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AIMING AT SUSTAINABLE TRADE IN THE CONTEXT OF THE RULE OF LAW: WHAT ROLE FOR CITIZENS AND HOW INTERNATIONAL TRADE CAN HELP REDUCE FOSSIL-FUEL CONSUMPTION

RAFAEL LEAL-ARCAS,* DANAI PAPADEA,† ROSIE RICHARDSON#

Two main issues are addressed in this article in the context of rule of law in the European Union and the World Trade Organization. The first issue is the role citizens can play in shaping sustainable trade. Sustainability constitutes a principal concern for various regimes that, because of their nature, are in constant interaction with climate change. The second issue this paper investigates is the potential role of international trade in reducing fossil-fuel consumption. The use of fossil fuels contributes to climate change, so there is no excuse for continued inaction. We argue that, in light of the lack of international consensus on how to effectively tackle climate change, an upstream carbon tax with reinvestment supported by border tax adjustments should be enacted unilaterally by the biggest emitters of green-house gases to reduce fossil-fuel consumption and incentivise global carbon abatement.

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I. INTRODUCTION

This paper investigates two issues in the context of the rule of law. The first issue is the role citizens can play in shaping sustainable trade. Sustainability constitutes a principal concern for various regimes that, because of their nature, are in constant interaction with climate change.¹ It is one of the three parts of the “energy trilemma” (i.e., the pursuit of the ideal balance between energy equity, energy security, and environmental sustainability), and has also been a subject of

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¹ For a policy history on climate change, see CASS R. SUNSTEIN, WORST-CASE SCENARIOS, 71-117 (2007); Ian Parry & William Pizer, *Emissions Trading Versus CO2 Taxes Versus Standards*, RESOURCES FOR THE FUTURE (2007), <https://www.rff.org/publications/issue-briefs/emissions-trading-versus-co2-taxes-versus-standards/>; Kelly Levin et al., *Overcoming the tragedy of super wicked problems: constraining our future selves to ameliorate global climate change*, POLICY SCIENCE 45 (2012); Nathaniel Rich, *Losing Earth: The Decade We Almost Stopped Climate Change*, THE NEW YORK TIMES MAGAZINE (Aug. 1, 2018), <https://www.nytimes.com/interactive/2018/08/01/magazine/climate-change-losing-earth.html>; David Roberts, *The once and future Democratic consensus on climate change*, VOX (Nov. 18, 2017), <https://www.vox.com/energy-and-environment/2017/11/18/16669094/democratic-consensus-on-climate-change>; Justin Gundlach, *How Much Does the Existing Regulatory Patchwork Reduce U.S. Greenhouse Gas Emissions?*, SABIN CENTER FOR CLIMATE CHANGE, COLUMBIA LAW SCHOOL (2015), <https://doi.org/10.7916/D8959HDJ>; *The Waxman-Markey Bill: A Good Start, or a Non-Starter?*, YALE ENVIRONMENT 360 (June 18, 2019), https://e360.yale.edu/features/the_waxman-markey_bill_a_good_start_or_a_non-starter; Amanda Reilly & Kevin Bogardus, *7 Years Later, Failed Waxman-Markey Bill Still Makes Waves*, E&E NEWS (June 27, 2016), <https://www.eenews.net/stories/1060039422>.

considerable controversy in the field of international trade. More specifically, it has been argued that international trade, as a practice that makes people dependent on products produced far from their bioregion, often contributes to the destruction of ecosystems and the continuation of social injustice, therefore threatening the very idea of sustainability.² On the other hand, an argument has been developed that trade can, in fact, go hand in hand with sustainable development and even promote it, if certain standards are met adequately.³

Governments and intergovernmental organizations (IGOs) such as the United Nations and the European Union (EU) have favoured the latter approach (i.e., that trade can go hand in hand with sustainable development), an admittedly sensible choice in today's globalized world – although the concept of “sustainable trade” is not necessarily interpreted in a single way. An area that has until now remained rather unexplored is whether, and to what extent, sustainable trade could also be shaped and supported by the help of citizens. Citizens have gained an important role in the aforementioned regimes closely connected to trade (namely climate change and energy) in ways that will be examined below. Therefore, these regimes could possibly set an example to be replicated – to the level that this is feasible – in the trade sector. This hypothesis will be examined further in this paper. If it succeeds, it would mean that the traditionally very technocratic field of trade could be significantly democratized.

The second issue this paper investigates is the role of international trade in reducing fossil-fuel consumption. The use of fossil fuels contributes to climate change, so there is no excuse for continued inaction. According to *The Economist*, “[...]by 2100, if the Paris agreement's preferred target to keep warming below 1.5°C relative to preindustrial levels were met, sea levels would rise by 50cm from today, causing worldwide damage to property equivalent to 1.8% of global GDP a year. Failure to enact meaningful emissions reductions would push the seas up by another 30-40cm, and cause extra damage worth 2.5% of GDP.”⁴ The right investment in climate resilience⁵ today can save a lot of money in the form of loss

² Patricia Perkins, *What is Sustainable Trade?*, in GLOBALIZATION, GROWTH AND SUSTAINABILITY 273, 276 (Satya Dev Gupta & Nanda K. Choudhry eds.) (1987).

³ *Id.* at 280.

⁴ *Rising seas: A world without beaches*, THE ECONOMIST 11 (Aug. 17, 2019) [hereinafter *Rising Seas*].

⁵ On climate resilience, see WILLIAM NORDHAUS, CLIMATE CASINO: RISK, UNCERTAINTY, AND ECONOMICS FOR A WARMING WORLD 149-156 (2013) [hereinafter NORDHAUS]; GERNOT WAGNER & MARTIN WEITZMAN, CLIMATE SHOCK: THE ECONOMIC CONSEQUENCES OF A HOTTER PLANET = 1-48, at xi. (2015); *What do adaptation to climate change and climate resilience mean?*, UNFCCC, <https://unfccc.int/topics/adaptation-and-resilience/the-big-picture/what-do-adaptation-to-climate-change-and-climate-resilience-mean#eq-1>; *Climate Change 2014: Impacts, Adaptation, and Vulnerability*,

reduction tomorrow.⁶ In other words, the cost of inaction will be greater than that of action.

We argue that, in light of the lack of international consensus on how to effectively tackle climate change, an upstream carbon tax with reinvestment (CTR) supported by border tax adjustments (BTAs) should be enacted unilaterally by the biggest emitters of green-house gases (GHG) to reduce fossil-fuel consumption and incentivise global carbon abatement. This upstream carbon tax should include reinvestment into renewable energies⁷ and sustainable development. Although one

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2014), https://www.ipcc.ch/pdf/assessment-report/ar5/wg2/ar5_wgII_spm_en.pdf; Brad Plumer, *Five Big Ways the United States Will Need to Adapt to Climate Change*, NEW YORK TIMES (Nov. 26, 2018), <https://www.nytimes.com/2018/11/26/climate/adaptation-us-climate-change.html>; *Local Climate Adaptation and Resilience Plans*, INSTITUTE FOR LOCAL GOVERNMENT, <https://www.ca-ilg.org/post/local-climate-adaptation-resilience-plans>; *World Bank Group Announces \$50 Billion over 5 Years for Climate Change Adaptation and Resilience*, WORLD BANK (Jan. 15, 2019), <https://www.worldbank.org/en/news/press-release/2019/01/15/world-bank-group-announces-50-billion-over-five-years-for-climate-adaptation-and-resilience>; Emily Boyd, *Climate adaptation: Holistic thinking beyond technology*, NAT. CLIM. CHANGE (2017), <https://www.nature.com/articles/nclimate3211>; *Climate Watch*, WORLD RESOURCES INSTITUTE, <https://www.climatewatchdata.org/>; *Ahmedabad Heat Action Plan*, AMDAVAD MUNICIPAL CORPORATION (2018), <https://www.nrdc.org/sites/default/files/ahmedabad-heat-action-plan-2018.pdf>.

⁶ Governments investing \$1 in climate resilience today will save \$5 in losses tomorrow, see, *Rising Seas*, *supra* note 4.

⁷ On renewable energy, see, Michael B. Gerrard, *Legal Pathways for a Massive Increase in Utility-Scale Renewable Generating Capacity*, 47 ELR 10591 (2017), https://scholarship.law.columbia.edu/cgi/viewcontent.cgi?article=3046&context=faculty_scholarship; Richard Kauffman, *Obstacles to Renewable Energy and Energy Efficiency in SILOS TO SYSTEMS: ISSUES IN CLEAN ENERGY AND CLIMATE CHANGE*, <http://environment.research.yale.edu/publication-series/documents/downloads/0-9/03-Kauffman.pdf>; Dave Roberts, *Is 100% Renewable Energy Realistic? Here's What We Know*, VOX (Feb. 7, 2018), <https://www.vox.com/energy-and-environment/2017/4/7/15159034/100-renewable-energy-studies>; VARUN SIVARAM, *TAMING THE SUN: INNOVATIONS TO HARNESS SOLAR ENERGY AND POWER THE PLANET* 1-54 (2018); Jeff Ball et al. *The New Solar System*, STEYER-TAYLOR CENTER FOR ENERGY POLICY AND FINANCE (March 2017), <https://www-cdn.law.stanford.edu/wp-content/uploads/2017/03/2017-03-20-Stanford-China-Report.pdf>; Jeffrey Ball, *The New Age of Renewable Energy*, THE CAIRO REV. GLOBAL AFF., <https://www.thecairoreview.com/essays/the-new-age-of-renewable-energy/>; Emma F. Merchant, *US Renewable Energy Generation Now 'Within Striking Distance' of Nuclear*, GREENTECH MEDIA (Feb. 15, 2018), <https://www.greentechmedia.com/articles/read/renewable-energy-generation-nuclear-bnef#gs.HIB=PaI>; Callaway et al., *Location, Location, Location: The Variable Value of Renewable Energy and Demand-side Efficiency Resources*, J. ASS'N ENVTL. & RESOURCE ECONOMISTS (2017); William Moomaw, *The EPA Says Burning Wood to Generate Power is 'Carbon-neutral.'* Is

cannot control GHG emissions outside one's jurisdiction via national legislation, BTAs may be a useful policy instrument. While carbon pricing alone cannot solely tackle the negative impacts of climate change, it is a key part of the solution.⁸ It is also a simpler first step toward mitigating climate change than doing research on more cost-effective technology regarding carbon capture and sequestration⁹ or solar energy.¹⁰

It is essential that the regulation of the energy trading system be at the heart of the global effort to reduce fossil-fuel consumption and mitigate climate change because the present purely environmental efforts are lacking in rigour. This is highlighted by the US's intention to withdraw from the Paris Agreement on Climate Change. As of 2018, there were 51 carbon pricing initiatives that were in implementation or scheduled; 25 of these were emissions trading systems operating cap-and-trade policies mostly at the sub-national level, and 26 of these

That True?, THE CONVERSATION (May 8, 2018), <https://theconversation.com/the-epa-says-burning-wood-to-generate-power-is-carbon-neutral-is-that-true-95727>.

⁸ *Effective Carbon Rates: Pricing CO₂ Through Taxes and Emissions Trading System*, 15 ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (2018) [hereinafter *Effective Carbon Rates*].

⁹ On carbon sequestration and high-tech carbon removal, see, Elizabeth Kolbert, *Can Carbon-Dioxide Removal Save the World?*, THE NEW YORKER (Nov. 13, 2017), <https://www.newyorker.com/magazine/2017/11/20/can-carbon-dioxide-removal-save-the-world>; Bronson Griscom et al., *Natural Climate Solutions*, 114(44) PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA (2017), <https://www.pnas.org/content/114/44/11645.short>; Oscar Venter & Lian P. Koh, *Reducing Emissions from Deforestation and Forest Degradation (REDD+): Game Changer or Just Another Quick Fix?*, 1249 ANNALS OF THE NEW YORK ACADEMY OF SCIENCES 137-150 (2012); Peter Irvine et al. *Halving warming with idealized solar geo engineering moderates key climate hazards*, 9 NAT. CLIM. CHANGE, 294-299 (2019); Joshua B. Horton et al. *Solar Geo-engineering and Democracy*, 18(3) GLOBAL ENVIRONMENTAL POLITICS, 5 (2018); David Wallace-Wells, *Solar Geo-engineering May Be Our Last Resort For Climate Change. What If It Doesn't Work?*, NEW YORK MAGAZINE (Aug. 8, 2018), <http://nymag.com/intelligencer/2018/08/solar-geoengineering-climate-change.html>; *Deforestation and Greenhouse Gases*, U.S. CONGRESSIONAL BUDGET OFFICE (2012), <https://www.cbo.gov/sites/default/files/112th-congress-2011-2012/reports/1-6-12-forest.pdf>; Jon Gertner, *Is It O.K. to Tinker With the Environment to Fight Climate Change?*, THE NEW YORK TIMES (Apr. 18, 2017), <https://www.nytimes.com/2017/04/18/magazine/is-it-ok-to-engineer-the-environment-to-fight-climate-change.html>; Ingrid Visseren-Hamakers et al., *Trade-offs, Co-benefits and Safeguards: Current Debates on the Breadth of REDD+*, 4(6) CURRENT OPINION IN ENVIRONMENTAL SUSTAINABILITY (2012); David Victor, et al. *The Geoengineering Option: A Last Resort Against Global Warming?*, FOREIGN AFFAIRS (2009), <https://www.foreignaffairs.com/articles/arctic-antarctic/2009-03-01/geoengineering-option>; Margaret Skutsch, *The Evolution of International Policy on REDD+*, CLIMATE SCIENCE (2017).

¹⁰ *Green New Democrats*, THE ECONOMIST 37 (June 15, 2019).

were carbon taxes, primarily at the national level.¹¹ Whilst these efforts show a recognition of the importance of carbon pricing, we argue that reducing fossil-fuel consumption can be better achieved through a carbon tax with reinvestment.

After this introduction, Part II provides an analysis of the rule of law concept in the European Union (EU) and the World Trade Organization (WTO). Part III analyses the role of citizens in sustainable trade. Part IV analyses the potential role of international trade in the reduction of fossil-fuel consumption. Part V concludes.

II. THE RULE OF LAW CONCEPT IN THE EU AND THE WTO

This Part deals with the essential elements of the rule of law concept that underlie present-day legal research in the EU and the WTO. After defining the notion of rule of law, this Part explains some elements of the concept in a succinct manner.

A. *Defining Rule of Law*

Black's Law Dictionary defines rule of law as "a legal principle, of general application, sanctioned by the recognition of authorities, and usually expressed in the form of a maxim or logical proposition. It is called a "rule" because in doubtful or unforeseen cases it is a guide or norm for their decision. The rule of law, sometimes called "the supremacy of law", provides that decisions should be made by the application of known principles or laws without the intervention of discretion in their application."¹²

Rule of law therefore implies that every citizen is subject to the law, including the law-makers themselves. This notion stands in contrast to the idea that the ruler is above the law, as was the case in the past in several countries when, for example, divine right was accepted. The idea is that law, not man, should govern. It is a concept similar to the German notion of *Rechtsstaat*, which means that the exercise of public authority is subject to procedural and substantive limitations.¹³

¹¹ World Bank Group, *State and Trends in Carbon Pricing*, WORLD BANK 39 (2018) [hereinafter World Bank Group]. In Australia, there was a carbon tax introduced by the Labor Government, which former Prime Minister Tony Abbott later axed. The rationale for the carbon tax was that, relative to its population, Australia produces more GHG emissions than almost any other rich country.

