side of the EU-ETS market.[53] This especially applies to derivative products.
5. Maintain accessibility to and affordability of low-carbon and clean energy sources	In its proposal, the Commission included the creation of a Social Climate Fund, which would use 25 % of the revenues from the new ETS for road transport and buildings. This would alleviate the social impacts of passing on the carbon costs to households, micro-enterprises and transport users. Furthermore, the Commission encourages Member States to use part of the revenues for financial support to low-income households as well as climate-vulnerable countries. The Commission recently approved, under EU State aid rules, a German scheme to partially compensate energy-intensive companies for higher electricity prices resulting from indirect emission costs under the EU ETS.	Several EU members states as well as NGOs groups and other organisations have expressed concerns in recent months about negative economic and social impacts, especially in lower-income Member States, and particularly about the proposed separate emissions trading system for road transport and building that would lead to a further increase in energy prices. Addressing these concerns and a continued close engagement and dialogue with all civil society group, including business, is imperative.

53 See https://www.esma.europa.eu/sites/default/files/library/esma70-445-38_final_report_on_emission_allowances_and_associated_derivatives.pdf

ICC Carbon Pricing Principle	EU ETS application	Comments
6. Promote international linking of carbon pricing instruments	EU ETS Directive allows for linking, provided both systems are compatible, mandatory and have an absolute emission cap. Agreement between the EU and the Swiss Carbon markets was signed in 2017 and entered into force in 2020. In 2014, the EU also cooperated with China on designing and implementing China's carbon market and supporting a roll-out of seven regional pilot schemes across the country. This cooperation and sharing of knowledge led to the successful launch of China ETS in 2021. Cooperation on climate change between EU and Canada were also included in in the EU-Canada Trade Agreement (CETA). It also included further technical exchanges to understand considerations and impacts of the EU proposed CBAM. The EU CBAM proposal can be seen as the external side of the EU ETS. It takes into account the carbon pricing policies that may exist in other countries, applying an adjustment on the import side for countries that already have their own carbon pricing. The objective is that emissions are priced, preferentially in the country of origin and, if not, once they arrive in the EU. The methodology of assessing emissions is being designed in the simplest way possible, so that it can be applied by partners who have different approaches or no carbon pricing at all. Being more elaborate could be more effective on reducing emissions, but the current preference is a manageable system. Default values exist as a backup, in case there is no way of calculating the emissions embedded in an imported good.	All these efforts are critically important, and ICC also welcomes the EU and G7 countries' support for a "Climate Club". ICC strongly supports the idea of better aligning climate ambitions among G7 but encourages the G7 to closely collaborate with the countries of the G20, major emerging economies and beyond as well as the private sector on further exploration of "climate club" concept. We strongly support multilateral approaches and encourage the EU to further explore linking and cooperation opportunities, where possible, that have the potential deliver tangible progress towards a functioning cross-border carbon market. Further exploration on how the EU can use the new rules under Article 6 of the Paris Agreement to complement its own NDCs through international emissions trading would also be beneficial.

ICC Carbon Pricing Principle	EU ETS application	Comments
7. Recognise that there is no "one-size-fits-all" single instrument	The trading system provides some flexibility to the entities covered by the scheme as they can decide on taking action or buying EUAs depending on the EUA price. Installations that achieve reduction costs lower than the price are encouraged to take action, while emitters with high mitigation costs can buy EUAs complying with the GHG policy more cheaply. Some small emitters are exempt from the EU ETS. Installations are considered small emitters if they emit less than 25 ktCO2e annually and, if they are combustion installations, have a thermal rated input below 35MW. Hospitals may also opt-out if they are subject to equivalent measures.	The proposed EU Social Climate Fund of €72 billion over eight years (2025-2032) can be an important step, if designed and implemented effectively, in providing support, through direct compensation and structural adjustment assistance, to those most vulnerable to price increases or who face access challenges to alternative and renewable energy sources in rural and remote areas. However, addressing social implications and negative impacts on smaller businesses successfully requires integrated policy approaches and a full set of measures, consistent with the other ICC principle.
8. Couple carbon pricing with investment in climate change mitigation and adaptation	EU ETS directives state that at least 50% of auctioning revenues or the equivalent in financial value of these revenues should be used by Member States for climate and energy related purposes. To address any social impacts that arise from this new system, the Commission proposes to introduce the Social Climate Fund. The Fund should provide funding to Member States to support measures and investments in increased energy efficiency of buildings, decarbonisation of heating and cooling of buildings, including the integration of energy from renewable sources, and granting improved access to zero- and low-emission mobility and transport. These measures and investments need to principally benefit vulnerable households, micro-enterprises or transport users.	A continued significant government expenditure will be required alongside corporate investment to ensure that climate targets are met. While we recognise the imperative for governments to make short-term interventions to safeguard energy security and affordability, business is clear that effective climate action must be mainstreamed in the long-term economic response to both the Ukraine crisis and the lasting effects of the Covid-19 pandemic.

