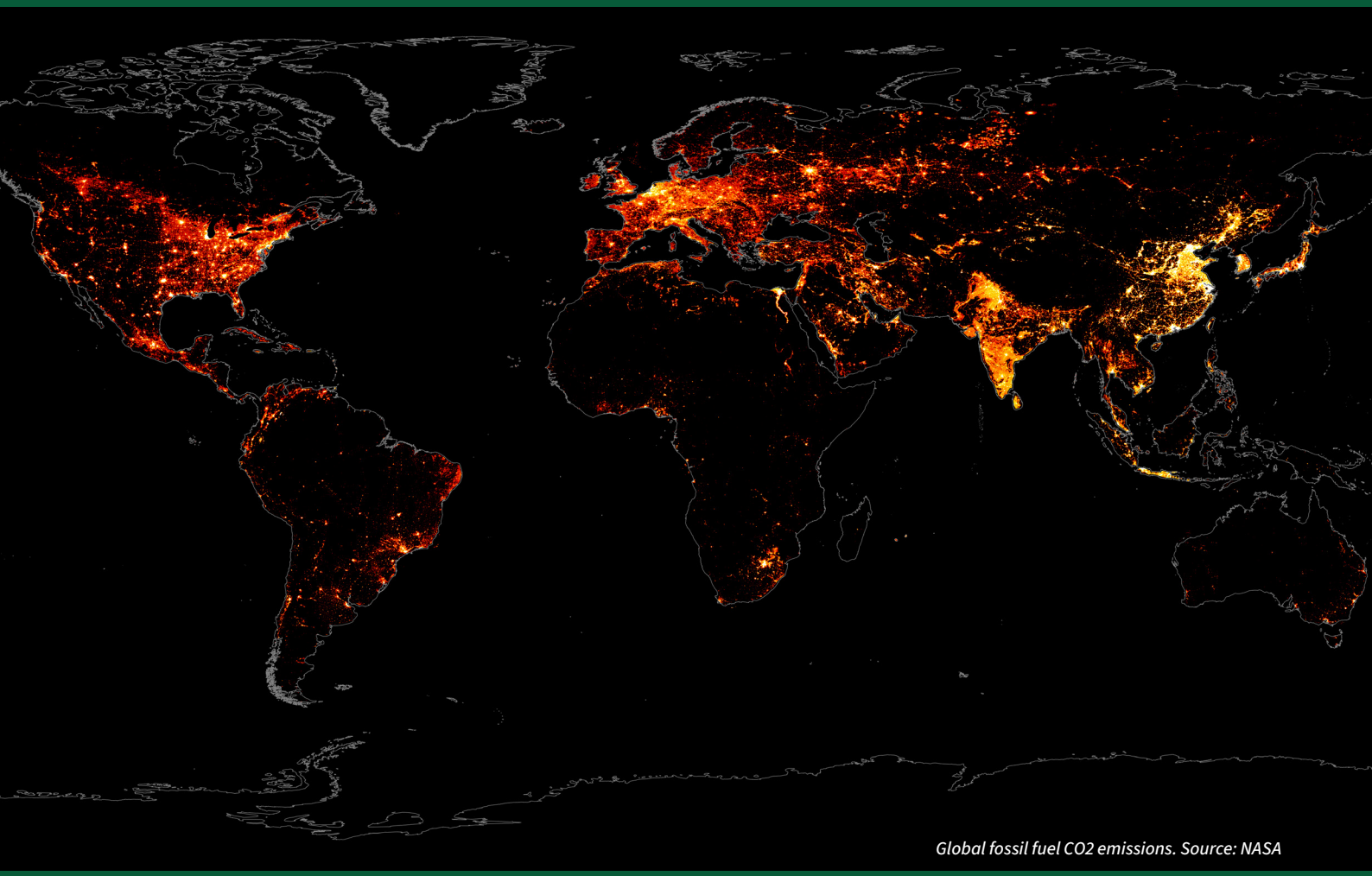

Global fossil fuel CO2 emissions. Source: NASA

EXECUTIVE SUMMARY

Draft Proposal for a Unified Carbon Market

The latest version of this brief and supporting materials can be found at: https://egc.yale.edu/carbon-markets

The content of this paper was discussed in the context of an independent council convened by the COP30 President-designate, Ambassador André Corrêa do Lago, to inform on some economic dimensions of COP30, including contributions to the 'Baku to Belém Roadmap to 1.3T', to be presented by the President of COP29 and the President-designate of COP30, and to the COP30 Action Agenda.

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All members of the Working Group serve in an individual capacity. This report does not necessarily represent the views of the institutions to which they are affiliated.

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Executive Summary

From heat and drought endangering food systems and straining insurance markets, to floods disrupting global supply chains, the economic costs of climate impacts are rapidly piling up. Emerging market and developing economies face particularly punishing effects—escalating climate damages that threaten growth, stability, and human welfare. Achieving global net zero and strengthening climate resilience are becoming increasingly critical.

