

21st Global Conference on Environmental Taxation

GCET21

September 24-25, 2020

A virtual global event

**Environmental Taxation in an
Era of COVID-19**
Conference Program



Conference Program

Environmental Taxation in an Era of COVID-19

21st Global Conference on Environmental Taxation (GCET21)
September 24–25, 2020
A Virtual Global Event

www.vermontlaw.edu/GCET21

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Acknowledgement of Thanks

The GCET21 Chairs owe thanks on numerous fronts:

To people who encouraged them to take on this adventure.

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I V E Y f o u n d a t i o n

To their respective institutions for supporting this endeavor.

To the presenters and moderators who have donated their time and talent to build the rich program.

And to all the delegates for making time in their schedules to take part in this virtual event and for sharing their thoughts during it.

Thank you to all!

Janet E. Milne, Mikael Skou Andersen and Hope Ashiabor
GCET21 Chairs

Welcome Message

Dear GCET Friends,

It is a great honor and pleasure to welcome you to the 21st Global Conference on Environmental Taxation. Unlike prior years, GCET21 is a virtual event. Due to COVID-19 the conference scheduled for Calgary, Canada has been postponed until September 2021. However, we are delighted to organize a virtual meeting instead and to know that you are taking part!

The central theme of GCET21 is **Environmental Taxation in an Era of COVID-19**. COVID-19 has shaken the globe in profound ways and will affect current and future environmental policies, as well as many others. What seemed certain or predictable a few months ago may now be called into question. New challenges and opportunities will arise. The conference theme invites participants to consider the short and long-term consequences of COVID-19 for environmental taxation and other market-based policies. Will current policies need to change? What are the implications for future policy choices and design? This topic covers a wide variety of issues relating to the role of market-based policies in the present and future.

In the program details, you will find many fascinating presentations about the impact of COVID-19 on environmental tax policies, as well as ongoing discussions about the use of environmental taxation to protect the environment. Keynote sessions on Thursday and Friday explore a variety of perspectives on environmental taxation in the COVID era—from economics to law, theory to practice, and national to global. A keynote session at the end of the conference on Friday focuses on litigation in Canada that is challenging Canada's carbon pricing framework and will have been argued in the Supreme Court of Canada earlier in the week of GCET21. Numerous concurrent sessions address a wide range of topics, including COVID impacts on carbon tax design, tax features of COVID recovery plans, national experiences with carbon pricing and environmental taxation, pollution from transportation and agriculture, opportunities for environmental goals within broader tax reform, and more.

With the wealth of experience that the participants bring to the table, we hope that GCET21 will continue the GCET tradition of enhancing the interdisciplinary, international exchange of knowledge about the role of taxation and other market-based instruments in advancing environmental protection.

Because the GCET table will be set this year in virtual form, we will not have the pleasure of gathering together for formal and informal conversations. We very much appreciate your willingness to embark on this adventure through Zoom. It is challenging to bring together participants from around the globe connecting from a variety of time zones. We have tried to schedule program times to maximize participation, but not every time will work perfectly for everyone. We hope that you will be flexible in order to gather at this global table. For those who cannot attend a particular session, the sessions will also be recorded and posted for delegates' access after the conference.

Thank you for taking part in this enterprise! We look forward to seeing you at GCET21.

Conference Chairs

Janet E. Milne

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The GCET21 Conference Chairs

GCET21 is organized and hosted this year by the three members of the GCET International Steering Committee, Janet E. Milne (Vermont Law School, USA), Mikael Skou Andersen (Aarhus University, Denmark) and Hope Ashiabor (Macquarie University, Australia). With the one-year postponement of the conference planned for Calgary, Canada, they decided to step into the breach by building a virtual conference to keep the GCET family—old and new—together during a time of COVID-19's disruptions. We all look forward to gathering again in person in Calgary in September 2021.



