



CARBON PRICING

THE PARIS AGREEMENT'S KEY INGREDIENT



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A JOINT PAPER BY THE ENVIRONMENTAL DEFENSE FUND (EDF) AND THE INTERNATIONAL EMISSIONS TRADING ASSOCIATION (IETA)

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EXECUTIVE SUMMARY

After four years of negotiations, world leaders adopted a [new global climate change agreement](#) on 12 December 2015 in Paris, with actions to be undertaken by all Parties. The Paris Agreement established a framework for a new era in climate action and laid the foundation for future cooperation amongst countries on carbon pricing. It was a diplomatic success of the greatest magnitude. It sent a powerful signal that climate change is real and that nations are motivated to decarbonise their economies. Understanding that this is a massive undertaking, it sought to inspire the collective effort of government, businesses, investors and civil society.

The key ingredient to the success of the Paris Agreement will be whether it encourages countries to cooperate in achieving emissions reductions *beyond their minimum* individual targets already pledged.

In the run-up to the Paris talks, governments submitted Intended Nationally Determined Contributions (INDCs) to the UN Framework Convention on Climate Change (UNFCCC) secretariat. In **90 INDCs, governments expressed interest in using carbon markets to reach their emission reduction targets.** Some even offered to make greater reductions: they specify that, in addition to domestic contributions, an additional level of reductions could be achieved with access to international market-based mechanisms, such as the **CDM or a new market-based mechanism, REDD+, or other international market linkages.**

Going forward, INDCs could become the floor – not the ceiling – of the level of ambition that each country pursues after Paris. Specifically, Article 6 of the Agreement can unleash **more ambition** by enabling cooperation, including through carbon market linkages. It offers the basic elements of quality accounting standards and transfer mechanisms to enhance market integrity and instill the confidence to increase ambition. By improving economic efficiency, access to an **international carbon market** can inspire countries to put forward **stronger commitments**, going beyond their domestic capabilities. The strong economic foundation of market linkages can build political confidence to unleash this potential.

Well-designed carbon markets bring together key elements of success: they provide an essential source of climate finance, combined with strong governance, transparency and accounting frameworks.



They also facilitate win-win technology transfers between nations. In so doing, access to markets can enable countries to reach the full potential of their nationally determined contributions (NDCs). Over time, they can inspire countries to go beyond their INDC pledges, thanks to the lower costs available through the international market. The provision for internationally transferrable mitigation outcomes in Article 6 of the Agreement will help drive deeper emissions reductions at the lowest possible cost and **could help close the emissions gap between what science demands to avoid the most severe impacts of climate change, and the current sum of nations' individual contributions.**

GLOBAL CARBON MARKETS ON THE RISE

Some countries already have a long history of successful carbon pricing policies, and most of the frontrunners have improved their systems over time. Early leaders inspired others to follow with systems tailored to their unique needs.

An increasing number of jurisdictions are implementing climate policies to create economic value in reducing greenhouse gas (GHG) emissions. To date, over 50 jurisdictions home to over one billion people have implemented policies to put a price on carbon. (When China adopts a national carbon trading system, beginning in 2017, that number will rise to over two billion – almost a third of the world's population.) Nearly 40% of global GDP¹ is produced by jurisdictions with emissions trading systems.

This movement is occurring at several levels, from plurilateral forms (the EU ETS,) to state and provincial efforts across North America and China (California, Québec, British Columbia, states in the US Regional Greenhouse Gas Initiative and China's seven pilot trading programmes). It is also occurring in different multilateral forums, such as the 191-nation International Civil Aviation Organization, which has pledged to finalise by October 2016 a global market-based measure to help the entire international aviation sector cap its net emissions at 2020 levels. A form of emissions pricing occurs inside major corporations as they plan investments – a simple but powerful example of the importance of valuing carbon emissions and incentivising reductions.

Of the 90 countries which have expressed interest in carbon markets in their INDCs, the most important first step is to join the conversation. Participating in regional and multilateral forums on carbon pricing and carbon market action can help practitioners and industries understand the diverse policy landscape of the 56 existing carbon markets. Examples of useful carbon pricing and market forums include the World Bank's Carbon Pricing Leadership Coalition, the World Bank's Partnership for Market Readiness, and the UNFCCC Nairobi Framework dialogues (the Africa Carbon Forum and the Latin American and Caribbean Carbon Forum). Policymakers can be better informed on carbon market and carbon pricing policy best practices and knowledge sharing through participation in these dialogues.

