
HOW PROFESSOR STEWART HAS PROMOTED EQUITY, EFFECTIVENESS, AND TRANSPARENCY IN ENVIRONMENTAL LAW: A PRACTITIONER’S VIEW

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INTRODUCTION

Professor Stewart’s impact on the practical development, design and implementation of environmental law has been profoundly deep and extremely broad. His writings have been influential in key substantive areas, such as addressing the risks of nuclear waste and genetically modified organisms, and in key geographies, from China to Eastern Europe and across the entire United States. In academia, in government, and in private practice, he has mentored, challenged, and connected a far-flung fellowship of future environmental law leaders.

Here, from the point of view of a practitioner, I wish to sketch a few concrete examples that demonstrate how his scholarship and the force of his persona have promoted *equity*, *effectiveness*, and *transparency* in environmental law, including international environmental law. I’ll conclude with a brief personal look-back and look-ahead.

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I. PROMOTING EQUITY AND EFFECTIVENESS: PROOF POSITIVE IN CALIFORNIA

Almost thirty-five years ago, Professor Stewart made the case that incentive-based environmental policy could be more effective—and more equitable—than command-and-control or Best Available Control Technology (BACT) regulation. He advocated “reconstitutive strategies to protect health, safety, and the environment *and to ensure adequate provision of services and assistance to the poor and disadvantaged.*”¹ Writing from the vantage point of the Reagan years, Professor Stewart noted, “Federal controls have been challenged on the grounds that they hinder productive investment and innovation, stifle diversity, over-centralize decisional responsibility, and spawn costly, divisive, and politically unrepresentative adversary litigation. The proposed solution to these ills is delegalization”—or in today’s vernacular, regulatory rollback.² In words that ring strikingly true today, Professor Stewart argued that the

choice between centralized prescription and delegalization is a false one, created by two erroneous premises underlying the debate. The first erroneous premise is that social and economic justice can only be achieved through legal prescriptions. The second is that devolution and deregulation involve reduced reliance on law to resolve social and economic questions.³

Instead, he advocated for a “third approach that would effectively promote national goals but avoid many of the problems generated by centralized prescription.”⁴ This third alternative was a “reconstitutive strategy” that recast federal initiatives via expanded workforce protections and market-based environmental policy. As Professor Stewart saw it, “the problem in many areas is not too much or too little federal regulation, but federal regulation of the wrong sort.”⁵

The environmental justice movement today rightly demands that governments and companies dismantle environmental racism

¹ *Richard B. Stewart, Reconstitutive Law*, 46 MD. L. REV. 86, 89 (1986) (emphasis added).

² *Id.* at 86.

³ *Id.* at 87.

⁴ *Id.*

⁵ *Id.* at 89.

and redress the legacy of environmental discrimination.⁶ Over three decades ago, Professor Stewart recognized the great potential of well-designed market-based environmental policy to boost effectiveness, reduce costs, *and* address equity concerns.⁷ Anticipating the distributive justice critique that resounds today,⁸ he emphasized the importance of designing into the market-based systems, from the get-go, provisions to ensure that the systems operate to the *benefit*, not the detriment, of poor and underserved communities. He argued that economic incentive systems should not be viewed “solely as mere instruments to achieve a specific goal such as clean air. Economic incentive systems can incorporate and promote intrinsic process values. Transferable pollution rights socialize the market by making firms responsible for the externalities that they generate.”⁹

To ensure these economic incentive systems achieved the equity goals, Professor Stewart recommended pairing them with other innovations, including expansions of labor rights and initiatives to restructure the generation, transmission, and local distribution of electricity.¹⁰ Furthermore, he suggested, “the number of air pollution permits could be tightly restricted in order to promote noncommodity values, including health and preservation of exceptionally scenic areas.”¹¹

Professor Stewart expanded on these ideas in two seminal works both published in 1988: *Controlling Environmental Risks Through Economic Incentives*¹² and *Reforming Environmental Law: The Democratic Case for Market Incentives*.¹³ These works not only

⁶ For recent studies on environmental racism/environmental discrimination, see generally Ihab Mikati et al. *Disparities in Distribution of Particulate Matter Emission Sources by Race and Poverty Status*, 108 AM. J. PUB. HEALTH 480 (2018); Vann R. Newkirk II, *Trump’s EPA Concludes Environmental Racism Is Real*, ATLANTIC (Feb. 28, 2018), <https://www.theatlantic.com/politics/archive/2018/02/the-trump-administration-finds-that-environmental-racism-is-real/554315/>.

⁷ See generally Stewart, *supra* note 1.

⁸ See, e.g., Simon Caney & Cameron Hepburn, *Carbon Trading: Unethical, Unjust and Ineffective?*, 69 ROYAL INST. PHIL. SUPP. 201, 234 (2011).

⁹ Stewart, *supra* note 1, at 108.

¹⁰ See *id.* at 108–10.