Rapid and substantial investment is necessary to decarbonize economies globally and transition them to a more sustainable path. In a context of constrained climate finance, the emphasis must be on effective, credible, and fair deployment that enables scale. Since the climate system operates on a global scale, investments should prioritize areas where emissions can be eliminated or reduced most cost-effectively, regardless of the location. For high-income countries, such investment supports global equity and is increasingly in their best interests: it reduces the global cost of emissions abatement, mitigates climate risks that are increasingly hurting their domestic economies, and helps prevent systemic disruptions in finance, trade, and migration. For emerging markets and developing economies, this means unlocking new sources of capital to drive clean growth, enhance resilience, and ease pressure on constrained domestic public budgets.

A two-part proposal

To finance the investments necessary for global decarbonization, we propose a **unified carbon market** which would allow for participants from anywhere in the world and offer credible assurances of overall emissions reductions. Our proposal rests on two pillars:

Pillar 1: An opt-in compliance market with a global cap on emissions

This market would comprise multiple jurisdictions serving as conduits for individual firms, and for emissions avoidance, reduction, and removal projects that will receive finance from the sale of emission permits in the global market. Industrial, renewable, and nature-based emissions avoidance, reduction, and removal projects would all be eligible to participate in the market. This will link to or merge with existing compliance markets. Firms in non-participating jurisdictions that are large emitters could also independently enter the market. All entrants would agree to binding rules and long-term participation, and the market would be governed by an independent regulator that includes representatives from all participating jurisdictions.

Pillar 2: MARVIN — An independent Measurement, Accounting, Risk Management, and Verification Institution

MARVIN would be a utility designed to ensure market credibility. It would operate independently of the market regulator, working with jurisdictions to standardize accounting and measurement, set pricing and financial standards to cope with risk, create monitoring and verification protocols that prevent any conflict of interest, and assure that allowances accord with market goals.

Five developments make the proposed unified carbon market feasible.

1 Over fifty carbon compliance markets are operational or in development throughout the world, and a wide array of emissions avoidance, reduction, and removal credits are traded globally through the voluntary carbon market. There is tremendous opportunity for these markets to standardize their protocols and then link with one another to create the global financial architecture required for large-scale global decarbonization investments.

2 Clean energy innovation is accelerating, and renewables are often cheaper than fossil fuels. Yet deployment in emerging markets and developing economies is lagging, since many efficiencies rely on investment at scale. Integrating renewable projects into a global market will give developers access to the necessary capital while also offering funders the credible, predictable conditions required to invest.

3 Advances in remote sensing, artificial intelligence, and big-data now enable high-precision measurement and verification of carbon fluxes, especially for nature-based projects. In the past, it has been difficult to estimate counterfactuals—what would have happened in the absence of a project—for nature-based projects. Today, new measurement and analytical tools make these estimates more credible. Combined with financial tools and instruments such as risk-based pricing, performance-linked contracts, and collateralization, these advancements support the credible inclusion of industrial, renewable, and nature-based projects in carbon markets worldwide, ensuring that traded permits reflect genuine and durable climate benefits.

4 A growing body of market design research has identified how markets can be structured to use incentives and information to maintain credibility and align market participants' incentives with the goal of the market, and to ensure that they can sustain participation, avoid congestion, and ensure safety and simplicity to participants.

5 EU ETS and similar systems show how emissions trading can incorporate mechanisms for fairness—through free allocations, modernization funds, and cross-jurisdictional transfers—without undermining efficiency. These design features provide a model for integrating low-income countries into a unified carbon pricing structure that both preserves development priorities and ensures global environmental integrity.

Building on existing markets to get to global net zero

Building on these developments, our proposal unifies and strengthens the best features of existing carbon markets. Existing compliance markets have achieved credible emissions reductions within national or regional boundaries but have limited scope in the types of mitigation activities they can fund. The voluntary carbon market, by contrast, has expanded participation to a wider range of project types, including nature-based ones across the world, but struggles with establishing project credibility due to inconsistent measurement, verification, and weak institutional incentives for truth-telling. Our framework combines the strengths of both—**binding emissions limits, robust accounting,** and **broad project inclusion**—while introducing improved contract structures and risk-pricing tools to enhance credibility and scale. Thus, aligned with the Paris Agreement, we propose a voluntary opt-in participation model.

The potential gains in efficiency from linking markets, standardizing rules, and including diverse project types will be key to unlocking investment at scale. The market we propose is designed to be compatible with achieving global net zero while upholding the principle of common but differentiated responsibilities. It has the potential to unleash large-scale private and institutional investment for emissions mitigation across the world. A unified carbon market that is credible, inclusive, fair, and operates at scale offers a practical path to mobilize capital where it has the biggest impact—aligning the self-interest of high- and lower-income countries in a shared effort to secure climate stability and sustainable growth for all.

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