CARBON PRICING IN THE PARIS AGREEMENT

The Paris Agreement sets a long-term goal of restricting the average global temperature increase to “well below” 2°C, with all countries “pursuing efforts” to keep the temperature rise below 1.5°C. The Agreement also aims to achieve emissions neutrality in the second half of the century. Once

¹ [ICAP Status Report 2015](#)

implemented, the Agreement could help countries unleash new investment flows and drive innovation through new mechanisms for emissions trading and climate finance funds.

The Agreement enhances cooperation among governments on climate change mitigation, including through market-based approaches, through the following provisions:

1. **Provisions to facilitate cross-border transfers** (article 6, paragraph 2): These provisions will facilitate transfers of emission reduction units across international borders. This can help countries who already have a price on carbon to enter into bilateral and plurilateral forms of cooperation. In turn, it will allow countries to increase their climate ambition by participating in a larger market (and economy), driving down emissions at lower cost than purely national, domestic efforts. Transfers of emissions reductions from one country to another will help expand the map of countries participating in a carbon market or carbon pricing policy, and it will help create a fungible, international price on carbon (which the Agreement did not address directly).
2. **Robust carbon accounting rules and measures to prevent double counting of emissions reductions** (article 6, paragraphs 2 and 5): These two paragraphs will go a long way in making sure that countries account for emissions reductions in a transparent and universal way so as to avoid the double-counting of reductions. In keeping track of each country's progress in meeting their targets, it will be important not to count the same emissions reductions twice, as otherwise global emissions could go up, not down. In ensuring that double counting is avoided, the Paris Agreement laid down one of the key "rules of the road" needed to help ensure that bottom up markets work smoothly and with high integrity.
3. **A new international mitigation mechanism** (article 6, paragraph 4): For those governments which choose to use it, this new mechanism can help countries (both developed and developing) reduce their emissions and promote sustainable development.
4. **An enhanced transparency framework** (article 13): Required new standards for reporting and review of all nations' climate efforts will provide a foundation for building confidence not only in nations' actions, but also for the use of high-integrity carbon markets to drive the deep emissions reductions called for by science.

The Agreement will enter into force 30 days after at least 55 countries accounting for at least 55% of total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval or accession. This could happen as soon as this year if more countries join China and the US in signing the Paris Agreement and moving quickly to translate it into domestic law.

CARBON PRICING AFTER COP 21

Carbon pricing, and specifically markets, appears in a number of the INDCs. The INDCs outline goals for national efforts to address emissions, and will become NDCs once the Agreement enters into force. While most follow a common format to express a nation's plan for mitigating emissions or engaging in climate finance, the information is typically "bare bones" as to the specific actions planned at home. Hence, business must be attuned not only to expressions of interest in using pricing as part of a country's NDC, but also to national policies under development in many capitals.

INDC Map

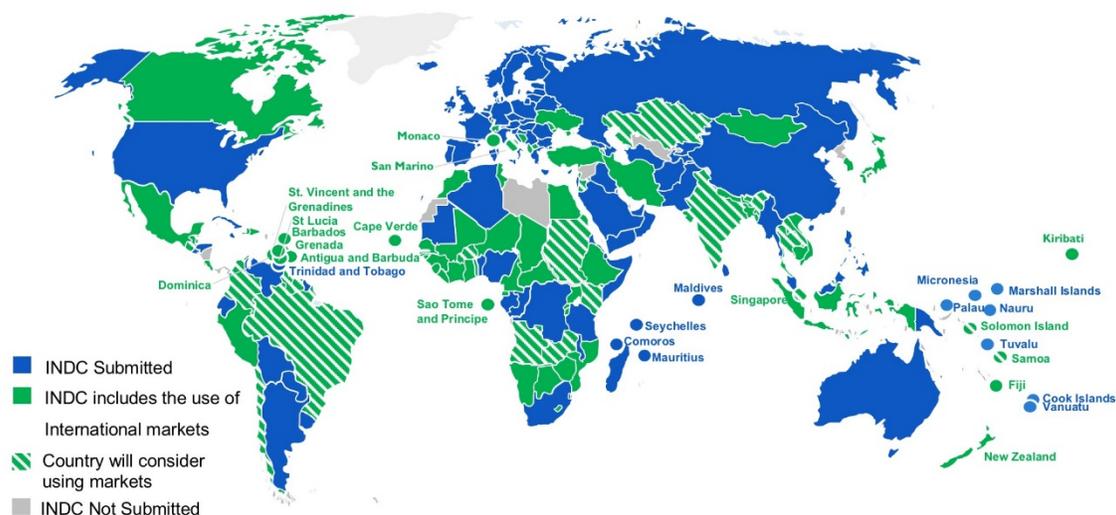


Figure 1: Carbon Markets and INDCs. Map provided by IETA's [INDC Tracker](#).