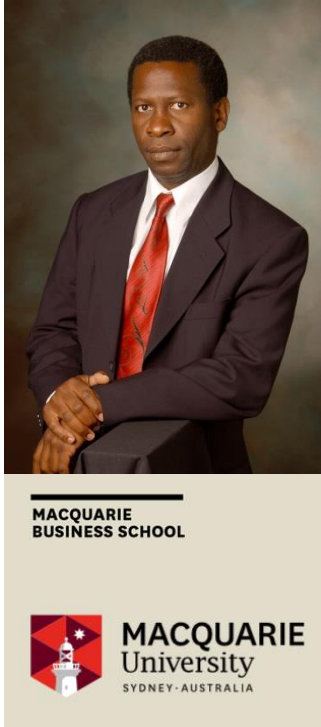
Environmental Tax
Policy Institute

Vermont Law School USA

Janet E. Milne is Professor of Law and Director of the Environmental Tax Policy Institute at Vermont Law School, USA, where she has taught environmental taxation since 1994. Her research over the years has focused on the role of taxation in protecting the environment, with particular attention to climate change. Publications include *Environmental Taxation and the Law* (J. Milne, ed.), the *Handbook of Research on Environmental Taxation* (J. Milne and M.S. Andersen, eds.), and *How Durable is a Lockbox for Carbon Tax Revenue?* (Pittsburgh Tax Review). Before joining the law faculty, she was tax legislative assistant to US Senator Lloyd Bentsen, Chairman of the Senate Committee on Finance, and an attorney at Covington & Burling in Washington, D.C. She received her J.D. from Georgetown University Law Center and clerked for Frank F. Coffin, Chief Judge of the US Court of Appeals for the First Circuit.



Mikael Skou Andersen is Professor of Environmental Policy Analysis at Aarhus University's Department of Environmental Science. His research addresses the greening of the economy, with focus on policy instruments, regulations and external costs related to environment and energy, especially the relationship between market-based instruments, governance institutions and technological innovations as a remedy for preventive and foresighted policies. He has undertaken research on carbon taxes, surveying as well their effectiveness in reducing emissions, implications for economic performance and the political circumstances for their introduction. His research has frequently been interdisciplinary, connecting with insights and models from the natural sciences, aiming to inform policy making in specific areas. Presently he is PI of the NORDFORSK funded research project NOWAGG: New Nordic Ways to Green Growth—strengthening the foundation for technological green growth innovation policy. Mikael Skou Andersen is member and vice-chair of the Scientific Committee of the European Environment Agency (EEA).



Dr. Hope Ashiabor is an Associate Professor of Law at the Macquarie Business School, Sydney, Australia. He is also a Chartered Tax Advisor with the Taxation Institute of Australia. His research is in the areas of environmental taxes, tax expenditures, the regulatory aspects of carbon finance, and international tax policy – areas in which he has published extensively. His most recent work is *Tax Expenditures and Environmental Policy* (Edward Elgar, UK, 2020). He is also co-editor to the leading series – *Critical Issues in Environmental Taxation* (Edward Elgar, UK), a member of the editorial board of the *Asian Journal of Accounting and Governance*, as well as a member of the Scientific Advisory Board to the *Journal of Sustainable Development of Energy, Water and Environment Systems*. Hope has worked on consultancy projects for the OECD Environment Directorate - Paris, Ausaid, the Fiji Islands Inland Revenue and Customs Service, and the NSW Board of Studies. Prior to joining Macquarie, Hope worked as a state attorney; and before that was an in-house counsel to a commercial bank.

About the GCET Conference Series

The Global Conference on Environmental Taxation (GCET) has been held every year since 2000 as an international meeting of environmental taxation specialists and a forum for the exchange of ideas and research findings on environmental taxation and other market-based instruments designed to protect the environment and foster sustainability.

The annual conferences provide an international and interdisciplinary setting to explore theoretical and practical issues concerning the design and implementation of environmental taxation. They are not intended to advance any particular environmental agenda but seek to advance knowledge and foster understanding and debate. The conferences bring together experts from many countries, representing a wide range of disciplines (law, economics, finance, environmental science, political economy, and more), sectors (academic, government and non-governmental institutions, and the private sector), and international organizations (such as the UN and OECD). As the conference series travelled around the globe over the years, it has help build professional networks of colleagues across international boundaries that facilitate the exchange of knowledge during and outside the conferences.