¹¹ *Id.* at 108.

¹² See Richard B. Stewart, *Controlling Environmental Risks Through Economic Incentives*, 13 COLUM. J. ENV’T. L. 153 (1988).

¹³ See Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law: The Democratic Case for Market Incentives*, 13 COLUM. J. ENV’T. L. 171 (1988) [hereinafter *The Democratic Case*].

lay out the case for harnessing the power of markets to drive environmental protection, but also provide the foundation for ensuring that those market-based environmental policies can promote equity and address discrimination.

For example, Professor Stewart called for the establishment of “an ongoing system of data collection and analysis”¹⁴ so that environmental law, including emissions caps, could be premised on real data rather than, say, projections or ad hoc reports. Without such a system, he warned, there could be little hope of constructing a regulatory framework that is responsive to local environmental and economic concerns—precisely what is needed to identify and provide the foundation for policies that effectively address systemic environmental injustice.¹⁵ Connecting with and anticipating the concerns of communities marginalized under traditional forms of environmental regulation, he showed how market-based policies could increase engagement for those who—despite being most affected by environmental harms—have historically not had the means or ability to participate in the complexities of environmental rule-making. In particular, he emphasized the importance of “allowing a wider public to address basic issues that the present regulatory system obscures under a flood of technocratic mumbo-jumbo.”¹⁶

Anticipating the critique that policy based on economic incentives allow “human health and environmental integrity to be traded off for dollars,” Professor Stewart trenchantly responded that “[t]his criticism confuses ends and means and also ignores the inescapable need to choose among competing values in defining our goals.”¹⁷

His rejoinder is as apt now as it was then: “While attacked as a ‘license to pollute,’ economic incentives in fact require industry to pay for the use of common resources rather than giving away this valuable privilege for nothing, as regulatory permit programs do.”¹⁸ Professor Stewart carefully distinguished between scientific and economic tools that may be used to help decide how to set goals, on the one hand, and the choice of policies to achieve those goals on the other:

¹⁴ *Id.* at 193.

¹⁵ *See id.*

¹⁶ *Id.* at 171.

¹⁷ Stewart, *supra* note 12, at 163.

¹⁸ *Id.*

The use of economic incentives to achieve environmental goals by no means requires that we set goals themselves through economic criteria such as cost/benefit analysis. . . We might wish, for example, to set ambitious, self-sacrificing goals for reducing acid rain or carbon dioxide generation in order to preserve the world's ecosystems for the sake of future generations. Economic incentives would nonetheless be the best means of achieving these non-economic goals.¹⁹

Then, as now, the distributive justice critique was made that “economic incentives would allow the wealthy to ‘buy up’ the environment.”²⁰ To address the concern that those who “buy up” pollution permits could create pollution “hot-spots,” Professor Stewart cautioned that “localized concentrations of pollution must be strictly controlled in order to prevent dangerous thresholds from being exceeded,”²¹ and he proposed specific measures to do so, starting with statutory design.²² More than simply responding to the critique, however, he proposed that economic incentive-based approaches could serve as powerful tools to redress environmental injustice. Permits could be auctioned to generate significant revenues that could be channeled to remedy economic-environmental discrimination.²³ Noting that “income transfers from rich to needy jurisdictions reflect and promote solidarity values of mutual concern and aid,”²⁴ he suggested using not only auction revenue allocation, but also societal decisions about the initial allocation of allowances, to deliver on the potential of these instruments to address distributive concerns.²⁵

¹⁹ *Id.*

²⁰ *Id.*

²¹ *Id.* at 165.

²² *See The Democratic Case*, *supra* note 13, at 194–95 nn.49–50.

²³ *See id.* at 180.

²⁴ Stewart, *supra* note 1, at 108.

²⁵ Of relevance is the experience gained with both initial allowance allocations and allocation of auction revenue under the European Union's Emissions Trading System, although a detailed examination of that is beyond the scope of this essay. *See* Annie Petsonk & Jos Cozijnsen, HARVESTING THE LOW-CARBON CORNUCOPIA: HOW THE EUROPEAN UNION EMISSIONS TRADING SYSTEM (EU-ETS) IS SPURRING INNOVATION AND SCORING RESULTS 2 (2007); Lucas Merrill Brown et al., THE EU EMISSIONS TRADING SYSTEM, 10 (2012). *See generally* TOWARDS A CLIMATE-NEUTRAL EUROPE: CURBING THE TREND (Jos Delbeke & Peter Vis, eds. 2019); EU CLIMATE POLICY EXPLAINED (Jos Delbeke & Peter Vis, eds. 2016).