To date, **188 countries have submitted INDCs**, as represented by the map above. Several countries stated in their INDCs that the level of commitment they are putting forward is conditional upon having **access to international carbon markets in the Paris Agreement**. Overall, **90 INDCs mention the use of markets**.

The potential use of markets could be crucial, for example, for countries that are fully industrialised and have high carbon abatement costs and also for countries where emissions originate in sectors with limited abatement opportunities because of technology constraints. Well-designed carbon markets not only deliver a needed source of climate finance, but they also provide strong governance, transparency and accounting frameworks that can facilitate win-win technology transfers between nations.

Similarly, some Parties have indicated the potential range of achievement possible if adequate and effective climate finance is made available, either through existing channels or the new Green Climate Fund.

The table in Appendix 1 summarises a selection of INDCs that seek access to an international carbon market.

As noted, INDCs only tell part of the story. Other policy developments offer strong signals about pricing:

- The **European Union** is clear on its intention to maintain its Emissions Trading System (ETS) as the centerpiece of EU climate policy;
- The **People's Republic of China** announced its plans for a national ETS to start in 2017;

- The Clean Power Plan in **the United States** – currently subject to a stay pending further review – offers states the ability to adopt emissions trading programmes or to join a multi-state market;
- Since January 2015, the **California and Québec** markets have been linked, and the two have held 12 joint carbon auctions to date. **Ontario** has signalled its intent to join this carbon market ‘club’ and **Manitoba, Washington, and Oregon** are also exploring the feasibility of joining;
- **Korea** launched a national ETS in 2015, becoming the first nation-wide trading programme in Asia; and
- **Japan** is pursuing a set of bilateral trading links through its Joint Crediting Mechanism.

Establishing the mitigation goals and proposed carbon market involvement that governments outlined in their INDCs is another key step for carbon pricing action. INDCs now need to be **translated into concrete actions** contained in **domestic climate policies**, between now and the specified target year (2025 or 2030) in order to achieve actual emissions reductions.

THE CASE FOR LINKING AND CLUBS

As carbon markets continue to expand over time, coordination among jurisdictions using or considering carbon markets will be increasingly important to ensure environmental integrity and maximise cost-effectiveness. Market-based mechanisms and linked carbon markets attract investments where emissions reductions can occur at the lowest cost — a critical component of accelerating clean energy investment at the pace and scale needed to hold the average global temperature increase to well below 2°C, as agreed by nations in Paris last December. **The provisions in Article 6 of the Paris Agreement can help countries cooperate on carbon pricing in order to meet their mitigation commitments, and increase their ambition over time.**

Linkages and crediting mechanisms enable greater net emissions reductions than if governments attempt to achieve their targets in isolation. Access to markets could therefore enable countries to go beyond their INDC commitments – and at a lower cost. The provision for internationally transferrable mitigation outcomes in Article 6 of the Agreement will help drive deeper emissions reductions, quicker than would otherwise occur. Thus, **an effective international carbon market coalition or ‘club’ could achieve a greater outcome than the mere sum of the individual contributions².**

The initial focus of such a club could be the development of common, credible standards or guidelines to ensure the integrity of carbon emission units traded internationally, including through transparent monitoring, reporting and verification (MRV), as well as market oversight provisions and standards for environmental integrity. Over time, such standards and guidelines could provide the foundation for the development of a common market that jurisdictions could voluntarily link into. **By promoting the development of standards for international emissions trading that would build on and complement the guidelines for emissions accounting and reporting called for by the Paris Agreement, such a club would be fully compatible with the UNFCCC process.**

² [‘Toward a Club of Carbon Markets.’ Keohane, Petsonk & Hanfai. 2015](#)