¹² *Rule of Law*, BLACK'S LAW DICTIONARY 1332 (6th ed.).

¹³ M. Herdegen, *The Origins and Development of the General Principles of Community Law*, in GENERAL PRINCIPLES OF EUROPEAN COMMUNITY LAW 3, at 3 (U. Bernitz & J. Nergelius eds., 2000).

A rule of law system may be divided into procedural and substantive law. The former does not deal with the justness of the legal system; rather, it provides the procedural dimension to the system of law in order to comply with the rule of law. The latter is about substantive rights based on the rule of law.

What follows are some non-exhaustive elements of the rule of law concept:

1. Access to justice and judicial review;
2. Legal certainty;
3. Proportionality;
4. Equality and non-discrimination; and
5. Transparency.

In the context of the EU, many of these elements and principles have been derived by the Court of Justice of the European Union (CJEU) based on the premise that the legal order of the EU is based on the rule of law. They are mainly principles of public law and refer to the relationship between the individual and the public authorities (whether the EU or national). Article 21(2)(b) of the Treaty on European Union (TEU) also refers to the rule of law in the context of the EU's external action in all its fields of international relations. We have chosen the EU because it serves as a prominent example of the rule of law in the international order. What follows are key elements that help to explain the rule of law from the context of the EU.

B. Access to justice and judicial review

Basic concerns arise regarding the principle of access to justice¹⁴ in any jurisdiction: is the judiciary independent? Are single judges subject to political manipulation? Is

¹⁴ For further details about access to justice in the context of environmental rights and climate change justice, see, Michael Gerrard & Edward McTiernan, *Patterns of Climate Change Litigation During Trump Era*, 259 *NEW YORK L. J.* (2018), <http://columbiaclimatelaw.com/files/2018/03/070031820-Arnold.pdf>; *Climate Change and Future Generations Lawsuit in Colombia: Key Excerpts from Supreme Court Decision*, DEJUSTICIA (Apr. 13, 2018), <https://www.dejusticia.org/en/climate-change-and-future-generations-lawsuit-in-colombia-key-excerpts-from-the-supreme-courts-decision/>; Angelique Chrisafis, *Who are the gilets jaunes and what do they want?*, THE GUARDIAN (Dec. 7, 2018), <https://www.theguardian.com/world/2018/dec/03/who-are-the-gilets-jaunes-and-what-do-they-want>; Anabella Rosemberg, *Embedding Just Transition in Long-term Decarbonization Strategies: What, Why, and How*, WORLD RESOURCES INSTITUTE, <https://www.wri.org/climate/expert-perspective/embedding-just-transition-long-term-decarbonization-strategies-why-what>; Laura Parker, *143 Million People May Soon Become Climate Migrants*, NATIONAL GEOGRAPHIC (Mar. 19, 2018), <https://news.nationalgeographic.com/2018/03/climate-migrants-report-world-bank-spd/>;

the judiciary impartial? Do citizens have access to the courts? Is there a recognized and organized legal profession? Are court decisions implemented?

In EU law, there are four grounds for review, listed in Article 263, Paragraph 2 of the Treaty on the Functioning of the European Union (TFEU):

1. lack of competence;
2. infringement of an essential procedural requirement;
3. infringement of the Treaties or of any rule of law relating to its application; and
4. misuse of power.

Lack of competence is a rare ground to use in court, given that EU institutions are rarely found to exceed the powers granted to the EU. Only one case has been reported where an EU institution was found to have taken action that did not fall within the power of the EU.¹⁵ There have been, however, many cases where an EU institution has taken action that should have been taken by some other EU institution¹⁶ or where an EU institution has exceeded its own powers.¹⁷

Umair Irfan, *Playing Hooky to Save the Climate: Why Students are Striking on March 15*, VOX (Mar. 14, 2019), <https://www.vox.com/2019/2/21/18233206/march-15-climate-strike>; Brooke Jarvis, *Climate Change Could Destroy His Home in Peru. So He Sued an Energy Company in Germany*, THE NEW YORK TIMES (Apr. 9, 2019), <https://www.nytimes.com/interactive/2019/04/09/magazine/climate-change-peru-law.html?smid=nytcore-ios-share>; George D. Banks, *Poorer and Richer States Should Be Held to the Same Greenhouse Standards*, THE HILL (July 22, 2018), <http://thehill.com/opinion/energy-environment/398239-poorer-and-richer-states-shouldnt-be-held-to-the-same-green-house>; Amity A. Doolittle, *The politics of indigeneity: Indigenous strategies for inclusion in climate change negotiations*, CONSERVATION & SOCIETY (2010); Josephine Balzac, *Corporate Responsibility: Promoting Climate Justice through the Divestment of Fossil Fuels and Socially Responsible Investment in* RANDALL S. ABATE, CLIMATE JUSTICE: CASE STUDIES IN GLOBAL AND REGIONAL GOVERNANCE CHALLENGES 125-148 (2016); Balzac, *Climate Justice: Promoting Corporate Responsibility Through the Divestment of Fossil Fuels and Socially Conscious Investment*, THE ENVIRONMENTAL FORUM (2018); Chukwumerije Okereke & Philip Coventry, *Climate Justice and the International Regime: Before, During, and After Paris*, 7 WIRES CLIMATE CHANGE 834 (2016); *Principles of Climate Justice*, MARY ROBINSON FOUNDATION, <https://www.mrfcj.org/wp-content/uploads/2015/09/Principles-of-Climate-Justice.pdf>; *Equity in Climate Change*, WORLD BANK (2010), <http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-5383>.

¹⁵ Case C-2/94, Opinion 2/94, Accession to the European Convention on Human Rights, 1996 E.C.R. I-1759.

¹⁶ Case C-155/07, Parliament v. Council, 2008 E.C.R. I-318; Parliament v. Council, (Dec. 5, 2012).

Regarding the infringement of an essential procedural requirement, there are three main rights of process: the right of defence, the right to a hearing, and the right to good administration of one's affairs. The infringement of any of these rights would constitute ground for review.

The infringement of the treaties or of any rule of law relating to its application refers to a breach of a substantive piece of EU law (i.e., provisions of the Treaties), or of other legal norms (i.e., fundamental rights, proportionality, non-discrimination, or legal certainty).

Misuse of power is difficult to prove in court. The plaintiff would need to prove that the EU institution intentionally used its power for a purpose for which it should not be used. Moreover, the plaintiff must prove that the EU institution in question was motivated to use the power for purposes other than those for which they were conferred.¹⁸ The misuse of power principle has only once been successfully invoked in court.¹⁹

C. *Legal certainty*

Legal certainty is a principle that exists at the very foundation of rule of law. As a matter of fact, in *Black Clawson Ltd v. Papierwerke AG*, Lord Diplock stated that “the acceptance of the rule of law as a constitutional principle requires that a citizen, before committing himself to any course of action, should be able to know in advance what are the legal consequences that will flow from it.”²⁰ This principle is particularly prominent in economic law, where legal certainty may bring about a reduction of transaction costs and efficient business.²¹

¹⁷ Joined Cases T-218/03 to T-240/03, *Boyle v. Commission*, 2006 E.C.R. II-1699. *See also*, Case T-263/07, *Estonia v. Commission*, 2009 E.C.R. II-3463. The latter case was upheld in Case C-505/09 P, *Commission v. Estonia*, EUR-Lex Europa (Mar. 29, 2012), <http://curia.europa.eu/juris/celex.jsf?celex=62009CJ0505&lang1=en&type=TEXT&ance=>

¹⁸ Case C-48/96 P, *Windpark Groothusen v. Commission*, 1998 E.C.R. I-2873; Case C-407/04, *Dalmine v. Commission*, 2007 E.C.R. I-829.

¹⁹ Joined Cases 351 & 360/85, *Fabrique de Fer de Charleroi v. Commission*, 1987 E.C.R. 3639.

²⁰ *Black Clawson Ltd v. Papierwerke AG* [1975] AC 591 HL 638 (appeal taken from Eng.).

²¹ For an analysis, see JUHA RAITIO, *THE PRINCIPLE OF LEGAL CERTAINTY IN EC LAW* (2003).

The protection of legitimate expectations is a specific expression of legal certainty, albeit the CJEU does not always make a distinction between these two concepts.²² Respect for legitimate expectations is well developed in German and French jurisprudence.²³ English courts have been rather reluctant to accept the protection of legitimate expectations as a ground for review.²⁴ However, since *Coughlan*, it is a part of English law.²⁵

D. Proportionality

Although the notion of proportionality goes back to ancient times,²⁶ it is not a catchword in international law. The well-established general principles of law applicable to international law do not generally include proportionality along with principles such as equity, the protection of good faith, legitimate expectations or protection from retroactive application and other principles generally recognized in domestic law.²⁷ Its importance is increasing, but the legal status in international law is still unclear.²⁸ It remains to be seen whether proportionality operates as a self-standing principle in its own right, or whether it merely operates in the context of particular fields of international law and in different ways.²⁹

In the field of human rights protection, the European Court of Human Rights (ECHR), following the European Convention on Human Rights, has, ever since its inception, applied considerations of proportionality in assessing restrictions of fundamental rights. The CJEU has followed suit to ensure the

²² Joined Cases 212-217/80, *Finanze dello Stato v. Srl Meridionale Industria Salumi*, 1981 E.C.R. 2735, ¶10; Case 120/86, *Mulder v. Minister van Landbouw en Vissen*, 1988 E.C.R. 2321.

²³ JÜRGEN SCHWARZE, *EUROPEAN ADMINISTRATIVE LAW*, Chapter 6.2 (1992) [hereinafter SCHWARZE].

²⁴ *R v. Secretary of State for the Home Department, ex parte Hargreaves* [1997] 1 All ER 397 (CA).

²⁵ *R v. North and East Devon Health Authority ex parte Coughlan* [2001] QB 213.

²⁶ The ancient Greek dictum ‘*pan metron ariston*’ encapsulates this concept.

²⁷ T. Cottier et al., *The Principle of Proportionality in International Law* 1 (NCCR Trade Regulation Working Paper No. 2012/38, Dec., 2012); T. Cottier, et al., *The Principle of Proportionality in International Law: Foundations and Variations*, 18 J. WORLD INV. & TRADE 628, 672 (2017)..

²⁸ EMILY Crawford, *Proportionality*, THE MAX PLANCK ENCYCLOPAEDIA OF PUBLIC INTERNATIONAL LAW 533, at 8 (Wolfgram, R. ed., 2012); see for example an analysis of the necessity in the International Law Commission Draft Articles on State Responsibility in R.D. Sloane, *On the Use and Abuse of Necessity in the Law of State Responsibility*, 106(3) AM. J. INT’L L. 447, 504, 507 (2012).

²⁹ T.M. Franck, *On Proportionality of Countermeasures in International Law*, 102 AM. J. INT’L L. 715 (2008); see also, T.M. Franck, *Proportionality in International Law*, 4(2) LAW & ETHICS OF HUMAN RIGHTS 229-242 (2010).

protection of human rights in its own jurisdiction, and has assessed the lawfulness of EU law accordingly. In EU law, the concept of proportionality “implies a means-ends relationship between the aims pursued by a specific action of the government and the means employed to achieve this end.”³⁰ It requires that the action undertaken must be proportional to the object it seeks to achieve. In today’s EU liberal democracies, it refers to the protection of the individual vis-à-vis the state and the notion that regulatory intervention must be able to achieve its aims.³¹

Although the proportionality principle is expressly mentioned in the Treaty on European Union,³² it has been developed by the CJEU as a fundamental principle that derives from the rule of law.³³ While this principle is particularly important in economic law, it is to be found in the whole of the EU legal system, and the CJEU has applied it in areas such as remedies³⁴ and external trade.³⁵

On the specific point of democracy, why has deliberative democracy not worked in a highly educated part of the world such as Europe? Is it about lack of interest? If so, how can we raise interest among citizens? Citizens are often uninformed about key public issues. For instance, 80% of the voters in Spain who voted in favour of the unratified Constitutional Treaty of 2004, acknowledged that they had never read the Treaty, despite voting yes. Why vote if one is not aware of the implication of such a vote? Democracy is more serious than just voting every four, five, or six years, depending on the electoral system. What is the point of democracy if it is not deliberative democracy? In this sense, James Fishkin of Stanford and Robert Luskin have done some interesting work on this issue. This problem becomes even larger in countries with a large illiterate population.

E.U. Petersmann has argued that “without legal incentives for stronger ‘deliberative democracy’ helping citizens to understand, monitor, criticize or support the complexity of multilevel governance, there is a risk of undermining democracy.”³⁶ While we have seen tremendous civil society activism in both the spheres of trade and climate change, we have not seen as much in monetary affairs.

³⁰ NICHOLAS EMILIOU, *THE PRINCIPLE OF PROPORTIONALITY IN EUROPEAN LAW: A COMPARATIVE STUDY* 23-24 (1996).

³¹ SCHWARZE, *supra* note 23.

³² Treaty on European Union, art. 5.4, Feb. 7, 1992, 2010 O.J. (C83)

³³ Case 4-73, *Nold v. Commission*, 1974 E.C.R. 491, 513-514, *see also*, Case 11-70, *Internationale Handelsgesellschaft v. Einfuhr und Vorratsstelle Getreide*, 1970 E.C.R. 1125.

³⁴ Case C-12/95 P, *Transacciones Maritimas & Ors. v. Commission*, 1995 E.C.R. I-467.

³⁵ Case C-367/89, *Criminal Proceedings against Aime Richardt and Les Accessoires Scientifiques*, 1991 E.C.R. I-4621.

³⁶ E.U. Petersmann, *Framework of analysis: The Doctrine of Multilayered Governance*, 18 (paper presented at the World Trade Forum 2012, Oct. 12-13, 2012) [hereinafter Petersmann].

That raises the question of how we can get to deliberative democracy in the context of global monetary governance.

E. Equality and non-discrimination

Equality is a concept very much linked to the notion of justice. It is a principle that appears in legal, political and moral spheres. It became prominent in the legal sphere during the Declaration of Independence of the United States in 1776. The notion of equality before the law gained importance as a result of the rise of the bourgeoisie and the rejection of the abuse of power practiced during the *Ancien Régime*.

In EU law, the notion of equality is omnipresent. For instance, as a general principle of law, equality serves as a ground for review of EU law. Moreover, it strengthens the single market by prohibiting discrimination on grounds of nationality and against free movers within the single market. Furthermore, equality is a fundamental right in the sense that the prohibition of discrimination on grounds of sex, age or race is a cornerstone of social law. Lastly, thanks to the notion of EU citizenship, the CJEU has re-assessed the scope of Article 18 TFEU which prohibits discrimination on grounds of nationality.