ICC Carbon Pricing Principle	EU ETS application	Comments
9. Ensure international cooperation for greater consistency globally	Position of the EU in various fora: OECD, G20, G7, WTO and bilateral cooperation with the US on carbon pricing (Trade and technology Council and ad hoc working group on sustainable steel and aluminum)	This commitment in favour of international cooperation is perceived as compatible with the adoption of unilateral measures but any such measure should be developed and implemented carefully.
10. Develop mechanisms through inclusive, transparent consultation with business and other key stakeholders	EU has engaged with business and other stakeholders through regular consultations, public forums, information sharing sessions on different aspects of the EU ETS and its proposed reform.	Continued consultation and dialogue with business and other stakeholders are essential as the EU ETS develops further.

C. Indonesia

1. Introduction and Factsheet

Indonesia is the world's eight-biggest GHG emitter and—with its more than 17,000 islands and most of its population living in the low-lying coastal area—the country is highly vulnerable to climate change impacts, including extreme weather events such as floods and droughts, and long-term changes from sea level rise, shifts in rainfall patterns and increasing temperature.

In 2021, Indonesia set its goal for achieving net zero emissions by 2060 and communicated its revised national climate targets or NDC, confirming its existing 2030 targets to an unconditional 29% reduction in emissions below a business-as-usual (BAU) scenario by its own efforts and a conditional 41% reduction in emissions below the same BAU, that could be achieved with the necessary help of international funding and transfer of technology.[54] To meet these goals, the country also passed a Presidential Regulation on the Economic Value of Carbon for NDC (Carbon Economic Value Bill)[55]—establishing the legal framework for domestic carbon pricing, including a carbon tax and ETS.

Indonesia has been considering carbon pricing for several years. In 2017, Indonesia adopted the "Government Regulation No. 46/2017 on Environmental Economic Instruments" providing a first basis for ETS implementation, setting a mandate for an emission and/or waste permit trading system to be implemented by 2024, within seven years from its passage. A report commissioned by the World Bank's Partnership for Market Readiness examined four market-based mechanisms that the country might choose to develop: (i) an ETS for the power and industrial sectors; (ii) an energy efficiency certificate scheme for industry; (iii) a cap-trade-and-tax system; (v)i and a carbon offset mechanism.

A voluntary and intensity-based pilot ETS programme for the power sector started between April and August 2021 and is set to continue with new phases over the coming years before transitioning to a mandatory ETS. A carbon tax was also expected to be piloted in April 2022, with the first one on coal-fired power plants as part of an updated tax framework Law No. 7/2021 "Concerning Harmonisation of Tax Regulations". However, the Government of Indonesia postponed the carbon tax implementation twice due to the emergence of global risks (i.e., the increasing of global food and energy prices). Currently, there is no definite target implementation date for the carbon tax scheme although there is expectation to have the carbon tax scheme operational by the time the G20 summit takes place in November 2022 in Indonesia. By 2025, the government plans to also establish an ETS and expand the carbon tax to other sectors.