Ultimately, a carbon market club could promote deep reductions in emissions by supporting the harmonisation of carbon markets across countries. As the club matured, members could establish harmonised or reciprocal standards for transparency, governance, and environmental integrity, create a shared market infrastructure to support the mutual recognition of emissions units, share experiences and cooperate in building institutional capacity, and work jointly to further the ability of these markets to promote domestic and cross-border investment in low-carbon technologies. A carbon market club could work in parallel to the Paris Agreement, with club members continuing to comply with their centralised reporting and transparency obligations under the UNFCCC. One example of an emerging club can be found in North America. In January 2015, California and Québec linked their respective carbon markets and are jointly administering North America's first cross-border carbon market. Ontario plans to join the California-Québec carbon market in 2017 and other Canadian provinces, US states, and Mexico are exploring the potential to join this emerging carbon market club.

As greater participation and cooperation opens new avenues for more efficient emissions reductions, more ambition and action could be reflected at the international level. **Over time, a club of carbon markets could catalyse the emergence of an international carbon price, thereby addressing a gap in the Paris Agreement. While the Agreement encourages countries to cooperate on carbon pricing (via the internationally transferrable mitigation outcome provision), it does not “put a price on carbon” – nations need to that.**

Paris provides a framework for cooperation among jurisdictions, but countries need to take the lead in implementing domestic carbon pricing policies and establishing links with others. Indeed, of the 90 countries which seek access to an international market mechanism, many of them may decide it is technically easier and more cost-effective to join existing carbon markets or adopt similar policy architecture from existing markets.

CONCLUSIONS

The emergence of an international carbon market could unleash the full emissions reduction potential of the Paris Agreement, by facilitating the implementation of INDCs and emboldening countries to take on even more ambitious action over time. The opportunities are enormous once countries have access to a broader pool of carbon abatement. Mexico, for example, has pledged to reduce its greenhouse gas emissions by 40% more than its domestic greenhouse gas reduction (22% below business-as-usual levels) if it has access to an international carbon market. If all countries took the same level of effort and joined an international carbon market, the world would be in much better shape to meet the objectives of the Paris Agreement.

A critical next step, especially from the perspective of spurring private-sector investment, is to develop 'rules of the road' for cross-border trading. The sooner clear rules emerge, the stronger the business response will be. These rules start with the establishment of domestic emission trading programmes in key countries; the accounting guidance called for in Article 6 of the Paris Agreement; standards and guidelines for environmental integrity of international transfers that could be developed bilaterally or plurilaterally through a carbon market club; and finally, operational rules for the mitigation mechanism in Article 6.

With the Paris Agreement providing a strong foundation for countries to move ahead with market-based approaches, and a range of bilateral and plurilateral models for cooperation already beginning to emerge, carbon markets are poised to make a central contribution to implementing the commitments that countries have already made — and unlocking greater ambition in the future.

APPENDIX: INDCs THAT SEEK AN INTERNATIONAL CARBON MARKET³

Country	Reduction Target	Target Year	Baseline
Albania	11.50%	2030	BAU
Angola	35% unconditional, additional 15% conditional	2030	BAU
Antigua and Barbuda	INDC sets out a number of measures	2030	N/A
Armenia	Total emissions won't exceed 663MtCO ₂ e and 189 tonnes per capita	2030	N/A
Bahamas	30%	2030	BAU
Bangladesh	5% unconditionally, 15% conditionally	2030	BAU
Barbados	37% and 44%	2025 and 2030	BAU
Belize	62%	2030	BAU
Bhutan	Bhutan intends to remain carbon neutral	N/A	N/A
Bosnia-Herzegovina	2% below BAU unconditional, 23% conditional	2030	BAU
Botswana	15% reduction below 2010 levels by 2030	2030	2010
Brazil	37% by 2025, 43% by 2030 (indicative)	2025	2005
Brunei	INDC sets out 3 sectoral targets	2035	BAU
Burkina Faso	11.6% unconditional, 18.2% conditional	2030	2007
Burundi	3% unconditional, 20% conditional	2030	BAU
Cabo Verde	30% renewable energy target. With international support, 100% renewable energy.	2025	N/A
Cambodia	27%	2030	2010
Cameroon	32%	2035	2010
Canada	30%	2030	2005
Central African Republic	5%	2030	BAU
Chad	18.2% unconditional, 71% conditional	2030	2010
Chile	30% unconditional emission intensity reduction, 35-45% conditional	2030	2007
Colombia	20% unconditional, 30% conditional	2030	BAU
Costa Rica	25%	2030	2012
Côte d'Ivoire	28% unconditional, 36% conditional	2030	BAU
Dominica	39.2% and 44.7%	2025 and 2030	BAU

