



# CARBON PRICING LEADERSHIP REPORT 2021/22



CARBON PRICING  
LEADERSHIP COALITION

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# About this report

*The Carbon Pricing Leadership Coalition is a voluntary initiative that brings together leaders from government, business, civil society, and academia to enhance global understanding of carbon pricing as a tool for accelerating and financing effective climate action.*

This annual Carbon Pricing Leadership Report complements the Carbon Pricing Leadership Coalition's advocacy and networking activities by elevating the thinking of leaders in the mitigation arena and sharing how partners across all sectors are putting a price on carbon and engaging in carbon markets to reduce their emissions.

With less than a decade to go before the Paris Agreement's 2030 deadline, collaboration and knowledge-sharing is more important now than ever before. We hope this report will inspire decision-makers from all sectors to commit to ambitious climate action through carbon pricing in the years to come.

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# Foreword



Mari Pangestu  
Managing Director of Development Policy  
and Partnerships, World Bank

*The past two years of the global pandemic profoundly impacted our societies and economies. The COVID crisis heightened the need for multi-lateralism to tackle global challenges.*

Even as the worst of the pandemic starts to recede, the war in Ukraine threatens to impact global development outcomes. At the same time, climate impacts continue to mount. The findings of the latest Intergovernmental Panel on Climate Change (IPCC) reports provide a stark warning: we must decarbonize our economies at an accelerated pace and scale and reach net zero emissions by 2050 to avoid fundamentally altering our planet's climate and its irreversible impacts on development. We must take bold and swift action and we must do so now to ensure that we can realize green, resilient, and inclusive development.

The good news is that we already have many of the tools to facilitate a transformative shift towards a net-zero future—pricing carbon chief among them. And while coverage and price levels are still too low—less than 4 percent of global emissions are currently covered by a carbon price within the range needed by 2030 to meet the Paris Agreement temperature goals—there are clear, positive signs. Emissions trading systems (ETSs)

were largely resilient to reduced economic activity as a result of COVID-19. Several countries increased their carbon tax rates and adopted more ambitious trajectories, and pilot ETSs are being considered in a number of countries, including national and regional programs.

After six years of negotiations, COP26 in Glasgow finalized the long-awaited Article 6 of the Paris Agreement rulebook for international cooperation through carbon markets. It gives countries the tools they need for environmental integrity to avoid double counting and paves the way to get private capital flowing to developing countries. The finalization of the rulebook acts as a primer for carbon markets. It holds a promise of decisive action as more companies and governments ambitiously explore putting a price on carbon through the market to incentivize climate action and achieve their long-term target of net-zero emissions by mid-century.

The World Bank Group is uniquely poised to support clients to prepare, plan, build capacity, and implement carbon pricing policies and reach their net-zero goals. Last year, we operationalized the Partnership for Market Implementation, a 10-year program that will build on our earlier efforts to ready countries for carbon pricing. We also published our Climate Change Action Plan (CCAP) 2021–2025, which includes carbon pricing as an integral tool to scale up transformational climate solutions.

The Carbon Pricing Leadership Coalition (CPLC) is the main vehicle for countries, private sector, and stakeholders to collectively share their best practices on carbon pricing policies, disseminate essential research, amplify leadership, and inspire others to follow suit. The CPLC has set the standard for conversations on carbon pricing—from its Task Force on Net Zero Goals and Carbon

Pricing, which analyzed the effective range of these policies, to its most recent Net Zero Goals and Carbon Pricing Report, which laid out how to harness the potential of carbon pricing in implementing strategies to get to net-zero emissions by mid-century. I have personally enjoyed being part of many of these conversations because they highlight not only leadership but also what goes wrong and how to learn from that.

As ministries of finance, planning, and trade as well as companies and industries start to calibrate policies for carbon markets, the CPLC will continue to engage partners and support countries to plan, prepare, and scale up these approaches. I hope they will find the insights in this sixth leadership report from CPLC valuable—ranging from developments in the carbon markets to promising policies, tools, and technologies. ●

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*“As ministries of finance, planning, and trade as well as companies and industries start to calibrate policies for carbon markets, the CPLC will continue to engage partners and support countries to plan, prepare, and scale up these approaches.”*

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# Carbon pricing: a global opportunity



Justin Trudeau  
Prime Minister of Canada

*I spent the first six years of my mandate as Prime Minister fighting for a price on pollution in Canada. And I did it because I know how much pollution pricing matters.*

*Our world is facing a climate crisis. And commitments alone are not enough. They must be backed up by strong policies and actions that deliver real results.*

Putting a price on carbon pollution is widely recognized as the most cost effective policy to cut emissions. And if there were any doubt about this, Canada is the proof. Canada has had carbon pricing in place in every jurisdiction since 2019. Since then, we've seen first-hand how this policy has helped cut emissions while putting money back in people's pockets and spurring innovation.

We have set our carbon price trajectory all the way to 2030 to provide certainty for households and businesses. Our approach to pricing is flexible, adaptable, and focused on principles of equity. We use revenues to directly support households in a way that benefits low-income and vulnerable communities the most. We have different pricing systems in different parts of the country that are tailored to local economies. We have designed our systems to decarbonize industries while also supporting their competitiveness and limiting the risk of carbon leakage.

Pollution pricing is doable, it works, and it's worth fighting for—not just in Canada but around the world. After all, climate action isn't something any one country can do alone. That's why at COP26, I challenged countries to adopt or expand carbon pricing, with a goal of tripling global coverage from around 20 percent of global greenhouse gas (GHG) emissions today to 60 percent by 2030. In the months since, I have been heartened to hear support for this goal from leaders around the world.

Countries are working together to align policies and coordinate efforts, through organizations like the G7 Climate Change Mitigation Working Group, the International Monetary Fund, the Organisation for Economic Co-operation and Development (OECD), and the Carbon Pricing Leadership Coalition. Through initiatives like the World Bank's Partnership for Market Implementation, countries are sharing best practices and supporting emerging systems. The momentum is there. So let's keep going.

I am calling on governments and businesses to make new carbon pricing commitments. For those already pricing pollution, it could be a commitment to higher prices, expanded coverage, or technical support for emerging systems. In Canada, our price on carbon pollution will rise to \$170 per tonne by 2030. For those not yet pricing pollution, it could be a pledge to put a system in place. Canada will be ready with a new commitment of our own to help guarantee the future price of carbon pollution, so that businesses can plan investments knowing that the price will increase as planned.

I spent the first six years of my time as Prime Minister working for pollution pricing at home. I'm ready to spend the years ahead bringing this work to the world stage. Climate change is a daunting challenge that can only be met by fully deploying our best, most economically efficient tools. And that means backing a global effort to ensure it is no longer free to pollute anywhere. ●

# Carbon pricing still an important mitigation tool as time runs out



Juan Carlos Jobet  
Former CPLC co-chair

*Severe climate change impacts are already happening, according to the latest IPCC report on vulnerability and adaptation. The report is a dreadful warning about the consequences of inaction. It shows that climate change is a severe and escalating threat to our well-being and that of future generations. It also shows that our actions today will shape how people adapt to climate change and how nature responds to increasing climate risks. But, most significantly, it underscores the urgency of immediate and more ambitious action to address climate risks.*

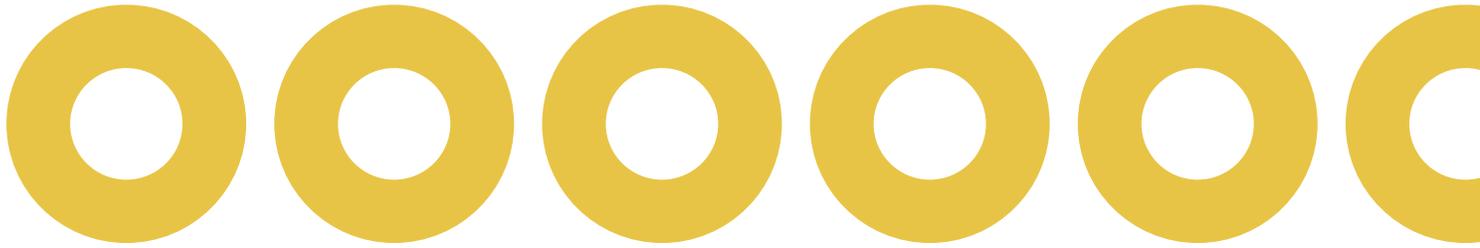
This is precisely where a price on carbon can play a fundamental role, in other words, by accelerating the implementation of technologies and measures that, in combination, can drastically reduce greenhouse gas emissions and minimize the impacts of climate change, especially on the most vulnerable populations and those with the least resources to adapt. We need to be careful not to be seen as using carbon pricing to set a barrier to developing countries, but to make the case for why it can help.

Carbon pricing is being implemented in several countries and jurisdictions. It is working and is reducing emissions, but it needs to become more effective, to reach more countries, and to be sufficiently ambitious to meet the 2°C goal. We need to increase price levels. It is the best way to level the playing field for clean energy, to incentivize innovation, and to generate revenues to help the poor to navigate the climate transition.

When designing and adapting a carbon pricing instrument to the jurisdictional context, it is important to keep in mind the political economy as it is hard to pass the legislation that is

required without considering the broader socioeconomic context. Because carbon pricing can be complex, we need to explain it in simple terms to help our societies understand why we are doing this. At the same time, we need to acknowledge that carbon pricing is not a stand-alone policy that will resolve every piece of the climate change puzzle. It needs to be part of a broader climate change policy package.

With this in mind, Chile designed its carbon tax in line with other public policy instruments, while having a feature that makes it unique in the world: a “downstream” tax on carbon dioxide emissions and local pollutants, which has generated technical capacity and infrastructure to measure, report, and verify emissions. This will be very useful when it comes to implementing more cost-effective instruments, if it is decided to move forward in this direction. However, the rate of our tax is undoubtedly low. We are aware that it should be at least \$35 per ton by 2030, and should increase much more after that if we are to reach our carbon neutrality goal by mid-century.



To accelerate the greening of our economy, which includes a growing green hydrogen market and the electrification of our industry, we need to increase our carbon price. But how should we get to this point? For instance, we could increase the competitiveness of renewable energies compared with fossil fuels by making the price of the latter truly reflect the negative impacts of their use. To this end, Chile's Ministry of Energy has developed a Strategy of Economic Instruments for the Energy Transition, which contains proposals to balance the tax burden between fossil fuels, modify the carbon tax, and introduce new instruments such as cap-and-trade and market engagement in terms of Article 6. This strategy becomes even more relevant in the context of Chile's recently approved Climate Change Law, which promotes the implementation of economic instruments for ministries to comply with the committed goals, among others.

At the national level, the work ahead is to implement this strategy and to raise awareness of the importance of an increasing

carbon price trajectory as part of a broader package of policies to address climate change. At the global level, the significance of cooperation between parties must be recognized, Article 6 of the Paris Agreement must be fully implemented, and more and more countries must apply a carbon price. Here, the role played by carbon pricing advocates will continue to be fundamental. As such, CPLC should continue to play a key role in advocating for a global carbon price, now shaped by the challenge of offsetting emissions while increasing ambition over time. It should work even more closely with all its partners to push for harmonized efforts across the world to expedite climate action that is ambitious and undertaken with integrity.

The coming decade will be key in the fight against climate change. Time is running out! ●

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*“CPLC should continue to play a key role in advocating for a global carbon price, now shaped by the challenge of offsetting emissions while increasing ambition over time.”*

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# Mobilizing engagement in carbon pricing through globally accessible carbon markets



Mahendra Singhi  
Managing Director and CEO  
of Dalmia Cement

*The IPCC's special report, Global Warming of 1.5°C, provided businesses and governments with a clear ultimatum: either accelerate scalable transformations for keeping the world within a temperature increase of 1.5°C above preindustrial levels, or fail people and the planet. Now is the time to bring people together to discuss and share information on carbon pricing with economies of developing countries.*

The climate crisis is a reminder that the world cannot afford to continue with a business-as-usual approach. There is an urgent need to build resilience against all the interconnected crises our planet faces, the biggest of all being the climate emergency. Appropriate carbon pricing mechanisms can enhance the efficiency of the global system as well as national economies, if implemented justly and equitably. Well-designed and predictable carbon pricing reforms are in the best interests of developing and emerging countries. They can promote the adoption of clean technologies and, ultimately, bring about a sustainable economic transition.

