Transition Risk Brief

Carbon Pricing Mechanisms

BEVERAGE INDUSTRY ENVIRONMENTAL ROUNDTABLE

What Are Carbon Pricing Mechanisms? These are policy approaches to incentivize carbon reductions and penalize carbon emitters through monetary mechanisms. They are emerging into a popular policy approach for countries pursuing decarbonization and aggressive climate change goals (e.g. Net Zero Targets). Carbon pricing refers to initiatives that put an explicit price on greenhouse gas (GHG) emissions expressed in a monetary unit per tCO2e. This includes carbon taxes, emissions trading systems, offset mechanisms, and results-based climate finance (RBCF). Of these carbon pricing mechanisms, the most commonly used are Carbon Taxes and Cap and Trade Programs.

Carbon Taxes – taxes or fines levied on industries that emit carbon or GHG emissions as part of their operations or their products or through their use of electricity and other sources of energy. Some energy sources are more carbon intensive than others. Currently, these taxes are targeting oil and gas, fuels, electricity generation, transportation industries and heavy industrial emitters.

Did You Know…

It is estimated that **US $44 billion dollars** was raised in carbon pricing revenues in 2018.

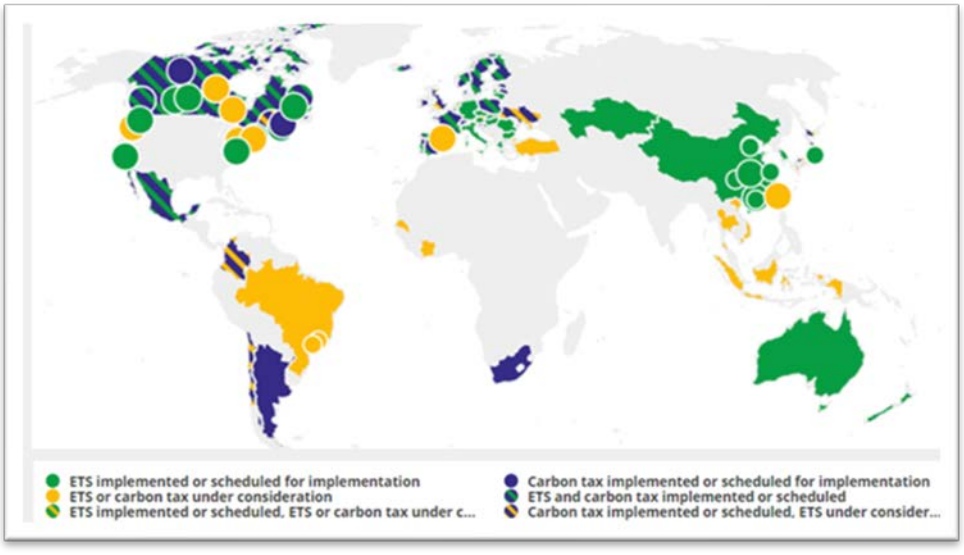
(Source: World Bank)

In 2017 almost **1,400 companies** were factoring an **internal carbon price** into their business plans, representing an **eight-fold leap over four years**.

(Source: CDP)

Cap and Trade Programs – emissions trading systems (ETS) where there is an allowance or permitted amount of carbon or GHG emissions allowed under regulation and then a trading platform to support the buying or selling of allocations. The entities that can reduce their carbon emissions through energy efficiency or specific carbon reduction programs would generate credits that they could sell into a market where other entities can buy to meet their regulated requirements. These programs are designed to incentivize organizations that can reduce their emissions to do so and those that cannot to buy in the marketplace. Over time, the number of allowances decrease, and this drives the price of the allowances up within the market which further encourages accelerated decarbonization by participating organizations.

What Regions Have Carbon Pricing Mechanisms? The following map[1] provides a global perspective on regional, national, and subnational carbon pricing mechanisms:



As of July 2020, the World Bank Carbon Pricing Dashboard had tracked the following:

61 carbon pricing initiatives implemented globally

12 GtCO2e covered by these mechanisms

22.3% of global GHG emissions within the scope of these mechanisms

What Are Some Leading Resources for Evaluating Carbon Pricing?

