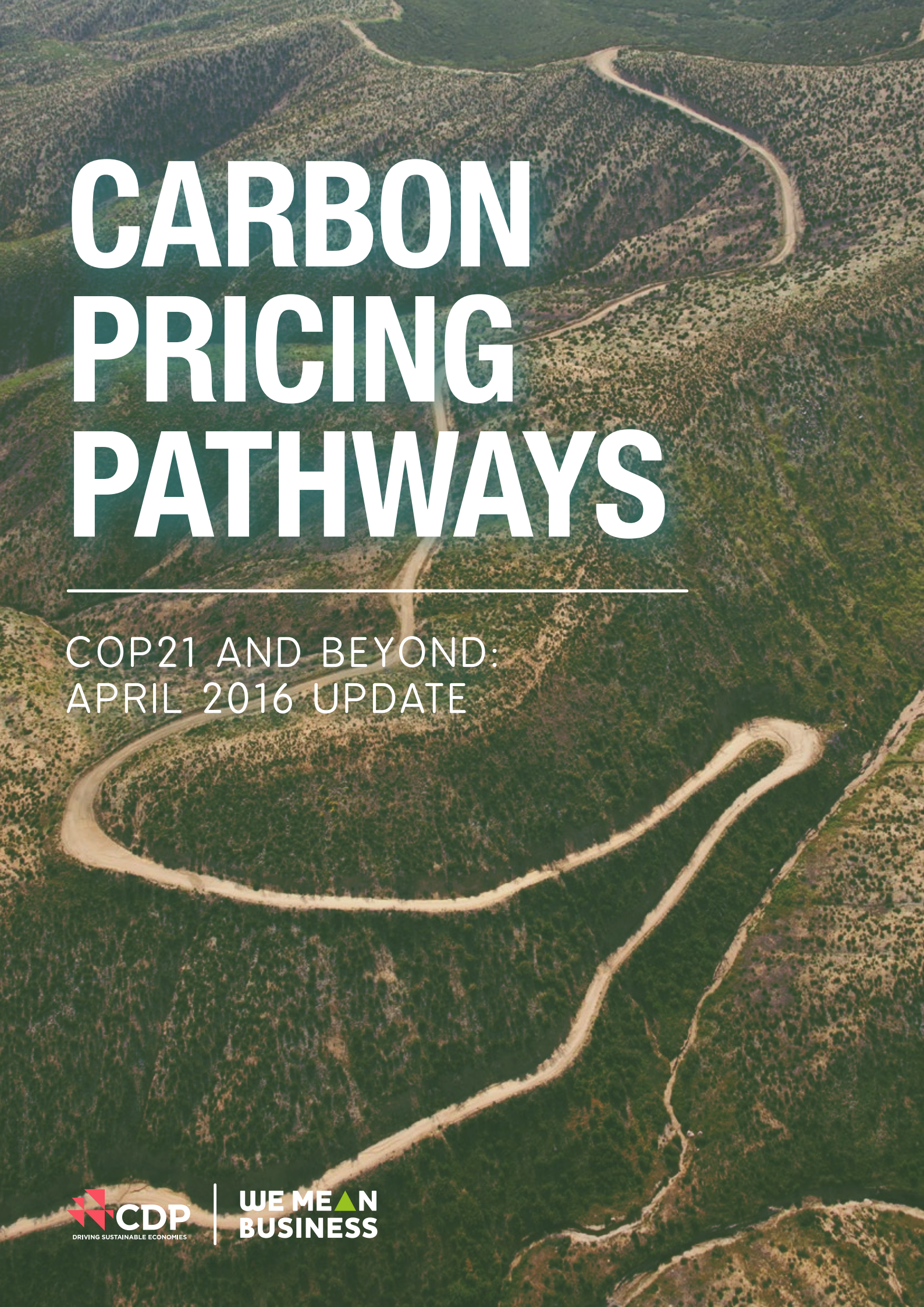


CARBON PRICING PATHWAYS

COP21 AND BEYOND: APRIL 2016 UPDATE

CDP
DRIVING SUSTAINABLE ECONOMIES

WE MEAN BUSINESS

WE STILL NEED A STRATEGIC CONVERSATION ABOUT CARBON PRICING.