Global carbon markets are on track to become excellent tools to achieve deep decarbonization at the lowest possible cost. The right accounting mechanisms are crucial for assessing real, measurable, and long-term reductions, and for improving developing countries' ability to benefit from the decarbonizing global economy. Selling emissions reductions on global carbon markets is an attractive option for developing countries whose

basic energy infrastructure is still being developed. These global carbon markets should make carbon trading available to all, at transaction costs that are as low as possible to encourage individual access to carbon markets.

An integrated global carbon market not only levels the playing field among competitors but also among all economic players. It therefore promotes an equitable transition. The revenues accrued from decarbonization credits can be used to fund the development and rollout of ambitious, scalable green technologies in developing countries, while funding social protections for those populations most affected by the decarbonization transition.

Global carbon markets can help countries and businesses achieve net-zero goals and limit the negative effects of climate change. During the past few years, industry has demonstrated an admirable commitment to becoming net zero. Businesses are delivering on their responsibility to keep the world in a safe

operating space by creating green jobs, driving sustainable growth, and building climate resilience in society. Corporate action on the circular economy, resources and energy efficiency, and renewable energy deployment has been on the rise. Even businesses in developing countries are making ambitious net-zero carbon commitments.

Despite these achievements, carbon pricing is a complicated subject, requiring executives, boards, and policymakers to display a deep understanding of the tools and policies required to reap the emission-reduction benefits of this approach. The CPLC's efforts to facilitate sharing of information and best practices across sectors and borders plays an important role in the success of this climate tool.

Businesses in developing countries often face obstacles to corporate climate action. These include unstable policy landscapes, lack of demand for low-carbon products and

services, and lack of green grants of project-based risk finance. Moreover, emissions-reducing technologies such as green hydrogen and carbon capture are still at the start of their journey. Global, regional, and local partnerships could help share the responsibility of overcoming these obstacles.

Even though many large companies have taken steps to reduce their emissions, we have yet to bring small and medium-sized enterprises (SME) on board. There is a shared responsibility to help these companies align their decision-making approaches, governance structures, and strategies with the best available climate science. In the 2000s, the Clean Development Mechanism played an important role in enlisting SMEs in climate action. Similarly, Article 6 of the Paris Agreement offers the world a useful great for developing global carbon pricing access through carbon markets for a just, equitable, real, and measurable net-zero economy transition. ●



**Gérard Mestrallet**  
Executive Chairman of Afalula  
and former CPLC High-Level  
Assembly co-chair

*“Carbon pricing is the most efficient tool to accelerate the transition toward to a low-carbon society. A broader coverage of carbon pricing systems should stimulate the global transition, provided the current gap between high ETS carbon prices in Europe and carbon prices in other markets does not increase beyond present levels. In addition, the current high oil and gas prices on international and domestic markets—in spite of their negative impact on consumers—represents an opportunity to introduce or maintain significant carbon prices when the supply/demand balance recovers a more standardized level.”*

# Report of the Task Force on Net Zero Goals and Carbon Pricing

*The CPLC Task Force on Net Zero Goals and Carbon Pricing published its findings in September 2021. The report contributes to a deeper, common understanding of what “net zero” means, how it can be achieved, and the role carbon pricing mechanisms can play in achieving it. Here are the key findings from the report.*

The Task Force on Net Zero Goals and Carbon Pricing was launched in November 2020 under the leadership of co-chairs Helen Mountford, President and CEO of ClimateWorks Foundation and a former CPLC Steering Committee co-chair, and Mauricio Cárdenas, an academic with the Center on Global Energy Policy at Columbia University. The goal: to better understand what “net zero” means for different

countries and contexts, and how carbon pricing can contribute to achieving this goal over the next 10 to 15 years.

The task force focused on understanding how national governments and the private sector, including finance, interpreted this goal in their commitments and activities within a greater context of increasing global climate change ambition.



*“A welcome wave of countries, companies, cities, and finance institutions came forward with net zero climate commitments in 2021. This report is critical in helping identify the conditions to ensure the commitments are scientifically robust, and benefit people and communities.”*

Helen Mountford  
President and CEO of ClimateWorks Foundation

*“Carbon pricing may not be a silver bullet, but it would certainly help transform climate pledges into real reductions in carbon emissions. Furthermore, corporations should adopt their own internal carbon prices when governments fail to act.”*

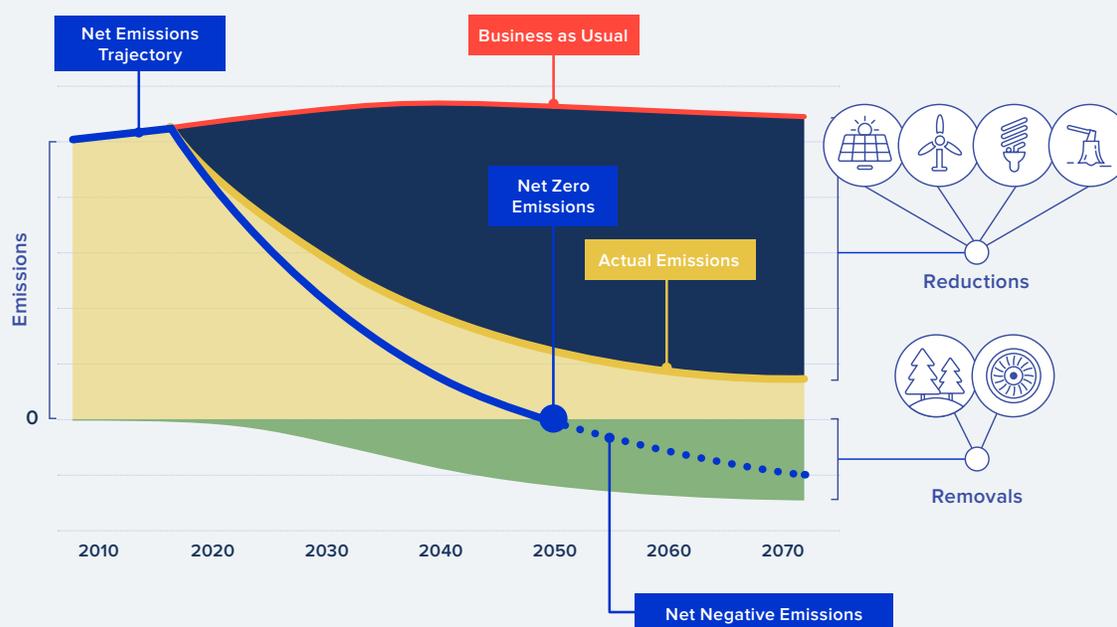
Mauricio Cárdenas  
Columbia University



**Key message 1**  
Net zero involves first cutting emissions to a minimum, then seeking (permanent) removals

Net zero is the point where human-caused greenhouse gas (GHG) emissions are reduced to the absolute minimum levels feasible, and “residual emissions” are balanced by an equivalent quantity of human-caused removals (see Figure 1).

GLOBAL TRANSITION TO NET ZERO AND THE ROLE OF REMOVALS



**FIGURE 1: GLOBAL TRANSITION TO NET ZERO AND THE ROLE OF REMOVALS.**

Source: Report of the Task Force on Net Zero Goals and Carbon Pricing, 2021

**Key message 2**  
The world is not on track to achieve net zero by 2050

Despite a ramp-up in both government and corporate commitments in recent years, the world is not on track for net zero by 2050. Current carbon prices are too low to drive sufficient progress: less than 4 percent of global GHG emissions are covered by a carbon price in the range needed to meet the 2°C goal of the Paris Agreement, or \$40 to \$80 per ton of CO<sub>2</sub>. The scale and urgency of emission reductions needed by both countries and the private sector mean that we can no longer take action in a piecemeal fashion or only where emissions reductions are low-cost. Instead, we must reduce all emissions comprehensively and as quickly and efficiently as possible.

**Key message 3**  
Carbon pricing is an important mitigation tool, but it isn't a silver bullet

Carbon pricing, including international cooperation through carbon markets, should be included in the arsenal of measures to enable the achievement to net zero targets. Carbon prices should be high enough to provide effective signals to society, and to drive levels of investment and technological change necessary to reach net zero. They should act in conjunction with complementary policy actions to make carbon pricing relevant across company value chains. This can be achieved by expanding pricing mechanisms and coordination across countries to cover a higher proportion of global emissions.



#### Key message 4

Carbon markets are intended as a tool for climate action and to leverage investment

International carbon markets must increase ambition and leverage investment, rather than being used solely to reduce costs.

#### Key message 5

High-quality carbon credits are crucial for long-term emissions reduction

As countries work towards net zero and emissions are aggressively abated, the use of emission reduction credits must necessarily decrease. Only high-quality removal credits should be used to balance residual emissions at net zero and beyond. However, high-quality emission reduction credits can provide an important flow of capital to accelerate action on the path to net zero and progress towards emission reductions now.

#### Key message 6

Corporate net zero commitments should include value chain emissions

Corporate achievement of net zero occurs when value chain emissions have been abated to the maximum extent possible and the remaining residual emissions neutralized by an equivalent quantity of removals.

#### Key message 7

Net zero should be integrated into all investment decisions

Net zero criteria should be integrated into all investment decisions, including those by development finance institutions, to support rapid decarbonization across all economic sectors, taking into account the national circumstance of individual countries.

#### Key message 8

The path to net zero should be socially fair and just

Whether implemented by countries or by the private sector, net zero strategies should support socially fair and just transitions across all regions to be successful. Governments and companies should respect human rights and make sure that net zero strategies align with development objectives, promote jobs, and ensure a fair distribution of costs and benefits, particularly with regard to vulnerable and indigenous populations.

#### Key message 9

The credibility of ambition and stakeholder engagement in net zero development and implementation processes depend on transparent net zero targets

Moreover, it will foster sectoral mainstreaming and identify opportunities for gains from alignment and collaboration needed to achieve truly systemic change at the pace and scale required.

**Key message 10**  
Transparency, clear targets,  
and accountability are key

Transparency in efforts and separate targets for emission reductions and removals along the trajectory to net zero at all levels, rather than solely net emission targets, would promote accountability and may help prioritize emission abatement.

**Key message 11**  
Companies should use  
robust accounting rules

To be credible and to gain and maintain public acceptance, all carbon market instruments need to operate within a clear trajectory to net zero and apply robust accounting rules to ensure the avoidance of double counting. Companies must robustly account for credits and mitigation contributions and, where possible, track and disclose where credits are sourced.

**Key message 12**  
Companies should actively  
avoid double counting

If a company uses international credits for compliance purposes, it must ensure that the reductions or removals are not double counted. Companies should not use international credits without a corresponding adjustment in the host country if that credit is accounted toward the NDC of another country.

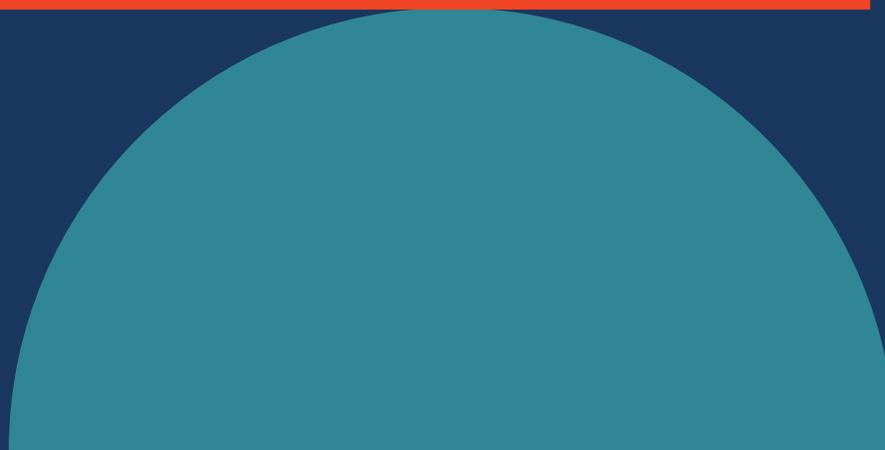
**Key message 13**  
Developing countries may  
need to take longer to  
achieve net zero

All countries, sectors, and companies need to participate in the “race to zero”, but not all countries will achieve net zero at the same time. Due to their capabilities and historic emission levels, advanced countries, in particular, must reach net zero as quickly as possible. Developing and emerging countries may need to take a slower pace due to institutional or capacity limitations or development needs. Still, they should also strive to achieve net zero as quickly as possible. ●

—CPLC SECRETARIAT



# GLOBAL DEVELOPMENTS IN CARBON PRICING



# Article 6 breakthroughs improve integrity for carbon market growth



Dirk Forrester  
CEO and President of International Trading  
Emissions Association

*Kept apart by a global pandemic in 2020 and 2021, the climate community came together for a success at COP26 in Glasgow. We left energized to return to the mission of building stronger markets for climate protection—which the visionaries of CPLC have sought for years.*

Recent global political developments are driving a shared interest in accelerating the energy transition. Businesses and governments are aligning their agendas for energy security, climate resilience, and a just transition. One reality is clear: nobody can do it alone. The challenges are just too big. But if we work together, anything is possible.