<i>Year</i>		<i>Location</i>	<i>Organizing Host</i>
2000	GCET 1	Cleveland, Ohio, USA	Cleveland State University
2001	GCET 2	Vancouver, Canada	Cleveland State University and Pembina
2002	GCET 3	Woodstock, Vermont, USA	Vermont Law School
2003	GCET 4	Sydney, Australia	Macquarie University
2004	GCET 5	Pavia, Italy	University of Pavia
2005	GCET 6	Leuven, Belgium	Leuven University
2006	GCET 7	Ottawa, Canada	University of Ottawa
2007	GCET 8	Munich, Germany	Green Budget Germany
2008	GCET 9	Singapore	National University of Singapore
2009	GCET 10	Lisbon, Portugal	Institute for International Strategic Studies
2010	GCET 11	Bangkok, Thailand	Maharakham University
2011	GCET 12	Madrid, Spain	Complutense University of Madrid
2012	GCET 13	Vancouver, Canada	University of British Columbia
2013	GCET 14	Kyoto, Japan	Kyoto University and Meijo University
2014	GCET 15	Copenhagen, Denmark	Aarhus University
2015	GCET 16	Sydney, Australia	University of Technology Sydney
2016	GCET 17	Groningen, Netherlands	Groningen University
2017	GCET 18	Tucson, Arizona, USA	James E Rogers College of Law, University of Arizona
2018	GCET 19	Madrid, Spain	CEU San Pablo University
2019	GCET 20	Limassol, Cyprus	Cyprus University of Technology
2020	GCET21	A virtual event	GCET International Steering Committee

Anyone interested in organizing and hosting a future GCET is invited to contact the members of the GCET International Steering Committee—Janet Milne, Mikael Skou Andersen and Hope Ashiabor.

Conference Program Overview

Below is an overview of the GCET21 program. Information about Keynote Sessions is available on pages 10–16. Information about Parallel Sessions, and panels within each session, starts on page 18. All times are provided in Central Europe Time (CEST), which will remain on summer time when the conference occurs in September. Participants should calculate their corresponding times. A chart at the end of this Program Overview provides some time zone correlations (see page 9).

Thursday, September 24

- 13:00 **Global Welcome and Opening Events** (see pages 10–11 for details)
Conference Chairs' Welcome and Opening Remarks
Janet E. Milne, Mikael Skou Andersen, Hope Ashiabor
Interactive Global Greetings
Mikael Skou Andersen
Kreiser Award for Environmental Taxation
Mikael Skou Andersen and Janet E. Milne
Remarks by Susanne Åkerfeldt, Recipient of the 2020 Kreiser Award
- 13:45 **Break**
- 14:00 **Plenary Keynote Session** (see pages 11–12 for details)
Environmental Taxation in an Era of COVID-19
Alice Pirlot, University of Oxford, United Kingdom
Alberto Majocchi, Pavia University, Italy
Jonas Teusch, OECD, France
Session Chairs Janet E. Milne and Mikael Skou Andersen
- 15:00 **Break**
- 15:15 **Parallel Session A** (see pages 18–19 for details)
Addressing the Impacts of Agriculture (Panel 1)
Substitution—Taking Chemicals and Products Out of the Economy (Panel 2)
Changing Vehicle Technology (Panel 4)
COVID and the Revenue Side of the Environmental Tax Equation (Panel 9)
- 16:30 **Break**
- 17:00 **Parallel Session B** (see pages 19–20 for details)
Creating Sustainable Municipalities (Panel 3)
Viewing the EU's Energy Tax Policy in the COVID Era (Panel 7)
Greenhouse Gas Emissions and Transnational Perspectives (Panel 12)
- 18:15 **Break**
- 20:00 **Parallel Session C** (see pages 20–21 for details)
Carbon Pricing and COVID—National Case Studies (Panel 10)
Clean Technology (Panel 15)
COVID and Opportunities for Broader Tax Reform (Panel 16)

Friday, September 25

- 10:00 **Plenary Keynote Session** (see pages 12–13 for details)
Session Chair Hope Ashiabor
Implications of the Global Economic Crisis for Carbon Pricing: A Quantitative Assessment
Simon J. Black, World Bank Group, USA
Critical Issues in Environmental Taxation: The Editor and the Publisher
Theodoros Zachariadis, Cyprus University of Technology, Cyprus
Ben Booth, Publisher, Law, Edward Elgar Publishing, United Kingdom