The wisdom of *The Democratic Case* and its design principles is borne out by the California experience. Two decades after the publication of *Reconstitutive Law*, California instituted a suite of climate policy measures. California's 2006 Global Warming Solutions Act, Assembly Bill AB 32,²⁶ set a target of returning the state's greenhouse gas (GHG) emissions to 1990 levels by 2020. To implement this goal, California's Air Resources Board (CARB) adopted a cap-and-trade program. A decade later, California set a target of cutting emissions 40 percent below 1990 levels by 2030 and extended the cap-and-trade program.²⁷ The program is now the second-largest such program in the world (after the European Union's Emissions Trading System, EU-ETS).²⁸

A careful examination of the cap-and-trade program demonstrates how closely it hews to Professor Stewart's prescient recommendations, from overall policy design to specific elements promoting equity.

First, consider how it set the caps.²⁹ The California Legislature set the program's original emissions caps premised squarely on the science, based on reports of the Intergovernmental Panel on Climate Change (IPCC). Working from precisely the kind of "ongoing system of data collection and analysis" that Professor Stewart called for in *The Democratic Case*,³⁰ CARB translated the data gleaned from those reports into limits for sub-sectors.³¹ And in developing the

²⁶ See Assemb. B. 32, 2005-2006 Leg., Reg. Sess. (Cal. 2006) (Pavley, Nuñez).

²⁷ See Danae Hernandez-Cortes & Kyle C. Meng, *Do Environmental Markets Cause Environmental Injustice? Evidence from California's Carbon Market*, 8 (Nat'l Bureau of Econ. Rsch., Working Paper No. 27205, 2020).

²⁸ See *id.* at 3.

²⁹ For a summary, see KATELYN ROEDNER SUTTER, ENV'T DEF. FUND, CALIFORNIA'S CAP AND TRADE PROGRAM STEP BY STEP 1 (2019).

³⁰ *The Democratic Case*, *supra* note 13, at 193.

³¹ The collection of actual data has provided a solid foundation for the California program. By contrast, programs such as the E.U. ETS and the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), developed by the International Civil Aviation Organization (ICAO), which originally established their emissions caps based on emissions projections, not historical data, have experienced hiccups as a result. The E.U. ETS experienced an early market crash when actual emissions data produced after the adoption of the initial cap showed that the cap was far too lax. See Brown et al., *supra* note 25, at 14-15. In 2016, ICAO capped the emissions of international flights for the years 2021-2035 and set the cap at the average of 2019-2020 levels; when 2020 emissions dropped dramatically due to the COVID-19 pandemic, airlines sought and obtained a re-set

caps and regulations, CARB undertook extensive stakeholder outreach to bring in views of the “wider public”³² and to ensure the engagement of environmental justice advisors, scientists, economists, and other local community actors across the state.

Second, consider California’s quarterly emissions allowance auctions. California’s program design requires some of the auction proceeds going to “utility ratepayers in the form of rebates and some into the Greenhouse Gas Reduction Fund (GGRF).”³³ As enacted, Assembly Bill AB 1532 (Pérez) mandates that GGRF moneys must be used “to facilitate the achievement of reductions of greenhouse gas emissions in this state” and complementary goals such as to “maximize economic, environmental and public health benefits to the state.”³⁴ As enacted, Senate Bill 535 (de León) requires that the California Department of Finance allocate at least 25 percent of the auction proceeds in the GGRF “to projects that provide benefits to disadvantaged communities,” and to allocate at least 10 percent to projects located in these communities.³⁵ Just as Professor Stewart envisioned over thirty years ago, California’s program is channeling resources to those in need.

Three results are noteworthy. First, as California moves belatedly to address the disparate and discriminatory impacts of pollution,³⁶ policymakers should note the empirical evidence indicating that California’s cap-and-trade program has not only been

of the cap at 2019 levels for the first three years of the program, resulting in a likely zeroing of demand for emissions units during those years. *See CORSIA and COVID-19*, INT’L CIV. AVIATION ORG., <https://www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-and-Covid-19.aspx> (last visited Jan. 29, 2021).

³² *The Democratic Case*, *supra* note 13, at 171.

³³ COLLEEN CALLAHAN & J.R. DESHAZO, UCLA LUSKIN CTR. FOR INNOVATION, INVESTMENT JUSTICE THROUGH THE GREENHOUSE GAS REDUCTION FUND: IMPLEMENTING SB 535 AND ADVANCING CLIMATE ACTION IN DISADVANTAGED COMMUNITIES 1 (2014).

³⁴ Assemb. B. 1532, 2011-2012 Leg., Reg. Sess. (Cal. 2012).

³⁵ *See* S.B. 535, 2011-2012 Leg., Reg. Sess. (Cal. 2012). *See generally* Hernandez-Cortes & Meng, *supra* note 27, at 10.