The scale of this challenge requires us to work together across borders, sectors and communities. For businesses and nations committed to net zero goals, Article 6 will be essential. That is because it provides a channel for working together with integrity—so that we can achieve the scale of transformation that is required.

Thanks to the breakthroughs at COP26 in Glasgow, we have clarity on several integrity measures at United Nations and national levels:

- Countries will make corresponding adjustments for net transfers between them, whether in linked trading markets (Article 6.2) or in project-based mechanisms (Article 6.4).
- A new supervisory body will oversee the Article 6.4 emission reduction mechanism. This body has the tools to deliver a high-quality crediting system that uses new, more rigorous baselines plus an “overall mitigation in global emissions”.

- The new Article 6 architecture allows flexibility for countries to use mandatory carbon trading or pricing programs—and to buttress them with voluntary markets.
- Those countries who see advantage in working together on non-market approaches will benefit from a work program to identify even more ways of working together.

In 2022, governments should start to set up their plans for Article 6 cooperation. Many will need to adopt legislative and regulatory frameworks, setting out the institutional arrangements for tracking and authorizing transfers of emissions credits. They will need to set clear policies to reduce emissions for their NDCs, and to identify what additional emissions reductions could be authorized for transfer for use by another country or purpose.

Countries will not be able to deliver the full potential of Article 6 alone. All of us in the business, financial and environmental communities will need to join in the effort. That is why new private initiatives, such as the Integrity Council of the Voluntary Carbon Markets, will be so valuable in building public and investor confidence in new market approaches. By building new markets on high integrity, we can be confident that the scale will follow. ●



## GLASGOW CLIMATE PACT PAVES WAY FOR ARTICLE 6 ROLLOUT

*On November 13, 2021, world leaders at COP26 adopted the Glasgow Climate Pact, a suite of decisions that includes clear accounting guidance for trading emissions between countries as envisaged by Article 6.*

Article 6 makes provision for countries to use emissions trading to “cooperatively implement” their greenhouse gas reduction obligations under the Paris Agreement. However, consensus on the rules to guide such trading remained elusive for many years, restricting Article 6’s potential to both generate revenue for developing countries through emissions trading and deliver higher climate ambitions.

The Glasgow Climate Pact sets out the rules necessary for a robust, transparent, and accountable carbon market and to create financial flows from developed to developing countries. In addition to establishing a new mechanism for carbon markets through which the private sector can channel green investment, the Pact specified that:

- Corresponding adjustments will ensure no double-counting of units in both Article 6.2 and Article 6.4 mechanisms.
- Certified emission reductions produced between 2013 and 2020 may be used against countries’ first nationally determined contribution. This allows for a limited supply of units from the Clean Development Mechanism to be carried over, so maintaining the flow of finance to developing nations until the new mechanism is up and running.
- To assure the overall mitigation in global emissions from the Article 6.4 mechanism, a 2 percent discount will be canceled from issuances from that mechanism. However, this was not applied to Article 6.2 market linkages.
- Negotiators agreed on a rate of 5 percent for the Share of Proceeds for adaptation, to be taken from issuances in the new Article 6.4 emissions crediting program. However, no fixed rate will apply to Article 6.2 transactions. Instead, countries using Article 6.2 are encouraged to contribute voluntarily to the Adaptation Fund.

The Pact also encourages non-market approaches through the creation of the Glasgow Committee on Non-Market Approaches. 

# Gulf States make firm strides towards entering carbon markets

*Agreement on Article 6 is encouraging further interest in carbon markets in the Middle East and North Africa (MENA) region.*

Gulf States, whose economies have historically been highly reliant on fossil fuels, have signaled their interest in transitioning to net zero carbon. In October 2021, the United Arab Emirates became the first country to announce its commitment to achieve net zero by 2050. This was soon followed by Saudi Arabia, Oman, and Bahrain (targeting 2060). Qatar aims to reduce greenhouse gas emissions by 25 percent by 2030, and Iraq has committed to emissions reductions of between 1 and 2 percent.

These commitments are paired with a growing interest in entering global carbon markets as a way to offset the predicted reduction in income due to fossil fuel exports from the region. To this end, Saudi Arabia's Public Investment Fund and the Saudi Tadawul Group, which owns the Saudi Exchange, has launched the Riyadh Voluntary Exchange Platform for the trade of verified, approved, and high-quality carbon offsets and credits produced in the MENA region.

The finalization of Article 6 in Glasgow a few months later formally opened the door for carbon markets to be rolled out more broadly. The Middle East and North Africa region is now well positioned to use market measures to deploy new and emerging technologies to manage emissions while still consuming fossil fuels in the foreseeable future. Some experts note that there is a multibillion-dollar untapped market opportunity in the region

to really benefit from carbon pricing policies and measures, which can be partially delivered by carbon capture storage and utilization, renewable energy, and low carbon hydrogen mega projects deployed in the region.

To support the further uptake of carbon pricing and markets in the region, CPLC co-hosted two sessions for the United Nations Framework Convention on Climate Change (UNFCCC) MENA Regional Climate Week, the first climate week to be held in the region, in March 2022. An event co-hosted with International Emissions Trading Association (IETA) discussed themes such as the challenges and opportunities that stakeholders in the MENA region, including private sector stakeholders, might face to unlock the potential for carbon pricing and markets. An Affiliated Event co-hosted with AEON Strategy and EU-GCC Clean Energy Technology Network highlighted that MENA companies are looking to carbon credits to meet their voluntary decarbonisation targets, and international cooperation and government support are needed to fully harness the potential of market mechanisms in delivering cost-effective carbon reductions and removals, and increase climate action ambition in the region.

Going forward, MENA will remain in the international spotlight as Egypt hosts COP27 in 2022 and the United Arab Emirates host COP28. ●

—CPLC SECRETARIAT

## UNFCCC MENA Regional Climate Week

In March 2022, the UNFCCC hosted the first Regional Climate Week to be held in the Middle East and North Africa region (MENACW 2022), pictured on this page. The CPLC supported the UNFCCC in planning and delivering an Affiliated Event on carbon pricing at MENACW 2022.



From left to right: Kishor Rajhansa (Global Carbon Council); Perumal Arumugam (UNFCCC); Ana Haurie (Respira International); Andrea Bonzanni (International Emissions Trading Association); and, joining virtually, Princess Mashael AlShalan (AEON Strategy) in a discussion on the potential of carbon pricing for reducing emissions in a financially viable way.



The MENA Climate Week closing ceremony.

# Partner Updates

*Our governmental, intergovernmental, and consultancy partners continued using carbon pricing to pursue their climate ambitions while adding to the knowledge base and defining best practice in carbon pricing policy.*

## **New CPLC partner Andorra channels carbon pricing revenues into local Green Fund**

The high-lying country of Andorra is already experiencing the effects of climate change on its ecosystems, people, and economic activities. Even though the country emits only 0.001 percent of global emissions, its commitment to climate action is firm and increasingly urgent. Andorra's commitment to achieving [carbon net-zero by 2050](#) is backed by a newly formed national Green Fund, which will use revenues from a carbon pricing—set at €30 (about \$28) per ton—to provide universal access to public transport and improve energy efficiency in buildings, among other initiatives. In addition to the Green Fund, a voluntary national carbon credit market has been created, with national offset projects to help public and private stakeholders take ownership of Andorra's climate action.

## **Glasgow Declaration on Carbon Pricing in the Americas launched**

The [Glasgow Declaration on Carbon Pricing in the Americas](#) was launched at a COP26 side event in November 2021 and calls on all countries, both in the Americas and beyond, to partner with the Carbon Pricing in the Americas platform in “designing, implementing, operating and linking carbon pricing instruments and MRV [monitoring, reporting, and verification] systems in order to maximize climate action [and] encourage real progress in

reducing GHG emissions”. The Carbon Pricing in the Americas platform is co-chaired by CPLC partners Québec and Chile.

## **Japan offers model for Article 6 rollout**

Japan's [Joint Crediting Mechanism](#), started in 2013, is a pioneering bilateral mechanism that sees the country roll out decarbonizing technologies through more than 200 projects in 17 partner countries, with the aim of achieving its emissions reduction targets and contributing to sustainable development. This experience leaves the country well positioned to lead the global implementation of Article 6.

After COP26, Japan's Ministry of the Environment announced that it will:

- Expand the number of partner countries in the Joint Crediting Mechanism and strengthen project development and implementation, in collaboration with international organizations.
- Scale up the mechanism by mobilizing further private finance.
- Support global capacity-building for the implementation of the Article 6.

Japan has already implemented various market-based measures, including a tax for climate change mitigation, a domestic crediting mechanism, and ETSs implemented at the provincial level. The country is now considering carbon pricing at the national level, including a carbon tax, emissions trading, and voluntary credit trading.

## **Japan Climate Leaders' Partnership urges Japanese Prime Minister to include 1.5°C targets in his “New Capitalism” vision**

“New Capitalism” is Prime Minister Fumio Kishida's vision to achieve a capitalism that will create a virtuous cycle of economic growth and distribution. The Japan Climate Leaders' Partnership (JCLP)—a coalition of businesses that aims to create a zero-carbon society—submitted a statement to the prime minister in person, urging him to ensure that the design being developed to support this vision includes a 1.5°C target, enables faster expansion of renewable energy, and introduces a carbon tax or emissions trading system. These requests will be passed down from the prime minister's office to the various ministries too.

In recognition of its expertise, Kahori Miyake, JCLP's co-chair, was appointed to the United Nations Secretary General's High-Level Expert Group on the Net-Zero Emissions Commitments of Nonstate Entities in March 2022. The expert group is tasked with developing stronger, clearer standards for net-zero emissions pledges by non-state actors.

#### **SinoCarbon publishes [2021 China Carbon Pricing Survey](#) in partnership with ICF**

The 2021 China Carbon Pricing Survey found that future carbon pricing is expected to rise significantly with the advancement of China's dual carbon policy. The survey received 417 responses from professionals across a range of sectors, over half (58 percent) of which were either already covered by the national or regional emissions trading systems, or expected to be covered by the national system. A further 18 percent of survey responses were from industry representatives that were either unsure or did not expect to be covered by the national carbon market, and 5 percent were from sectoral associations, bringing the collective representation of industry views to 81 percent (338 responses).

#### **OECD contributes to research on the effect of COVID-19 on carbon pricing policy, published [Effective Carbon Rates 2021](#), and started developing an Inclusive Framework on Carbon Mitigation Approaches**

The OECD's G7 [Carbon Market Platform](#) (CMP) enhances international cooperation among countries and organisations by developing ambitious, effective, and sustainable carbon pricing policies. In 2021, the CMP conducted a [study](#) into how COVID-19 affected carbon pricing policies. Among other illuminating findings, the study found that COVID-19 did not derail the implementation of already planned carbon pricing schemes, and that governments' have mainly reacted to the pandemic by implementing carbon pricing policies that exacerbate climate change, despite these being time-limited policy changes. In 2022, the CMP will focus on the role of carbon pricing in transformational change. Carbon pricing has proven to encourage reductions; however, its role in transformational change is unclear.

[Effective Carbon Rates 2021](#) provides a detailed, comprehensive analysis of the carbon price signal resulting from excise taxes on fuels, carbon taxes, and emissions trading systems in OECD and G20 countries, which are collectively responsible for about 80 percent of GHG emissions. The 2021 report found that although some countries significantly improved carbon pricing levels, about 60 percent of emissions across the examined countries was completely unpriced.