- Young Researcher's Award*
Theodoros Iliopoulos, Hasselt University, Belgium, Recipient of the 2020 Award
- 10:45 **Break**
- 11:00 **Parallel Session D** (see pages 21–22 for details)
Transportation Patterns and Policy Options (Panel 5)
COVID Recovery and Pollution Control—How to Balance Strategies (Panel 6)
Strategic Assessments (Panel 13)
- 12:15 **Break**
- 13:15 **Parallel Session E** (see pages 22–23 for details)
EU Support Policies in the COVID Era (Panel 8)
Environmental Taxation and COVID—National Case Studies (Panel 11)
Relationships among Environmental Taxation and Other Policy Instruments (Panel 14)
- 4:30 **Break**
- 15:00 **Plenary Keynote Session** (see pages 13–16 for details)
The Fate of Canada's Carbon Pricing Framework: In the Hands of the Supreme Court of Canada
Nathalie Chalifour, University of Ottawa, Canada, Panel Chair
Gareth Morley, British Columbia Ministry of Justice, Canada, Keynote Speaker
Lisa DeMarco, Demarco Allen LLP, Canada, Panelist
Stewart Elgie, University of Ottawa, Canada, Panelist
Andrew Leach, University of Alberta, Canada, Panelist
- 16:30 **Closing Remarks and Announcement of GCET22**
Janet Milne, Mikael Skou Andersen, Hope Ashiabor, GCET21 Chairs
Deborah Jarvie, GCET22 Chair

The list below indicates how panels within the Parallel Sessions fit within three themes:

[COVID-19's Influence on Environmental Taxation Policies](#)

- Panel 7: Viewing the EU's Energy Tax Policy in the COVID Era
Panel 8: EU Support Policies in the COVID Era
Panel 9: COVID and the Revenue Side of the Environmental Tax Equation
Panel 6: COVID Recovery and Pollution Control—How to Balance Strategies
Panel 10: Carbon Pricing and COVID—National Case Studies
Panel 11: Environmental Taxes and COVID—National Case Studies
Panel 16: COVID and Opportunities for Broader Tax Reform

[Taxation Policies and Sectoral Challenges](#)

- Panel 4: Changing Vehicle Technology
Panel 5: Transportation Patterns and Policy Options
Panel 15: Clean Technology
Panel 12: Greenhouse Gas Emissions and Transnational Perspectives
Panel 1: Addressing the Impacts of Agriculture

[Cross-Sectoral Issues in Fiscal Policy](#)

- Panel 2: Substitution—Taking Chemicals and Products Out of the Economy
Panel 3: Creating Sustainable Municipalities
Panel 13: Strategic Assessments
Panel 14: Relationships among Environmental Taxation and Other Policy Instruments

Time Zones for Selected Locations

CEST (UTC+2)	China (UTC+8)	Japan (UTC+9)	Sydney (UTC+10)	Brazil (UTC-3)	EST (UTC-4)	PT (UCT-7)
10:00	16:00	17:00	18:00	5:00	4:00	1:00
13:00	19:00	20:00	21:00	8:00	7:00	4:00
14:00	20:00	21:00	22:00	9:00	8:00	5:00
15:00	21:00	22:00	23:00	10:00	9:00	6:00
16:00	22:00	23:00	0:00	11:00	10:00	7:00
17:00	23:00	0:00	1:00	12:00	11:00	8:00
20:00	2:00	3:00	4:00	15:00	14:00	11:00

Note: Time zones for the Plenary Keynote Sessions appear in bold. Parallel Sessions are planned around the presenters' time zones, the majority of whom are in Europe. Participants should consult their own time converters, such as <https://www.thetimezoneconverter.com/>.

Plenary Sessions

Overview

We look forward to the opening session and three keynote sessions. For information about the five parallel sessions hosting 16 panels, please turn to pages 18–24.