³⁶ *See, e.g.*, LESLEY FLEISCHMAN & MARCUS FRANKLIN, NAACP & CLEAN AIR TASK FORCE, FUMES ACROSS THE FENCE-LINE 20 (2017) (quantifying the elevated health risk that millions of African Americans face due to pollution from oil and gas facilities, and underscoring the need to address not only acute incidents like the Aliso Canyon methane gas leak, which affected the exclusive gated communities in the immediate area of the leak, but also the chronic pollution exposure of disproportionately low-income communities of color in Los Angeles who live right next to some of the 5,000 active drilling sites in the city).

extraordinarily effective in cutting greenhouse gas emissions—the program enabled California to meet its goal of 1990 emission levels ahead of schedule³⁷—it has also narrowed the disparity in local air pollution exposure between disadvantaged and other communities.³⁸ The program on its own has not eliminated the gap, but it has helped reduce it, validating Professor Stewart’s hypothesis that well-designed market-based environmental policies are a powerful tool that can be deployed to help rectify environmental disparities.

Second, auctioning pollution permits has generated significant revenues and support for advances in climate protection:

The proceeds from California’s quarterly sale of emissions allowances have become the main avenue for climate spending in California, with \$13 billion raised since auctions began in 2012. The Greenhouse Gas Reduction Fund has supported hundreds of millions of dollars in incentives for zero-emission vehicles, school bus replacements and transit, among other emissions-cutting projects.³⁹

Third, however, auction price volatility in the context of the COVID-19 pandemic has introduced considerable uncertainty into the revenue streams from California’s cap-and-trade program,⁴⁰ underscoring the importance of Professor Stewart’s caution about undue reliance on auction revenues. As he has pointed out to me on more than one occasion, relying unduly on emissions allowance auction revenue to fund environmental improvements is like funding health care from taxes on cigarettes—it leads to perverse incentives like the government wanting people to continue smoking, because if the tax successfully reduces smoking, the funds for health care will dry up. It remains to be seen whether California will, post-pandemic, refine its system to rely more on allowance allocation, as opposed to auction revenues, to strengthen the environmental justice aspects of its generally effective framework. Nonetheless, Professor Stewart’s crystalline predictions, made over thirty years ago,

³⁷ See Press Release, California Air Resource Board, Climate Pollutants Fall Below 1990 Levels for First Time: Emissions Down 13% Since Their 2004 Peak While Economy Grew 26% (July 11, 2018), <https://ww2.arb.ca.gov/news/climate-pollutants-fall-below-1990-levels-first-time>.

³⁸ See Hernandez-Cortes & Meng, *supra* note 27, at 27.

³⁹ Debra Kahn, *California Climate Programs See Bottom Fall Out of Main Funding Source*, POLITICO (June 2, 2020), <https://www.politico.com/states/california/story/2020/06/02/california-climate-programs-see-bottom-fall-out-of-main-funding-source-1289867>.

⁴⁰ See *id.*

forecasting the advantages and challenges with incentive based programs, remain a remarkable demonstration of foresight at the intersection of law and policy.

II. TRANSPARENCY: PROOF POSITIVE IN INTERNATIONAL ADMINISTRATIVE LAW

One of the key advances of Professor Stewart's work on market-based environmental policy was his emphasis on transparency and its role as the cornerstone of effective enforcement. That emphasis, paired with his broad examination of the evolution of administrative law in the global context,⁴¹ inspired practitioners to redouble their efforts to secure robust monitoring, reporting, and verification requirements in the international legal structures they developed, so that those in turn would provide solid foundations for strong domestic enforcement.

In *The Democratic Case*, Professor Stewart put forward the thesis that successful market-based environmental laws rest on, and promote, transparency. He wrote:

The marketable permit system would also provide much stronger incentives for effective monitoring and enforcement. If polluters did not expect rigorous enforcement for the term of their permits, this fact would show up at the auction in dramatically lower bids: Why pay a lot for the right to pollute legally when one can pollute illegally without serious risk of detection? Under a marketable permit approach, this problem would be at the center of bureaucratic attention.⁴²

And he underscored the centrality of transparent reporting and monitoring not just for market-based policies, but for all environmental policies. In *Controlling Environmental Risks Through Economic Incentives*, he wrote:

Economic incentive systems . . . depend on accurate government monitoring of the amount of pollution or risk produced. Critics of economic incentives have claimed that monitoring technologies and capacities are inadequate to prevent widespread cheating. They conclude that we should use technology-based regulation because compliance is much easier to monitor when plants install particular control technologies than when actual

⁴¹ See, e.g., Richard B. Stewart, *U.S. Administrative Law: A Model for Global Administrative Law?*, 68 *LAW & CONTEMP. PROBS.* 63, 107 (2005) (hereinafter *Global Administrative Law*).