The OECD is also developing a new Inclusive Framework on Carbon Mitigation Approaches (IFCMA) that seeks to engage in multilateral dialogue to support the design of effective policies and facilitate greater international ambition while avoiding negative spillovers. This framework will be open to all countries on an equal footing, complementing existing international initiatives by contributing novel data, analysis, and methods to compare diverse policy approaches, including both pricing policies and non-pricing policies that generate implicit prices.

#### **Canada reiterates commitment to carbon pricing in new emissions reduction plan**

Carbon pricing has been a key pillar of Canada's climate plans since 2016, and was once again a central element in its 2030 Emissions Reduction Plan, released in March 2022.

Canada's approach to carbon pricing ensures that pricing applies across the country, while giving flexibility to provinces and territories to implement systems tailored to their local context. The federal government sets minimum stringency criteria that all the systems must meet. These criteria have been strengthened for the 2023 to 2030 period, including specifying minimum common scope and a carbon price trajectory that will reach Can\$170 (\$135) per ton of carbon dioxide equivalent (tCO<sub>2</sub>e) by 2030, from the 2022 level of Can\$50/tCO<sub>2</sub>e (\$40/tCO<sub>2</sub>e).

Canada has set one of the most ambitious carbon price trajectories in the world and is one of the only countries to have announced a carbon price for 2030, sending a strong signal to drive low-carbon investment.

#### **International Energy Agency analysis helps countries understand the implications of carbon pricing policies on their energy sectors**

The International Energy Agency (IEA) uses country-specific technical analysis combined with broad international expertise to build understanding of carbon pricing amongst national authorities charged with implementation. During the year, it conducted modelling exercises to determine the effect carbon pricing might have on the power sector for [China](#) and [Thailand](#). For South Africa, the IEA undertook an analysis of carbon tax implementation, while in Brazil the agency helped to organize technical discussions to support plans for a power sector ETS. 🗎

# PMIF programs:

## supporting countries as they enter carbon markets

*The CPLC's sister programs under the World Bank's Partnership for Market Implementation Facility (PMIF) intensified their efforts to provide analytical and capacity-building support to countries entering (and preparing to enter) carbon markets.*

### **Partnership for Market Implementation launched work program for sub-Saharan Africa and Latin America**

The Partnership for Market Implementation (PMI) supports capacity building and implementation support for carbon pricing. Following the successful decade-long run of the Partnership for Market Readiness, which helped create domestic capacity and infrastructure in over 20 countries to implement carbon pricing as a mitigation option, the PMI was launched in 2021 to assist countries operationalizing carbon pricing and market instruments.

With a target of covering over 30 countries by 2025, the PMI is poised to be an important contributor over the next decade as the countries move to enhance their climate ambition and accelerate climate action. So far, 17 countries were initially selected to develop full proposals for grant support under the PMI country program.

PMI also features regional programs for sub-Saharan Africa and Latin America where the team is working with regional entities, UNFCCC regional collaboration centres (RCCs), and national stakeholders in identified countries to provide capacity building support to better understand the building blocks of carbon pricing and explore opportunities for regional harmonization.

In parallel, the technical work program is being launched with the development of knowledge products and the delivery of learning and knowledge sharing events to support capacity building and training of professionals from the implementing countries, and beyond.

### **Climate Warehouse's Climate Market Club published approach papers**

The Climate Warehouse work program provides analytical and piloting support to kickstart the operationalization of Article 6. It has four complementary work streams:

- Piloting the creation of supply of emission reduction credits for post-2020 climate markets from the World Bank's lending operations.
- Demonstrating the use of new technologies and infrastructure to track credits and avoid double counting.
- Developing financial and risk-management products that allow climate market transactions while managing regulatory and market uncertainty.
- Facilitating discussions between policy makers, the private sector and expert groups regarding the regulatory framework and enabling environment for operationalizing post-2020 climate markets.

Under this program, the Climate Market Club is a group of 13 governments that jointly develop modalities for piloting Article 6 of the Paris Agreement. The objective is to arrive at a common understanding of key technical elements and outline options for operationalizing Article 6. The work of the club is made available to a wider set of stakeholders through the publication of approach papers. During 2021, the club published the following papers:

- [Ensuring Environmental Integrity under Article 6 Mechanisms](#)
- [Country Processes and Institutional Arrangements for Article 6 Transactions](#)
- [Carbon Asset Development Process](#)
- [Country Policy Framework for Cooperative Approaches Under Article 6.2.](#) ●

# Low prices are limiting carbon pricing's potential

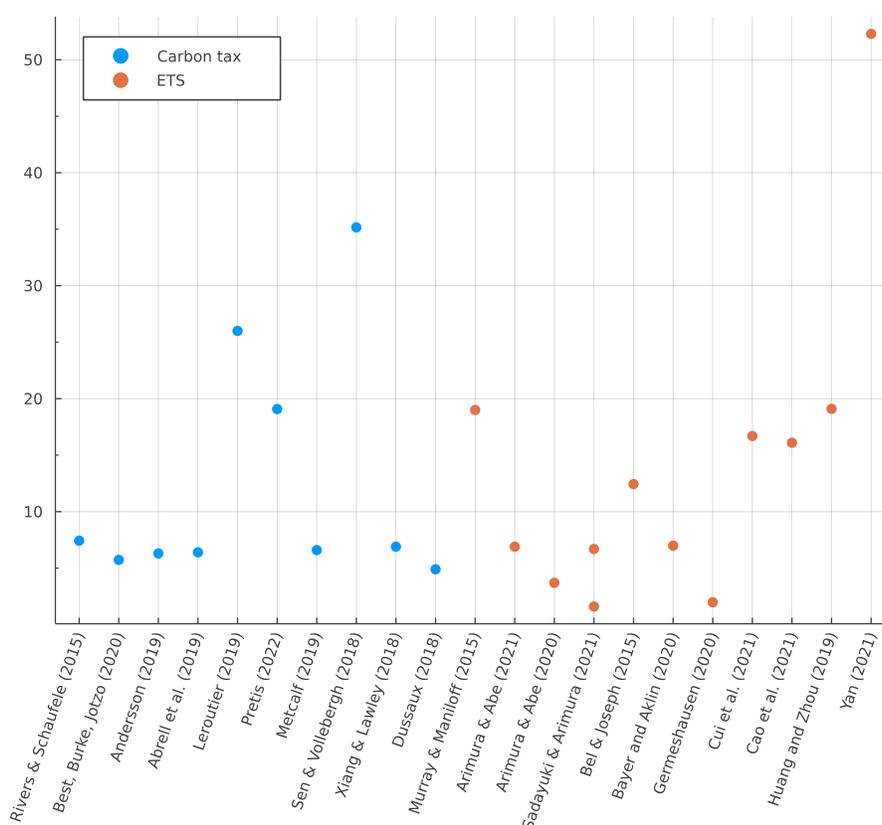
*Carbon pricing is proving effective at reducing emissions. However, as of 2022 only 4 percent of emissions attracted a price sufficiently high to limit the global average temperature increase to less than 2°C.*

Carbon pricing is widely considered to be one of the most cost-effective levers for reducing emissions at speed and scale. It realigns pricing incentives to reflect the social cost of carbon emissions. The report of the CPLC's High-Level Commission on carbon pricing notes that well-designed climate policies can be consistent with growth, development, and poverty reduction. Presently, almost a quarter of global carbon emissions are regulated via either a carbon tax or an Emissions Trading System (ETS). This represents significant progress but also warrants reflection. In light of the real-world experience with carbon pricing thus far, how effective has it really been at helping reduce carbon emissions?

The ex-post evidence is primarily from developed and a few emerging economies. Figure 2 presents the average percent reduction in the level of carbon emissions attributable to carbon pricing as reported by several recent studies. These studies, which report statistically significant reductions, convey that in periods when carbon pricing was in place, it on average reduced the level of emissions relative to a counterfactual of no carbon pricing by mostly upwards of 5 percent. The same studies also suggest that carbon pricing reduced emissions growth rates by around

1.5 to 2.5 percent per year.<sup>1</sup> Carbon pricing appears to be equally effective at reducing emissions across instruments, in other words, carbon tax or ETS. It is also effective across jurisdictions with carbon pricing driving emission reductions in the EU, North America, and China. Moreover, carbon pricing appears effective at reducing emissions in multiple sectors including power and heat, transport, and residential.

**FIGURE 2: AVERAGE PERCENT REDUCTION IN THE LEVEL OF CARBON EMISSIONS STEMMING FROM CARBON PRICING, AS REPORTED BY NEARLY TWO DOZEN RECENTLY PUBLISHED STUDIES**



1. Based on the studies where induced reductions in the growth rate of emissions are reported.

Where carbon pricing has not been as effective as hoped, plausible explanations can be readily identified. These include overlapping and competing regulation, incomplete coverage and exemptions, and low carbon prices. In 2017, the report of the CPLC’s High-level Commission on Carbon Pricing recommended that prices should be between \$40/tCO<sub>2</sub> and \$80/tCO<sub>2</sub> in 2020, increasing annually to reach between

\$50/tCO<sub>2</sub> and \$100/tCO<sub>2</sub> by 2030 to remain within 2°C increase over preindustrial global average temperatures. However, despite carbon prices hitting their highest levels in a number of jurisdictions in 2021, less than 4 percent of global emissions attract a direct carbon price above the lower end of this range. This share needs to increase substantially—ideally to cover all global emissions—to induce emission reductions at speed and scale. ●

—SAMUEL JOVAN OKULLO AND JOSEPH DIXON CALLISTO PRYOR, WORLD BANK

**FIGURE 3: GLOBAL CARBON PRICES AS OF APRIL 1, 2022**



Source: *State and Trends of Carbon Pricing 2022*, World Bank



# CORPORATE LEADERSHIP IN ACTION



# Surge in carbon markets is driving innovation in technologies and methodologies



Michael Green

Founding partner: Climate Capital Advisors  
Co-chair of CPLC Advisory Group

*The year 2022 will be characterized as one of growth for global carbon markets. Globally, carbon markets are at an all-time high, many expanding by almost 200 percent. While this has come down since the start of 2022, many believe it is a sign of what is to come. This expansion has led to meaningful investments in reducing global carbon emissions and fueled innovation in how we do it.*

Every day, organizations and companies around the world are contributing to the discourse on new ways communities can maximize the benefits of carbon reduction, including by gaining access to new technologies, increasing market liquidity, and advancing the science around carbon removal and sequestration. These new methodologies and technologies are not only making action possible, but also more transparent and solutions-oriented.

These increases are spurring opportunities for project developers and community groups to think more creatively around project ownership and financial benefit, as well as expand on projects that would not have been viable at lower carbon prices. Blu3.io is one example of a business leveraging the surge in interest to generate new sequestration markets. The company is drawing on decades of aquaculture experience to sequester carbon in seaweed, using aquatic ecosystems to manage emissions. Other opportunities in blue carbon—which refers to carbon that is captured by oceans and coastal ecosystems—include Verra’s first Blue Carbon project, which was registered in 2021. In the year to come, we can expect that several new methodologies will be ready for adoption, further increasing opportunities for carbon sequestration and the conservation of critical ecosystems.

The growth in carbon markets is also accelerating new carbon savings measurement and verification technologies. Businesses that use carbon credits or offsets as a part of their overall emission reduction plan are looking for new ways to guarantee authenticity and impact. Carbon project developers need to match this interest with more holistic emission reduction projects that are not solely focussed on emission reduction but also consider social, economic, and other environmental factors. African Clean Energy and their Ace One cookstoves are a great representation of how technological adoption can further support projects in maximizing community benefit. Their projects connect the stove with a paired smartphone with an Android app, which allows an added level of transparency on usage and carbon savings or emission reductions generated.

Getting new technologies and solutions in the hands of community groups creates a more holistic approach to addressing the climate crisis and can assist in making carbon markets more transparent and accountable. This has opened the door to new creativity around technologies that will lead to communities, governments, and businesses making smarter, more informed decisions on their emission reduction pathway. ●

# News from the frontiers of voluntary carbon markets

*Several CPLC partners have pioneered new platforms and tools to improve the transparency and efficiency of global voluntary carbon markets.*

## **Voluntary Carbon Market Integrity Initiative aims to align corporations with Paris Agreement goals**

The [Voluntary Carbon Market Integrity Initiative](#) (VCMI) is a global, multistakeholder platform launched in 2021. It was established to help ensure that voluntary carbon markets make a significant, measurable, and positive contribution to the global transition to a 1.5°C future while promoting inclusive, sustainable development.