54 See https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Indonesia%20First/Updated%20NDC%20Indonesia%202021%20%20corrected%20version.pdf and https://unfccc.int/sites/default/files/resource/Indonesia_LTS-LCCR_2021.pdf

55 See English version of "Presidential Regulation No. 98/2021 on the Instrument for the Economic Value of Carbon for Achievement of the NDC and Control of Carbon Emissions in Development" https://jdih.maritim.go.id/cfind/source/files/perpres/2021/perpres-nomor-98-tahun-2021-english-version.pdf

Factsheet	
Years of Implementation	2022-2024: expected application of carbon tax mechanism in April/July 2022 (further postponed) 2025: full implementation of carbon trading as well as the expansion of the carbon taxation to sector in stages. A voluntary and intensity-based pilot ETS programme for the power sector started in 2021 and is set to continue over the coming years.
Regulator	Indonesian government
Policy mechanism(s)	Under the 2021 Regulation, the government foresees the use of the following mechanisms: Carbon trading; economic incentives; carbon levies; and any other mechanism based on scientific and technological developments. The implementing regulations for a potential hybrid “cap-trade-and-tax” system are currently being developed and are expected to be released in the coming months. Once the mandatory ETS becomes effective, facilities that fail to meet their obligations under the system might be subject to the tax, the rate of which will be linked to the price of the domestic carbon market.
Targets	Indonesia has set an unconditional target to reduce emissions by 29% and a conditional target to reduce emissions by 41% with Business as Usual (BaU) by 2030.
GHGs covered	CO_2e; products and services: tax is payable on purchase of goods containing carbon and activities that produce GHG emissions.
Sectors covered	ETS and carbon tax initially for power generating sector and from 2025 onwards expansion to other sectors in stages, taking into account readiness of the relevant sector, economic conditions, readiness of participants, impact(s), and/or scale.
Pricing	By Law, the carbon tax rate is set to be higher than or at market price, with a minimum rate of Indonesian Rupiah (IDR) 30 (US$0.002) per kilogram of CO_2 equivalent (CO_2e), or US$2.13 per ton of CO_2e emission above the stipulated cap (cap and tax). CO_2e is a representation of greenhouse gas emissions that includes CO_2, N_2O and CH_4 compounds.
Use of offsets	TBA
Revenue allocation	Revenues from the carbon tax would be allocated for climate change mitigation activities.

2. Principles Test and Assessment: Useful Features/Best Practices

In general, as Indonesia is at the initial stage of the system, it might be too early to provide an accurate and informed assessment of what works wells and what does not. However, an initial assessment against the ICC principles is provided below.

ICC Carbon Pricing Principle	Application	Comments
1. Focus on GHG emissions reduction as prime target, including the prevention of GHG leakage	With the adopted regulations, Indonesia writes into law the imperative to take concrete climate change mitigation and adaptation action. In particular, it focuses on the notion of carbon economic value and establishes related pricing, trading and other economic concepts to incentivise market participants to reduce its carbon emissions. While myriad details to implement the ETS and carbon tax systems still need to be defined, this represents an important step and means that Indonesia is the second country in Southeast Asia (after Singapore) to regulate its carbon market. The government intends that the introduced measures will incentivise consumers to decrease their carbon footprint by switching to more sustainable practices and utilise low-emission fuels. The carbon tax may also help generate more investment in renewable energy sources, which would support the government's plan to achieve a renewable energy account of at least 23% of the country's total energy mix by 2025.	Generally speaking, the level of the tax is considered too low to be effective in reducing emissions, which is also noted in the business experience section below where businesses would rather pay the carbon tax than invest in renewable energy technologies. The law states that taxpayers who participate in emissions trading, the offset of their carbon emissions, and/or other mechanisms according to the laws and regulations can be given: • Carbon tax reductions • Other treatment(s) for the fulfilment of carbon tax obligations The current carbon policy in Indonesia focuses on the land-based carbon while the carbon stored in coastal and marine ecosystems is excluded from the system. It is recommended to take the "blue carbon" into consideration, especially Indonesia's seagrasses and mangroves conservatively account for 3.4 Pg C, roughly 17% of the world's blue carbon reservoir.[56 57]

56 https://en.tempo.co/read/1577672/carbon-pricing-regulation-in-indonesia-a-legal-analysis
57 https://www.cifor.org/knowledge/publication/5673/