⁴² *The Democratic Case*, *supra* note 13, at 183.

discharges must be measured. Existing monitoring capacities are indeed deficient in a number of areas. But they need to be upgraded regardless of whether we use technology-based regulatory standards or economic incentives to achieve environmental goals.⁴³

Professor Stewart realized that once pollution and compliance information became public, the desire of regulated entities to have a level playing field would transform those who comply with environmental law from reluctant agents to adjutants of enforcement—precisely because, in the absence of strong enforcement, those who invested in compliance could be competitively disadvantaged vis-à-vis those who hid their pollution and escaped liability. He wrote, “permit holders may themselves support strong enforcement in order to ensure that cheating by others does not depreciate the value of the permit holders’ investments.”⁴⁴

Professor Stewart thus provided a foundation for academics and practitioners alike to press for recognition of transparent monitoring, reporting and verification (MRV) as part of the essential or minimum elements necessary for successful market-based environmental policy.⁴⁵ Professor Stewart recognized that transparency requirements exist in the context of the “general framework and boundary laws, such as antitrust law and the law of conflicts” that constitute the legal canvas on which market-based environmental policy may be painted.⁴⁶

From the perspective of the practitioner, one crucial model demonstrating the power of this foundational framework can be found in the 1990 Amendments to the U.S. Clean Air Act and regulations promulgated thereunder, which, in establishing the Acid Rain Trading Program, require electricity companies not only to monitor their sulfur dioxide—and carbon dioxide—emissions continuously, but also to submit reports of these emissions to EPA, which shall make these reports public.⁴⁷ The reporting requirements inherently make each report a federal record, ensuring that under the

⁴³ Stewart, *supra* note 12, at 166.

⁴⁴ *The Democratic Case*, *supra* note 13, at 183 (footnotes omitted).

⁴⁵ See, e.g., N. Keohane et al., *Toward a Club of Carbon Markets*, 144 CLIMATIC CHANGE 81, 86 (2017) (citing to the illustrative writings of Professors Richard Stewart and Jonathan Wiener as well as EDF’s Dr. Daniel J. Dudek).

⁴⁶ See Stewart, *supra* note 1, at 87.

⁴⁷ See 42 U.S.C. § 7651k and regulations promulgated thereunder at 40 C.F.R. § 75.

federal law criminalizing the submission of false statements, lying or cheating on these reports would be prosecutable at the federal level.⁴⁸ These innovative steps took transparency and accountability to a new level that was, until its enactment, virtually unprecedented in environmental law. The Acid Rain Trading Program, designed on the economic principles laid out in *The Democratic Case*, was phenomenally successful in cutting emissions of sulfur dioxide far ahead of schedule and at a fraction of forecasted costs⁴⁹—and its mandatory reporting requirement for both SO₂ and CO₂ continues to provide transparency on a vitally important sector of U.S. emissions.

Another practical example is the greenhouse gas reporting requirement made possible by Public Law 110-161 (2008), which required that EPA develop a final rule that requires “mandatory reporting of greenhouse gas emissions above appropriate thresholds in all sectors of the economy of the United States.”⁵⁰ While it has not been possible to enact comprehensive climate change legislation in the United States in recent years, and much regulatory action has been rolled back, the greenhouse gas reporting rule remains intact, providing an important building block for future action to cut emissions.

A further practical example of the influence of Professor Stewart’s framework comes from the international effort to cap and reduce CO₂ emissions of flights between countries. These, along with international maritime emissions, are not included in most countries’ Nationally Determined Contributions (NDCs) under the Paris Agreement.⁵¹ In 2016, ICAO adopted the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), which

⁴⁸ See 18 U.S.C. § 1001.

⁴⁹ See, e.g., A. AULISI ET AL., ENV’T. DEF. FUND, FROM OBSTACLE TO OPPORTUNITY: HOW ACID RAIN EMISSIONS TRADING IS DELIVERING CLEANER AIR (2000), https://www.edf.org/sites/default/files/from_obstacle_to_opportunity_how_acid_rain_emissions_trading_is_delivering_cleaner_air.pdf; see also U.S. ENV’T PROT. AGENCY, *Acid Rain Program Historical Reports*, <https://www.epa.gov/airmarkets/acid-rain-program-historical-reports> (last visited Sept. 18, 2021) (compiling reports from 1995–2017).

⁵⁰ Consolidated Appropriations Act of 2008, Pub. L. No. 110-161, 121 Stat. 1844, 2128 (2007).

⁵¹ There is no legal requirement in the Paris Agreement to exclude these international emissions from NDCs. Cf. COMM. ON CLIMATE CHANGE, POLICIES FOR THE SIXTH CARBON BUDGET AND NET ZERO 21 (2020) (calling on the UK to include international aviation emissions in its Sixth Carbon Budget).

nominally capped the net CO₂ emissions of flights between participating countries at the average of 2019–2020 levels for the years 2021–2035, and authorized airlines to meet their caps either by reducing their emissions directly or by purchasing and retiring approved carbon offsets.⁵² A standard-setting process in ICAO resulted in agreed Standards and Recommended Practices (SARPs). The SARPs establish criteria that emissions credit programs and emissions units must meet, including a requirement that offset credit programs avoid double-claiming reductions under the Paris Agreement and CORSIA.⁵³