As for the principle of non-discrimination, it is a general principle of EU law.³⁷ It is also provided for in Article 14 of the European Convention for the Protection of Human Rights and Fundamental Freedoms. Article 14 provides a list of grounds on which discrimination is prohibited. If there is objective and reasonable justification for a difference in treatment, there is no discrimination. Where the provision pursues a legitimate aim and there is a reasonable relationship of proportionality between the means used and the aim sought, there is no discrimination.³⁸

The ECHR has clearly stated that differences in treatment must “strike a fair balance between the protection of the interests of the community and respect for the rights and freedoms safeguarded by the Convention.”³⁹ The ECHR has acknowledged a margin of appreciation for States to decide which means are reasonable to obtain a legitimate objective. This margin of appreciation differs depending on the grounds for the difference in treatment. Difference in treatment

³⁷ Case C-144/04, *Mangold v. Helm*, 2005 E.C.R. I-9981.

³⁸ European Commission of Human Rights v. Belgium (*Merits*), (1979-80) 1 EHRR 241.

³⁹ *Id.*

on the basis of race, sex or illegitimacy has been taken seriously by the ECHR, which has required the State to provide justification.⁴⁰

F. *Transparency*

Article 15.3 of the TFEU expressly defines the principle of transparency: “Any citizen of the Union [...] shall have a right of access to documents of the Union institutions, bodies, offices and agencies [...]” Actions have been allowed against these entities.⁴¹ This right is also a right of access to the information in the documents themselves. This means that the institution in question would need to give access to all information that does not fall under an exception.⁴²

There are exceptions to the right of access to information, thus certain legal and political activity is allowed to remain secret and not included in what citizens are allowed to know about.⁴³ An example of this exception is an appeal by the Swedish Government and MyTravel (a package holiday company) against a decision of the General Court of the EU. The decision allowed the EU Commission to refuse the plaintiff access to a report of a working group created to consider whether the EU Commission should appeal against a judgment of the General Court which allowed two of this company’s competitors to merge. The CJEU allowed the appeal.⁴⁴

G. *The rule of law and the WTO*

This sub-part examines the link between freedom of the expression and the WTO, as part of the broader debate on trade and human rights. It also discusses the absence of human rights from the Bretton Woods global economic architecture.

Scholars have argued that “the WTO judiciary should interpret exception clauses broadly and grant WTO Members sufficient leeway to implement free speech-enhancing policies”⁴⁵ and that, even if such clauses are not underpinned by a

⁴⁰ D. HARRIS, M. O’BOYLE & C. WARBRICK, *LAW OF THE EUROPEAN CONVENTION ON HUMAN RIGHTS* 481-483 (Butterworths ed., 1995).

⁴¹ Joined Cases T - 339/10 & T - 532/10, *COSEPURI v. EFSA*, 2013 EUR-lex Europa Doc. 62010TJ0339 (Jan. 29, 2013), <https://eur-lex.europa.eu/legal-content/FR/TXT/?uri=CELEX%3A62010TJ0339>.

⁴² Case C-353/99, *Hautala v. Council*, 2001 E.C.R. I-9565.

⁴³ Council Regulation No. 1049/2001 of May 30, 2001, art. 4, O.J. (L 145) 43, 48.

⁴⁴ C-506/08P, *Sweden and MyTravel v. Commission*, 2011 E.C.R. I-6237.

⁴⁵ See Maya H. Randall, *Human Right Within a Multi-layered Constitution: The Example of Freedom of Expression and the WTO* 1 (paper presented at the NCCR Annual conference: International trade regulation, multilevel governance and the EU: The network takes a critical look, World Trade Institute, University of Bern, Switzerland, on file with the author, July 4, 2012).

universally shared conception of free speech, they should be admissible.⁴⁶ Such an approach is largely one of Western democracies. However, the WTO is home to countries which do not follow such Western-born philosophies. One could argue that the GATT-WTO regime is a Western-centric creation. Moreover, the trans-Atlantic partnership has dominated the world economy since the beginning of the 20th century. Furthermore, major global political and economic institutions are based upon American and European values and interests.

However, with time, non-Western countries have joined the WTO. Let us remember that one need not be a democracy (and certainly not a Western democracy) to be a WTO Member. For instance, Saudi Arabia and the United Arab Emirates (UAE) are Islamic theocracies. China is not a Western democracy (you may argue China is a democracy, but not in the Western conception of the term, in that people can only choose their leaders from one single political party, the Chinese communist party). And China has a very strong censorship policy. This comes across if one does an examination of WTO cases against China (*China – Publications* and *China- measures affecting the protection and enforcement of IPRs*). This brings the question of whether some Western scholars would like the WTO to have a more prominent role in addressing the link between freedom of expression and trade.⁴⁷ Yet, all these countries (China, Saudi Arabia, UAE) are WTO Members. Russia, which is another interesting case on trade and freedom of expression, joined the WTO in 2012. Yemen and Afghanistan (another two Islamic theocracies) joined the WTO in 2014 and 2016, respectively.

Looking at the WTO prospectively, it is very probable that theocratic countries (for instance, Iran [an Islamic theocracy], the Vatican [the only Christian theocracy]) as well as non-Western democracies (Iraq, Lebanon) may join the WTO in the future.

Taking all of this into account as well as the rise of multipolarity (which is a fact today), how would the arguments of Western scholars change if their approach had less of a Western-centric approach and instead a broader global approach? In fact, Maya Hertig Randall expressly mentions that ‘the experience of the EU cannot be simply transposed to the WTO’, accepting thereby that perhaps the values of Western democracies may not always be exportable to non-Western countries.⁴⁸

This point raises the following question: Would one still argue that ‘the WTO judiciary should interpret exception clauses broadly and grant WTO members

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ *Id.* at 13.

sufficient leeway to implement free speech-enhancing policies?⁴⁹ What if there is no freedom of expression in a given jurisdiction, such as some of the jurisdictions mentioned above? Again, Maya Hertig mentions that “freedom of expression is essential for the functioning of markets”,⁵⁰ and that ‘press diversity is a prerequisite for trust in free trade’.⁵¹ The question then is: What should be the role of the WTO in a situation where there is no press diversity? Hertig also states that “Without robust and independent media willing to expose harmful commercial practices, the trust in trade liberalisation, and the functioning of the WTO, will be impaired in the long term.”⁵² But how would lack of independent media affect the functioning of the WTO?

Moreover, technology does have an impact on the rule of law and the WTO. How has the power of the consumers changed with the rise of modern technology? The power of online communities and social media is today, very palpable. Consumers share information today more than ever. How does that affect consumer empowerment? How does social media connect (or even relate) to international trade? What are the implications of the explosion of social media for international trade in the WTO context? What is the role of competition in regulating information? Some WTO members, namely China, have different conceptions of free speech. Is there a need to broaden the WTO Dispute Settlement Understanding’s mandate to reach out to free-speech cases connected to international trade?

E.U. Petersmann has argued that “most existing multilevel governance mechanisms fail to protect international public goods efficiently.”⁵³ That statement raises the question of why this failure happens. What are the recommendations for avoiding it? The way the system functions now offers two possibilities: 1) promotion of synergies “(e.g. in the cooperation among the IMF, the EU Commission and the ECB in determining the conditionality of the bailout agreements with Greece, Portugal, Ireland and Spain)”⁵⁴ and 2) that these institutions undermine each other’s work (“Articles XV, XXIII GATT reflect the fact that monetary and trade policies may also ‘nullify or impair’ each other”).⁵⁵ That raises the question of how these institutions can find cooperation and avoid undermining each other.

⁴⁹ *Id.* at 1.

⁵⁰ *Id.* at 74.

⁵¹ *Id.* at 76.

⁵² *Id.* at 68.

⁵³ Petersmann, *supra* note 36, at 2.

⁵⁴ *Id.*

⁵⁵ *Id.*

Petersmann has argued that human rights are missing from major legal instruments. How can human rights be made more integral to national and international legal systems? Are there any examples where such a situation has occurred? Should there be incentives? Sanctions? Could the Montreal Protocol's success be an example here? Human rights are missing from the Bretton Woods, GATT, WTO Agreements,⁵⁶ but is this really their jurisdiction? How far can, say, the WTO extend its influence regarding human rights? How would it change things if we were to incorporate human rights in the WTO context?

Petersmann has also argued that "there is no international agreement on the role of national and international law in the production of international public goods."⁵⁷ Why has this not happened yet? Isn't this just a matter of time, with increased globalization and transparency due to the Internet? Arguably, thanks to the internet and social media, transparency and citizen participation have increased exponentially in recent years.

The eternal conflict between collective action problems and State sovereignty is also worth examining. If we agree that combating collective action problems is for the benefit of citizens, then why are States giving priority to sovereignty instead? For example, in the case of climate change, leaders perhaps believe they are benefiting citizens by giving priority to economic growth over environmental protection. But this is a subjective decision, and often a myopic argument. Think of China's dilemma between economic growth and environmental protection. Sacrificing economic growth in the name of environmental protection would mean condemning today's poor countries to a future with no hope. In that sense, nations should approach economic growth as part of the climate solution, not as part of the problem. This can be done via green economic growth, for instance. This raises the question of whether collective action problems should prevail over national sovereignty.

The rule of law concept is crucial for enhancing citizens' participation in international trade, which is our next issue of analysis.

⁵⁶ *Id.*

⁵⁷ *Id.* at 6.

III. HOW CAN CITIZENS PLAY A GREATER ROLE IN SHAPING SUSTAINABLE TRADE?

A. Background

One of the biggest 21st century challenges for our planet and its habitants is the combat against climate change.⁵⁸ As the potentially disastrous effects of global warming seem to appear increasingly imminent, a key concept that has gained more attention in the last few decades is that of sustainable development, i.e. the development that covers present needs sufficiently, without putting the needs of the future generations in jeopardy. Sustainable development entered the world of international law in 1987, through a report named “Our Common Future”, produced by the authority formerly known as the World Commission on Environment and Development (today operating as the Brundtland Commission).⁵⁹

Nearly three decades later, in 2015, the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development,⁶⁰ a document crystallizing the main targets that have to be met so that this type of development is possible: 17

⁵⁸ Johan Rockström et al., *A Safe Operating Space for Humanity*, NATURE 472 (2009), <https://www.nature.com/articles/461472a>; Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243,48 (1968); David Wallace-Wells, *The Uninhabitable Earth, Annotated Edition*, NEW YORK MAGAZINE (July 14, 2017), <http://nymag.com/intelligencer/2017/07/climate-change-earth-too-hot-for-humans-annotated.html>; ELIZABETH KOLBERT, FIELD NOTES FROM A CATASTROPHE (2006); KERRY EMANUEL, WHAT WE KNOW ABOUT CLIMATE CHANGE (2007); Ezra Markowitz & Azim Shariff, *Climate Change and Moral Judgment*, 2 NATURAL CLIM. CHANGE (Apr. 2012); Will Steffen et al., *Planetary Boundaries: Guiding Human Development on a Changing Planet in SCIENCE* (2015); *Report on Global Warming of 1.5 degrees C: Summary for Policymakers*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2018), <https://www.ipcc.ch/sr15/chapter/summary-for-policy-makers/>; U.S. GLOBAL CHANGE RESEARCH PROGRAM, Executive Summary, *Climate Science Special Report: 4th National Climate Assessment (NCA4)*, 1, https://science2017.globalchange.gov/downloads/CSSR_Executive_Summary.pdf; *Keeling Curve Lessons*, SCRIPPS CO2 PROGRAM, http://scrippsco2.ucsd.edu/history_legacy/keeling_curve_lessons; Chris Mooney, *The Hockey Stick: the Most Controversial Chart in Science, Explained*, THE ATLANTIC (May 10, 2013), <https://www.theatlantic.com/technology/archive/2013/05/the-hockey-stick-the-most-controversial-chart-in-science-explained/275753/>; James Zachos et al., *Trends, Rhythms, and Aberrations in Global Climate 65 Ma to Present*, 292 SCIENCE 686 (2001).

⁵⁹ Report of the World Commission on Environment & Development, U.N. Doc. A/42/427, annex 2 (1987).

⁶⁰ G.A. Res. 70/1, R Transforming our world: the 2030 Agenda for Sustainable Development (Oct. 21, 2015) [hereinafter G.A. Res 70/1].

Sustainable Development Goals (SDGs). The G20 also has produced an Action Plan on the 2030 Agenda for Sustainable Development.⁶¹

B. Defining sustainable trade

To achieve the maximum possible amount of clarity, the characteristics that render trade sustainable should be defined. According to the United Nations Conference on Trade and Development (UNCTAD), the SDG with the closest relation to trade is Goal 17 – “Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development”.⁶² In particular, there are three of its by-targets that have been categorized by the 2030 Agenda as “trade-related”, on which the UNCTAD, in collaboration with the International Trade Centre (ITC) and the WTO, has an obligation to provide and update indicators:⁶³

- “Target 17.10: Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda.
 - Indicator 17.10.1: Worldwide weighted tariff-average.
- Target 17.11: Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020.
 - Indicator 17.11.1: Developing countries' and least developed countries' share of global exports.
- Target 17.12: Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access.

⁶¹ *G20 Action Plan on the 2030 Agenda for Sustainable Development*, G20 CHINA 2016, https://www.b20germany.org/fileadmin/user_upload/G20_Action_Plan_on_the_2030_Agenda_for_Sustainable_Development.pdf.

⁶² G.A. Res. 70/1, *supra* note 60, at 14.

⁶³ *Trade and the Sustainable Development Goals (SDGs)*, UNCTAD, <https://unctad.org/en/Pages/DITC/Trade-Analysis/TAB-Trade-and-SDGs.aspx>.

- Indicator 17.12.1: Average tariffs faced by developing countries, least developed countries and small island developing States.”⁶⁴

Moreover, the 2030 Agenda for Sustainable Development further stresses the worth of international trade as an instrument towards the fortification of sustainability in paragraph 68:

“International trade is an engine for inclusive economic growth and poverty reduction, and contributes to the promotion of sustainable development. We will continue to promote a universal, rules-based, open, transparent, predictable, inclusive, non-discriminatory and equitable multilateral trading system under the World Trade Organization, as well as meaningful trade liberalization. We call upon all members of the World Trade Organization to redouble their efforts to promptly conclude the negotiations on the Doha Development Agenda. 19 We attach great importance to providing trade-related capacity-building for developing countries, including African countries, least developed countries, landlocked developing countries, small island developing States and middle-income countries, including for the promotion of regional economic integration and interconnectivity.”⁶⁵

Another IGO that has been a staunch supporter of trade as a pillar of sustainable development is the EU. The EU has not only adopted the UN’s 2030 Agenda and its SDGs within its community policies, but also contributed in its very creation. Further than that, its trade policy recognizes the value of “social justice, respect for human rights, high labour standards and high environmental standards”,⁶⁶ all fundamental elements for sustainability. This is evident especially in the inclusion of sustainable development clauses in the trade agreements it has signed in the last decade, and the conduction of sustainability impact assessments preceding their signing.

C. *The climate-change and energy regimes*

The climate change regime, although originally structured in a top-down approach, did acknowledge the importance of citizen awareness and participation from its

⁶⁴ *SDG Indicators – Metadata Repository*, UNITED NATIONS, <https://unstats.un.org/sdgs/metadata/?Text=&Goal=17&Target=>.