The need to act on climate has never been more urgent. 2015 was the hottest year on record, at 1°C above pre-industrial levels. But the world is on the verge of a tipping point, recognizing that the era of cost-less carbon emissions is over. Global GHG emissions fell last year as the economy expanded, suggesting that pollution no longer needs to parallel growth. China is rolling out a nationwide system to price and curb emissions as the EU looks to reform its emissions trading system to strengthen its price signal. The United States and China have announced they will sign the Paris Agreement this April 22 and encourage other nations to bring the Agreement into force as soon as possible. On the energy side, India has committed to increase its renewable energy capacity by 40% by 2030. Finance is playing its part too, with major banks shifting investment away from ailing, leveraged coal companies and toward renewables.

Few would have imagined climate action on this scale even a year ago, before the UN Paris Climate Change Summit, COP21, produced an unprecedented international agreement to keep global temperatures to well below 2°C of pre-industrial levels. But we need even stronger measures.

Carbon pricing is a powerful tool to meet the Paris Agreement's ambitious climate goal. It frames the climate challenge as a financial incentive – polluters are incentivized to cut emissions in order to minimize their cost of doing business.

Of the 195 nation states represented at COP21, 90 plan to use carbon pricing and other market mechanisms to meet their emissions reduction goals. This means we can expect carbon pricing to be embedded in many more economies in the future, in fact more than double the number of nations deploying carbon pricing policies in 2015.

As momentum grows, our efforts must be focused on strengthening carbon price levels and coordinated action to spread its adoption.

> **Price levels matter:** Business and investors are urging governments to enact robust carbon pricing policies. They need the certainty, stability and long-term financial incentives of carbon pricing to make the investments and other strategic decisions required to cut emissions. For this, policymakers need to know which price levels trigger important techno-economic shifts, particularly shifts in energy sources.
>
> **Widespread adoption through coordinated action:** Governments and business can demonstrate climate leadership by supporting stronger prices where carbon pricing policy measures are already in place, and encouraging their adoption where they don't exist. A sustainable, profitable future requires well-designed carbon pricing policies that will lead to well-informed corporate and investment decisions.

The Carbon Pricing Pathways, first released in September 2015, is designed to facilitate these important conversations – outlining how the development of carbon prices along a common trajectory, in tandem with complementary policies, can smooth the global transition to a new, low carbon economy.

This April 2016 update of the Carbon Pricing Pathways comes four months after COP21. It provides analysis of a selection of global trends and developments that suggest that the world is responding rapidly to the new "rules of the game" set by the Paris Agreement. The strategic conversation on carbon pricing is more urgent than ever, as the era of cost-less carbon emissions draws rapidly to a close.

TIMELINE OF DEVELOPMENTS

Carbon Pricing — 2015 ends as the hottest year on record, at 1°C above pre-industrial levels.

Energy — In 2016, global GHG emissions have decoupled from economic growth.

Technology — Electric vehicle sales rise 60% in 2015.

September 2015 | LONDON

Governor Carney of the Bank of England calls for the establishment of carbon pricing corridors in his speech "Breaking the Tragedy of the Horizon - Climate Change sand Financial Stability".

November 2015

Fossil fuels giant BP says even a modest carbon tax would make carbon capture technologies economically viable, and make some renewable energy competitive with natural gas.

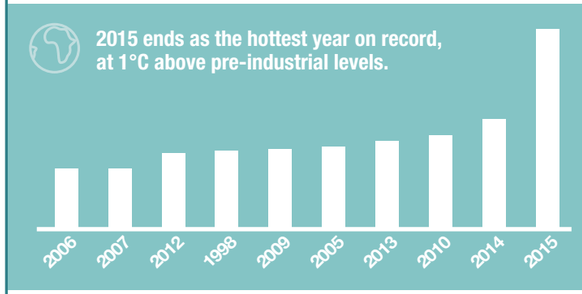
December 2015 | PARIS

The UN Paris Climate Change Conference draws to a close, with an unprecedented agreement among 195 nations to keep global average temperature to "well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels".

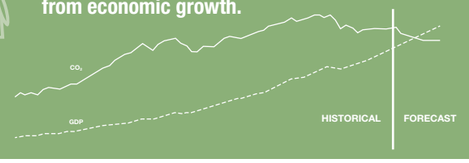
SUCCESS FOR CARBON PRICING!