VCMI takes its mandate from its multi-stakeholder process, which confirmed the need for governance of voluntary carbon markets. In June 2022, VCMI will launch and test its proposed Claims Code of Practice. The code provides guidance to companies and other non-state actors regarding when and how they may make claims associated with the voluntary use of high-quality carbon credits toward their decarbonization goals.

## **S&P releases credit pricing benchmarks**

A wide variety of factors affect the price of carbon credits on voluntary carbon markets, including whether it is a removal or avoidance credit; the volume of credits being traded at the time; and the nature of the project generating the credit, specifically whether it also achieves other social and environmental goals.

To help businesses make informed decisions, between January and August 2021 S&P Global Platts launched [nine price assessments for different types of carbon credits](#). Each price assessment reflects the most competitive credit for each category based on bids, offers trades reported in the brokered market, or on trading and exchange instruments. The categories covered include CORSIA-eligible prices; avoidance credits from nature-based solutions, household devices, and industrial pollutants; and removals credits from natural and technology-based carbon capture.

Nature-based credits remain popular on the market as they are broadly seen as a guarantee of “quality”, despite increased scrutiny on nature-based credits in the wake of wildfires across

the Northern Hemisphere in 2021. There was also a lot of focus on forestry protection in the run-up to and following COP26, which corresponded with an increase in interest in nature-based solutions in the second half of 2021, before geopolitical discord produced a shift in investment strategies towards other commodities.

The nature-based avoidance basket of prices stood at \$7.06/mtCO<sub>2</sub>e on its 9 August 2021 launch and peaked at \$16.20/mtCO<sub>2</sub>e on January 21, 2022. It was assessed at \$11.95/mtCO<sub>2</sub>e on March 25, 2022. Nature-based carbon capture prices were first assessed at \$15/mtCO<sub>2</sub>e on August 9, dropping to \$12.77/mtCO<sub>2</sub>e on October 20 before climbing to a peak of \$22.10/mtCO<sub>2</sub>e on February 1.

## **Standard Chartered Bank official appointed to board of Integrity Council for Voluntary Carbon Markets**

The [Integrity Council for Voluntary Carbon Markets](#) is an independent governance body established in late 2021 to set and enforce global standards for the voluntary carbon market. Its purpose is to ensure the voluntary carbon market supports global decarbonisation by mobilising finance into projects that reduce or remove greenhouse gas emissions. Chris Leeds, the Head of Carbon Markets Development at CPLC partner Standard Chartered Bank, was elected as a board director to represent market participants.

This accolade comes at a time when Standard Chartered Bank has intensified its activities in the carbon markets space. In May 2021, the bank became a founding investor in Climate Impact X, a Singapore-based global carbon exchange and marketplace for high-quality carbon credits. In August 2021, it launched an Energy Transition desk to manage customer risk on the global carbon and natural gas markets, and in January 2022, it joined a consortium of international banks to develop Carbonplace, a global infrastructure provider connecting carbon markets around the world.

# Promising partnerships, programs, and technologies

*CPLC's private-sector partners are dedicating substantial resources to develop partnerships and technologies that support the transition to net zero.*

## **New CPLC partner Powerledger brings blockchain technology to energy and environmental commodities trading**

[Powerledger](#) develops blockchain-enabled software platforms and marketplaces to track and trade energy and environmental commodities such as renewable energy certificates and carbon credits. Blockchain-enabled tracking, tracing, and trading provide assurance and increase trust through the creation of immutable, accessible, and auditable records across a commodity's entire lifecycle—from credit generation through validation, verification, registration, sale, and retirement.

The company is in the process of launching renewable energy certificate marketplaces in Southeast Asia and North America (in partnership with M-RETS, a certificate registry in the United States), as well as integrating with the International Renewable Energy Certificate standard. The platform itself, [TraceX](#), is commodity agnostic and presents an opportunity for the development of efficient, effective, credible, secure, and transparent carbon markets.

Not all offsets are created equal. Where one offset could have problematic social impacts or be known for not living up to its

claims, another could be recognized as a gold standard and linked to a social good. Blockchain improves the quality of credits and transparency of markets by providing more granular information about their attributes.

Over-the-counter markets offer limited price discovery across the various types of carbon instruments. This reduces trust, increases costs and settlement time, and can result in artificial price inflation. TraceX leverages blockchain and a continuous double-auction process so buyers and sellers can list their prices and attributes in a transparent way. This results in increased speed, cost savings, reduced back office, quick settlement, and greater standardization.

## **Environmental and Energy Management Institute at The George Washington University in partnership to help small and medium enterprises enter carbon markets**

The [Environmental and Energy Management Institute](#) (EEMI) at The George Washington University in Washington, D.C., has partnered with Carbon Offsets LLC to help small and medium enterprises with the complex task of entering carbon markets, selecting carbon offsets to become carbon neutral, and de-risking their carbon offset portfolios.

## **CPLC Singapore launches capacity-building program for businesses in Singapore**

In October 2021, CPLC Singapore—with the support of Singapore's National Environment Agency and Enterprise Singapore—launched LowCarbonSG, a capability-building program to enable local businesses in Singapore to start monitoring and, where possible, reduce their carbon emissions. Companies that successfully measure and monitor their carbon footprints will be issued a LowCarbonSG participant logo.

In April 2022, data from the LowCarbonSG program was used to produce the inaugural Singapore Business Carbon Report 2021—the first of its kind for Singapore.

### **Microsoft donates \$100 million to the development of key green technologies**

In September 2021, Microsoft announced a donation of \$100 million—funded from the proceeds of its internal carbon fee—to [Breakthrough Energy Catalyst](#), a high-level public-private partnership, to accelerate the development of climate solutions in four key areas: green hydrogen, direct air capture, long duration energy storage and sustainable aviation fuel.

This is in addition to the \$471 million allocated to accelerating the development and deployment of new climate technologies through its \$1 billion [Climate Innovation Fund](#) since the launch of the fund in January 2020. Recent investments through this fund include [LanzaJet](#), [BlocPower](#), and Eversource.

### **RUSAL launches low-carbon aluminum smelter**

RUSAL's corporate internal carbon price has proven to be an important driver for the company's shift to clean technologies. In 2021, RUSAL commissioned its new low-carbon Taishet Aluminium Smelter, which runs fully on clean energy from Siberian hydroelectric power plants combined with modern gas-purification equipment. It also piloted the use of inert anodes in its production processes. Inert anodes are not corrosive and therefore release oxygen rather than CO<sub>2</sub> during the aluminum reduction process.

### **Holcim continues greening its products**

In recent years, Holcim has launched a wide range of low-carbon solutions that enable it to reduce both its own GHG emissions as well as that of its customers. Its green concrete, called ECOpact, is available in 25 countries and is forecast to represent 25 percent of Holcim's ready-mix sales by 2025. It provides a range of low-carbon levels, from 30 percent to 100 percent less carbon emissions compared to standard (CEM I) concrete. In parallel it is developing the next generation of circular products with up to 100 percent circularity.

### **New CPLC partner, AMEA Power, appoints dedicated carbon credits team to remain abreast of policy developments**

[AMEA Power](#), a Dubai-based developer, owner, and operator of renewable generation assets and power plants with projects in the Middle East, Africa, and emerging Asia, created a dedicated team in 2021 to better understand carbon credits markets and work with business owners, government leaders, and members of the public who seek to do the same.

AMEA Power produces voluntary carbon credits from all its renewable generation power plants. Understanding national and supranational policies that affect the pricing of carbon credits is therefore imperative for allowing AMEA Power to engage in markets in a fair, compliant, and ethically sound manner. ●

# Our next priority: decarbonizing agri-food



Dr Barbara Baarsma  
Chief executive officer, Rabo Carbon Bank

The food chain already represents more than a quarter of global GHG emissions, and global demand for food is projected to double in the next two decades. Indeed, more than 85 percent of emissions in a typical food chain comes from upstream food production and associated land use, which is considered Scope 3 emissions for large food corporates.

In order to live up to their net zero emission commitments, food corporates will have to cooperate with farmers in their supply chains to set up reduction projects at farm level. Farmers can also engage in carbon farming, which involves using regenerative farming practices (such as reducing tillage, crop rotations, and planting cover crops). This results in more carbon being captured in plants and soil.

Rabobank is working to reduce emissions and enhance removals in the agri-food sector across the supply chain. Central to this effort is the Rabo Carbon Bank, which supports both farmers transitioning to carbon farming and food corporations seeking to decarbonize their supply chains. Soil sequestration generates high-quality removal credits because of its co-benefits, including improved biodiversity, better water management, and the production of more climate resilient and nutritious food. Working closely with agronomic advisors, remote sensing experts, and

standard-setting organizations, we help farmers monetize their regenerative practices and connect them with corporates seeking to meet net-zero commitments and offset unavoidable emissions, so helping to reduce emissions along food value chains.

On the removals front, we are currently concluding pilot projects related to soil health and sequestration in the United States and in the Netherlands. These will be scaled to corn and soya farmers during 2022, with pilots for other crops planned soon. We also have an agroforestry proposition for small holders in developing countries, are running afforestation pilot projects for larger farmers in Brazil, and are setting up a carbon solution for peatlands in the Netherlands. Carbon captured through carbon farming can be converted into validated removal units and, ultimately, into certified carbon credits. These can be sold to corporates, generating revenue for the farmer to finance further transitions to sustainable agriculture.

On the emissions reduction front, we are currently piloting projects to reduce emissions in the dairy subsector in the United States and the European Union. Together with food corporates and farmers, we set up reduction projects, such as methane digesters and alternative animal feed, at farm level. However, farmers are not yet able to sell their reduction efforts in the same way they are able to sell the carbon credits they have generated. To close this gap, Rabo Carbon Bank has created a “reduction unit”, which sees farmers financially rewarded for reducing their emissions, so encouraging them to implement further low carbon practices. Together with our partners, Rabo Carbon Bank monitors and verifies these carbon reductions on behalf of our large food and agribusiness clients, and makes sure that these companies are able to claim reductions against their Scope 3 emissions.

Private initiatives of this kind gain strength if the government introduces a uniform, economy-wide carbon tax. If the emission of greenhouse gases becomes more expensive, companies will have a continuous incentive to reduce and, where this is not feasible, to compensate. ●

# How carbon pricing is helping the private sector strive for net zero

*CPLC's private sector partners reflect on their successes, challenges, and aspirations in using carbon pricing to achieve their net zero goals.*

## **Microsoft commits to annual internal carbon price increases and buys 1.4 million metric tons of carbon removals**

Microsoft's commitment to net zero continued in 2021/22 with the company increasing its carbon price—and committing to aggressive yearly increases going forward—to incentivize greater reductions in Scope 3 emissions and better reflect the cost of carbon abatement. As an example, its Scope 3 business travel price now stands at \$100 per mtCO<sub>2</sub>e.

In FY21, Microsoft purchased 1.4 million metric tons of carbon removal credits, a number that is likely to increase to 1.5 million metric tons in FY22, with bolder carbon removal targets planned between now and 2030. The scale of these purchases will help drive market maturation in carbon removal.

## **CPLC partner Temasek sets internal carbon price to reduce emissions in investment portfolio**

Temasek—a Singapore-headquartered investment firm with a net portfolio value of S\$381 billion (\$283 billion) as at March 31, 2021—has committed to halve carbon emissions attributable to its portfolio, relative to 2010 levels, by 2030, and to achieve net zero by 2050. To inform its investment decisions, in 2021 Temasek set an initial internal carbon price of \$42/tCO<sub>2</sub>e, which it expects to raise progressively over the decade.

## **Embedding an internal carbon price helps RUSAL cut aluminum production emissions by 8 percent**

In 2017, multinational aluminum producer RUSAL started applying an internal carbon price (initially set at \$20/tCO<sub>2</sub>e) to inform decisions related to its projects and operations. With carbon pricing embedded in its financial and strategic decisions, the company reduced its the Scope 1 and 2 carbon footprint of primary aluminum production by 8 percent in 2020 against a 2017 baseline.

## **Swiss Re steps up internal carbon price to finance transition to net-zero**

Reinsurance company Swiss Re, while not a CPLC partner, is nonetheless a champion of internal carbon pricing. In January 2021, company increased its internal carbon price from \$10/tCO<sub>2</sub>e to \$100/tCO<sub>2</sub>e. The company calls this price its Carbon Steering Levy, because it is designed to drive down emissions as the price gradually increases to \$200/tCO<sub>2</sub>e by 2030. To make sure the levy guides decisions, it is prominently displayed in expense dashboards and the travel-booking tool.