ICC Carbon Pricing Principle	Application	Comments
2. Create a reliable, predictable overall framework		Furthermore, there are no indications given as to how the level of tax will be increased in the future. It would be helpful for industry to have an indication as to how taxes will increase in the future in order to make relevant investing decisions. Some reflection may also be needed to consider the overall effect and impact of the policy in achieving emissions reduction.
3. Promote consistency between climate, energy, trade and taxation policy	The Indonesia carbon tax is part of a larger emissions reduction framework alongside sectoral technical policies (i.e., phasing out coal, developments of new and renewable energy, increasing biodiversity).	There appears to be a certain level of complexity with respect to the relation between the carbon tax and trade and there is lack of clarity regarding the interaction between the two. It is also considered that the carbon pricing system lacks clarity on the roles that different stakeholders play. More precise and detailed definitions should be given related to the role of government.
4. Create a clear and robust transparency framework		It is considered that the information provided lacks precision and leaves flexibility for the government to waive carbon taxes as desired. Indonesia also needs to reconsider its monitoring and evaluation system to avoid economic risk and political unrest in response to the launch of the carbon tax.

ICC Carbon Pricing Principle	Application	Comments
5. Maintain accessibility to and affordability of low-carbon and clean energy sources		Burning one litre of gasoline produces approximately 2.3 kg of carbon, so if this is fully taxed, it would add 69 IDR plus 10% VAT to the price at the pump, i.e., 76 IDR/litre. The current gasoline price is 16,630 IDR/litre, so if passed on the price, the carbon tax would raise gasoline prices for the consumer by 0.46%. In this case, it is not expected that price effect would have a large impact on consumer behaviour
6. Promote international linking of carbon pricing instruments		It is noted that UU7 (Para 5, pg 112) includes, in the scope of purchasing, imported goods, which may indicate that Indonesia may consider introducing Carbon Border Adjustment Measures in the future. ICC reiterates the importance of considering these principles for any further considerations with respect to these measures.
8. Couple carbon pricing with investment in climate change mitigation and adaptation	The law (UU No. 7) states that revenue from the carbon tax will be allocated to climate change mitigation, although it is unclear whether there will be a difference made between mitigation and adaptation. The allocation of revenue from the tax for climate change mitigation will be regulated by and based on government regulations after being submitted by the Government to the House of Representatives to be discussed and agreed upon in the preparation of the Budget State Revenue and Expenditure Draft.	

ICC Carbon Pricing Principle	Application	Comments
9. Develop mechanisms through inclusive, transparent consultation with business and other key stakeholders		It is recognised that achieving the net zero goals will require a transformation of carbon markets in coming decades, including more interplay between compliance and voluntary markets. While the expansion of carbon taxes and ETSs is crucial, voluntary markets for carbon credits can play a complementary role in incentivising emissions reductions and removals. Well-designed voluntary markets may support mitigation in jurisdictions and sectors that do not have the readiness to implement a compliance system[58] It is noted that with respect to the Indonesia carbon tax, interaction between compliance and voluntary markets should be a design feature in order to have effective carbon pricing. It is recommended that the government builds voluntary markets within the framework, and not treat it as a subset of the compliance. Currently, there appears to be a lack of understanding or clarity from the government on this point and no discussions have been initiated to date. on how the two elements could be linked. It is noted that it would be important to have these markets connect, in order to have a more holistic, concrete and transparent approach going forward. The current lack of understanding creates challenges for the voluntary market, which makes it unworkable in practice.

58 (Institute of International Finance (2021) Getting to Net Zero: The Vital Role of Global Carbon markets. Available at: iif.com/Portals/0/Files/content/Regulatory/10_26_2021_netzero.pdf.)

ICC Carbon Pricing Principle	Application	Comments
		It is considered that aside from the carbon tax, there needs to be another angle from the market-based instruments to give signal to the market on what is the real social cost of carbon. A compliance market is useful, however if companies wish to purchase more expensive carbon credits it should be possible to do so.