- 90 countries plan to use market mechanisms to meet their emissions reduction targets
- COP21 Decision emphasizes the "important role of providing incentives for emission reduction activities" in the private sector.
- Paris Agreement paves the road for international cooperation to establish carbon markets and establish crediting mechanisms to facilitate cross-border emissions transfers.
- Strong support comes from heads of state at the Carbon Pricing Leadership Coalition launch.

2015 ends as the hottest year on record, at 1°C above pre-industrial levels.



In 2016, global GHG emissions has decoupled from economic growth.



January 2016 | DAVOS

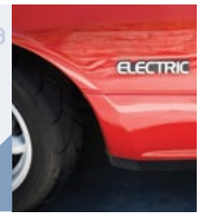
Leaders in business and politics gather from around the globe for the World Economic Forum's annual meeting, identifying the "failure of climate-change mitigation and adaptation" as the greatest risk facing the world over the next 10 years.

February 2016 | FRANCE

French government urges a price corridor for the European carbon market (EU ETS), with minimum and maximum prices to limit volatility and strength price signals. This mechanism could facilitate low-carbon investment, gradually increase the price of carbon, secure revenue from quotas at auctions, and cut the cost of renewable energies.

February 2016

Major automakers announce large-scale investments to electrify fleets, including Tesla, BMW, Toyota, Nissan & Renault, and General Motors.



February 2016 | INDIA

India doubles its coal tax and pledges to cut carbon intensity by 30-35% by 2030. India also announces plans for a 40% increase in national solar energy capacity by 2030 and reforestation to absorb 2.5-3 billion tonnes more CO_2.

March 2016

Deepest oil industry downturn since the 1990s. Persistently low oil prices cause an estimated 250,000 industry job losses and several bankruptcies. US coal production falls to its lowest level in 30 years, straining highly leveraged producers and forcing some of the largest into unprecedented financial stress.

March 2016 | CANADA

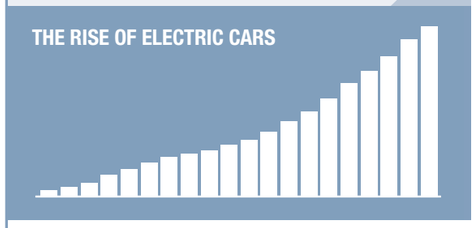
Prime Minister Justin Trudeau works with all Canadian provinces to develop a federal carbon price. "There will be different approaches but pricing carbon is part of the solution that this country and all of its premiers will put forward."

March 2016 | CHINA

China's 2015 energy emissions decline by 1.5% as coal consumption drops. Policies block new coal plants in 15 regions and require power transmitters to provide connectivity for renewable power – unplugging bottlenecks in transition to clean energy.

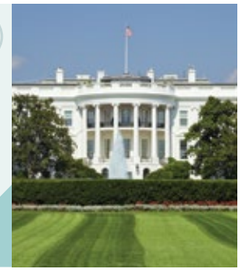
March 2016

Thousands place names on the waiting list for Telsa's mass marketed and affordable Model 3. Within the first 24 hours, 180,000 cars are preordered.



March 2016 | DC

U.S. and Canada announce agreement to cut methane emissions and shared Arctic leadership model. Two weeks later, U.S. and China announce they will sign the Paris Agreement on April 22 and encourage other nations to bring the Agreement into force as soon as possible.



April 2016 | SAUDI ARABIA

Prince Mohammed bin Salman announces Saudi Arabia's new Public Investment Fund, which will eventually control more than $2 trillion to help wean the kingdom off oil and transition to a sustainable economy.

April 2016 | WASHINGTON, DC

High-Level Carbon Pricing Panel releases a new Vision Statement laying-out concrete goals for the international community to support the goals of the Paris Agreement and emphasize the key role of carbon pricing post-Paris.

April 2016 | NEW YORK CITY

Leaders from across the globe gather to sign the Paris Agreement – the largest international agreement in world history.

2015 | JANUARY 2016 | MARCH 2016 | APRIL 2016

CARBON PRICING PATHWAYS: THE KEY CONCEPTS

CARBON PRICING BANDS

Carbon Pricing Bands provide a common language to talk about pricing levels, focusing on how price affects economic behavior and vice versa.

TARGETED: Prices above $80. In limited circumstances, this band may support specific policy objectives such as eliminating certain fuel sources.