Worried that the historically secretive ICAO would approve carbon credit programs through backroom deals that would undermine the Scheme's legitimacy and impair public confidence in the integrity of the credits,⁵⁴ and drawing on Professor Stewart's

⁵² See Int'l Civil Aviation Org. [ICAO], Assembly Res. A39-3, at 5, 9 (Oct. 6, 2016); see also Int'l Civil Aviation Org. [ICAO], Assembly Res. A40-19, at 5, 9 (Oct. 4, 2019). The resolutions provide, *inter alia*, that ICAO shall develop a methodology by which airlines may reduce the amount of offsets they must retire by using sustainable aviation fuels that, on a lifecycle basis, emit less than conventional jet fuel. ICAO adopted the agreement nearly two full decades after the UNFCCC Conference of the Parties, unable to reach agreement on how to attribute these "international bunker" emissions to countries, formally agreed that governments should address them in the ICAO and the International Maritime Organization (IMO), respectively. See Kyoto Protocol to the United Nations Framework Convention on Climate Change art. 2.2, Dec. 11, 1997, 2303 U.N.T.S. 162.

⁵³ See INT'L CIVIL AVIATION ORG. [ICAO], CORSIA EMISSIONS UNIT ELIGIBILITY CRITERIA (2019), https://www.icao.int/environmental-protection/CORSIA/Documents/ICAO_Document_09.pdf; see also International Civil Aviation Organization (ICAO) Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), Programme Application Form, Appendix A: Supplementary Information for Assessment of Emissions Unit Programmes, at para. 3.7.8 ("Host country attestation to the avoidance of double-claiming: Only emissions units originating in countries that have attested to their intention to properly account for the use of the units toward offsetting obligations under the CORSIA, as specified in paragraph (and sub-paragraphs of) 3.7.9, should be eligible for use in the CORSIA. The programme should obtain, or require activity proponents to obtain and provide to the programme, written attestation from the host country's national focal point or focal point's designee. The attestation should specify, and describe any steps taken, to prevent mitigation associated with units used by operators under CORSIA from also being claimed toward a host country's national mitigation target(s) / pledge(s). Host country attestations should be obtained and made publicly available prior to the use of units from the host country in the CORSIA."), <https://www.icao.int/environmental-protection/CORSIA/Pages/TAB.aspx>.

⁵⁴ "We don't want ICAO to become the FIFA of carbon markets," referring to the football governing body's record of corruption. Megan Darby, *UN Aviation*

writings on global administrative law,⁵⁵ practitioners serving as experts on ICAO's Committee on Aviation Environmental Protection (CAEP) pressed ICAO to boost the program's transparency.⁵⁶ Specifically, practitioners advocated for rules that would create an open application process under which carbon credit programs could apply to ICAO for CORSIA eligibility and provide public notice of that process; ensure public announcement of the membership of the Technical Advisory Body (TAB) convened by ICAO to review the applications and to make recommendations to the ICAO Governing Council of 36 Member State representatives; require public posting of the applications, with provision for exclusion of business-confidential information; invite public comment on the applications; ensure that the public comments are provided to the TAB and made public; provide for publication of the TAB's recommendations to the Council; provide that both the TAB's and Council's actions be based on the application and comment materials received; and open sessions of the TAB and Council to the public.

Remarkably, most of these ideas, patterned closely on core principles of administrative law, were essentially novel for ICAO. And also somewhat remarkably, ICAO adopted most of the recommendations,⁵⁷ and its TAB published not only its membership, but

Body Agrees to Close Carbon Emissions Loophole, CLIMATE HOME NEWS, (Mar. 6, 2019), <https://www.climatechangenews.com/2019/03/06/un-aviation-body-agrees-close-carbon-emissions-loophole/>.

⁵⁵ See, e.g., Benedict Kingsbury & Richard B. Stewart, *Legitimacy and Accountability in Global Regulatory Governance: The Emerging Global Administrative Law and the Design and Operation of Administrative Tribunals of International Organizations*, in INTERNATIONAL ADMINISTRATIVE TRIBUNALS IN A CHANGING WORLD (Papanikolaou ed., 2008); Richard B. Stewart, *The Global Regulatory Challenge to U.S. Administrative Law*, 37 N.Y.U. J. INT'L L. & POL. 695 (2006); Benedict Kingsbury et al., *Foreword: Global Governance as Administration—National and Transnational Approaches to Global Administrative Law*, 68 L. & CONTEMP. PROBS. 1, 13 (2005); Benedict Kingsbury et al., *The Emergence of Global Administrative Law*, 68 L. & CONTEMP. PROBS. 15, 15–16 (2005); Stewart, *supra* note 41, at 91.

⁵⁶ The author participated as an expert observer in the work of the CAEP developing CORSIA. See generally CLIMATE ADVISERS ET AL., ENSURING TRANSPARENCY IN CORSIA 6 (2017).