D. New Zealand emissions trading scheme

1. Introduction and Factsheet

Under the 2015 Paris Agreement, New Zealand has committed to join with other countries in holding the increase in the global average temperature to 1.5°C and reaching net zero global emissions by 2050. In 2019, it set a new domestic emissions reduction target by 2050 into law with the Climate Change Response (Zero Carbon) Amendment Act40[59] and established an independent Climate Change Commission to provide advice to Government on climate change mitigation and adaptation and to monitor progress towards the new 2050 target emissions budgets as well as the implementation of a National Adaptation Plan.

During COP26 in November 2021, New Zealand announced an updated NDC under the Paris Agreement for the period 2021 to 2030, committing to reduce emissions to 50% below gross 2005 levels by 2030. The country sees effective and adequate pricing of emissions as an important tool to achieve its goals.[60] Carbon pricing is seen to help set economic incentives for a transition to a sustainable, net zero emissions economy by also mobilising the financial investments required to stimulate deployment and development of climate technologies and market innovation, and also fuelling new, low-emissions drivers of economic growth.

The government first launched an ETS in 2008 as a central policy for climate change mitigation. It has broad sectoral coverage, including forestry having emissions surrender obligations and the opportunity to earn units for emissions removals. Currently, biological emissions from agriculture have reporting obligations without surrender obligations. The Climate Change Response Act 2002 sets the legislative framework for the NZ ETS and incorporates all of New Zealand's key climate legislation under one Act. Legislation to reform the NZ ETS was introduced to Parliament in October 2019 and passed in June 2020.[61]

In October 2022, the government released a proposed plan on agricultural emissions pricing, being the first country to consider developing a system for pricing and reducing agricultural emissions. The government partnered with the agriculture sector to take action to reduce agricultural emissions and design a farm-level pricing option as an alternative to the New Zealand Emissions Trading Scheme (NZ ETS). The Partnership delivered its recommended option to the Government in May 2022, proposing a farm-level, split-gas levy to be implemented in 2025. The Government broadly supports the Partnership's recommended pricing framework but is proposing changes, to simplify the design and improve its effectiveness.

While the Government is aiming to introduce a modified version of the Partnership's split-gas, farm-level levy in 2025, this is likely to be challenging to achieve. As a contingency, an interim processor-level levy is proposed, which could be turned on if it is not feasible to make the farm-level levy operational by 2025. The Government is seeking feedback[62] on the proposed alternative system design to incorporate into the final report.

59 See https://environment.govt.nz/acts-and-regulations/acts/climate-change-response-amendment-act-2019/

60 See https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/New%20Zealand%20First/New%20Zealand%20NDC%20November%202021.pdf

61 See https://www.mpi.govt.nz/forestry/forestry-in-the-emissions-trading-scheme/updates-and-changes-to-the-ets/

62 https://environment.govt.nz/assets/publications/Pricing-agricultural-emissions-consultation-document.pdf

Factsheet	
Years of Implementation	2008
Regulator	New Zealand Government
Policy mechanism(s)	Emissions Trading System
Targets	
GHGs covered	CO_2, CH_4, N_2O, HFCs, PFCs and SF_6. However, nitrous oxide and methane emissions from agriculture are not covered by the NZ ETS emissions price.
Sectors covered	Forestry (mandatory for deforestation of pre-1990 forest land; voluntary for post-1989 afforestation); liquid fossil fuels, stationary energy; industrial processes; waste; agriculture (reporting only) The NZ ETS covers all sectors of New Zealand's economy. Different sectors participate in the NZ ETS in different ways. Under legislation passed in June 2020, agriculture will face an emission price no later than 2025, and a voluntary permanent forestry activity for post-1989 forests will be introduced in 2023. In October the government proposed a plan to price agricultural emissions with a farm-level, split-gas levy to be implemented in 2025.
Pricing	Latest update on prices (1 January 2022): a rising price corridor has been created; the price at which extra units could be released for sale from the cost containment reserve during NZ ETS auctions will increase from NZ$50 to $70 and will increase by 10% plus inflation each year. The auction price floor will increase from $20 to $30 and increase at 5% plus inflation each year. Further increase in prices may be established in 2023 or later. Modelling from the Productivity Commission found that an emissions price of $150–250 per tonne of carbon is needed to achieve net zero emissions by 2050. **Price ceiling mechanism**: participants can purchase unlimited NZUs from the government for immediate surrender (not banking or trading) at a fixed price of NZ$25 per NZU.
Use of offsets and linking	At present, no use of offsets is foreseen. The NZ ETS is not linked to systems in other jurisdictions
Revenue allocation	The government has been considering options for how to better use the revenues to also support low-income households and different climate projects. In December 2021, a Climate Emergency Response Fund (CERF), made up of NZ$4.5 billion in proceeds from the Emissions, was established to help meet New Zealand's climate objectives, including moving to a "low emissions and climate resilient economy in a way that protects vulnerable communities".