Thursday, September 24, 13:00 (CEST)

Global Welcome and Opening Events
Kreiser Award for Environmental Taxation

Thursday, September 24, 14:00 (CEST)—Keynote Panel

Environmental Taxation in an Era of COVID-19

Friday, September 25, 10:00 (CEST)—Keynote Session

Implications of the Global Economic Crisis for Carbon Pricing: A Quantitative Assessment
Critical Issues in Environmental Taxation: The Editor and the Publisher
Young Researcher Award

Friday, September 25, 15:00 (CEST)—Keynote Panel

The Fate of Canada's Carbon Pricing Framework: In the Hands of the Supreme Court of Canada

Friday, September 25, 16:30 (CEST)—Closing Remarks

Announcement of GCET22
Conference Chairs' Closing Remarks

Session Descriptions

Thursday, September 24, 14:00 (CEST)

Global Welcome and Opening Events

GCET21 starts with a 45-minute opening reception. The Conference Chairs Janet Milne, Mikael Skou Andersen, and Hope Ashiabor will extend their welcome to delegates from six continents. Delegates will have an opportunity to spontaneously greet each other.

The Kreiser Award will be presented to Susanne Åkerfeldt, who will share her observations about environmental taxation. Please see page 17 for information about the Kreiser Award.



Susanne Åkerfeldt

Senior Advisor, Ministry of Finance
Stockholm, Sweden

Susanne Åkerfeldt has more than 25 years of governmental experience in managing projects on energy and environmental policy design. Her key focus has been to ensure the use of cost-efficient policy measures on the road towards a sustainable, low-carbon and resource-efficient society. She has been instrumental in fine-tuning the design of the Swedish carbon tax since the

1990s as well as pursuing green tax reforms. Her current projects include the legal and practical feasibility of introducing a Carbon Border Adjustment Mechanism in the EU as an effective tool to avoid carbon leakage as well as securing EU state aid approvals of certain Swedish aid schemes compensating companies exposed to large turnover declines due to the Coronavirus outbreak.

Susanne serves as Sweden's lead EU negotiator on energy and climate taxation issues and has worked extensively to improve and coordinate the design of EU tax and state aid legislation to better reflect the Polluter Pays Principle and to encourage Member States to use environmental taxes. She is engaged in global climate policy within the framework of the UN, with a focus on creating better policies for emerging and developing economies, as well as within the World Bank Group's Coalition of Finance Ministers for Climate Action. She is an expert member of the Subcommittee of Environmental Tax Issues under the UN Tax Committee and a lead drafter of core chapters in a forthcoming handbook on carbon taxation. Susanne has a LL.M. from the University of Uppsala and followed the standard Swedish step-by-step judicial career within the general court system before her career at the Ministry of Finance.

Thursday, September 24, 14:00 (CEST)
Environmental Taxation in an Era of Covid-19

This 60-minute session will address the main theme of GCET21, **Environmental Taxation in an Age of COVID-19**. COVID-19 has shaken the globe in profound ways and what seemed predictable at the beginning of this year has been turned on its head! The COVID-19 crisis seems to have become a game changer for our societies. This opening plenary panel focuses on recent developments in Europe, with the Green Deal agreed in July by the European Council of Heads of States. €750 billion will be made available to support some of the most affected Member States, while the EU will be embarking on new green taxes for the financing. Besides a levy on non-recycled plastic, the European Commission is preparing a proposal for a carbon border adjustment mechanism—effectively a climate toll on certain imports from countries without carbon pricing.

The panel features experts from Italy, Oxford and OECD who will provide from various perspectives a coherent appraisal of the implications and dynamics of these ongoing developments. It is logical to consider the Green Deal from the perspective of Italy, where the pandemic first caught ground in Europe, and where implications for health and the economy have been among the most profound. Moving on from here to a legislative perspective, the panel will address the legal challenges likely to be encountered in developing the announced taxes in the context of EU without violating WTO rules. These issues are tied in with a challenging political economy of competitiveness concerns and industry rivalry in a world of asymmetric climate action. This leads the panel to consider the substantive question of how best to use carbon pricing as part a sustainable economic recovery despite the challenging circumstances during and after the pandemic. The central question is how well the Green Deal will be able to survive on its way from announcement to full-scale implementation.