⁵⁷ By posting the Work Programmes of the TAB in advance of each application cycle for CORSIA offset program eligibility, ICAO has begun a practice of publicly announcing the application cycles. See, e.g., INT'L CIV. AVIATION ORG. [ICAO], TAB WORK PROGRAMME (2021 ASSESSMENT), https://www.icao.int/environmental-protection/CORSIA/Documents/TAB/TAB%202021/TAB_Work_

also its procedural rules.⁵⁸ It did not, however, adopt a requirement that its recommendations and decisions be based on the available evidence in the record. Nonetheless, the resulting package, while not perfect, draws directly on Professor Stewart's work on the development of global administrative law, and can serve as a model for other international institutions.

Programme_2021.pdf (previous Work Programmes are also posted on the TAB Homepage). For the 2019 application cycle, ICAO opened a call in June-July for emissions unit programs to apply for assessment by the TAB against the CORSIA Emissions Unit Criteria (EUC). See *TAB 2019 Assessment Homepage*, INT'L CIV. AVIATION ORG. [ICAO], <https://www.icao.int/environmental-protection/CORSIA/Pages/TAB2019.aspx> (last visited Mar. 30, 2021). In August 2019, it posted the applications publicly and invited public comment, see *id.*, and it posted a condensed version of the comments received, see TECHNICAL ADVISORY BODY (TAB), PUBLIC COMMENTS RECEIVED ON THE RESPONSES TO THE CALL FOR APPLICATIONS FOR ASSESSMENT BY THE TAB (Sept. 2019), https://www.icao.int/environmental-protection/CORSIA/Documents/TAB/TAB_Public%20comments_Consolidated.pdf. The TAB's recommendations can be found here: *2019 TAB Assessment*, INT'L CIV. AVIATION ORG. [ICAO], <https://www.icao.int/environmental-protection/CORSIA/Pages/TAB2019.aspx> (last visited Jan. 29, 2021). Comparable documents for the 2020 TAB Assessment can be found here: *2020 TAB Assessment*, INT'L CIV. AVIATION ORG. [ICAO], <https://www.icao.int/environmental-protection/CORSIA/Pages/TAB2020.aspx> (last visited Mar. 30, 2021). ICAO publicly posted the Application Forms on the TAB Homepage. See *Technical Advisory Body*, INT'L CIV. AVIATION ORG. [ICAO], <https://www.icao.int/environmental-protection/CORSIA/Pages/TAB.aspx> (last visited Mar. 30, 2021) (identifying, in Appendix A, the need for programs to obtain and publicly post a written attestation from the host country of the offset projects describing the steps it has taken to prevent the emission reductions used by airlines operators under CORSIA from also being claimed toward a host country's national mitigation target(s) or pledge(s)). See also INT'L CIV. AVIATION ORG. [ICAO], INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) CARBON OFFSETTING AND REDUCTION SCHEME FOR INTERNATIONAL AVIATION (CORSIA), PROGRAMME APPLICATION FORM, APPENDIX A: SUPPLEMENTARY INFORMATION FOR ASSESSMENT OF EMISSIONS UNIT PROGRAMMES, at paras. 3.7.8–.13, https://www.icao.int/environmental-protection/CORSIA/Documents/TAB/TAB%202021/Programme_Application_Form_Appendix_A_Supplementary_Information_2020.docx; INT'L CIV. AVIATION ORG. [ICAO], TAB PUBLIC COMMENT TEMPLATE FORM, https://www.icao.int/environmental-protection/CORSIA/Documents/TAB/TAB%202020/TAB_Public_Comment_Form.docx; INT'L CIV. AVIATION ORG. [ICAO], TAB PROCEDURES 4 (2020); TAB, RECOMMENDATIONS ON CORSIA ELIGIBLE EMISSIONS UNITS 18–20 (2020). See also *Technical Advisory Board (TAB)*, INT'L CIV. AVIATION ORG. [ICAO], <https://www.icao.int/environmental-protection/CORSIA/Pages/TAB.aspx> (last visited Jan. 29, 2021).

⁵⁸ See INT'L CIV. AVIATION ORG. [ICAO], TAB PROCEDURES 4 (2020).

III. CONCLUDING REMARKS: A PERSONAL LOOK-BACK AND LOOK-AHEAD

As a practitioner, my introduction to Professor Stewart's work came at a pivotal time in my career. I had just moved to East Africa to work in the United Nations Environment Programme's environmental law unit, in the mid-1980s. My first experience living in a developing country brought me face to face with levels of poverty I had never seen before. I saw incredibly entrepreneurial people—every village, no matter how small, seemed to have some form of market, which might just be a clearing under a baobab tree, but a place where families who could afford to raise chickens traded eggs with other families who grew sukuma (collard greens) for “sukuma wiki.”⁵⁹ I also saw, first-hand, how rural poverty was exacerbated by lack of access to even tiny amounts of capital with which to finance basic health and productivity advances. When UNEP began to tackle to global warming in the late 1980s, I became convinced that multilateral approaches to the issue could only succeed if the structure of agreements aligned industrialized countries' concern for the time-distant consequences of greenhouse gas pollution with developing countries' concern for near-term economic growth. And I worried that the complexities of climate science and the pressure for strict regulation mediated through the then-prevailing policy orthodoxy of “best available control technology” would inadvertently freeze technological innovation and spawn policy proposals so arcane that politicians would find it impossible to grasp them, let alone adopt them.