⁶⁵ G.A. Res. 70/1, *supra* note 60, at 29.

⁶⁶ *Trade Policy and Sustainable Development*, EUROPEAN UNION, <http://ec.europa.eu/trade/policy/policy-making/sustainable-development/>

early stages, namely in the Principle 10 of the Rio Declaration (1992)⁶⁷ and in Articles 4 and 6 of the United Nations Framework Convention on Climate Change, 1992(UNFCCC).⁶⁸ Furthermore, in the closely knit to climate change field of environmental law, the Aarhus Convention of 1998 also recognizes public participation as a significant procedural environmental right.⁶⁹

The major step to achieve a relevant democratization in climate change, however, took place much more recently, with the signing of the Paris Agreement⁷⁰ by the

⁶⁷ Report of the UN Conference on Environment & Development, Rio Declaration on Environment and Development, Principle 10, UN Doc. A/CONF.151/26 (Vol. I) (Aug. 12, 1992).

⁶⁸ United Nations Framework Convention on Climate Change, May 9, 1992, 1771 UNTS 107.

⁶⁹ Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, June 25, 1998, 2161 UNTS 447.

⁷⁰ For an analysis of the Paris Agreement and climate change in general, see NORDHAUS, *supra* note 5; *History of UN Climate Change Talks*, CENTRE FOR CLIMATE & ENERGY SOLUTIONS, <https://www.c2es.org/content/history-of-un-climate-talks/>; *Fifth Climate Change Assessment Report: Synthesis Report*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (2014), http://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf; Daniel Bodansky & Lavanya Rajamani, *Evolution and Governance Architecture of the Climate Change Regime in INTERNATIONAL RELATIONS AND GLOBAL CLIMATE CHANGE: NEW PERSPECTIVES* (Detlef Sprinz & Urs Luterbacher eds., 2016); Daniel Esty & Peter Boyd, *To Move Paris Accord Forward, Bring Cities and Companies on Board*, YALE ENVIRONMENT 360, (2018), <https://e360.yale.edu/features/to-move-paris-accord-forward-bring-cities-and-companies-on-board>; Daniel Esty & Dena Adler, *Changing International Law for a Changing Climate*, AM. J. INT'L L. (2018), https://www.cambridge.org/core/services/aop-cambridge-core/content/view/DB50564B97DEE8620D818BFFCB9BBC94/S2398772318000764a.pdf/changing_international_law_for_a_changing_climate.pdf; *Decision of the Parties to the 2015 Paris Conference of the Parties (COP21)*, UNFCCC, https://unfccc.int/sites/default/files/english_paris_agreement.pdf; *Emissions Gap Report*, UNITED NATIONS ENVIRONMENT (2018), <https://www.unenvironment.org/resources/emissions-gap-report-2018>; *Essential Elements of the Paris 'Rulebook'*, CENTRE FOR CLIMATE & ENERGY SOLUTIONS., (Nov. 2018), <https://www.c2es.org/site/assets/uploads/2018/11/essential-elements-paris-rulebook.pdf>; Ted Nordhaus, *The Two-Degree Delusion: The Dangers of an Unrealistic Climate Change Target*, FOREIGN AFFAIRS (Feb. 8, 2018), <https://www.foreignaffairs.com/articles/world/2018-02-08/two-degree-delusion>; Jules Kortenhorst, *The Paris Agreement: 10 Key Takeaways For the Global Energy Landscape*, ROCKY MOUNTAIN INSTITUTE (2015), https://rmi.org/news/blog_2015_12_18_the_paris_agreement_10_key_takeaways/; *Adapt, Curb, Engage: 21 Solutions to Protect Our Shared Planet*, CITIES4CLIMATE (2015), <https://envirocenter.yale.edu/sites/default/files/files/21%20Solutions%20to%20Protect%20Our%20Shared%20Planet.pdf>.

parties of the UNFCCC in 2015.⁷¹ The preamble and Article 12 reaffirm the duty of states to guarantee public awareness, participation and access to information; while in Article 16§8 non-governmental bodies and agencies are provided the opportunity to gain observer status in the meetings of the Conference of the Parties or COP, i.e. the supreme decision-making body of the UNFCCC.

Moreover, the Paris Agreement adopted a structure for States' response to climate change that was drastically different from the legal instruments that preceded it: it introduced a bottom-up approach, in addition to the until then dominant top-down. As its name suggests, the bottom-up approach (named "the conceptual breakthrough" of the Agreement, although this idea of a harmonious, truly global framework was conceived earlier, in the rather-less-popular Copenhagen Conference of 2009) is translated into the ability of the states to define their climate change targets and actions by their own national policy, instead of them being dictated from an international authority.⁷² What is more, customers, shareholders, employees, and other forms of bottom-up governance are asking companies to take bolder action in the fight against climate change. Ordinary citizens are also demonstrating on the streets by asking their local governments to take the fight against climate change more seriously.⁷³ Equally, Europe's carmakers are now taking their plans for electric cars more seriously⁷⁴ to comply with stricter EU rules on GHG emissions from cars.⁷⁵

⁷¹ Paris Agreement, Report of the Conference of the Parties on its Twenty-First Session, Addendum, at 21, 1, UN Doc. FCCC/CP/2015/10/Add. (Jan. 29, 2016), https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/FCCC_CP_2015_10_Add.1.pdf.

⁷² Daniel Bodansky, *The Paris Climate Change Agreement: A New Hope*, 110 AM. J. INT'L L. 288, 292 (2016).

⁷³ See *Protest in Madrid as conservatives suspend ban on most polluting cars*, REUTERS (June 29, 2019), https://www.reuters.com/article/us-spain-environment-protests/protest-in-madrid-as-conservatives-suspend-ban-on-most-polluting-cars-idUSKCN1TU0VS?utm_source=EURACTIV&utm_campaign=c51561b51f-EMAIL_CAMPAIGN_2019_06_05_08_04_COPY_01&utm_medium=email&utm_term=0_c59e2fd7a9-c51561b51f-114690739.

⁷⁴ On electric cars and electrification more generally, see, Paige Jadun, *Electrification Futures Study*, THE NATIONAL RENEWABLE ENERGY LABORATORY (NREL) (2018), <https://www.nrel.gov/docs/fy18osti/70485.pdf>. (Read Introduction, skim other sections); Ravi Manghani & Rory McCarthy, *Global Energy Storage: 2017 Year-in-Review and 2018-2022 Outlook*, GTM RESEARCH (2018), <https://www.greentechmedia.com/research/report/global-energy-storage-2017-year-in-review-and-2018-2022-outlook#gs.sgLYFwQ>; Chris Nelder et al., *Electric Vehicles as Distributed Energy Resources*, ROCKY MOUNTAIN INSTITUTE, (2016), https://www.rmi.org/wp-content/uploads/2017/04/RMI_Electric_Vehicles_as_DERs_Final_V2.pdf; Robert

Further to that, the COP21 Decision, to which the Paris Agreement is annexed, urges non-party stakeholders, a term that encompasses, according to its preamble, “civil society, the private sector, financial institutions, cities and other sub-national authorities, local communities and indigenous peoples”, to also contribute to the efforts of the states to effectively tackle climate change, and invites them to join, for optimum coordination, the Non-state Actor Zone for Climate Action platform (NAZCA).⁷⁶ In 2018, this platform had a total number of 12,396 stakeholders, comprised of 9,378 cities, 126 regions, 2,431 companies, 363 investors and 98 civil society organizations.⁷⁷

In parallel, but prompted by the Paris Agreement and the process around it, there has been happening a remarkable mobilization of citizens, citizen groups and citizens’ representatives that takes place beyond the UN climate regime, as was evidenced at the 2019 UN Climate Action Summit, held at the headquarters of the United Nations in New York City on 23 September 2019, where civil society demanded much more concrete action from world leaders when it comes to climate action.⁷⁸ A special mention should be made for the various mayors’

Walton, *Short Term Pain for Long Term Gain: EPRI Assesses Expanding US Electrification*, UTILITY DIVE (2018), <https://www.utilitydive.com/news/short-term-pain-for-long-term-gain-epri-assesses-expanding-us-electricat/521496/>; Bill Chappell, *Electric Cars Hit Record In Norway, Making Up Nearly 60 Percent Of Sales In March*, NPR (Apr. 2019), <https://www.npr.org/2019/04/02/709131281/electric-cars-hit-record-in-norway-making-up-nearly-60-of-sales-in-march>; Kenneth Gillingham & James Sweeney, *Barriers to Implementing Low Carbon Technologies*, CLIMATE CHANGE ECONOMICS (2012); Julia Pyper, *Utilities See Distributed Generation as a Challenge—and Owning It as the Solution*, GREENTECH MEDIA (2016), <https://www.greentechmedia.com/articles/read/utilities-see-distributed-generation-as-a-challenge-and-owning-it-as-the-so#gs.KILKMj0>; Eric Wanless & Kelly Carlin, *Growing the Minigrid Market in Sub-Saharan Africa*, ROCKY MOUNTAIN INSTITUTE (2017), <https://rmi.org/news/growing-minigrid-market-sub-saharan-africa/>.

⁷⁵ THE ECONOMIST, at 10 (Jun. 29, 2019).

⁷⁶ United Nations Framework Convention on Climate Change, *Report of the Conference of the Parties on its twenty-first session*, Preamble, §117, §118, §133, §134, FCCC/CP/2015/10/Add.1, (Jan. 29, 2016), https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/FCCC_CP_2015_10_Add.1.pdf.

⁷⁷ *Global Climate Action - NAZCA*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (2018), <http://climateaction.unfccc.int/>.

⁷⁸ All of this raises the question of global environmental governance. For further discussion, see Katherine Michonski & Michael A. Levi, *Harnessing International Institutions to Address Climate Change*, CFR (2010), <http://www.cfr.org/climate-change/harnessing-international-institutions-address-climate-change/p21609>; Robert Keohane & David Victor, *Cooperation and discord in global climate policy*, NAT. CLIM. CHANGE (2016); Michele M. Betsill & Desirée Fiske, *International Climate Change Policy: Complex Multilevel Governance*;

initiatives that have taken place in some of the world's largest cities, such as the Compact of Mayors and the Covenant of Mayors, merged, as of 2016, into the Global Covenant of Mayors for Climate and Energy, which represents hundreds of millions of citizens.⁷⁹

Of course, those actions, along with the initiatives of private actors, such as businesses of various sizes, do not have the binding character that the actions of national and international authorities have. However, one could argue that, because of the way authorities are elected, citizens usually are more directly represented by their regional authorities than their national ones, and therefore are more likely to comply with possible commitments to combat climate change if they come from the former. It should also be noted that, due to the way the market functions, the pressure of the public opinion and fellow companies is often as efficient as the legislation in making businesses adopt ecological standards.⁸⁰ And, although the reputation of big businesses has been damaged by the 2008 financial crisis, inequality, and environmental harm,⁸¹ and the notion that rapid economic expansion is “squeezing the planet dry;”⁸² there is empirical evidence that it is possible to grow economically and greenly. A case in point is China's economy, whose annual GDP has been growing exponentially since the late 1970s, but its CO₂ emissions have not grown at the same pace, which might be due to China's recent green growth and investment in renewable energy.⁸³

In contrast to the above, in the energy regime, the empowerment of citizens is driven not by international legal instruments, but mostly by the progress of

REGINA S. AXELROD & STACY D. VANDEVEER, *THE GLOBAL ENVIRONMENT: INSTITUTIONS, LAW, AND POLICY* (Sage Publishing, Aug. 2019); *Explainer: Dealing with the 'loss and damage' caused by climate change*, CARBON BRIEF (2017), <https://www.carbonbrief.org/explainer-dealing-with-the-loss-and-damage-caused-by-climate-change>; *Building Toward Breakthrough: Energizing the Paris 2015 Climate Negotiations and Post-Paris Action Agenda Through Broader Engagement*, YALE CTR. FOR ENV. LAW AND POLICY (2015), https://envirocenter.yale.edu/sites/default/files/yale_climate_change_dialogue_white_paper.pdf; Daniel Esty and Maria Ivanova, *Revitalizing Global Environmental Governance: A Function-Driven Approach*; in *GLOBAL ENVIRONMENTAL GOVERNANCE: OPTIONS AND OPPORTUNITIES* (2002).

⁷⁹ Global Covenant of Mayors for Climate & Energy, <https://www.globalcovenantofmayors.org/>.

⁸⁰ DANIEL BODANSKY, JUTTA BRUNÉE & LAVANYA RAJAMANI, *INTERNATIONAL CLIMATE CHANGE LAW* 246-265 (OUP 2017).

⁸¹ *Popenomics*, *THE ECONOMIST* 62 (Sep. 7, 2019).

⁸² *Id.*

⁸³ See the chart in *Climate-change Targets: From Smog to Slog*, *THE ECONOMIST* 47-48, at 48 (Sep. 21, 2019).

technology, and more specifically the technology related to the production of renewable energy, which can be exported from the West to the rest. Thanks to that, a new trend has emerged: the energy prosumers. A term coming from the words producer and consumer, prosumers are defined as “self-generating energy providers, whether households or energy communities. Individuals contribute to the energy supply in their vicinity via their own installed renewable energy capacity, more often than not solar roofing, wind energy, or combined heat and power”.⁸⁴ They may be functioning independently from each other, within their own households, or they can be organized in a communal way, forming energy cooperatives.⁸⁵

This development in a traditionally centralized sector like energy is unprecedented – it means an empowerment of citizens and, at the same time, a movement further away from the dependence on fossil fuels, enhancing energy security.⁸⁶ Especially

⁸⁴ Rafael Leal-Arcas et al., *Prosumers as new energy actors*, in AFRICA-EU RENEWABLE ENERGY RESEARCH AND INNOVATION SYMPOSIUM, SPRINGER PROCEEDINGS IN ENERGY 1 (M. Mpholo et al. eds., 2018).

⁸⁵ Rafael Leal-Arcas et al., *Prosumers: New actors in EU energy security* 14 (Queen Mary University of London School of Law Legal Studies, Research Paper No. 257/2017).