Alberto Majocchi
Emeritus Professor Public Finance
University of Pavia, Italy

Alberto Majocchi is Emeritus Professor of Public Finance at the University of Pavia. Previously, he has been at the University of Venezia-Ca' Foscari, Varese, Castellanza and, in 1992-93, at the University of Leuven (Belgium). He has been Visiting Professor at the University of Cambridge and York in the UK. In 1991-93 Prof. Majocchi worked as a National Expert at the Environment Directorate of the European Commission in Brussels; in 1995 Economic Advisor of the Ministry of the

Environment in Rome. From 2003 to 2010 he is President of the Institute for Studies and Economic Analysis (ISAE) in Rome. He is currently President of the Foundation Magni for Ayamé (Ivory Coast) and Vice-President of the Centre for Studies on Federalism (Turin). Recent books are *European Budget and Sustainable Growth. The Role of the Carbon Tax* (Peter Lang, Brussels, 2018) and *Europe and Africa: A Shared Future* (Peter Lang, Brussels, 2020).



Alice Pirlot
Research Fellow
Saïd Business School
University of Oxford, UK

Alice Pirlot is a Research Fellow in Law at the Centre for Business Taxation at the University of Cambridge. Prior to joining the Centre, Alice was a research fellow of the National Belgian Fund for Scientific Research (FNRS) at the University of Louvain, where she completed her PhD in April 2016. Alice’s main expertise lies at the intersection between tax, environmental, EU and international trade law. Her publications cover a wide range of topics, including environmental border tax adjustments, the taxation of the energy sector, the interactions between tax policy and the UN Sustainable Development Goals as well as the WTO law compatibility of the destination-based cash flow tax. Alice has been awarded various prizes and scholarships, including the InBev-Baillet Latour scholarship, FNRS doctoral and postdoctoral fellowships and grants from the Belgian International Youth Office. She received the Kreiser Award at the 2013 GCET organised in Kyoto. In 2017, she received an Honourable Mention of the International Fiscal Association for her work on “Environmental Border Tax Adjustments and International Trade Law.”



Jonas Teusch
Economist
OECD Center for Tax Policy and Administration
Paris, France

Jonas Teusch works as Economist at the OECD’s Centre for Tax Policy and Administration. Based in the Tax and the Environment Unit of the Tax Policy and Statistics Division, he works on energy taxation, carbon pricing and the assessment of environmental tax reforms. He is the lead author of the recent OECD report “Taxing Energy Use 2019: Using Taxes for Climate Action.” Jonas is a former researcher at the Centre for European Policy Studies” and holds a Ph.D. in Economics and Management from Université Catholique de Louvain and Université de Liège, Belgium, and a Master’s degree from McGill University, Canada.

Friday, September 25, 10:00 (CEST)

Implications of the Global Economic Crisis for Carbon Pricing: A Quantitative Assessment

The health and economic crisis precipitated by COVID-19 is unprecedented. But the need to reduce carbon emissions to address the worst effects of climate change in the long-term remains. The emissions reductions embodied in existing mitigation commitments—such as those of member countries of the Coalition of Finance Ministers for Climate Action—remain substantial. **Simon Black**, from the World Bank Group, will present the significant and timely results of research he has conducted with Ian Parry at the IMF. Carbon pricing could still make a strong contribution to achieving these reductions while

providing a valuable revenue source. Potential revenues are expected to be around 0.3-0.6 percent of GDP for a \$25 carbon price in 2021, rising to 0.8-1.2 percent of GDP for a \$50 carbon price in 2030. The environmental and fiscal advantages of carbon taxes (or equivalent measures) over most other mitigation instruments remain large in relative terms.



Simon J. Black

Economist—Front Office

Climate Change Group, World Bank Group, Washington, DC USA

Simon J. Black is an economist in the front office of the World Bank’s climate change department. Before joining the WB, he was the UK foreign ministry’s climate economist. He has served on the UK delegation to the UN’s climate negotiations body, helping to shape and deliver the Paris Agreement. Previously, he was a diplomatic service economist, a private sector macroeconomist, and worked in financial sector advisory. He holds a master’s degree in development economics from Harvard University (MPA/ID), where he was a Frank Knox Fellow.

The session will also include a tribute to *Critical Issues in Environmental Taxation* and presentation of the GCET Young Researcher Award.

Friday, September 25, 15:00 (CET), 9:00 (EST)

The Fate of Canada's Carbon Pricing Framework: In the Hands of the Supreme Court of Canada

This 90-minute session takes participants into cutting edge litigation that will determine the future of carbon pricing in Canada. The Canadian experience will echo around the globe, just as British Columbia’s carbon tax did when it was enacted in 2008. The session focuses on a case that will be argued before the Supreme Court of Canada on September 22 and September 23, 2020, immediately before GCET21. The panel features a set of experts on carbon pricing in Canada, including several speakers who are arguing the case before the Court.