So I began looking for ways to connect the baobab tree with the giant engines of global markets, to hitch the human desire for economic development to a legal framework that would drive investment in climate protection. But sitting at my small desk in Nairobi with my first-ever tiny word-processor pecking away at this concept was a lonely task. I wanted to talk with scholars about the big questions—like transparency, enforcement, equity. Then I stumbled on a dog-eared photocopy of Professor Stewart's *The Democratic*

⁵⁹ Sukuma wiki, meaning in Swahili “push the week,” is a dish made of collard greens. Because the greens are cheap, poor families whose wage earners were paid weekly would prepare sukuma wiki toward the end of the week when money was short.

Case.⁶⁰ It was amazing. It put everything together—all the strands I'd been struggling to find, and so, so, much more. "Can markets be designated in ways which enhance, rather than undermine, the reality of democratic self-rule?" asked Professor Stewart.⁶¹ "This is the question that should dominate the agenda for the reform of environmental law."⁶² He asserted that it is not necessary for environmental law to choose between democracy and efficiency. And he brought empirical research to the fore to demonstrate that "[t]he creative use of market incentives will not only save billions of dollars each year," but also engage the broader public.⁶³ It made so much sense, and it was so inspiring.

I cobbled together a paper proposing a system of marketable greenhouse gas emission rights and credits, traded through an international emissions credit bank, that could provide a flexible and monitorable global system of economic incentives for controlling a range of greenhouse gas emissions. The paid-in capital of the bank could come from the purchase of emissions allowances by large industrial companies. A village in a developing country could borrow money from the local branch of this emissions credit bank to purchase fuel-efficient cookstoves, so the villagers would need to chop down fewer trees for charcoal, and so they could breathe cleaner air in their homes. If the cookstove program were successful, the village would earn emissions credits that the bank could sell on the world market—for example, to a power company—and the proceeds would pay off the villagers' cookstove loan, with any remaining profits going directly to the villagers.⁶⁴

As I was finishing the paper, family matters called me back to the States. A series of fortuitous coincidences and wise suggestions from valued colleagues⁶⁵ brought me, with the galley proofs of the paper tucked under my arm, to a chance meeting in Washington, D.C. with the Attorney General of the Land and Natural Resources

⁶⁰ See generally *The Democratic Case*, *supra* note 13. While I had played squash with Prof. Stewart in law school, I had not taken a course from him.

⁶¹ *Id.* at 171.

⁶² *Id.*

⁶³ *Id.*

⁶⁴ See Carol Annette Petsonk, *The Role of the United Nations Environment Programme (UNEP) in the Development of International Environmental Law*, 5 AM. U. J. INT'L L. & POL'Y. 351, 390 (1990).

⁶⁵ Special thanks to Durwood Zaelke, Anne Shields, and Jonathan Wiener.

Division of the U.S. Department of Justice: Professor Stewart. And that opened, for me, the opportunity of a lifetime.

Through the ensuing three decades of design work on global climate policy, CORSIA, national and regional cap and trade systems around the world, and regional and global trade pacts, those of us who have had the good fortune to be inspired by Professor Stewart's work⁶⁶ have strived to put into practice the principles he advanced and continues to advance. The recognition that it's human nature to want and work to achieve a better life for one's family. The understanding that the engines of markets can and must be tapped in favor of effective environmental protection, competition to spur innovation and grind down costs, furthering equality and combatting discrimination, and securing the transparency that not only underpins fair enforcement, but supports the foundations of democracy. Professor Stewart has powerfully and durably made the case and mapped out the tools. For us practitioners, this celebration of his work is and must remain our call to action.

⁶⁶ See, e.g., RICHARD B. STEWART ET AL., UN CONF. ON TRADE & DEV. THE CLEAN DEVELOPMENT MECHANISM: BUILDING INTERNATIONAL PUBLIC-PRIVATE PARTNERSHIPS UNDER THE KYOTO PROTOCOL (2000); RICHARD B. STEWART & JONATHAN B. WIENER, RECONSTRUCTING CLIMATE POLICY: BEYOND KYOTO (2003); Richard B. Stewart et al., *Building Blocks for Global Climate Protection*, 32 STAN. ENV'T L. REV. 341 (2013) <https://law.stanford.edu/wp-content/uploads/2018/05/stewart.pdf>; Richard B. Stewart et al., *Building Blocks: A Strategy for Near-Term Action Within the New Global Climate Framework*, 144 CLIMATIC CHANGE 1 (2017).