The revenue from the levy is spent on carbon mitigation efforts beyond Swiss Re's own value chain. Since 2003, the company has already compensated major parts of its residual operational footprint through carbon avoidance certificates (offsets). To reach net-zero by 2030, it is now moving from conventional offsets to high-quality carbon removal certificates. Initially, the price of the most durable, scalable removal solutions will exceed the levy, while offsets are available for much less. Mixing cheaper offsets with costly removals allows the company to align the average carbon certificate price with the levy. Over time, removals become cheaper and the levy increases, enabling the share of removals in the certificate mix to gradually rise from 0 percent in 2020 to 100 percent in 2030.

Using a 10-year carbon pricing policy to secure sufficient funding for net-zero aligned carbon certificates allows Swiss Re to source removals through long-term purchase agreements, which sends a strong market signal and helps improve the bankability of removal projects. In August 2021, Swiss Re signed the first such deal, worth \$10 million over 10 years, with carbon removal pioneer [Climeworks](#).

#### **Unilever makes internal carbon price mandatory for big projects**

Unilever has committed to achieving zero emissions from its operations by 2030. To support this, it uses an internal carbon price—set at €70/tCO<sub>2</sub> (\$76/tCO<sub>2</sub>) in 2022—to guide capital expenditure decisions and business case evaluations. Various tools have been designed to make this analysis easier for teams.

As of this year, it is mandatory for all projects with a total investment of more than €1 million (\$1.09 million) to apply the internal carbon price. This covers approximately 80 percent of the corporation's total annual capital expenditure.

In parallel to the company-wide approach described above, two brands use internal carbon pricing to create their own sustainability investment funds. Ben & Jerry's and Seventh Generation both apply a carbon tax to their lifecycle emissions to create dedicated sustainability funds. The revenues from these internal taxes are invested in a variety of programs to reduce the carbon footprint associated with those brands. For example Ben & Jerry's fund academic research to investigate ways of reducing the emissions from the dairy industry.

Internal carbon pricing remains a useful—though not the only—tool as the company works towards achieving its climate goals.

#### **Mahindra sees unexpected benefits in team efficiency from applying a carbon price**

Mahindra became the first Indian company to announce an internal carbon price of \$10/tCO<sub>2</sub>e in 2016, with the aim of reducing emissions by 25 percent per unit of output over three years. Now, six years later, annual emissions have been reduced by 65,000 tons, and the business saves \$19 million each year because of the investments made into reducing emissions. These investments total \$32 million and were largely funded by the internal carbon price.

The internal carbon price has had several knock-on benefits for the company's transition to net zero. Because there is funding available for sustainability projects, teams are better able to use their time to identifying and building business cases rather than canvassing for funds. This contributed to a massive upscaling of projects, making it easier for the company to meet its decarbonization stretch goals.

#### **Projected carbon prices support Shell's investment in new carbon capture and storage project in Canada**

Shell supports carbon pricing mechanisms as a key policy tool that governments and businesses can use to help increase global ambition and create incentives to invest in lower-carbon technologies and infrastructure such as carbon capture and storage facilities. Shell already operates the Quest carbon capture and storage facility in Alberta, Canada. Since it was commissioned in 2015, this facility has captured and permanently stored more than 7 million tons of emissions (as of early 2022). The projected price of carbon in Canada was one of the considerations that prompted Shell to announce in July 2021 a proposal to build a second large-scale carbon capture and storage project at its Scotford Complex in Alberta. The project is expected to start operations around mid-decade, subject to a final investment decision by Shell expected in 2023.

**Carbon management software Sweep raises new funding to scale corporate climate action**

New CPLC partner [Sweep](#), an all-in-one carbon management tool for large enterprises, has raised \$73 million in Series B funding 12 months after launching publicly. The Sweep approach helps large enterprises embed science-based, data-driven climate programs in their operations and move away from seeing carbon credits as a “consumable”. Carbon credit expenditures are a financial contribution to meeting sustainability targets. In other words, companies should create a “carbon contribution budget” based on an internal carbon price as it will help finance their low carbon transition—from the decarbonization of their products or services to carbon credit investment.

**EN+ Group reaffirms commitment to net zero by 2050**

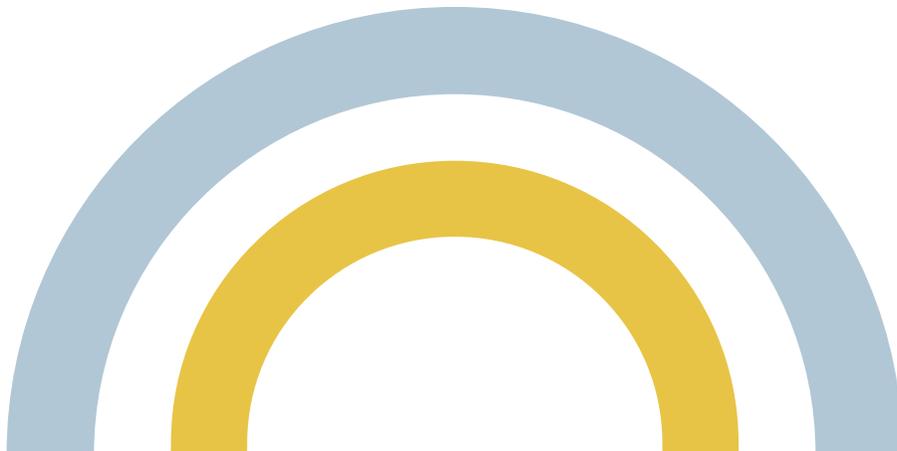
In September 2021 the En+ Group, a leading producer of clean energy and low-carbon aluminum, published its Pathway to Net Zero Report, in which it laid out the planned steps to reduce GHG emissions by 35 percent by 2030, aiming for net zero emissions by 2050 (Scope 1 and Scope 2). This includes heat and electricity production as well as aluminum production. Both are classified as hard-to-abate. Modernizing equipment and integrating the accounting of GHG emissions into project assessments are central to achieving these ambitious goals.

**Partner proposes a carbon price on animal protein**

Diets high in plant protein and low in meat and dairy are associated with lower GHG emissions. Putting a price on meat and dairy that reflects the negative externalities of eating these products could provide a price signal to consumers to reduce their consumption of these products.

This is the essence of the True Animal Protein Price (TAPP) Coalition’s submission to the European Union Commission, which has announced that it will, by the end of 2023, publish proposals as to how to apply the “polluter pays” principle for GHG emissions to agriculture.

TAPP has proposed applying excise duties to meat, dairy, and livestock for 50 countries. This could be done via an emissions trading system or a carbon border adjustment mechanism. By dramatically changing the food we eat as well as the way it is produced, TAPP believes humans can help stop the devastating impacts of climate change. ●



# Citizens' Climate International supports climate income

Citizens' Climate International (CCI) believes countries—and indeed the planet—need carbon pricing that covers all emissions, is administratively coherent and transparent, and puts a steadily intensifying cost on polluters, while enhancing the economic opportunities of households and communities. This is why CCI supports climate income—the return of revenues to households while carbon fees steadily rise will help ensure that the escalating price signal is felt most directly by polluting industries. To enable citizens living in the United Kingdom to see

how a local climate income policy would affect their household income over time, in 2018 CCI advocates developed the Climate Income Calculator, which shows that most households—especially low-income households—would gain more than they lose while bringing the country 80 percent of the way to net-zero in 2050. CCI runs weekly coordinating meetings for volunteer policy advocates, has created an International Carbon Pricing Cooperation Dashboard, which includes a survey of climate income instruments and advances, and is providing ongoing education in 76 countries.

## EMERGING VOICES

Citizens' Climate International volunteers share their thoughts on what carbon pricing represents.



*“It is important that carbon pricing is a worldwide effort. The only way we will advance is to advance together.”*

—Tatjana Gojmerac, carbon pricing advocate in Spain

*“Carbon pricing backed by strong policies is our best chance at ensuring that we don’t leave the cost of our emissions for future generations.”*

—Gloria Kasang Bulus, carbon pricing advocate in Nigeria



*“Carbon pricing is the instrument we need to bring about the divorce between global economies and fossil fuels.”*

—Joseph Ibrahim, carbon pricing advocate in Nigeria



# ABOUT THE CPLC



# Much to celebrate, much more to be done

*The CPLC team has achieved a lot in a relatively short time. But there is still so much more to be done as countries, companies, and people come together to unravel the damage caused by decades of economic growth based on fossil fuels.*

Since our launch in November 2015, CPLC has played a leading role in amplifying the carbon pricing debate. We have established ourselves as a trusted partner in the carbon pricing space for governments, the private sector, and civil society. In our inaugural year we published the Faster Principles, a guide to effective carbon pricing principles. We coordinated the High-Level Commission on Carbon Prices, which identified indicative corridors of carbon prices that would incentivize bold climate action in line with the Paris Agreement.

This was followed by the High-Level Commission on Carbon Pricing and Competitiveness, which helped address business leaders' concerns around reduced competitiveness due to carbon pricing. And in 2021, we convened the Task Force on Net Zero Goals and Carbon Pricing, which explored the role of carbon pricing in the transition to net zero over the next 10 to 15 years. The publications resulting from these initiatives have cemented our role as a trusted, objective partner in carbon pricing. In addition to these reports, we also published numerous briefing notes and convened stakeholders in close to 100 events around the world.

Much has changed over the past six years, yet one thing has remained constant: the critical need for coordination in our response to climate change. Three significant moments have brought this into sharp focus.

- **COVID-19 exposed both our fragility and our need for international collaboration.** If the pandemic has shown us one thing, it is that globally coordinated responses are needed to address global challenges. COVID-19 also reminded us of our resilience in the face of novel threats. If we hope to meet the ambitious targets of the Paris Agreement, we must draw on our powers of cooperation. As a global platform, the CPLC creates spaces for international cooperation, links markets, and scales up climate finance solutions, playing a key role in galvanizing a globally coordinated response to climate change.
- **COP26 demonstrated the power of bringing together government, public sector, and civil society.** At the climate conference in Glasgow in 2021, it felt as though we reached a watershed moment in which we had “all hands on deck”—governments, businesses, and civil society—with each bringing valuable contributions to the table. In a significant step, COP26 negotiations clarified the rules that will help put Article 6 of the Paris Agreement into practice. This was a tangible step towards reaching net zero, and we as CPLC can be proud that we played a role in this through strengthening the case for carbon pricing.
- **The “gilet jaunes” protests of 2018 showed us that governments alone cannot lead decarbonization.** The violent response to a new gas tax as part of a broader plan to reduce France’s reliance on fossil fuels showed us the importance of a shared vision. Wider society needs to participate in designing solutions so that they are accepted and implementable. Here, the CPLC has a role to play as a platform for dialogue. Our comparative strength is in our ability to bring representatives from civil society to the table on an equal footing with governments, the private sector, and international agencies.

At a CPLC-convened high-level event at COP26, Canadian Prime Minister Justin Trudeau called for 60 percent of emissions to be covered by a price on carbon by 2030. Backed by the convening powers of the World Bank, the CPLC is strategically placed to respond to this call to action. We encourage our partners to make use of the opportunities to tap into this rising climate ambition presented by our platform.

We are encouraged by the relentless dedication that our partners across the globe have shown towards using carbon pricing as

a mechanism to drive down net emissions. It is exciting to see revenues generated from carbon pricing used in innovative ways, such as funding used for social benefits, mobilizing innovation in clean technologies, and as an incentive to adopt climate-friendly practices. Our value as a trusted partner is clear when corporations approach us to guide them on their first steps towards net zero, or to act as a partnership broker with representatives from the public sector or civil society. The Paris Agreement may set our course, but we steadfastly believe that collective action is what will carry us to net zero. 🌍

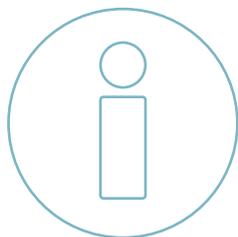
—CPLC Secretariat

## The CPLC Secretariat



**From left to right:** Jichong Wu, Mercedita Garcia Cano, Pola Seongeun Shim, Isabel Saldarriaga Arango, Liberty Ramirez Espiritu, Angela Churie Kallhauge, Jeannette Ramirez, and Michael McCormick

**Not in picture:** Marissa Santikarn, Shamini Selvaratnam, Mitik Ayalew Zegeye, Go Mukai, and Samuel Jovan Okullo

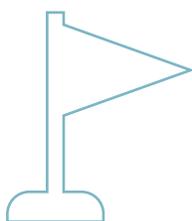


## Who we are

The Carbon Pricing Leadership Coalition, or CPLC, was launched in 2015 to promote carbon pricing as an effective tool to drive mitigation action as countries started reducing their carbon emissions in terms of the Paris Agreement. It is a voluntary initiative that brings together leaders from government, business, civil society, and academia to enhance global understanding of carbon pricing as a tool for accelerating and financing effective climate action.