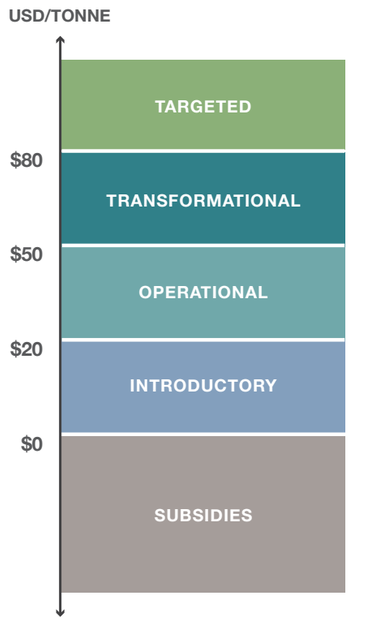
TRANSFORMATIONAL: Price range $50 to $80. Schemes in this band have secured a low carbon future beyond coal. They carry forward successes from the operational band. For example, renewables are likely to be the most attractive investment, replacing gas, and capital flows will prompt low carbon technological breakthroughs.

OPERATIONAL: Price range $20 to $50. In this band, carbon prices start to drive economic transformation, enabling structural changes like a wholesale switch from coal- to gas-generated electricity. Carbon taxes and cap-and-trade systems start to generate significant income.

INTRODUCTORY: Prices up to $20. Most systems begin in this band, enabling businesses to adapt. Governments give clarity about future policy direction and start to collect revenue. This band is useful, but systems that languish here may not cut emissions enough over time.

SUBSIDY: Fossil fuel subsidies lower the actual cost of carbon, and make low carbon technologies relatively more expensive. This negative price on carbon is one way that governments boost fossil fuel consumption and render low carbon alternatives economically less viable.

CARBON PRICING BANDS



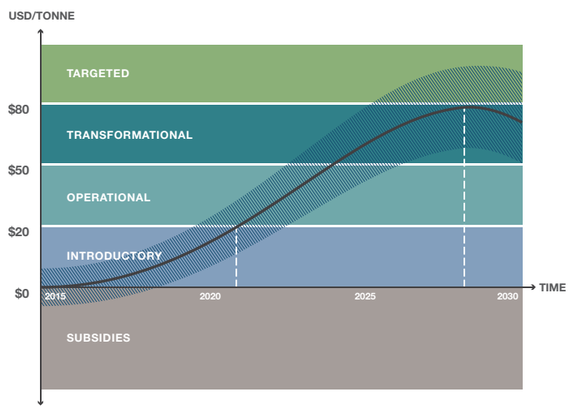
CARBON PRICING TRAJECTORIES AND NARRATIVES

Carbon Pricing Trajectories, each with a corresponding **Carbon Pricing Narrative**, are imagined futures offered to stimulate discussion about this complex question. In the Toolkit's first trajectory and narrative, the world succeeds in making the transition to a low carbon economy. The others explore alternative futures in which the global economy does not manage that transition. The future is unknowable, so clearly these trajectories and narratives are not predictive and only portray the possible impacts of today's decisions and actions. Nor are they prescriptive, as no policy recommendations are intended.

SAILING TO THE NEW LOW CARBON WORLD

Global temperatures remain within 2°C of pre-industrial levels: Business, investors and governments successfully navigate the complex waters of climate policy, guided by domestic policies and global agreements. Globally, carbon pricing is a popular policy choice; mature schemes quickly reach price levels needed to drive fuel switching, and effective mechanisms are introduced to drive price convergence. Carbon pricing sits within a package of complementary policies, which work together to deliver a low carbon economy.

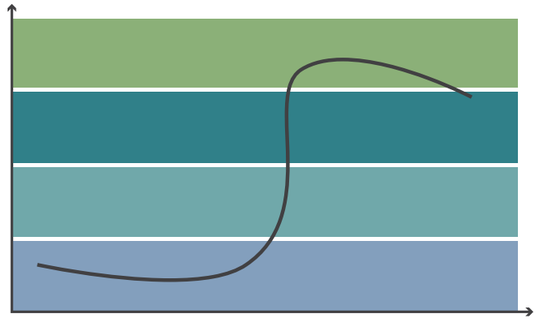
SUCCESS TRAJECTORY: SAILING TO THE NEW LOW CARBON WORLD



SAILING INTO THE CLIFF

Delayed action means global temperatures rise by 3°C or more: Global agreements are strong, but few effective national carbon pricing policies emerge. Greenhouse gas emissions diminish slowly, until catastrophic weather events trigger a radical course-correction, with carbon prices soaring worldwide. Unprepared, the world economy is crippled. Emissions do quickly drop, but the carbon budget is already breached. The accompanying trajectory shows sustained low carbon prices, which suddenly rise above the transformational level.