⁸⁶ On the links between national (energy) security, geopolitics, and climate change, see Jennifer Perron, *Fatih Birol and David Victor on the Geopolitics of Energy*, BROOKINGS INSTITUTION, (July 2, 2018), <https://www.brookings.edu/blog/planetpolicy/2018/07/02/fatih-birol-and-david-victor-on-the-geopolitics-of-energy/>; Umair Irfan, *106 Lawmakers -Including 11 Republicans- Tell Trump Climate Change is a National Security Threat*, VOX (Jan. 12, 2018), <https://www.vox.com/energy-and-environment/2017/12/18/16791106/white-house-climate-change-national-security-strategy-threat-military>; Tony Capaccio, Jennifer Dlouhy & Ari Natter, *Defense Department Warns About Climate Change Impacts to Armed Forces and Bases*, TIME (Jan. 18, 2019), <http://time.com/5507465/climate-change-impact-armed-forces-bases/>; *Climate Change and Security: Strengthening Resilience to Climate-Fragility Risks*, UNITED NATIONS ENVIRONMENT PROGRAMME, https://postconflict.unep.ch/publications/ClimateChange_Security_twopager.pdf; Richard Morningstar, *Energy and Geopolitics: A Diplomat's View*, ATLANTIC COUNCIL (Oct. 12, 2018), <https://www.atlanticcouncil.org/news/transcripts/energy-and-geopolitics-a-diplomat-s-view>; Varun Sivaram, *Clean Energy Might Reduce Global Warming, But What Will It Do to Geopolitics?*, COUNCIL ON FOREIGN RELATIONS (2018), <https://www.cfr.org/blog/clean-energy-might-reduce-global-warming-what-will-it-do-geopolitics>; Ernest Moniz, *Shifting Dynamics Across the Energy Landscape* (Aug. 6, 2018), <http://energypolicy.columbia.edu/dr-ernest-moniz-shifting-dynamics-across-energy-landscape>; Sarah Light, *Valuing National Security: Climate Change, the Military, and Society*, 61 UCLA L. REV. (2014), <https://www.uclalawreview.org/pdf/61-6-3.pdf>; James Woolsey, *Energy and National Security*, YOUTUBE (2010), <https://www.youtube.com/watch?v=12kXsu35PWA>; Robinson Meyer, *Does Climate Change Cause More War?*, THE ATLANTIC (2018), <https://www.theatlantic.com/science/archive/2018/02/does-climate-change-cause-more-war/553040/>; Amy Larkin, *Energy independence, national security, and another reason for*

in the solar energy field, the technological advances in photovoltaic (PV) panels and in batteries design and production have rendered the use of PV panels in households more accessible than ever.⁸⁷ Moreover, the past decade has seen the cost of wind energy go down by 50% and that of solar energy has dropped by more than 80%.⁸⁸ Hence, there remains a hope for renewable energy.

The European Union, proving its commitments to sustainable development, recognized the importance of the trend, dedicating two articles of the currently in force Directive on renewables-derived energy to renewables self-consumers and renewable energy communities, and thus embracing their bottom-up logic as part of its energy policy.⁸⁹ In the same directive, it is stressed how instrumental it is for energy consumers to be provided with information for optimizing their energy performance. As observed above regarding the climate change regime, this is an absolutely fundamental element in order to achieve true citizen empowerment and democratization.

D. Citizen empowerment and sustainable trade

If in the aforementioned regimes of climate change and energy, that have historically been operating in a top-down fashion, decentralization and citizen participation are gaining increasingly more ground, rendering them more robust, one could wonder if that could become the new reality in the trade regime as well, as part of its movement towards sustainability. After all, every single person's daily reality is affected in innumerable ways by the trade of goods and services, yet it remains, to a large extent, defined by diplomats.

That feature on its own is not damning, since a certain degree of expertise is necessary for building efficient trade agreements; however, viewing trade through a solely technocratic and maybe even elitist prism is admittedly possible to deprive it of its connection to the very people it directly affects, and therefore its democratic character. It is this absence of citizens from the negotiations that is deemed to be

sustainability, THE GUARDIAN (2014), <https://www.theguardian.com/sustainable-business/2014/jun/04/energy-independence-national-security-sustainability>; *The Economist Special Report: The Geopolitics of Energy*, THE ECONOMIST 312 (Mar. 17, 2018); DANIEL YERGIN, THE QUEST 33 (2011); Henry Tricks, *The New Power Superpowers*, THE ECONOMIST (Mar. 17, 2018), <https://www.economist.com/special-report/2018/03/15/clean-power-is-shaking-up-the-global-geopolitics-of-energy>.

⁸⁷ Wolf-Peter Schill et al., *Prosumage of Solar Electricity: Pros, Cons, and the System Perspective*, DIW BERLIN DISCUSSION PAPER NO. 1637, at 4 (Jan. 2017).

⁸⁸ *Environmental policy: The great divide*, THE ECONOMIST 34-35 (Jun. 29, 2019).

⁸⁹ Directive (EU) 2018/2001, art. 21, 22, 2018 O.J. (L 328) 82–209 (European Parliament and of the Council).

the reason behind the Doha Round's inability to reach an agreement, almost two decades after its beginning in 2001.⁹⁰

First and foremost, being pragmatic, it is impossible to demand an exact replication of the conditions under which the reshaping of climate change and energy happened, as, although those regimes are often closely intertwined with trade, it remains very different from them, mainly because of the WTO's *modus operandi* and its heavy reliance on a number of efficiency-restrictive procedural rules (e.g. the "consensus" decision-making). What actually could be possible would be to pursue a proportional adoption of some of the ideas that have rendered the other processes successful, as far as citizen awareness, mobilization and participation are concerned.

In a similar manner to how non-governmental citizen groups were legally given observer status and were recognized as stakeholders in the Paris process, citizen groups could be given at least observer roles in trade agreements negotiations, and have the ability, if not to participate, then to at least lobby with policy makers and communicate their interests to them. Since those procedures are often criticized for their information asymmetry between citizens and authorities, as well as their lack of transparency, it would be the most welcome offer.

This would, of course, mean a modification of the procedural rules of the WTO, if the negotiations involve multilateral agreements, while if the agreements are regional trade agreements (RTAs) or free trade agreements (FTAs), and therefore their provisions not subject to its authority, it could be realized through rather simpler procedures. A recent positive example of an RTA that took a step towards this direction with its legal provisions is the Comprehensive Economic and Trade Agreement (CETA) between EU and Canada, which entered provisionally into force the 21st September 2017. The CETA contains specific provisions on trade and sustainable development (Chapter 22), trade and labour (Chapter 23) and trade and environment (Chapter 24), promoting in each of them transparency of information, public debate and public awareness on the relevant existing standards (Chapter 22§2, 23§6, 24§7).⁹¹

As NAZCA was created for digitally cataloguing the various civil society stakeholders for climate action, an online platform under the auspices of the WTO could undertake this function on behalf of citizen groups in pursuit of sustainable

⁹⁰ Rafael Leal-Arcas, *Empowering citizens for common concerns: Sustainable energy, trade and climate change*, 6 GSTF J. LAW & SOCIAL SCIENCES 31, 32 (2017).

⁹¹ *CETA chapter by chapter*, EUROPEAN COMMISSION, <http://ec.europa.eu/trade/policy/in-focus/ceta/ceta-chapter-by-chapter/>.

trade. Public information campaigns, conducted by either the WTO or countries entering into RTAs or FTAs, would also be particularly helpful to those citizens who are not necessarily organized in groups, for various reasons (e.g. living within considerable distance from the headquarters of the closest one available). It should not be neglected to carefully process the way the messages of those campaigns are communicated to their recipients: there should not be an abundance of technical terms, that would impair their comprehensibility, but the language should not be overly simplistic either.

Furthermore, the Internet could be utilized in order to achieve the maximum possible mobilization from the group of citizens most likely to be affected by the adverse effects of climate change: the younger generation of society. Since a significant amount of social interaction takes place via various social media platforms, and the younger citizens have always been the ones more familiarized with technology, it would be of no trivial importance if the WTO or the state authorities that are involved in the construction of a trade agreement could make use of those platforms. Their presence could extend from merely uploading facts that could be of interest regarding upcoming negotiations and agreements to conducting online surveys and Q&A or debate sessions that can keep the audiences, especially the young ones, thought-provoked, involved and aware.

It is an approach that has until now served well the UN and its agencies (active in as many as eleven different social media platforms)⁹², the World Bank (six different platforms)⁹³, and NGOs such as Client Earth, WWF and the Climate Group (active in at least three different social media platforms)⁹⁴. The EU, for example, has shown willingness to engage in this activity, by creating a designated Twitter account within its online platform regarding the proposed Transatlantic Trade and Investment Partnership (TTIP) between itself and the US, to facilitate the citizens' information and interaction with the decision-making bodies.⁹⁵

Sustainability in trade can be further supported via citizens through their role as consumers. When a choice of purchasing a good or a service is made, the consumer supports financially its provider; which is why environmentally and socially aware citizens are more frequently and pressingly trying to trace how

⁹² *The UN on Social Media*, UNITED NATIONS, <https://www.un.org/en/social-media/index.html>.

⁹³ *The World Bank Group – Follow Us*, WORLD BANK, <https://www.worldbank.org/>.

⁹⁴ CLIENT EARTH, <https://www.clientearth.org/>; WWF – *Follow us*, WORLD WIDE FUND FOR NATURE, <https://www.wwf.org.uk/>; THE CLIMATE GROUP, <https://www.theclimategroup.org/>.

⁹⁵ *Trade*, EUROPEAN COMMISSION, <http://ec.europa.eu/trade/policy/in-focus/ttip/have-your-say/>.

sustainable those providers are.⁹⁶ However, given the plethora of goods necessary for a modern household or workspace, this effort seems understandably daunting.

This is why eco-labelling, i.e., the practice of labelling products and services based on their environmental impact, is of paramount importance, so that consumers can exercise their preferences and support sustainable businesses more efficiently. Further to that, there has been a general interest in labelling goods according to the processes and production methods (PPMs), e.g. if they were produced in an energy-efficient way, or if genetically modified organisms (GMOs) were involved in the process.⁹⁷

A number of such labels have been introduced by various countries and countries' associations, such as the EU Ecolabel, the US Energy Star, the Nordic Swan and others.⁹⁸ However, they should be popularized even more if consumers are to exercise their role more actively. Of course, it is not only the authorities in this case that have to be involved for the benefit of the citizens empowerment, but also the private companies that are called to demonstrate the necessary good will to prioritize sustainability over their financial benefit, since usually the most ecological way to operate is rarely the most profitable one).

The aforementioned suggestions to increase citizen participation in the shaping of sustainable trade have a twofold goal: first, to contribute to bringing sustainability to a sector often accused of undermining it; and second, to augment the feeling of participation in a democratic procedure regarding processes directly affecting citizens' lives. Since the first goal is more likely to be measurable in the long run, it remains to be examined how the citizen participation could be measured.

One idea could be to utilize the same online platform that could serve as catalogue of the citizen groups functioning as stakeholders in order to conduct surveys measuring the groups' satisfaction from the information they are receiving and their participation in the procedures. To reach a broader sample of citizens,

⁹⁶ OLIVIER DE SCHUTTER, *TRADE IN THE SERVICE OF SUSTAINABLE DEVELOPMENT* 152 (2015).

⁹⁷ *Processes and Production Methods (PPMs): Conceptual framework and considerations on use of PPM-Based trade measures* (OECD) 7, OCDE/GD(97)137 (Paris, 1997).

⁹⁸ *EU Ecolabel*, EUROPEAN COMMISSION, <http://ec.europa.eu/environment/ecolabel/>; *Energy Star*, ENERGY STAR, <https://www.energystar.gov/>; *Nordic Swan Ecolabel*, NORDIC SWAN ECOLABEL, <https://www.nordic-ecolabel.org/>.

trustworthy survey-conducting authorities, such as the Eurobarometer within the EU,⁹⁹ could be chosen for the same purpose.

We now turn to an analysis of the role of the trading system in the reduction of fossil-fuel consumption as a means towards sustainability.

IV. WHAT SHOULD BE THE ROLE OF THE TRADING SYSTEM IN REDUCING FOSSIL-FUEL CONSUMPTION?

A. Background

Part IV shall examine which carbon pricing method is better to achieve carbon abatement: cap-and-trade or a carbon tax.¹⁰⁰ The traditional carbon tax and cap-and-trade models shall be discussed, followed by an assessment of the benefits of a hybrid cap-and-trade with a price ceiling or price floor, and of CTR. Martin

⁹⁹ *European Commission – Public Opinion*, EUROPEAN COMMISSION, <http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm>.

¹⁰⁰ For analysis on carbon pricing, see William Nordhaus, *Revisiting the social cost of carbon*, PNAS (2017), <https://doi.org/10.1073/pnas.1609244114>; *The true cost of carbon pollution*, ENVIRONMENTAL DEFENSE FUND, <https://www.edf.org/true-cost-carbon-pollution>; Gillingham et al., *Lessons from first campus carbon-pricing scheme*, NATURE (Oct. 31, 2017), <https://www.nature.com/news/lessons-from-first-campus-carbon-pricing-scheme-1.22919>; *State and Trends of Carbon Pricing 2017*, WORLD BANK (2017), https://openknowledge.worldbank.org/bitstream/handle/10986/28510/wb_report_171027.pdf?sequence=7; *Economists' Statement on Carbon Dividends*, WALL STREET JOURNAL (Jan. 17, 2019), <https://www.clcouncil.org/media/EconomistsStatement.pdf>; Karen Palmer et al., *Changing Baselines, Shifting Margins: How Predicted Impacts of Pricing Carbon in the Electricity Sector Have Evolved Over Time*, RESOURCES FOR THE FUTURE (2018), <http://www.rff.org/files/document/file/RFF%20WP%2018-15.pdf>; Brad Plumer et al., *These countries have prices on carbon. Are they working?*, THE NEW YORK TIMES (Apr. 2, 2019), <https://www.nytimes.com/interactive/2019/04/02/climate/pricing-carbon-emissions.html?mtrref=www.google.com> [hereinafter Brad Plumer et al.]; Kotchen et al., *Public willingness to pay for a US carbon tax and preferences for spending the revenue*, ENVIRONMENTAL RESEARCH LETTERS (2017), <https://doi.org/10.1088/1748-9326/aa822a>; *The Business of Pricing Carbon: How Companies are Pricing Carbon to Mitigate Risks and Prepare for a Low-Carbon Future*, CTR. FOR CLIM. AND ENERGY SOLUTIONS (2017), <http://www.c2es.org/document/the-business-of-pricing-carbon-how-companies-are-pricing-carbon-to-mitigate-risks-and-prepare-for-a-low-carbon-future/>; *How can carbon prices and policies be effectively aligned?*, CARBON PRICING LEADERSHIP COALITION (2016), <http://pubdocs.worldbank.org/en/221021478831141991/CPLC-Executive-Brief-Policy-Alignment-Nov2016-FINAL.pdf>; *Carbon Pricing: Gaining a Competitive Edge in a Climate-Constrained World*, YALE CTR. FOR BUS. AND THE ENVIRONMENT, <https://cbey.yale.edu/programs-research/carbon-pricing-gaining-competitive-edge-in-climate-constrained-world>.

Weitzman of Harvard University made a great contribution to this debate by posing the following question: “how should regulators rein in pollution? Should they issue (tradable) pollution permits to firms, thereby picking a quantity? Or should they tax polluters, thereby picking a price?”¹⁰¹ Which you should regulate depends on the relative costs of mistakes: if getting the quantity of pollution slightly wrong is costlier, then quantity should be pinned down; if, however, a slightly errant price does more damage, then a tax is a better option.¹⁰² Based on the costs and benefits of acting to reduce GHG emissions, Mr Weitzman argued in his dismal theorem that society should be willing to pay unlimited amounts of money today to avoid a catastrophic future.¹⁰³

We argue that a carbon tax with reinvestment is the superior option because it is easier to implement and is it aligned with the FASTER principles for successful carbon pricing.¹⁰⁴ We also argue that putting a price on carbon is better than climate change mitigation targets, but we acknowledge that getting people to pay for carbon in Western liberal democracies might imply losing the elections. This Part will then turn to an analysis of why it is essential that carbon taxes be supported with BTAs to ensure competitiveness of national economies, prevent free-riding and induce a complete decarbonisation of the international economy. We shall analyse how this can be achieved within the constraints of WTO law. We conclude that BTAs are fundamental to reduce carbon leakage and to incentivize the less willing nations to turn to carbon abatement.