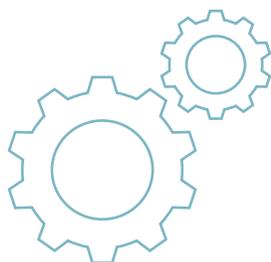
From a partnership base of 21 governments and 90 businesses and civil society organizations, the CPLC has grown to include 36 national and subnational jurisdictions, 181 businesses, and 104 civil society organizations. Membership is voluntary and requires no membership fee.

The CPLC provides a platform for its partners to learn about carbon pricing, stay up to date with new developments and research in the field, and share experiences related to the challenges involved with implementing carbon pricing mechanisms.



## Our mission

We convene leaders from government, business, civil society, and academia across all regions of the world to advocate for, and catalyze action towards, the successful implementation of carbon pricing to address climate change and contribute to sustainable development.



## Our approach

The CPLC strives to:

- **Mobilize and highlight examples of demonstrated leadership** on carbon pricing, and build the case for others to take action
- **Identify critical constraints to carbon pricing**, foster common understanding of solutions, and identify opportunities to enhance the use of carbon pricing policies and measures
- **Deepen advocacy efforts** with the private sector and civil society to foster collective action
- **Strengthen the knowledge base** by effectively communicating unbiased, rigorous, and objective information on key issues
- **Broaden advocacy and engagement** in regions that are not well represented in the CPLC.



## Our priorities

Our priorities are to:

- **Amplify the role of carbon pricing** in achieving 2030 net zero targets
- **Promote carbon markets** and global trade
- **Ensure a just transition** to a low-carbon economy.



## Our leaders and team

The CPLC Secretariat is administered by the World Bank Group. It is governed by the High-Level Assembly co-chairs and an Advisory Group of 21 representatives from government, business, and strategic partners.

## Advisory group

The CPLC's Advisory Group provides technical guidance and insights on developments in carbon pricing, while identifying opportunities to expand the CPLC's reach.

### GOVERNMENT

Felipe De León Denegri, Costa Rica  
 Neil Dobson, British Columbia  
 Syeda Hadika Jamshaid, Pakistan  
 Juan Pedro Searle, Chile  
 Chris Shipley, UK

### PRIVATE SECTOR

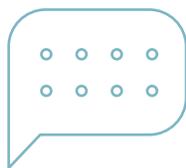
Anirban Ghosh, Mahindra Group  
 Shilpa Gulrajani, BNP Paribas  
 Thomas-Olivier Léautier, Electricité de France  
 Chris Leeds, Standard Chartered Bank  
 Cédric de Meeûs, LafargeHolcim  
 Jason Mitchell, Man Group  
 Emmanuel Normant, Saint-Gobain  
 Susan Shannon, Shell

### STRATEGIC PARTNERS AND CIVIL SOCIETY

Emily Farnworth, University of Cambridge  
 Bianca Gichangi, East African Carbon  
 Market Alliance  
 Michael Green, Solutions for Climate Partnership  
 Marina Mattar, Perspectivas  
 Sophie Punte, We Mean Business Coalition  
 Joseph Robertson, Citizens' Climate Lobby  
 Ousmane Fall Sarr, West Africa Carbon  
 Market Alliance  
 Katie Sullivan, International Emissions  
 Trading Association (IETA)

### HIGH-LEVEL CARBON PRICING CHAMPIONS

Feike Sijbesma, Royal DSM  
 Mahendra Singhi, Dalmia Cement (Bharat) Ltd



# Other programs under the Partnership for Market Implementation Facility

## About the Partnership for Market Implementation Facility

The Carbon Pricing Leadership Coalition is an initiative under the Partnership for Market Implementation Facility (PMIF), which is a global, multi-donor program launched in 2021 to help accelerate global decarbonization efforts. It aims to catalyze the development of the next generation of international carbon markets, and be the one-stop shop for client countries looking to design and deploy carbon pricing policies/programs in line with their domestic contexts and sustainable development priorities. The PMIF also runs several other programs.

### PARTNERSHIP FOR MARKET IMPLEMENTATION FACILITY (PMIF)

CARBON PRICING LEADERSHIP COALITION	<u>PARTNER-SHIP FOR MARKET IMPLEMENTATION</u> <i>Anchor program. See page 21</i>	<u>CLIMATE WAREHOUSE</u> <i>See page 21</i>	<u>NETWORKED CARBON MARKETS</u>	<u>COMPACT WITH AFRICA –GREEN BUSINESS FUND</u>	<u>INNOVATE-4CLIMATE</u>	<u>REGIONAL CLIMATE WEEKS</u>
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The PMIF is implemented in collaboration with World Bank Group regions, country management units, and global practices to leverage and support operations. The work is structured around the four pillars in Table 1. CPLC is a component under the advocacy pillar and supported by the PMIF, and other programs and initiatives under it, by leveraging resources and creating synergies.

**TABLE 1: FOUR PILLARS OF THE PARTNERSHIP FOR MARKET IMPLEMENTATION FACILITY**

ADVISORY	ADVOCACY	INNOVATION	KNOWLEDGE AND OUTREACH
<p>Support countries in building their capacity to design and implement carbon pricing policies.</p> <p>Use a country-specific approach to create enabling environment for private investment in climate-smart initiatives.</p>	<p>Convene, deliver, and exchange consultative dialogues with key stakeholders on carbon pricing policies and market development.</p> <p>Facilitate leadership dialogue to catalyze action on carbon pricing in public and private sectors.</p>	<p>Conceptualize and develop new ideas and prototypes, carry out testing and piloting.</p> <p>Develop new tools and assessment frameworks, explore the use of new technologies, develop innovative financial approaches, and support the development of an enabling environment.</p>	<p>Support development of technical knowledge products, tools, and assessment frameworks.</p> <p>Develop carbon pricing guidebooks and host global conferences and workshops.</p>

# Our activities in 2021/22

*In addition to launching the Task Force on Net Zero Goals and Carbon Pricing's findings report, we worked to expand the CPLC's membership base while maintaining and deepening engagement with existing partners.*

## Partner engagements and knowledge-sharing events

### JUNE 2021

#### Workshop

##### Climate Income Technical Workshop

This technical workshop examined Climate Income Systems as a way to price carbon, put climate-smart money in people's pockets, and incentivize a green recovery while accelerating decarbonization. It was hosted by Cleantech 21 and Citizens' Climate International, in collaboration with the International Climate Income Alliance and CPLC.

### JULY 2021

#### Side event

##### Accelerating Carbon Neutrality in China through Carbon Pricing and Carbon Accounting Strategies

This official, virtual side event to the UNFCCC Asia Pacific Climate Week 2021 examined the role of carbon pricing in incentivizing sectoral transformation and facilitating investment in decarbonization technologies as China transitions to low- and zero-carbon development.

### JANUARY 2022

#### CPLC All Partners Call

The virtual event was open to CPLC partners from all sectors.

### MARCH 2022

#### Side event

##### Decarbonization through the Circular Carbon Economy: The Role and Impact of Carbon Markets

This side event to the MENA Climate Week discussed the potential of carbon pricing policies to drive decarbonization at scale. See page 17 for more on carbon pricing in MENA.

### MARCH 2022

#### Webinar

##### Corporate Carbon Pricing in India

The CPLC and CDP India co-hosted a series of webinars on internal carbon pricing as a planning and mitigation tool for corporates in a broader social context of decarbonization.

## Report of the Task Force on Net Zero Goals and Carbon Pricing events

### SEPTEMBER 2021

#### Launch

The report of the Task Force on Net Zero Goals and Carbon Pricing was launched in a virtual event during the 2021 NYC Climate Week. See page 10 for more on the key messages from the report.

### OCTOBER 2021

#### Regional event: Latin America Leadership Dialogue on Net Zero Goals and Carbon Pricing

This leadership dialogue, which was held in Spanish, brought together Task Force co-chair Mauricio Cárdenas of Columbia University and former CPLC High-Level Assembly co-chair Juan Carlos Jobet to discuss net zero goals in the run-up to COP26.

### DECEMBER 2021

#### Launch in China

The Report of the Task Force on Net Zero Goals was launched in China on December 30, 2021, at an event hosted in partnership with the Government of China and the Vanke Group.



*Angela Churie Kallhauge, the former head of the CPLC Secretariat, makes a virtual presentation at the launch of the Report of the Task Force on Net Zero Goals.*

## High-level dialogues and plenaries

MAY 2021

### CPLC High-Level Plenary

The [CPLC High-Level Plenary](#), held during the Innovate4Climate event, brought together ministers, chief executives, and climate experts to discuss the findings of the CPLC Task Force on Net Zero Goals and Carbon Pricing and debate how carbon pricing can be a driver of a socially just, low-carbon transition.

NOVEMBER 2021

### COP26 events

The CPLC hosted and co-hosted three high-level events during COP26 in Glasgow with the aim of elevating the role that stringent carbon pricing systems will play in achieving global net zero emissions. These events focused on key aspects relating to the context of net zero and the role of carbon pricing policies and measures, with some events featuring case studies at the national and subnational levels. Issues relating to Article 6 of the Paris Agreement and ensuring transparency and credibility in the voluntary markets were also discussed. ●



# Our partners

*We are proud to have 321 partners from all sectors.*

## 36 GOVERNMENT PARTNERS (including state-owned entities)

Alberta  
Andorra  
Belgium  
British Columbia  
California  
Canada  
Chile  
Colombia  
Costa Rica  
Côte d'Ivoire  
Delhi Metro Rail Corporation Ltd.  
Denmark  
Ethiopia  
Finland  
France  
Germany  
Indian Railways  
Italy  
Japan  
Kazakhstan  
Mexico  
Morocco  
The Netherlands  
New Zealand  
Northwest Territories  
Norway  
Ontario  
Pakistan  
Panama  
Portugal  
Québec  
Singapore  
Spain  
Sweden  
Switzerland  
United Kingdom

## 181 PRIVATE SECTOR PARTNERS

Abengoa  
Acciona  
ACT Financial Solutions

AECOM  
AGL Energy  
Aimia  
Air Canada  
Alessandri  
ALLCOT Group  
AlliedCrowds  
AMATA  
AMEA Power  
Anglo American  
AP4  
Arvind  
Atmoterra  
Atos SE  
AXA  
B12  
Baker McKenzie  
Bank Australia  
Barco NV  
Barrick Gold Corporation  
Bearfeldt GmbH  
BG Group  
BHP Billiton  
Bird Construction  
Blackstone Energy Services Inc.  
BMO Financial Group  
BNP Paribas  
BP  
Braskem  
Broad Group  
BT Group  
Cáldida  
Canadian Tire Corporation  
Carbon Engineering  
Carrefour  
Catalyst Paper Corporation  
Cement Association of Canada  
Cemex  
Cenovus Energy Inc.  
CIBC  
Climate Focus  
Coca-Cola HBC AG

Colbún  
CommerzBank  
ConocoPhillips  
COPENOR  
Cowan  
CPFL Energia  
DAI Global  
Dalmia Cement  
Danfoss  
Daniels Power Corporation  
DAO Integral Platform for  
Climate Initiatives  
Desjardins Group  
DNV GL  
Drax Group  
EcoAct Inc.  
Ecofrotas  
ECOTIERRA  
EDP—Energias de Portugal S.A.  
Ekbd Consult  
EKI Energy Services Ltd.  
Électricité de France  
EllisDon  
EN+ Group  
Enaex  
Enagás  
Enbridge  
Enel  
Engie  
Eni  
EnvironmentFirst Energy Services  
Private Limited (EESPL)  
Equinor (formerly Statoil)  
Eskom  
EY  
Ferrovia  
Fortum  
Garanti Bank  
Get2C  
Global Environmental Markets  
Godrej & Boyce Mfg. Co. Ltd.  
Gol Linhas Aéreas Inteligentes  
Groupe ADP