2. Principles Test and Assessment: Useful Features/Best Practices

<table>
<thead>
<tr><th>ICC Carbon Pricing Principle</th><th>Application</th><th>Comments</th></tr>
</thead>
<tbody>
<tr>
<td>1. Focus on GHG emissions reduction as prime target, including the prevention of GHG leakage</td>
<td>The Government has set domestic emissions reduction targets that align with limiting global warming to 1.5 degrees Celsius. These targets are:

net zero emissions for long-lived greenhouse gases by 2050
a 24% to 47% reduction below 2017 in biogenic methane emissions by 2050
a 10% reduction below 2017 biogenic methane emissions by 2030.

The Government has put an overall limit (cap) on the emissions that participants produce. As the NZU supply decreases over time, the demand will increase, causing the price to rise. This makes emissions-intensive technology and behaviour more expensive and encourages businesses and individuals to find ways to reduce their emissions and increase removals, such as by planting forests.</td>
<td>Inclusion of the forestry sector with emission liabilities as well as credits, an ETS world first, was intended to both discourage deforestation and incentivise afforestation.

Enabling unique emission factors offers a fair approach—and a further emission-reduction incentive—for those whose emissions may fall below the industry average.

Main drawback: the NZ ETS in its current form does not differentiate between carbon removals by forests and gross emissions reductions. If left unchanged, this will drive the relatively low short-run cost abatement option of planting pines, rather than more costly gross emissions reductions that put Aotearoa on a path to net zero that is sustainable over the long term beyond 2050.</td>
</tr>
<tr>
<td>2. Create a reliable, predictable overall framework</td>
<td>Applying a unit make-good requirement in addition to a financial penalty for failing to surrender units is intended to safeguard the environmental integrity of the system.</td>
<td></td>
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</table>

ICC Carbon Pricing Principle	Application	Comments
4. Create a clear and robust transparency framework		The separation of administrative and registry functions from policymaking functions has helped to distribute effort and decision-making authority across departments and improve transparency.
6. Maintain accessibility to and affordability of low-carbon and clean energy sources	Free allocation can help producers adjust more gradually to the cost of emission constraints while they continue to face incentives to reduce emissions.	Non-trade-exposed producers (such as electricity generators and transport fuel suppliers), which can pass on emission costs to their customers, are not eligible for free allocation.
9. Ensure international cooperation for greater consistency globally	Ongoing output-based free allocation to emissions-intensive and trade exposed industrial producers was intended to support their international competitiveness and prevent leakage of production and emissions offshore.	

E. South Africa Carbon Tax

1. Introduction and Factsheet

In 2009, South Africa made a voluntary commitment to reduce its GHG emissions by 34% in 2020 and 42% in 2025. As part of its Low Emission Development Strategy developed in 2020 and signatory to the Paris Agreement, it committed to become a net zero emissions economy by 2050[63]. South Africa presented an updated NDC in September 2021 where it expressed the intention to “peak, plateau and decline” its GHG emissions, so that its 2025-30 emissions will be in a range from 398 million to 614 million tCO2e, then decline from 2036 onwards.[64] Carbon tax, along with recycling of the revenues raised, has been recognised as a key policy instrument to support the achievement of the country’s mitigation goals.

The key objectives of the mechanism are to reduce greenhouse gas emissions, apply the “polluters-pay-principle”, encourage low carbon ecosystems for businesses and communities as well as provide opportunities for state revenues and overcoming financing gaps, while driving sustainable growth.