B. Mitigating climate change at the international level

As part of their climate-change mitigation strategy, quite a few countries have by now adopted some type of price on carbon—whether through a carbon tax or a cap-and-trade system.¹⁰⁵ In an interesting article in *The New York Times*, Brad Plumer and Nadja Popovich ask the question whether these schemes to tackle climate change in the various countries shown in Figure 1 are actually effective.¹⁰⁶

Figure 1: Countries with a price on carbon

¹⁰¹ See Martin Weitzman, *Free exchange: The uncertainty of genius*, THE ECONOMIST 68 (Sep. 7, 2019).

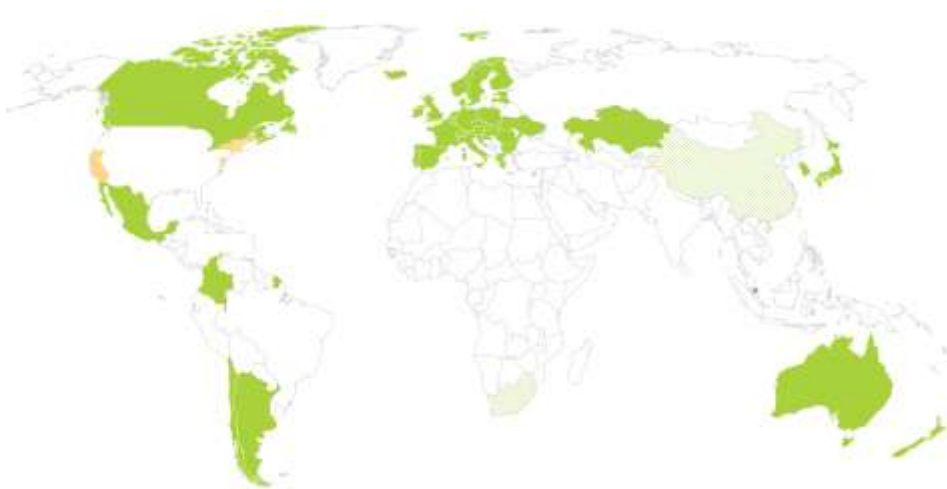
¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ OECD and World Bank Group, *The FASTER Principles of Successful Carbon Pricing: An Approach Based on Initial Experience*, at vii- viii (Sep. 2015) [hereinafter OECD & World Bank].

¹⁰⁵ *Carbon Pricing Dashboard*, THE WORLD BANK, https://carbonpricingdashboard.worldbank.org/map_data.

¹⁰⁶ Brad Plumer et al, *supra* note 100.



Source: Brad Plumer et al., “These Countries Have Prices on Carbon. Are They Working?” *The New York Times*, Apr. 2, 2019.

Economists have long argued that increasing the cost of burning fossil fuels is a cost-effective way to mitigate climate change.¹⁰⁷ But even if all the major Western oil corporations decided to stop pumping oil and gas to reduce GHG emissions, global production would only shrink by 10%, since 90% of the fossil-fuel market is controlled by national oil companies.¹⁰⁸ So international efforts to tackle climate change began in 1992 with the UN Earth Summit, culminating in the production of the United Nations Framework Conventions on Climate Change. This legal text marked a first step in working towards solving climate change and provided a mitigation framework. Surprisingly quickly for international negotiations, this was extended in 1997 with the Kyoto Protocol, which set targets for industrialised nations to control their GHG emissions. It was perhaps the haste with which the Kyoto Protocol was drafted that led to its ill-thought-out provisions, asking only Annex I countries (i.e., developed countries and those countries in a transition to a market economy) to be legally bound to mitigate GHG emissions and therefore making the fate of the Kyoto Protocol doomed *ab initio*.¹⁰⁹ The Kyoto Protocol collapsed under the pressure of a lack of support from developed nations who objected to the absence of obligations for developing nations.¹¹⁰ In fact, the US,

¹⁰⁷ Brad Plumer, *New U.N. Climate Report Says Put a High Price on Carbon*, THE NEW YORK TIMES (Oct. 8, 2018), <https://www.nytimes.com/2018/10/08/climate/carbon-tax-united-nations-report-nordhaus.html>.

¹⁰⁸ *Ben van Beurden's balancing act*, THE ECONOMIST 62, (July 6, 2019).

¹⁰⁹ VICTOR, THE COLLAPSE OF THE KYOTO PROTOCOL AND THE STRUGGLE TO SLOW GLOBAL WARMING 26 (2004).

¹¹⁰ *Id.* at 3-5.

Australia, Canada, Japan, and Russia, all reneged on the obligations set out in the Protocol.¹¹¹

A low point in the history of climate change mitigation came in 2008 at the 15th Conference of the Parties to the UNFCCC in Copenhagen, when it was impossible to reach any sort of legally binding agreement.¹¹² In contrast, the Paris Agreement, adopted in December 2015, was seen as a great achievement in the international effort to mitigate climate change; in fact, Obama and Xi Jinping both demonstrated their unwavering commitment to climate change mitigating by vowing to promptly ratify the agreement, marking an important step for the two greatest emitters of GHG.¹¹³ The substance of the Paris Agreement may be promising, but it is undermined by a lack of enforcement mechanisms; furthermore, the spirit of international climate change mitigation has been heavily dampened by the US's withdrawal from the agreement in 2017.

The current climate in international relations appears to be moving away from multilateral cooperation.¹¹⁴As a result, we argue in Part IV that unilateral efforts to combat climate change should be made. The distinct lack of concrete progress in environmental agreements has led scholars to turn to trade law and policy as an effective means to combat climate change;¹¹⁵ if the major GHG emitting nations were to unilaterally impose a carbon tax then this could significantly contribute to global carbon abatement. One of the most important ways to mitigate climate change through trade policy is to effectively price carbon to induce producers and consumers to move towards more renewable and sustainable options.¹¹⁶ We argue in Part IV that if the largest emitters of GHG were to unilaterally price carbon effectively, and reinvest the revenues to support the development of renewable and sustainable energy, then this would reduce fossil fuel consumption and lead to significant worldwide carbon abatement.

Carbon pricing is an effective mechanism, through which fossil-fuel consumption can be reduced because it raises the price of carbon-based energy, which decreases

¹¹¹ M. Ivanova, *Politics, Economy and Society, in THE PARIS AGREEMENT ON CLIMATE CHANGE: ANALYSIS AND COMMENTARY ANALYSIS*, 19 (Klein et al. eds., 2017).

¹¹² *Id.* at 17.

¹¹³ *Obama and President Xi of China to Sign Paris Climate Accord Promptly*, THE NEW YORK TIMES (Mar. 31, 2016), <https://www.nytimes.com/2016/04/01/world/asia/obama-and-president-xi-of-china-vow-to-sign-paris-climate-accord-promptly.html>.

¹¹⁴ Rafael Leal-Arcas & A. Morelli, *The Resilience of the Paris Agreement: Negotiating and Implementing the Climate Regime*, 31:1 GEORGETOWN ENV. L. REV. (31:1), (2018) at 62-3.

¹¹⁵ *Id.* at 63.

¹¹⁶ N. STERN, THE ECONOMICS OF CLIMATE CHANGE: THE STERN REVIEW 349 (2007) [hereinafter STERN].

the demand for it.¹¹⁷ The higher the price of carbon, the more likely it is that sustainable alternatives will be sought; therefore, it is important that renewable energy policies are aligned with the carbon pricing efforts.¹¹⁸ The aim of a carbon pricing policy should be to incentivise emitters to invest in low-carbon technologies and to allow consumers to alter their choices towards more sustainable options in response to the price increases in GHG-intensive goods.¹¹⁹

The Paris Agreement, which entered into force in November 2016, may not be an international carbon pricing mechanism, but it does underline various approaches towards emissions reductions through Article 6.¹²⁰ As of April 2019, there are 195 signatories of the Paris Agreement, and 185 ratifications;¹²¹ yet, in the majority of these countries, there are no carbon pricing mechanisms in place. The Paris Agreement, whilst a great diplomatic achievement, contains legally binding as well as non-binding instruments, and is devoid of enforcement mechanisms;¹²² it is therefore necessary to turn to international trade in energy to seek to address climate change.¹²³

There are various carbon pricing mechanisms in place across the globe, from cap-and-trade in the China¹²⁴ and New Zealand to carbon taxes in Argentina and South

¹¹⁷ Effective Carbon Rates, *supra* note 8, at 28.

¹¹⁸ *Id.* at 29.

¹¹⁹ STERN, *supra* note 116, at 353.

¹²⁰ World Bank Group, *supra* note 11.

¹²¹ Paris Agreement, *opened for signature* Dec. 13, 2015, in UNFCCC, COP Report No. 21, Addendum, at 21, U.N. Doc. FCCC/CP/2015/10/Add, 1 (entered into force Jan. 29, 2016).

¹²² Rafael Leal-Arcas & A. Morelli, *The Resilience of the Paris Agreement: Negotiating and Implementing the Climate Regime*, 31 GEORGETOWN ENV. L. REV. 3, 18, 61 (2018).

¹²³ Rafael Leal-Arcas, *New Frontiers in International Economic Law: The Quest for Sustainable Development*, 40 UNIV. OF PENNSYLVANIA J. OF INT'L L. 85 (2018).

¹²⁴ For an analysis of China's climate change policy, see Manish Bapna & Laili Li, *China's Climate Leadership: 3 Signs to Watch in the Year Ahead*, WORLD RESOURCES INSTITUTE (2017), <http://www.wri.org/blog/2017/11/chinas-climate-leadership-3-signs-watch-year-ahead>; Zhang Chao, *The Climate Change Promise of China's Belt and Road Initiative*, THE DIPLOMAT (Jan. 18, 2018), <https://thediplomat.com/2018/01/the-climate-change-promise-of-chinas-belt-and-road-initiative/>; Isabel Hilton, *How China's Big Overseas Initiative Threatens Global Climate Progress*, YALE ENVIRONMENT 360 (Jan. 3, 2019), <https://e360.yale.edu/features/how-chinas-big-overseas-initiative-threatens-climate-progress>; Edward Wong, *Can China Take the Lead on Climate Change? That Could Be Difficult*, THE NEW YORK TIMES (June 2, 2017), <https://www.nytimes.com/2017/06/02/climate/china-climate-change-trump-paris-accord.html>; Joanna I. Lewis & Kelly S. Gallagher, *How China's Domestic Energy and Environmental Challenges Shape Its Global Engagement in THE GLOBAL ENVIRONMENT: INSTITUTIONS, LAW, AND POLICY* (Regina S. Axelrod & Stacy D. VanDeveer eds.,

Africa; in the European Union,¹²⁵ the EU Emissions Trading System operates alongside national carbon taxes in, for example, Norway and Sweden.¹²⁶ One of the key benefits of carbon pricing mechanisms is that they are dynamic; ‘all emitters have an ongoing incentive to reduce their carbon bill by finding new and cheaper ways to cut emissions’.¹²⁷ Interestingly, whilst there is widespread agreement on the benefits of carbon pricing, there is even greater debate on which

2019); Geoff Dernbicki, *The Timely Disappearance of Climate Change Denial in China*, FOREIGN POLICY (May 31, 2017), <https://foreignpolicy.com/2017/05/31/the-convenient-disappearance-of-climate-change-denial-in-china/#>; Jennifer Duggan, *China makes carbon pledge ahead of Paris climate change summit*, THE GUARDIAN (June 30, 2015), <https://www.theguardian.com/environment/2015/jun/30/china-carbon-emissions-2030-premier-li-keqiang-un-paris-climate-change-summit>; Elizabeth Losos et al., *The Deforestation Risks of China's Belt and Road Initiative*, BROOKINGS (Jan. 28, 2019), <https://www.brookings.edu/blog/future-development/2019/01/28/the-deforestation-risks-of-chinas-belt-and-road-initiative/>; Javier C. Hernández & Adam Nagourney, *As Trump Steps Back, Jerry Brown Talks Climate Change in China*, THE NEW YORK TIMES (June 6, 2017), <https://www.nytimes.com/2017/06/06/world/asia/xi-jinping-china-jerry-brown-california-climate.html>; Yuli Shan, *City-level climate change mitigation in China*, SCIENCE ADVANCES (Jun. 27, 2018), <https://advances.sciencemag.org/content/4/6/eaq0390.full>; Ye Qi & Jiaqi Lu, *China's Coal Consumption has Peaked*, BROOKINGS INSTITUTION (Jan. 22, 2018), <https://www.brookings.edu/2018/01/22/chinas-coal-consumption-has-peaked/>.

¹²⁵ For an overview of the EU' climate change policy, see Dieter Helm, *The European framework for energy and climate policies*, ENERGY POLICY (2014); Lucas Merrill Brown et al., *EU Emissions Trading Scheme Lessons Learned*, ENVIRONMENTAL DEFENSE FUND (2012), https://www.edf.org/sites/default/files/EU_ETS_Lessons_Learned_Report_EDF.pdf; Simon Evans, *The History of Energiewende*, CARBON BRIEF (2016), <https://www.carbonbrief.org/timeline-past-present-future-germany-energiewende>; *Spain Halts Feed In Tariffs*, INSTITUTE FOR ENERGY RESEARCH (2012), <http://www.instituteforenergyresearch.org/2012/04/09/spain-halts-feed-in-tariffs-for-renewable-energy>; Nicola McEwen & Alexandra Raymond, *The repatriation of competences in climate and energy policy after Brexit*, BREXIT & ENVIRONMENT (Feb. 26, 2019), <https://www.brexitenvironment.co.uk/2019/02/26/the-repatriation-of-competences-in-climate-and-energy-policy-after-brexit/>; Alissa J. Rubin & Somini Sengupta, *Yellow vest' protests shake France. Here's the lesson for climate change*, THE NEW YORK TIMES (Dec. 6, 2018), <https://www.nytimes.com/2018/12/06/world/europe/france-fuel-carbon-tax.html>; Miguel Arias Cañete, *A new ambition for energy efficiency in Europe*, THE EUROPEAN FILES (2018), <https://www.europeanfiles.eu/energy/new-ambition-energy-efficiency-europe-2>; Alexandre Affre et al., *A Competitive EU Energy and Climate Policy*, BUSINESS EUROPE (2013), https://bdi.eu/media/presse/publikationen/klima-und-umwelt/20130618_FINAL_Brochure_2030_energy_and_climate_LOW_RESOLUTION.pdf.

¹²⁶ World Bank Group, *supra* note 11, at 9.

¹²⁷ Effective carbon rates, *supra* note 8, at 29.

is the best mechanism.¹²⁸ We shall therefore now turn to analyse the arguments for and against the differing carbon pricing policies of cap-and-trade and carbon tax.