Led by action at the provincial level, Canada has now adopted a national carbon pricing scheme. The 2017 Pan-Canadian Framework on Clean Growth and Climate Change requires Canadian provinces and territories to put a price on carbon that will reach \$50 Canadian per ton in 2022. If a province or territory fails to implement a carbon price that meets the minimum national benchmark, the federal government will impose one as a backstop measure to ensure a national baseline. Several provinces have challenged the legislation implementing the Framework’s carbon pricing, the *Greenhouse Gas Pollution Pricing Act (GGPPA)*, on the basis that it infringes their autonomy to manage their natural resources, energy sectors, and industrial activities. The Courts of Appeal for Saskatchewan and Ontario both upheld the constitutionality of the *GGPPA*, whereas the Court of Appeal for Alberta ruled it unconstitutional.

The central question before the Court is whether the federal government has the constitutional authority to impose minimum national standards for carbon pricing. This panel will discuss the litigation and its implications for carbon pricing in Canada and elsewhere.

Keynote speaker **Gareth Morley** represents British Columbia in the litigation, the only province arguing in favour of federal jurisdiction for the national carbon pricing framework. He will address key issues in the case, including how the provinces and the federal government share responsibility over GHG emissions.

Panel Chair **Nathalie Chalifour** represents the joint interveners the National Association of Women and the Law and Friends of the Earth in the case. On the panel, she will introduce the case and its broader context and moderate the discussion.

Panelist **Lisa DeMarco** brings the perspectives of the International Emissions Trading Association to the Court. During the panel, she will highlight the challenges of intergovernmental dynamics in addressing climate change.

Panelist **Stewart Elgie** represents Canada's Ecofiscal Commission before the Court. During GCET21, he will focus on the political backdrop and the case's ramifications for carbon pricing in Canada.

Panelist **Andrew Leach**, an environmental economist, is a widely read commentator on environmental economics. He will assess lessons that emerge from the case about how economics and the law interact and speak to Alberta's unique context.

This litigation will have ripple effects for carbon pricing across Canada and around the globe. Please be sure to attend this session of leading experts covering one of the biggest environmental law cases in Canada of the decade.



Nathalie Chalifour

Full Professor of Law Centre for Environmental Law and Global Sustainability
Faculty of Law, University of Ottawa
Ottawa, Canada

Nathalie Chalifour is a Full Professor with the Centre for Environmental Law and Global Sustainability at the Faculty of Law, University of Ottawa, and cross-appointed to the Institute of the Environment. Nathalie was elected to the Royal Society of Canada's College of New Scholars in 2018. She obtained her Doctorate of Law at Stanford University, and holds a Master in Juridical Sciences which she obtained as a Stanford Fellow and Fulbright Scholar.

Nathalie's research lies at the intersection of environment law, economics and social justice, with a focus on climate change. Her most recent articles focus on the constitutionality of climate policies, specifically the division of powers and *Charter* rights. Nathalie is currently leading a SSHRC-funded project on *Environmental Justice in Canadian Law and Policy*. She is the co-editor of three international books, including "*Energy, Governance and Sustainability*" (Edward Elgar, 2016), and a fourth collection on *Food Law in Canada* (Carswell 2019).



Gareth Morley

Senior Counsel
British Columbia's Ministry of Justice
Victoria, Canada

Gareth Morley is currently Senior Counsel with British Columbia's Ministry of Attorney General, Legal Services Branch. In his 21 years with the Ministry of Attorney General, he has been a litigator, legislative drafter and constitutional solicitor. He is currently representing British Columbia in the legal challenge to Canada's carbon pricing framework in support of the constitutionality of the federal *Greenhouse Gas Pollution Pricing Act*. He has appeared on behalf of the Province at all levels of court and in a number of administrative tribunals. He is co-editor with Justice Karen Horsman of the B.C. Supreme Court of

Government Liability: Law and Practice. He received an LL.M. from Osgoode Hall Law School, his LL.B. the University of Toronto's Faculty of Law and a B.A. from the University of Victoria.