Grupo Financiero Banorte SAB de CV  
 Hindustan Construction Company  
 HSBC  
 Iberdrola  
 ICF International  
 IKEA Canada  
 Infigen Energy  
 Infinite Solutions  
 Infosys  
 Keyassociados  
 Kruger Inc.  
 LafargeHolcim  
 LATAM Airlines Group  
 Libélula  
 Lloyd's Register  
 Loblaw Companies Limited  
 Mahindra  
 Man Group  
 MexiCO<sub>2</sub>  
 Michelin  
 Milbank  
 Mott MacDonald  
 National Australia Bank  
 Natura  
 NatureBank  
 Naturgy Energy Group  
 (formerly Gas Natural Fenosa)  
 Navigant  
 NaxRo  
 NEAS Energy  
 NEI Investments  
 Nestlé  
 Nouveau Energy Management  
 Novartis  
 Novozymes  
 Obrascón Huarte Lain (OHL Group)  
 Ontario Power Generation  
 Origin Energy  
 Paper Excellence  
 Perspectivas  
 Perspectives Climate Group GmbH  
 PG&E  
 Poch (WSP)  
 Pollination  
 Portafolio Verde  
 Powerledger  
 Predict Ability Limited

Rabobank  
 Redshaw Advisors  
 Resolute Forest Products Inc.  
 Royal Bank of Canada  
 Royal DSM  
 Royal Philips  
 RUSAL  
 Saint-Gobain  
 Schneider Electric  
 Scotiabank  
 Şekerbank  
 Shell  
 Shell Canada  
 Siemens AG  
 Sindicatum  
 SinoCarbon  
 SkyPower  
 Sodimac  
 Solvay  
 South Pole Group  
 S&P Global  
 SSE  
 Standard Chartered Bank  
 Star Rapid  
 Statkraft  
 Suez (formerly Suez Environnement)  
 Suncor Energy  
 Sweep  
 Tata Group  
 TC Energy Corporation  
 Teck Resources  
 TELUS  
 The African Stove Company  
 The Carbon Trust  
 The Climate Solutions Group  
 The Co-operators Group Limited  
 Toronto-Dominion Bank Group  
 Total  
 Trucost  
 Ukrgasbank  
 Unilever  
 Vale SA  
 Vena Energy  
 Veolia  
 Vestas  
 Viña Concha y Toro

Visão Sustentável  
 Yes Bank  
 Zenith Bank

#### 104 STRATEGIC PARTNERS

ABIQUIM - Brazilian Chemical Industry Association  
 African Energy Chamber  
 American Sustainable Business Council  
 Arbor Day Foundation  
 Asia Society Policy Institute  
 BCSD Portugal  
 Brazilian Agricultural Research Corporation (Embrapa)  
 Brazilian Association of Airlines (ABEAR)  
 Brazilian Tree Industry (IBA)  
 BSR  
 Carbon Market Institute  
 Carbon Market Watch  
 Caring for Climate  
 CDP  
 CEBDS  
 Center for Clean Air Policy  
 Center for Climate and Energy Solutions (C2ES)  
 Centre for Climate Engagement at University of Cambridge  
 Centre for European Policy Studies  
 Ceres  
 Children's Investment Fund Foundation (CIFF)  
 China Low Carbon Network  
 CII-ITC Centre of Excellence for Sustainable Development  
 Citizens' Climate Lobby  
 Clean Prosperity  
 Cleantech21  
 Climate Leadership Coalition  
 Climate Markets and Investment Association  
 Climate Neutral  
 Climate Outreach  
 Climate Solutions Group Ltd  
 Climate Strategies  
 Climate Transparency Initiative  
 ClimateXChange

Coalition for Rainforest Nations  
 Columbia University SIPA Center on  
 Global Energy Policy  
 Conservation International  
 Duke University Nicholas Institute  
 for Environmental Policy Solutions  
 East African Alliance on Carbon  
 Markets and Climate Finance  
 Entreprises pour l'Environnement  
 Environmental Defense Fund  
 ERCST  
 European Bank for Reconstruction  
 and Development  
 Fundación Natura  
 George Washington University,  
 Environmental and Energy  
 Management Institute  
 Global Green Growth Institute  
 Global Maritime Forum  
 Gold Standard Foundation  
 Groupe de Travail Climat REDD  
 Haga Initiative  
 I4CE  
 IDEACarbon  
 IETA  
 IFC  
 Institute for Global Environmental  
 Strategies  
 Instituto Ethos  
 International Carbon Action  
 Partnership (ICAP)  
 International Center for Trade and  
 Sustainable Development  
 International Monetary Fund (IMF)  
 Japan Climate Leaders Partnership  
 (Japan-CLP)  
 Klimaatplein.com  
 Massachusetts Institute of  
 Technology (MIT)  
 National Business Initiative  
 Organisation for Economic  
 Co-operation and Development  
 (OECD)  
 Pembina Institute  
 Put a Price on It, D.C.  
 Russian Carbon Fund  
 Second Nature

Sekem Group  
 Shakti Sustainable Energy  
 Foundation  
 Solutions for Our Climate  
 Stockholm Environment Institute  
 Sustainable Communities India  
 Pvt Ltd  
 Svebio, the Swedish Bioenergy  
 Association  
 Swarthmore College  
 TAPP Coalition  
 The B Team  
 The Climate Group  
 The Climate Trust  
 The Confederation of Danish  
 Industry  
 The Generation Foundation  
 The Institutional Investors Group  
 on Climate Change  
 The Nature Conservancy  
 The Prince of Wales's Corporate  
 Leaders Group  
 The Shift Project  
 The Union of Concerned Scientists  
 The University of the South Pacific  
 The World Bank Group  
 The Zero Carbon Campaign  
 True Animal Protein Price Coalition  
 UNICA  
 United Cities and Local  
 Governments of Africa  
 United Nations Foundation  
 United Nations Global Compact  
 United Nations Global Compact  
 Singapore  
 University College London  
 Verra  
 WBCSD  
 We Mean Business  
 West African Alliance on Carbon  
 Markets and Climate Finance  
 World Bioenergy Association  
 World Economic Forum  
 World Resources Institute  
 WWF  
 Yale University

#### CPLC-SINGAPORE PARTNERS

*In 2021, CPLC Singapore engaged 197 companies and upskilled 333 staff in emissions awareness and knowledge.*

17 Lifeworks Pte Ltd  
 Accudyne Industries Asia Pte Ltd  
 Acktec Technologies Pte Ltd  
 Action Impact Pte Ltd  
 Acuitas Pte Ltd  
 AkzoNobel Paints (Singapore)  
 Pte Ltd  
 AMFS Pte Ltd  
 Anderco Pte Ltd  
 Ants Innovate Pte Ltd  
 Asia Pulp and Paper Company Ltd  
 Association of Process Industry  
 (ASPRI)  
 Avant Proteins Pte Ltd  
 Bali Grove Pte Ltd  
 Barghest Building Performance  
 Pte Ltd  
 Beni Warehousing Pte Ltd  
 BH Global Corporation Ltd  
 Big Bang Seabreeze Pte Ltd  
 Biophilic Pte Ltd  
 Blue Waves Food Empire Pte Ltd  
 BNP Paribas  
 BoilerMaster Pte Ltd  
 Bok Seng Logistics Private Limited  
 Brightree Pte Ltd  
 Browzwear Solutions Pte Ltd  
 Capella Hotel, Singapore  
 Carbon Care Asia Pte Ltd  
 Centre for Business  
 Sustainability, Nanyang  
 Technological University (NTU)  
 Changi Airport Group  
 (Singapore) Pte Ltd  
 City Developments Limited (CDL)  
 Climate Resources Exchange  
 International Pte Ltd (CRX)  
 Coastes Pte Ltd  
 Contact Sense Asia Pte Ltd  
 Containers Printers Pte Ltd

Cooling Lab Pte Ltd	MEP Systems Pte Ltd	Societe Generale
Danfoss Industries Pte Ltd	Merlin Entertainments Singapore Pte Ltd	Solaris Strategies Singapore Pte Ltd
Desire Lines Pte Ltd	Mermaid Ventures Pte Ltd	Sophie's Bionutrients Pte Ltd
DiviGas Pte Ltd	MolyWorks Materials Pte Ltd	South Pole Carbon Asset Management
DSM Singapore Industrial Pte Ltd	Mordec International Pte Ltd	SpaceAge Labs Pte Ltd
Durapower Holdings Pte Ltd	Mount Faber Leisure Group	Spark Systems Pte Ltd
Dyna-Mac Engineering Services Pte Ltd	MTQ	StarHub
Dynamic Capital Growth Pte Ltd	Mun Siong Engineering Limited	Stemcell United Pte Ltd
EcoSense Enviro Solutions Pte Ltd	N&E Innovations Pte Ltd	Strategic Marine (S) Pte Ltd
ecoSPIRITS Pte. Ltd	Ngo Chew Hong Edible Oil Pte Ltd	SWTS Pte Ltd
engeco Pte Ltd	Nitto Denko (Singapore) Pte Ltd	Tanjong Pagar Town Council
Eng Hup Shipping Pte Ltd	Northmore Gordon Pte Ltd	Tembusu Asia Consulting Pte Ltd
ENGIE Asia Pacific	Oasia Resort Sentosa	The Barracks Hotel Sentosa
ETH Enterprise Pte Ltd	OceanMaster Engineering	The Outpost Hotel Sentosa
Evercomm Singapore Pte Ltd	Olam Cocoa Pte Ltd	T-RECs.ai Pte Ltd
ExxonMobil Asia Pacific Pte Ltd	Onestop Pte Ltd	TRIA Pte Ltd
FOC Sentosa	Ovo! Singapore Pte Ltd	TRIREC Holding Pte Ltd
Futurus Construction	P99 Pte Ltd	Trucost (part of S&P Global)
GAC (Singapore) Pte Ltd	Penguin International Limited	Tru-Marine Pte Ltd
Gogreen Holdings Pte Ltd	Petrochemical Corporation of Singapore Pte Ltd	TuffChem Environmental Services Pte Ltd
Greenpac (S) Pte Ltd	Prestige Technology (S) Pte Ltd	TurtleTree Labs Pte Ltd
Guava Amenities Pte Ltd	PricewaterhouseCoopers LLP Singapore	UglyFood Pte Ltd
Hashstacs Pte Ltd 'STACS'	Princeton Digital Group (Singapore) SG1 Pte Ltd	UL Verification Services Private Limited
Herculean Climate Solutions	PSA International	Umami Meats Pte Ltd
Hydratech Industries Pte Ltd	Quest Ventures	UnaBiz Pte Ltd
Hydrogen and Fuel Cell Association of Singapore (HFCAS)	RHT Green Pte Ltd	Unilever Asia Pte Ltd
IBC Solar Energy Pte Ltd	Right People Renewable Energy (RPRE)	Uniweld Products (USA) Pte Ltd
ICF International Pte Ltd	Sasha's Fine Foods	Vac-Tech Engineering Pte Ltd
idstats Research Pte Ltd	Save A Crust Pte Ltd (CRUST Group)	Victory Pte Ltd (previously Victory Petroleum Trading Pte Ltd)
IHI Asia Pacific Pte Ltd	Seatech Solutions International (S) Pte Ltd	Village Hotel Sentosa
Innovate 360 Pte Ltd	Seatobag Pte Ltd	Viswalab Singapore Pte Ltd
Insect Feed Technologies Pte Ltd	Sembcorp Industries Limited	Volve Solutions Pte Ltd
Interface Singapore Pte Ltd	Sentosa Golf Club	Wholesome Savour Pte Ltd
iWow Technology Pte Ltd	SEPPURE Pte Ltd	Wilhelmsen Ships Service (S) Pte Ltd
Jetaime Perfumery Pte Ltd	Shiok Meats Pte Ltd	W Singapore Sentosa Cove Hotel
Jurong Port Pte Ltd	Singapore Institute of Technology	Zilingo Pte Ltd
Lendlease Singapore Pte Ltd	Singapore Telecommunications Limited (Singtel)	
LYS Energy Solutions Pte Ltd		
Marquis Energy Global Pte Ltd		
Matex International Limited		
Maximator Far East Pte Ltd		



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