C. Cap-and-trade: A viable option for reducing fossil-fuel consumption?

One of the main attractions of a cap-and-trade system is its political feasibility. This is because it appeals to environmentalists, industries and politicians.¹²⁹ Crucially, for environmentalists, the cap-and-trade system is underpinned by the assumption that there should be a cap on emissions within a trading system because of their negative impact on climate change. This cap means that there is certainty about the environmental benefit of the measure.¹³⁰

A potentially viable option to reduce fossil-fuel consumption would be an upstream cap-and-trade system, which would have an allowances system which can be traded within industries.¹³¹ It, therefore, appeals to industry leaders because it is another source of potential revenue to firms which can successfully reduce their carbon emissions. If they do not need the allowances then they can trade them.¹³² It is commonplace that such allowances are initially given out for free, and then are auctioned to create revenue, as in the EU Emissions Trading System (ETS). Cap-and-trade is therefore a significant policy tool, and makes the system a politically viable option.¹³³

In fact, cap-and-trade systems are often the go-to policy for governments that are attempting to limit GHG emissions. The system allows governments to avoid using the word tax and shows them to be forward-thinking.¹³⁴ The administrative agency will initially allocate allowances for free in order to encourage participation in the scheme, but it is important that over time a monetary value is assigned to allowances in order to create revenue which can then be reinvested into renewable energy development. Furthermore, Carl and Fedor's analysis shows that an

¹²⁸ Goulder & Schein, *Carbon Taxes vs Cap and Trade: A Critical Review* 1 (Nat'l Bureau of Econ. Research Working Paper Series, Working Paper No. 19338, 2013) at 1-2 [hereinafter Goulder & Schein].

¹²⁹ Avi-Yonah & Uhlmann, *Combating Global Climate Change: Why a Carbon Tax is a Better Response to Global Warming than Cap and Trade*, 28(3) STANFORD ENVTL. L. J. 5 (2009) [hereinafter Avi-Yonah & Uhlmann]; Effective Carbon Rates, *supra* note 8, at 24.

¹³⁰ *Id.* at 5, 36.

¹³¹ *Id.* at 33.

¹³² *Id.* at 5.

¹³³ Carl & Fedor, *Tracking Global Carbon Revenues: A Survey of Carbon Taxes Versus Cap-and-Trade in the Real World*, 96 ENERGY POLICY 51 (2016) [hereinafter Carl & Fedor].

¹³⁴ Sewalk, *The EU-27, US, UK and China Should Dump Cap-and-Trade as a Policy Option and Adopt a Carbon Tax*, 47 SUFFOLK UNIV. L. REV. 535, 540 (2014) [hereinafter Sewalk].

advantage of cap-and-trade is that the revenues are more likely to be spent on renewable energy initiatives.¹³⁵

Overall, the disadvantages of cap-and-trade systems outweigh the advantages. In fact, Sewalk goes as far as to say that it is a failed policy¹³⁶. Whilst cap-and-trade ensures certainty about the environmental benefit of the policy, a key flaw of this method of carbon pricing is that there is much uncertainty about the price of emissions, and the price is likely to be incredibly volatile.¹³⁷ There are concerns that a cap-and-trade policy has poor economic efficiency and is therefore an ultimately untenable option to effectively reduce GHG emissions within an economic market.¹³⁸ Cap-and-trade policies may appeal to environmentalists because they produce emissions certainty, however, another underlying assumption of cap-and-trade is that carbon emissions below a certain level are acceptable.¹³⁹

This is in stark contrast with the ‘polluter pays principle’, which is a key element of the ‘Fairness’ dimension to the ‘FASTER Principles for Successful Carbon Pricing’ which were developed collaboratively by the OECD and World Bank.¹⁴⁰ It can be argued that cap-and-trade inherently suggests that there is a right to pollute; therefore, this mechanism of carbon pricing can create an incoherent message about what the goals of climate change policy.¹⁴¹

Cap-and-trade systems are difficult and costly to implement because it is complicated to set baselines for the emissions reduction targets, to allocate allowances, and to decide on how to use offsets.¹⁴² In fact, this is one of the reasons why Sewalk argues that the EU ETS cap-and-trade model is ineffective. The market is volatile which means that there have been high costs to consumers and it has failed to decrease GHG emissions.¹⁴³ Avi-Yonah and Uhlmann also argue that the EU system, the largest ETS in the world, has not been particularly successful.¹⁴⁴ This is because the cap-and-trade system has many complex features.

For example, the trading in allowances between firms needs to be established and then monitored by an administrative agency.¹⁴⁵ The failings of the EU ETS stem

¹³⁵ Carl and Fedor, *supra* note 133.

¹³⁶ Sewalk, *supra* note 134, at 525.

¹³⁷ Goulder & Schein, *supra* note 128 at 13.

¹³⁸ Sewalk, *supra* note 134, at 535-537.

¹³⁹ *Id.* at 540.

¹⁴⁰ OECD & World Bank Group, *supra* note 104.

¹⁴¹ Sewalk, *supra* note 134, at 542.

¹⁴² *Id.* at 541; Avi-Yonah & Uhlmann, *supra* note 129, at 6.

¹⁴³ Sewalk, *supra* note 134, at 545.

¹⁴⁴ Avi-Yonah & Uhlmann, *supra* note 129, at 35.

¹⁴⁵ *Id.* at 38.

from problems related to the distribution of allowances. Too many allowances were distributed which led to a collapse of the prices, and therefore cost uncertainty and volatility in the market.¹⁴⁶ Within cap-and-trade systems there are often provisions for the banking and borrowing of allowances, a mechanism which is designed to limit uncertainty within the system.¹⁴⁷ Banking allows firms within the market to ‘carry over unused quotas from one period to another’, and borrowing allows actors within the market to ‘use or purchase quotas from a future period in the current period’.¹⁴⁸ Whilst this can improve flexibility, it means that cap-and-trade systems have lengthy and complex implementation periods.

One approach which has been proposed is a ‘hybrid cap-and-trade’ system which aims to solve the problems with price volatility by imposing either an allowance price floor or ceiling, or indeed both.¹⁴⁹ This policy prevents both emissions price volatility and carbon leakage, which is a key flaw of cap-and-trade policy, especially the EU ETS.¹⁵⁰ The hybrid policy allows the system to be more flexible and reactionary to changes: “enforcing the ceiling implies the introduction of extra allowances, while enforcing the floor can imply removal of some allowances that were in circulation”.¹⁵¹ Such caps and floors eliminate the risk of price spikes, and therefore increase the economic certainty of the cap-and-trade system.¹⁵²

Despite this suggestion, the only concrete method of reducing the economic uncertainty associated with cap-and-trade is to incorporate a ‘safety valve’ of additional allowances, but this would in turn sacrifice emissions reduction certainty.¹⁵³ The cap-and-trade system of carbon pricing is inherently complex and requires vast administrative support to ensure proper implementation. Even after implementation, the allocation and trading of allowances has to be monitored and regulated. Despite its political attractiveness as a policy, it is tainted by price uncertainty and does not satisfactorily fulfil the ‘polluter pays’ principle.

D. Carbon tax: The superior model for carbon pricing

In contrast to cap-and-trade, a carbon tax is a far simpler method of reducing GHG emissions. A carbon tax imposes a tax on each tonne of CO₂ emitted, therefore attributing a monetary value to the negative externality which GHG

¹⁴⁶ *Id.* at 43.

¹⁴⁷ *Id.* at 39.

¹⁴⁸ STERN, *supra* note 116 at 378; Sewalk, *supra* note 134, at 539-541.

¹⁴⁹ Goulder & Schein, *supra* note 128, at 2013.

¹⁵⁰ *Id.* at 29.

¹⁵¹ *Id.* at 18.

¹⁵² STERN, *supra* note 116, at 376.

¹⁵³ Avi-Yonah & Uhlmann, *supra* note 129, at 43.

emissions have on the environment.¹⁵⁴ It is possible for a carbon tax to be established and become effective almost immediately, and it is therefore a far quicker method of inducing a reduction in fossil fuel consumption.¹⁵⁵ An upstream carbon tax is the best option to induce carbon abatement because it prices carbon at the moment it enters the market; an upstream approach more efficiently distributes the costs across all sectors of the economy than a downstream approach.¹⁵⁶ A particular advantage of a carbon tax is that it provides cost certainty; the price is set to reflect the social cost of carbon and it can be increased to produce the desired reduction in GHG emissions.¹⁵⁷ Furthermore, in contrast to the ambiguous environmental message which cap-and-trade suggests, the carbon tax is clear in its policy approach: “pollution imposes a negative externality on others and polluters should be forced to internalise that cost by paying the tax”.¹⁵⁸

Perhaps unsurprisingly, a carbon tax is less popular politically because of the opposition to policies which are simply labelled a ‘tax’.¹⁵⁹ The significant advantage of the carbon tax however is that by definition it creates a revenue, and this can be invested into renewable and sustainable energy solutions. Furthermore, carbon pricing mechanisms, whether cap-and-trade or a carbon tax, are frequently faced with political opposition when they are to be enacted unilaterally by a state. Critics of unilateral carbon pricing argue that it will damage the competitiveness of domestic markets vis-à-vis their international competitors and will therefore drive industries abroad.

In fact, the lack of border tax adjustment with the EU ETS meant that companies within the EU were at an economic disadvantage as a result of the cap-and-trade system.¹⁶⁰ It is challenging to incorporate a BTA into a cap-and-trade system and Maruyama argues that “free emission allowance rebates to trade-intensive industries represent a WTO-illegal export subsidy”.¹⁶¹ In contrast, border tax adjustments can be more easily incorporated into a carbon tax scheme.¹⁶²

One weakness of a pure carbon tax system is that there is an inherent benefit uncertainty because there is no guarantee that the tax will lower emissions to the

¹⁵⁴ Sewalk, *supra* note 134, at 547.

¹⁵⁵ Avi-Yonah & Uhlmann, *supra* note 129, at 7..

¹⁵⁶ *Id.* at 31.

¹⁵⁷ *Id.* at 32-38.

¹⁵⁸ *Id.* at 44.

¹⁵⁹ Sewalk, *supra* note 134, at 547.

¹⁶⁰ *Id.* at 546.

¹⁶¹ Maruyama, *Climate Change and the WTO: Cap and Trade versus Carbon Tax?*, 45(4) J. WORLD TRADE 681 (2011) [hereinafter Maruyama]; Sewalk, *supra* note 134, at 546.

¹⁶² Maruyama, *Climate Change and the WTO: Cap and Trade versus Carbon Tax?*, 45:4 J. WORLD TRADE 681(2011).

desired amount, and there may be intense political pressure against an increase in the tax to ensure less fossil fuel consumption. Cap-and-trade might have the appeal of a greater environmental benefit certainty, but when coupled with price uncertainty and economic volatility, the system is inefficient, and ultimately does not induce significant carbon abatement. Instead, a carbon tax, which is adjusted over time to fully decarbonise the economy, is a far superior carbon pricing model. Furthermore, if reinvestment of the revenue is incorporated into this tax, (CTR), then the issues of environmental uncertainty surrounding a carbon tax are answered.¹⁶³ The CTR model is more sophisticated than the pure carbon tax system because it reduces the environmental benefit uncertainty associated with a pure carbon tax. Alongside the revenue reinvestment actively contributing to the research and development of sustainable, low-carbon energy alternatives, the long-term environmental benefits of the tax for energy consumers may make it a more politically viable option.

Reinvestment of the revenue from a carbon tax is essential to ensuring that the carbon tax contributes effectively to the development of renewable energy sources. Taxes are administratively the simplest carbon pricing method to implement because they can be easily added on to existing national systems of taxation.¹⁶⁴ This means that policymakers can focus their efforts on how best to reinvest the tax revenues. Carl and Fedor's investigation into how carbon pricing revenues are spent by governments indicates that only a quarter is generally spent on developing green and renewable energy.¹⁶⁵

If States are truly committed to completely decarbonising the economy, then it is essential that climate change policy includes investment into the research and development of renewable and sustainable energy forms. As highlighted previously, carbon pricing alone cannot combat climate change. The FASTER principles of successful carbon pricing emphasise that effective carbon pricing is part of a 'suite of measures' to tackle climate change; it is paramount that the CTR model is used to ensure reinvestment into green energy.¹⁶⁶

An upstream carbon tax which is reinvested into developing renewable and sustainable energy sources is therefore the ideal carbon pricing model to decrease fossil fuel consumption and induce carbon abatement. The CTR model is flexible because it allows the country which is adopting it to choose which area of renewable energy to invest the majority of the tax revenue.¹⁶⁷ In this way, a carbon

¹⁶³ Sewalk, *supra* note 134, at 553.

¹⁶⁴ Effective Carbon Rates, *supra* note 8, at 24.

¹⁶⁵ Carl & Fedor, *supra* note 133, at 51.

¹⁶⁶ OECD & World Bank Group, *supra* note 104.

¹⁶⁷ Sewalk, *supra* note 134, at 568-569.

tax with reinvestment takes into consideration the different levels of development and industrialisation in emerging and advanced economies.

Furthermore, border tax adjustments can be easily added on to a carbon tax with reinvestment, in order to create a level playing field between nations in the international trading regime.¹⁶⁸ From the perspective of the WTO's border tax adjustment rules, the simplest solution would be a carbon tax which is rebated on exports, and imposed in an equivalent amount on like imports, thus ensuring answering any international competitiveness concerns.¹⁶⁹ Sewalk argues that if a CTR system was implemented in the EU, US and China, this would incentivise other nations to move towards tougher GHG emissions policies.¹⁷⁰ Unilateral climate change policy is essential in an international community which is struggling to reach any concrete consensus on how to mitigate climate change. An ideal next step from unilateral implementation of a carbon tax with reinvestment could be a plurilateral coordination of such measures.¹⁷¹

We shall now turn to analyse how unilateral enactment of a carbon tax with reinvestment can be managed within the constraints of WTO law.

E. The importance of border tax adjustments for effective carbon pricing mechanisms

In the context of unilateral carbon taxation, the aim of a border tax adjustment on carbon is “to shift the economic burden of emission reduction to non-abating countries” in order to tackle free-riding and induce international efforts to decrease fossil fuel consumption.¹⁷² The Paris Agreement did not effectively tackle the issue of free-riding, but a WTO compliant border tax adjustment is an effective means of ensuring that unilateral climate change policy is not undermined by less climate-conscious states. Border tax adjustments are a fundamental part of the equation for effective carbon pricing mechanisms because they prevent carbon leakage through free-riding, they ensure the domestic competitiveness of industries in states who seek to unilaterally implement climate change policy, and they may give States leverage over non-carbon-abating States.¹⁷³

¹⁶⁸ *Id.* at 569-570.

¹⁶⁹ Maruyama, *supra* note 161, at 682.

¹⁷⁰ Sewalk, *supra* note 134, at 571.

¹⁷¹ Rafael Leal-Arcas, *supra* note 123, at 116.

¹⁷² Böhringer et al. *The Role of Border Carbon Adjustment in Unilateral Climate Policy: Overview of an Energy Modelling Forum Study*, ENERGY ECONOMICS 34 (2012) at S97 hereinafter Böhringer].