World Bank Carbon Pricing Dashboard – provides a portal of up-to-date information on regional, national and subnational carbon pricing initiatives as well as baseline information and resource links.

State and Trends of Carbon Pricing 2019 – an annual report produced by the World Bank Group providing an up-to-date overview of existing and emerging carbon pricing instruments around the world, including international, national and subnational initiatives.

Carbon Pricing Leadership Coalition – a voluntary initiative that catalyzes action towards the successful implementation of carbon pricing around the world by government, business, civil society and academia.

Carbon Pricing Corridors – an initiative launched in 2017 by CDP and the We Mean Business Coalition with the aim of enabling large market players to define the carbon prices needed for industry to meet the Paris Agreement.

Carbon Pricing Connect – a data visualization tool featuring CDP's extensive data on internal carbon pricing with respect to global regulation.

Using Carbon Revenues – a report providing practical guidance on using carbon revenues by helping policymakers understand the implications, opportunities, and challenges associated with different approaches to carbon revenue use.

What is an Internal Price on Carbon? An internal price on carbon refers to the practice of organizations assigning a monetary value to GHG emissions in their internal policy analyses and decision making. This practice is voluntary by the private sector and utilized to internalize existing or scheduled carbon pricing mechanisms within relevant geographies and risk exposure to emissions regulations. Establishing an internal price on carbon is also used by companies to accelerate research and development and investments towards a low carbon economy future. According to the Center for Climate and Energy Solutions[2], companies typically use three approaches:

Carbon Fee – a monetary value attached to each metric ton of emissions charged to business units for their emissions. This fee creates a dedicated revenue or investment stream that can fund projects to help meet a company's GHG reduction targets. The key benefit is that this approach sends a direct price signal to business units to justify investments in low-carbon options and raises awareness that carbon reductions are valuable to the business.

Shadow Price – a theoretical internal cost of carbon applied in project planning processes to test the feasibility of capital expenditures and R&D investment decisions. Commonly used in screening potential business risks of future carbon regulations and build a more informed business case for low-carbon investment options. As shadow prices are theoretical and commonly implemented as part of a risk strategy, it is lower effort to implement but also less embedded into the organization from a "change the culture" perspective.

Implicit Carbon Price – the value of past measures and initiatives implemented to reduce a company's GHG emissions and/or comply with climate policies and regulations through identifying marginal abatement costs. For example, a company could evaluate the costs of buying or generating renewable energy divided by the emissions saved to calculate an implicit carbon price. This approach can help an organization benchmark a potential internal price, but it is backward looking at previous investments versus trying to predict the business implications of a low-carbon future.

What Are Other Trends Related to Carbon Pricing? There is also momentum building around ambitious carbon and climate change commitments which will result in additional or more stringent voluntary expectations and mandatory requirements. According to the SDG Knowledge hub[3], 73 countries, 14 regions, 398 cities, 873 companies, and 16 investors are working to achieve net-zero CO2 emissions by 2050. The combination of carbon pricing and ambitious targets will undoubtably apply additional expectations and mandates for corporate and facility-level transparency on Scope 1, 2, and 3 GHG emissions. Over 30 countries have mandatory requirements in place for companies to report their emissions annually, while over 8,400 large companies voluntarily report detailed information on their environmental performance to CDP. National, regional, and

local targets, combined with enhanced transparency, will also drive changes to society and the purchasing decisions made by consumers. The beverage industry has been a leader within GHG accounting, sector standardization, and reduction. BIER published Version 4.1 of the Beverage Industry Greenhouse Gas (GHG) Emissions Sector Guidance (4.0) in July 2019 and is continuing to develop a Carbon and Climate Scenario Toolkit to support the industry and other sectors.