In 2019, South Africa passed a Carbon Tax Act[65] and started pricing GHG emissions in all sectors other than waste and Agriculture, Forestry and Other Land Use (AFOLU) - making it the first African county to introduce a carbon pricing scheme.

Factsheet	
Years of Implementation	Phase 1: 1 June 2019-31 December 2025 Phase 2: 2026
Regulator	South African government
Policy mechanism(s)	Levy scheme—carbon tax

63 See South Africa’s Low Emission Development Strategy 23 September 2020
64 See https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/South%20Africa%20First/South%20Africa%20updated%20first%20NDC%20September%202021.pdf
65 See https://www.gov.za/documents/carbon-tax-act-15-2019-english-afrikaans-23-may-2019-0000

Factsheet	
Targets	Reduce GHG emissions by 34% in 2020, 42% in 2025 and net zero emissions economy by 2050. South Africa's NDC aims to "peak, plateau and decline" its GHG emissions, so that its, so that its 2025-30 emissions will be in a range from 398 million to 614 million tCO2e, then decline from 2036 onwards.
GHGs covered	CO2, CH4, N2O, PFCs, HFCs, and SF6
Sectors covered	The carbon tax has a broad coverage based on the IPCC sources and categories (2006) and applies to sources including: • Fossil fuel combustion and electricity generation, • Fugitive emissions such as methane emissions from mining, • ndustrial processes: cement, iron, steel, glass, ceramics. • Scope 1, stationary emissions • Scope 1, non-stationary emissions from road transport
Pricing	The price started Phase 1 (1 June 2019 to 31 December 2025) at ZAR120/tCO_2e and is gradually increasing each year. In 2021, the carbon tax rate was R134/tCO2e (US$7/tCO2e) and in 2022, the levy is set at ZAR144/tCO_2e (US$8.5/tCO2e). Effective tax rate of about US$3/tCO2e
Use of offsets and linking	Companies that are liable to pay the carbon tax may offset 5% or 10% of their taxable emissions using carbon credits issued by the Clean Development Mechanism, the Verified Carbon Standard and the Gold Standard. Certain eligibility requirements apply, and only offsets originating in South Africa and from projects that don't receive benefits from other government incentives (such as the Renewable Energy Independent Power Producer Procurement Programme or the energy efficiency tax incentive) are eligible.
Revenue allocation	The carbon tax is revenue-neutral during the first phase. Revenue recycling measures complement the carbon tax regime to: • Address concerns about the impacts of the carbon tax on the competitiveness of firms operating in international markets (e.g., via tax reductions, tax incentives) • Help address any potential negative impacts on the welfare of poorer households (in particular for energy and transport).

2. Principles Test and Assessment: Useful Features/Best Practices

ICC Carbon Pricing Principle	Application	Comments
1. Focus on GHG emissions reduction as prime target, including the prevention of GHG leakage	South Africa expressed a voluntary commitment to reduce its GHG emissions by 34% in 2020 and 42% in 2025, and recognises carbon taxation as a key policy instrument to support the achievement of its mitigation goals.	The carbon tax aims to provide a price signal to producers and consumers of carbon intensive products, creating an incentive to reduce emissions and invest in low and net zero emissions technologies. The carbon tax rate is relatively modest ranging from R6 to R48 per tonne of CO2 equivalent emitted, which could be considered as being less effective in reducing emissions. The low tax rate is intended to further provide current significant emitters time to transition their operations to cleaner technologies through investments in energy efficiency, renewables and other low carbon measures. The primary reason for the introduction of a carbon tax appears to be to close budget holes. This is evident from the way it is designed, which is not geared to change behaviour. There was, however, an environmental tax. Discussions with the private sector indicate that the system is considered to be quite complex and results in a relatively low-level tax on all emissions. South Africa settled on a tax with a headline tax rate that would then be discounted with a 60% tax free threshold. Depending on the sector other discounts could be afforded, such as a percentage discount for reduced emissions against a particular benchmark, which essentially results in tax payments on a small percentage.