¹⁷³ Condon & Ignaciuk, *Border Carbon Adjustment and International Trade: A Literature Review* 5 (May 2013) (OECD Trade and Environment Working Papers).

The General Agreement on Trade and Tariffs (GATT) sets out the conditions in which WTO members can enact border tax adjustments in Article III.2. States may impose ‘an additional charge on an imported product on entry into their customs territory as long as it corresponds to an internal tax or charge that is being imposed on like domestic products’.¹⁷⁴ GATT Article III, known as the ‘national treatment’ article, requires that states do not discriminate between domestic and imported products. The destination-based charge of the BTA is therefore WTO compliant because the charge is levied once the product is within the customs territory, just like a domestic product. The BTA, therefore, levels the playing field in international trade and complements unilateral carbon pricing.¹⁷⁵

WTO member states have the sovereign right to define their own climate change-motivated trade policies, but they must adhere to WTO balancing requirements.¹⁷⁶ The difficulty is that the issue of GHG emissions is transboundary, and when intending to induce international change through unilateral efforts, the state opens itself up to risks of a challenge at the WTO. Trachtman argues that it is possible to design an import border tax adjustment that has a low risk of a successful WTO legal challenge. Trachtman opines that ‘if the import tax adjustment is equal to the carbon tax of a domestic producer then it is compliant’ with Article II(2) because this allows a charge equivalent to an internal tax.¹⁷⁷

This is supported by the idea in *China — Auto Parts 2009*,¹⁷⁸ where it was held that a charge is lawful under Article II(2) if the charge is triggered by an internal factor, within the customs territory, and not because of the importation.¹⁷⁹ One important factor to consider is that if the border tax adjustment on carbon was to treat WTO member states differently, perhaps reflecting the differing needs of developing countries, then this could violate GATT Article I, i.e., the most favoured nation principle, and bring into question the Rules of Origin principle. This is an important consideration because, at the Paris Conference of the Parties, it was

¹⁷⁴ Maruyama, *supra* note 161, at 690.

¹⁷⁵ Böhringer, *supra* note 172, at ¶¶98-9.

¹⁷⁶ Ulrike Will, *The Extra-Jurisdictional Effects of Environmental Measures in the WTO Law Balancing Process*, 50(4) J. WORLD TRADE 616 (2016) [hereinafter Will].

¹⁷⁷ J. Trachtman, *WTO Law Constraints on Border Tax Adjustment and Tax Credit Mechanisms to Reduce the Competitive Effects of Carbon Taxes*, 70(2) NAT’L. TAX J. 469, 471 (2017) [hereinafter Trachtman].

¹⁷⁸ Appellate Body Report, *China — Measures Affecting Imports of Automobile Parts*, WTO Doc. WT/DS342/15 (adopted Jan. 12, 2009)

¹⁷⁹ Trachtman, *supra* note 177.

agreed that developing countries should receive financial and technical assistance to facilitate the decarbonisation of their economies¹⁸⁰.

Since *US — Shrimp*,¹⁸¹ it is arguable that environmental policy is a more widely accepted reason to limit the WTO free trade rules.¹⁸² Whilst the WTO has not ruled on border tax adjustments for carbon, it has approved environmental measure which restrict trade, citing GATT Article XX(g), which provides an exception for the conservation of exhaustible natural resources.¹⁸³ The environmental measure either has to fulfil GATT XX(g) or the necessity test set out in subparagraphs (a) and (b) which analyses whether the environmental measure is necessary, how it restricts trade and whether there are any less restrictive alternatives. Because of the regulatory autonomy which is left to states it is arguable that the environmental benefit which comes from pricing carbon can be argued to be legitimate.¹⁸⁴ Whilst the domestic competitiveness of industries vis-à-vis their international competitors in states which are not enacting carbon-abatement policies is important, Odell argues that border tax adjustments on carbon should not be promoted as a protectionist strategy,¹⁸⁵ and instead should be seen primarily as an attempt to decarbonise the international economy.¹⁸⁶

One key issue to consider for unilateral attempts to induce carbon abatement by national energy trade policy supported by border tax adjustments on carbon is to ensure such unilateral efforts do not lead to retaliation and trade wars.¹⁸⁷ Böhringer et al. suggest that ‘back-door’ attempts to induce other nations to decarbonise their economy could backfire instead of strategically convincing other nations to comply.¹⁸⁸ Nevertheless, it is hoped that such measures would ‘incentivise

¹⁸⁰ John S. Odell, *Our Alarming Climate Crisis Demands Border Adjustments Now*, CLIMATE AND ENERGY, INTERNATIONAL CENTRE FOR TRADE AND DEVELOPMENT (2018), at 11 [hereinafter Odell].

¹⁸¹ Appellate Body Report, *United States — Import Prohibition of Certain Shrimp and Shrimp Products*, WTO Doc. WT/DS58/23 (adopted on Nov. 21, 2001).

¹⁸² Will, *supra* note 176, at 618.

¹⁸³ Odell, *supra* note 180.

¹⁸⁴ Will, *supra* note 176, at 619-620.

¹⁸⁵ A note deserves to be made on global trade protectionism. It has been on the rise in recent years. Per data from the Global Trade Alert, over 10,000 protectionist measures were implemented by 19 members of the G20 between 2009 and 2018. The US ranked first in the world, with 1,693 of them. Germany is responsible for 1,225 measures in the same period. As a result of these measures, protectionism has become a major impediment to world trade. The G20 came up in 2019 with a Strategy for Global Trade Growth, which can be found at http://trade.ec.europa.eu/doclib/docs/2016/july/tradoc_154789.pdf.

¹⁸⁶ Odell, *supra* note 180, at 13.

¹⁸⁷ T. Cottier, *The Potential of Tariff Policy for Climate Change Mitigation: Legal and Economic Analysis*, 48(5) J. WORLD TRADE 1034 (2014).

¹⁸⁸ Böhringer, *supra* note 172.

conformity¹⁸⁹ and lead governments to create their own carbon taxation policies in line with the nations who initiated the unilateral climate change effort.¹⁹⁰ The threat of trade wars and retaliation could be mitigated by a plurilateral effort to successful price carbon among the key GHG emitting nations, but whether this is plausible considering the current negative climate between the two greatest emitters, the US and China, remains to be seen. The most important benefit, and the one which should be promoted when States attempt to unilaterally enact carbon taxes supported by border tax adjustments is the mitigation of carbon leakage, and the possibility of inducing other nations to enact similar policies.¹⁹¹

V. CONCLUSION

This paper has provided an overview of the essential elements of the rule of law concept that underlie present-day legal research in the context of the EU and the WTO. This paper is certainly not intended to offer an exhaustive list of all the concepts and principles that are part of the rule of law. The application of the above principles enables fair and just societies, irrespective of their history or background. These principles are universal and therefore valid for any society at any given time.

The biggest challenge of our time is to mitigate climate change. The energy transition has social implications such as what to do with people currently hired in the carbon-intensive industries based on the 'leave no one behind' principle. All countries need to find a way to eliminate all GHG emissions by mid-century if they are serious about reducing the risks posed by climate change. International environmental agreements have not thus far produced concrete results and, therefore, energy trade policy must be utilised to decrease fossil fuel consumption. A solution is to make climate change obligations enforceable. If the benefits are tangible, policy is easier to get through Parliament in Western liberal democracies. Moreover, local individual actions matter because ordinary citizens can talk to their members of Parliament and Parliamentarians can then discuss in Parliament.

In addition, governments can make the biggest difference by taxing CO₂ more widely. The largest emitters of GHG should unilaterally implement upstream carbon taxes, which re-invest the revenues into the development of renewable and sustainable energy alternatives. To overcome the problems of free-riding, these unilateral climate change efforts should be supported with border tax adjustments to incentivize other nations to work towards an international goal of decarbonising the economy. In an international community made up of States with different priorities and different stages of economic development and industrialisation, it has been difficult to reach a consensus to achieve an environmental

¹⁸⁹ Will, *supra* note 176, at 617.

¹⁹⁰ Odell, *supra* note 180, at 15.

¹⁹¹ Lockwood & Whally, *Carbon-motivated Border Tax Adjustments: Old Wine in Green Bottles?*, THE WORLD ECONOMY 812 (2010).

agreement that effectively tackles countries' dependence and over-use of fossil fuels. In addition, the price of fossil fuel does not reflect the cost of climate change: there are, among others, health-related issues that come at a heavy price to society; alternative energy sources to fossil fuels have the potential to be cheaper than fossil fuels through proper public policies; and the digital revolution is already consuming much less carbon than the normal economy does.

The Paris Agreement on Climate Change may have been hailed a victory by environmentalists, and it did mark a significant achievement, especially in light of the failings of the Kyoto Protocol and the impasse at the Copenhagen Conference. However, whilst setting inspiring goals for global GHG emissions reduction, it did not create enforcement mechanisms and therefore fails to tackle the important issue of free-riding. It is, therefore, necessary to turn to trade law and policy to effectively tackle climate change.

Part IV has discussed that there are many carbon pricing mechanisms in place across the globe, but they are not effectively contributing to carbon-abatement. Carbon pricing is only part of the solution to inducing global carbon-abatement, but, if enacted by the major GHG-emitters, it would have a substantial impact. We compared two models of carbon pricing: cap-and-trade and carbon taxation. Cap-and-trade may ensure emissions certainty, but it is undermined by price volatility. The hybrid cap-and-trade with a price floor and ceiling mitigates this volatility to a certain extent, but has the drawback of creating greater emissions uncertainty. Furthermore, the cap-and-trade system is complex to administer.

In contrast, a carbon tax is far simpler to graft onto an existing national taxation system. Ideally, this unilateral effort could be extended to plurilateral action. An upstream carbon tax with reinvestment of its revenues into renewable and sustainable energy alternatives is the carbon pricing model which the largest GHG-emitting nations should unilaterally enact. The reinvestment of revenues directly into green spending ensures that the carbon tax is part of a broader climate change policy and is therefore in line with the FASTER Principles of Successful Carbon Pricing.

In order for such a carbon tax to be effective, a border tax adjustment on carbon needs to be implemented alongside. It is this mechanism in particular that will incentivise other nations to fully de-carbonise their economies because the BTA reduces carbon leakage, ensures the competitiveness of carbon-abating nations vis-à-vis their negligent neighbours, and will induce a complete de-carbonisation of the international economy. If the US, EU and China were to unilaterally enact an upstream carbon tax with reinvestment, alongside complementary BTAs, the climate change mitigation effort would be significantly advanced, and the international trading system would therefore successfully reduce fossil-fuel consumption. For climate change mitigation to be effective in the future by using a carbon tax, taxing planes would be a good place to start, given that the number of flights in the future will only increase and, with it, also with emissions of GHGs from aviation.¹⁹²

¹⁹² That said, there is thinking and discussion about electric flights in hybrid form as a way to minimize the impact of aviation on climate change. This idea could start with small

Regarding the role of citizens in sustainable trade, in summation, it is indeed possible that citizens could aid in providing sustainable trade with a structure closer to bottom-up, to an extent, similarly to how it has happened in the climate change and energy regime, although not identically, due to the particular nature of the WTO. Substantial weight should be given to the use of online resources, namely the internet and the social media, as well as the labelling of products and services.

Observing the steps that already have been taken towards this direction, it is clear that the countries of the Western, developed world are the ones dominating the field at the moment, represented mainly by the European Union and the USA. However, for truly achieving democratization, it should be stressed that no country or group of countries should be left behind, and therefore the engagement of all states should be a priority.

Finally, citizen empowerment for the shaping of sustainable trade will not happen unilaterally. It demands the coordinated efforts of national and international political and legal authorities on the one hand, since they are the ones assigned with the creation, evolution and enforcement of law and policy, and of the civil society on the other, since it is an essential factor in the shaping of the above. In the hope of a more democratic and sustainable future, it would be ideal that they meet halfway. To that, we should add optimism resulting from the inter-generational perception of climate change:¹⁹³ just over half of Americans aged 55 and over

hybrid planes carrying 50-100 passengers on regional routes and then becoming more ambitious as technology improves. In fact, Rolls-Royce, Airbus, and Siemens have teamed up to electrify a 100-seater regional aircraft called Bae146 to produce a cleaner and more efficient plane by combining combustion engines with electrical power. See, *Electrifying flight: Hybrid vigour*, THE ECONOMIST 78 (June 29, 2019).

¹⁹³ For analyses of climate change perceptions, see, *Politics and Global Warming: Executive Summary*, YALE PROGRAM ON CLIMATE CHANGE COMMUNICATION (Dec. 2018), <http://climatecommunication.yale.edu/publications/politics-global-warming-december-2018/2/>; Nordhaus, *supra* note 5, at 293-326; Renee Lertzman, *In Climate Change, Psychology Often Gets Lost in Translation*, PACIFIC STANDARD (2015), <https://psmag.com/environment/in-climate-change-psychology-often-gets-lost-in-translation>; Cameron Brick & Sander van der Linden, *Yawning at the apocalypse*, THE PSYCHOLOGIST: CLIMATE CHANGE 30-34 (Sept. 2018), <https://thepsychologist.bps.org.uk/volume-31/september-2018/yawning-apocalypse>; Hiroko Tabuchi, *In America's Heartland, Discussing Climate Change Without Saying 'Climate Change'*, THE NEW YORK TIMES (Jan. 28, 2017), <https://www.nytimes.com/2017/01/28/business/energy-environment/navigating-climate-change-in-americas-heartland.html>; Shannon Hall, *Exxon knew about climate change almost 40 years ago*, SCIENTIFIC AMERICAN (Oct. 26, 2015); Campbell and Kay, *Solution aversion: On the relation between ideology and motivated disbelief*, J. PERSONALITY & SOCIAL

believe climate change is anthropogenic and worry about it, whereas in the case of Americans aged 18-34 it is 75%.¹⁹⁴ That is great news.

PSYCH.107 (2014), at 809; Marx et al., *Experiential and analytic processing of uncertain climate information*, GLOBAL ENVTL. CHANGE 17 (2007), at 47-58; Suzanne Goldberg, *Work of prominent climate change denier was funded by energy industry*, THE GUARDIAN (Feb. 21, 2015), <https://www.theguardian.com/environment/2015/feb/21/climate-change-denier-willie-soon-funded-energy-industry>; Julia Corbett, *Media power and climate change*, NAT. CLIM. CHANGE (2015); Maxwell Boykoff & Gesa Luedecke, *Elite News Coverage of Climate Change*, CLIMATE CHANGE COMMUNICATION(2016); Dan Kahan, *Climate-Science Communication and the Measurement Problem*, ADVANCES IN POLITICAL PSYCHOLOGY 1, at 36 (2015), <https://ssrn.com/abstract=2459057>; Connie Roser-Renouf, *Message Strategies for Global Warming's Six Americas*, YALE PROGRAM ON CLIMATE CHANGE COMMUNICATIONS (2014), <http://climatecommunication.yale.edu/publications/global-warmings-six-americas-book-chapter-preview/>.

¹⁹⁴ *Climate Change: States' rights*, THE ECONOMIST 13-14 (Jun. 29, 2019).