³ Table provided by IETA's [INDC Tracker](#)

Dominican Republic	25%	2030	2010
Egypt	INDC sets out a number of sectoral measures.	2030	N/A
Equatorial Guinea	20%	2030	2010
Ethiopia	64%	2030	BAU
Fiji	Reduction of emissions from the energy sector by 30%	2030	BAU
Ghana	15% unconditional, 45% conditional	2030	BAU
Grenada	30% by 2025, with an indicative 40%	2025 and 2030	2010
Guatemala	11.2% unconditional, 22.6% conditional	2030	BAU
Guinea	13%	2030	BAU
Guinea-Bissau	Guinea-Bissau is a carbon sink	N/A	N/A
Guyana	52MtCO ₂ e reduction	2025	N/A
Haiti	5% unconditional, 26% conditional	2030	BAU
India	33 to 35% carbon intensity reduction	2030	2005
Indonesia	29% unconditional, 41% conditional	2030	BAU
Iran	Unconditional reduction of 4%, conditional reduction of 12%.	2030	BAU
Japan	26%	2030	2013
Jordan	1.5% unconditional, 14% conditional	2030	BAU
Kazakhstan	15% unconditional, 25% conditional	2030	1990
Kenya	30%	2030	BAU
Kiribati	12.8% unconditional, 61.85% conditional	2030	BAU
Lao People's Democratic Republic	INDC sets out a number of sectoral measures	2030	N/A
Lebanon	15% unconditional, 30% conditional	2030	BAU
Lesotho	10% unconditional, 35% conditional	2030	BAU
Liberia	15%	2030	BAU
Liechtenstein	40%	2030	1990
Mexico	22% unconditional or 40% conditional	2030	BAU
Moldova	64-67%	2030	1990
Monaco	50%	2030	1990
Mongolia	14%	2030	BAU
Montenegro	30%	2030	1990
Morocco	32% (13% unconditional, 19% conditional)	2030	BAU
Mozambique	Reduction of 76.5 MTCO ₂ e	2030	N/A
Namibia	89%	2030	BAU
Nepal	INDC sets out a number of sectoral targets	Various	N/A
New Zealand	30%	2030	2005
Niger	3.5% unconditional, 34.6% conditional	2030	BAU
Peru	20% unconditional, 30% conditional	2030	BAU
Rwanda	Estimation of emissions reduction is underway	2030	BAU
Saint Kitts and Nevis	35%	2030	BAU
Saint Lucia	23% conditional	2030	BAU

Samoa	100% renewable energy generation	2025	N/A
San Marino	20%	2030	2005
Sao Tome and Principe	24%	2030	2005
Senegal	5% unconditional and 21%	2030	BAU
Sierra Leone	Emissions will not exceed 7.58 MtCO ₂ e in 2035	N/A	N/A
Singapore	36%	2030	2005
Solomon Islands	30% unconditional and 45% conditional	2030	2015
South Korea	37%	2030	BAU
South Sudan	INDC sets out a number of sectoral measures, without setting targets.	2030	N/A
St. Vincent and the Grenadines	22%	2025	BAU
Sudan	INDC sets out a number of sectoral measures.	2030	N/A
Suriname	INDC sets out a number of sectoral measures.	2025	N/A
Switzerland	50%	2030	1990
Thailand	20% unconditional and 25% conditional below BAU by 2030	2030	BAU
The former Yugoslav Republic of Macedonia	30% unconditional, 36% conditional	2030	BAU
The Gambia	44.4% and 45.4%	2025 and 2030	2010
Togo	11.14% unconditional, 31.14% conditional	2030	BAU
Tunisia	13% carbon intensity unconditional, 41% conditional	2030	2010
Turkey	21%	2030	BAU
Uganda	22%	2030	BAU
Ukraine	40%	2030	1990
Vietnam	8% unconditional, 25% conditional	2030	BAU
Zambia	25% unconditional, 47% conditional	2030	BAU
Zimbabwe	33% carbon intensity reduction	2030	BAU

For any comments on this paper, please contact:

Derek Walker, EDF: dbwalker@edf.org

Jeff Swartz, IETA: swartz@ieta.org



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