ICC Carbon Pricing Principle	Application	Comments
		More generally speaking, carbon pricing systems are effective in reducing emissions, but that has not necessarily been the case in South Africa. To date, the country's revised NDC targets are still insufficient to limit global warming to 2°C, not to mention the Paris Climate Agreement target of 1.5°C. There is still room for improvement given the current context and level of effectiveness with the carbon tax system in South Africa. It would be useful to have a system that puts a price on carbon, as opposed to a system that provides a minimum that can be emitted. The national treasury determined that a carbon tax would be preferable to an ETS system because the structure would be too large and could have monopolised the market. It is believed however that it may have been useful to open the market to explore other alternatives, particularly in view of the fact that the South African economy is heavily based on coal. In this case an open trade system may have been a better option.
2. Create a reliable, predictable overall framework		As the SA carbon tax system cuts across a number of different sectors (e.g., mining, gas, combustion, etc) there are difficulties presented with respect to benchmarking as some industries have very unique operations and sizes. It is therefore noted that there could be room for improvement in this regard.

ICC Carbon Pricing Principle	Application	Comments
3. Promote consistency between climate, energy, trade and taxation policy	After a period of 12 years, both the National Treasury and the Ministry of Environment came together to align the instruments and the carbon tax system released in 2019, was a result of these efforts.	It would appear that there was a lack of alignment between the objectives of the National Treasury and the Ministry of Environment, for a carbon tax. The differing mandates/objectives between the two has created challenges in terms of design, implementation and effectiveness. The objectives for National Treasury are related to finance/revenues. The Ministry of Environment seeks to achieve climate-related objectives and put forward a "carbon budgeting" approach, which provides a minimum that can be emitted, that can be reduced over time. The two big emitters are Sasol and Eskom. Shortly thereafter, the National treasury indicated that they wanted a carbon tax. The carbon budgeting system could migrate into an ETS, however National Treasury determined that they did not prefer that option. While there is movement and potential for change in the country, the challenge is that efforts are not streamlined and there is no common vision. For example, South Africa has a large potential for green hydrogen, however other countries with enabling policies to have allowed them to move faster.

ICC Carbon Pricing Principle	Application	Comments
5. Maintain accessibility to and affordability of low-carbon and clean energy sources	The carbon tax on electricity will be revenue neutral in the first phase and have no impact on the price of electricity.	Just transition is also important in South Africa, as many communities will be impacted. The COVID pandemic has had reverberating consequences in the country, with many people losing their jobs, which has exacerbated challenges for businesses. Additional tax obligations in the current context can hamper broader political climate objectives for the country, particularly as businesses are not in a position to mitigate, as well as issues related to the complexity of special permissions and licenses.
8. Couple carbon pricing with investment in climate change mitigation and adaptation	The South Africa carbon tax targets primarily the large emitters, to encourage behavioural change while allowing them time to transition to cleaner technologies by introducing a low carbon tax rate in the first phase.	The risk in some instances, however, has resulted in some companies shutting down as opposed to mitigating. It is of the view that mitigation is not developed enough in the country to deal with such a high tax. Furthermore, there is also very little recycling/ reinvestment of revenues for climate objectives. Carbon pricing needs to be effective, efficient and have mitigation at its core. One of the primary objectives at the core of a carbon tax has to be mitigation, in the context of the Paris Agreement goals, as well as maintaining competitiveness.

ICC Carbon Pricing Principle	Application	Comments
9. Ensure international cooperation for greater consistency globally		While providing a price signal to incentivise the transition to a low-carbon economy, the proposed policy is also intended to reduce the risk of negative competitiveness implications and leakage through special provisions for sectors considered to be at risk. It further aims to pre-empt any possible impacts on trade with countries that may implement Border Carbon Adjustments.
10. Develop mechanisms through inclusive, transparent consultation with business and other key stakeholders	In the South Africa case, the methodology for determining the sector-based trade exposure allowance was elaborated in close collaboration with the private sector. It has been adjusted from a company to a sector-based trade exposure allowance and will also include imports in the revised formula.	However, it is noted more generally that a carbon tax should be designed and set in a way that ensures broader corporate support and/or collaboration with business stakeholders in the process.

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