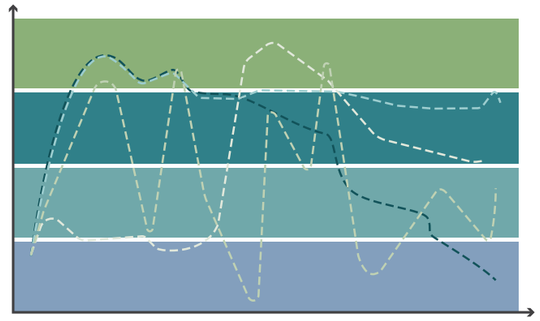
ALTERNATIVE TRAJECTORY: SAILING INTO THE CLIFF



STORMY WATERS

Confusing policy signals and fractured action means this, too, is a 3°C world: Many national carbon pricing schemes emerge, but operate haphazardly, out of sync with other domestic policies and global climate change agreements. Price convergence is unachievable. Just a handful of sectors effectively drive down CO_2 emissions. Carbon prices follow a chaotic trajectory, reflecting changing (and collapsing) political will, as well as business and investor confidence. Decarbonization of the global economy is too slow.

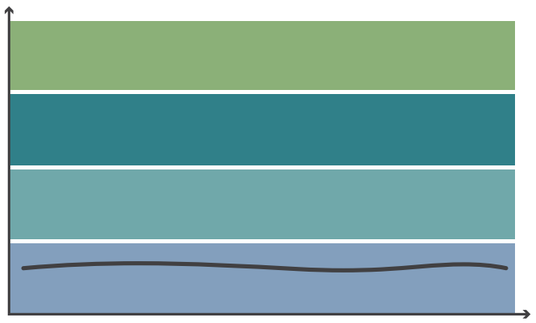
ALTERNATIVE TRAJECTORY: STORMY WATERS



RUNNING AGROUND

In the face of limited national and underwhelming global ambition on climate change, carbon prices languish in a 4°C world: As an issue, climate change promptly recedes to the background; coal consumption accelerates to support development priorities. Significant economic damage and social upheaval demonstrates what it means to remain in a carbon-intensive world.

ALTERNATIVE TRAJECTORY: RUNNING AGROUND



BUILDING THE CARBON PRICING PATHWAYS

The Carbon Pricing Pathways were first published in September 2015.

This update focuses on the global trends and developments at and since the UN Paris Climate Change Conference.

Please visit our website for a comprehensive update of our "success narrative" for carbon pricing, which expands on the information presented in this summary: www.cdp.net/CDPResults/carbon-pricing-pathways-narrative-april-2016-update.pdf and www.wemeanbusinesscoalition.org

A full update of the Carbon Pricing Pathways will be published in the fall of 2016.

The Pathways are the work of CDP and the We Mean Business Coalition. It emerged through engagement with the vast body of knowledge on carbon pricing and related subjects, and after working with an expert group of policy, investment, business and civil society leaders. This group's input was invaluable. However, this work, and any discrepancies within it, are the responsibility of the authors alone.

The notion of 'adaptive pathways' is central to the Carbon Pricing Pathways' trajectories and narratives. They describe ways in which individual economies might act and react. They do not predict or prescribe the exact course of action. They should be used as navigational markers to guide exploration of the pathway to a low carbon future.

USING THE CARBON PRICING PATHWAYS

Effective carbon pricing is a key policy instrument to ensure global temperatures do not rise more than 2°C. Successfully navigating this voyage starts by enhancing our ability to make informed decisions today. Crucially, we need to be more skillful in our discussion about the future of carbon pricing, which not only focuses on what is achievable but also on what is needed.

We encourage all to engage with the concepts or 'tools' offered the Carbon Pricing Pathways Toolkit. Please use them. Discuss them. Critique them. Please bring them to your stakeholders. Please help improve them by sharing your experiences, insights and questions. It is in this spirit that this Toolkit is offered as open source materials, which will be further developed and improved, iteratively.

The Carbon Pricing Pathways and fully updated narrative is available on the CDP website - www.cdp.net - and the We Mean Business Coalition website - www.wemeanbusinesscoalition.org.

CONTACT

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