How Can Carbon Pricing Mechanisms Impact the Beverage Industry? Carbon pricing mechanisms can affect businesses across the value chain. The following are common business considerations:

Upstream / Sourcing 	☐ Is there a carbon pricing mechanism implemented within key geographies where raw materials (e.g. agricultural materials, packaging, ingredients, sweeteners) are sourced from? (Note: In some jurisdictions, heavy industrial emitters like glass manufacturers, lime processing and CO2 production are identified as covered entities) ☐ If so, which suppliers or raw materials are subjected to the mechanism and could this have cost impacts on the business? (Note: most mechanisms are targeted at heavy emitters of carbon emissions and have a threshold for metric tons of CO2e) ☐ Do any of your key suppliers use an internal price on carbon? ☐ Could carbon pricing mechanisms result in higher prices for purchased electricity or fuels as these are commonly regulated sectors in most carbon tax and ETS systems?
Beverage Manufacturing 	☐ Is there a carbon pricing mechanism implemented within your facility's geography? ☐ If so, is your facility subjected to the mechanism? (Note: most mechanisms are targeted at heavy emitters of carbon emissions and have a threshold for metric tons of CO2e) ☐ What is the business impact for an actual or potential external carbon price based upon your facility's Scope 1 and 2 GHG emissions? Is emission reporting mandated for your facility? ☐ Have you considered using an internal price on carbon as part of evaluating and justifying energy efficiency and/or GHG emission reduction projects?
Downstream / Market 	☐ What are or could be the impacts of carbon pricing mechanisms on the costs for transporting goods to market (e.g. increased costs for fuel, vehicles, shipping)? ☐ How will different types of transportation be subjected to carbon pricing mechanisms within your geographies including aviation, maritime, truck, and rail? ☐ Are any key customers using an internal price on carbon and/or related incentives to promote GHG reductions across their value chains?

What Are the Potential Financial Impacts from Carbon Pricing Mechanisms? The following provides guidance on considering the potential financial impacts associated with carbon pricing mechanisms, mandatory GHG emissions reporting, and related issues. It is important to point out that while negative impacts are summarized in this section, proper GHG account, management, and reduction can create positive impacts, cost avoidance, and competitive advantages.

Financial Category	Description	Potential Business Impacts
Revenue and Sales	Income from normal business activities, usually from the sale of goods and services	▪ Loss of revenue from carbon taxes or fees placed on products ▪ Loss of sales due to consumer perceptions about the facility, company, and/or brand emission impacts
Expenditures: OpEx	Ongoing operating expenditures to run a facility	▪ Higher expenses for GHG data collection, reporting, and ongoing emission reductions
Procurement Costs	Volatility in cost and/or availability of raw materials	▪ Increased costs due to carbon taxes or fees placed on raw materials and distribution
Assets: CapEx	Capital expenditures where the benefit continues over a long period; non-recurring nature; results in acquisition of permanent assets	▪ Higher capital expenditures for technologies to reduce or eliminate GHG emissions

Assets: Tangible	Changes in the value of tangible assets (land, equipment, facilities, reserves, cash, etc.)	Not material for carbon pricing-related risks
Assets: Intangible	Changes in the value of intangible assets (brand, copyrights, goodwill)	▪ Loss of value due to brand and reputation impacts associated with GHG emissions management
Liabilities and Financing	Changes in current liabilities, long-term debt liabilities, and equity capital	▪ Increased exposure to divestment risk if perceived to be GHG emission intensive and not continuously improving ▪ Loss of stock price due to brand and reputation impacts associated with GHG emissions management

What is BIER? The Beverage Industry Environmental Roundtable (BIER) is a technical coalition of leading global beverage companies working together to advance environmental sustainability within the beverage sector and beyond. Formed in 2006, BIER aims to accelerate sector change and create meaningful impact on environmental sustainability matters. Through development and sharing of industry-specific analytical methods, best practice sharing, and direct stakeholder engagement, BIER accelerates the process of analysis to sustainable solution development. For more information, please visit: www.bieroundtable.com.

BIER is facilitated by Antea Group (https://us.anteagroup.com)

References

[1] https://carbonpricingdashboard.worldbank.org/map_data/

[2] https://www.c2es.org/site/assets/uploads/2017/09/business-pricing-carbon.pdf

[3] https://sdg.iisd.org/