Lisa DeMarco
Senior Partner
DeMarco Allen LLP
Toronto, Canada

Lisa DeMarco is recognized as a Canadian and international expert in climate and energy law. She has over two decades of experience in law, regulation, policy and advocacy relating to oil, gas, power and all aspects of climate change. Lisa represents several governments and leading energy companies in a wide variety of natural gas, electricity, pipeline and energy storage matters before various regulatory agencies, including the Ontario and National Energy Boards. Lisa also assists Canadian energy companies and Indigenous business organizations on domestic and overseas power project development, renewable power projects, energy storage projects, sustainable and climate finance transactions, carbon capture and storage, climate-related financial disclosure, corporate climate risk, environmental and social governance, green bonds and sustainable business strategy. Lisa plays an ongoing and active role in the development of energy and GHG emissions law and policy throughout Canada and internationally. Lisa is a member of the boards of directors of the Advanced Energy Centre at MaRS, the International Emissions Trading Association and Carbon Credit Solutions Inc. She is ranked by Chambers Global as one of the world's leading climate change lawyers and regularly attends and advises on related United Nations negotiations.



Stewart Elgie
Professor of Law and Economics, University of Ottawa
Executive Chair, Smart Prosperity Institute
Ottawa, Canada

Stewart Elgie is a professor of law and economics at the University of Ottawa, and director of the University's interdisciplinary Environment Institute. He received his Masters of Law from Harvard, and his doctorate (J.S.D.) from Yale. He is also the founder and chair of Smart Prosperity Institute (formerly Sustainable Prosperity), Canada's premiere green economy think tank and policy-research network. His research involves environmental and economic sustainability, with a particular focus in recent years on market-based approaches.

Elgie started his career as an environmental lawyer in Alaska, litigating over the Valdez oil spill. He returned to Canada and founded Ecojustice, now Canada's largest non-profit environmental law organization; he was counsel on many precedent setting cases, including four wins in Supreme Court of Canada on constitution and environment issues. He was later hired by Pew Trusts as founding executive director of the multi-stakeholder Canadian Boreal Initiative. Prior to his faculty position at University of Ottawa (2004), Elgie held appointments at several Canadian universities (U.B.C., Alberta, York). He has served on or chaired many advisory bodies in the environment/sustainability area. In 2001, Elgie was awarded the Law Society of Upper Canada medal for exceptional lifetime contributions to law – the youngest man ever to receive the profession's highest honour.



Andrew Leach

Associate Professor
University of Alberta
Edmonton, Canada

Andrew Leach is an energy and environmental economist and is Associate Professor at the Alberta School of Business at the University of Alberta. His research spans energy and environmental economics with a particular interest in climate change policies. Leach spent the 2019-2020 academic year as an LLM student in the Faculty of Law at the University of Alberta studying constitutional law and climate change.

Kreiser Award for Environmental Taxation

The Kreiser Award is an honor granted annually to a person who has made a significant contribution to the advancement of environmental taxation and other economic instruments in research or policy. The recipient each year is selected by the chair(s) of that year's Global Conference on Environmental Taxation. The Kreiser Award was first awarded at the Seventh Global Conference on Environmental Taxation in Ottawa, Canada. Kreiser Award recipients are listed below.

The award is named in recognition of Professor Larry Kreiser, Professor Emeritus of Accounting and former Chairperson of the Department of Accounting at Cleveland State University, Ohio, USA. Professor Kreiser had the inspiration and energy to begin gathering experts from key disciplines together to create an international forum for exchanging the latest research and experience on the use of environmental taxation. This initial idea and the First Global Conference on Environmental Taxation in Cleveland, Ohio in 2000 planted the seeds that led to this successful series of annual conferences on environmental taxation. Until recently, Professor Kreiser guided the series as it travelled around the globe, hosted by a wide variety of institutions. For many years he was Chief Editor of *Critical Issues in Environmental Taxation*, currently published annually by Edward Elgar.

Kreiser Award Recipients

<i>Year</i>		<i>Location</i>	<i>Recipient</i>
2006	GCET 7	Ottawa, Canada	Nancy Olewiler
2007	GCET 8	Munich, Germany	Ernst von Weizsäcker
2008	GCET 9	Singapore	Hope Ashiabor
2009	GCET 10	Lisbon, Portugal	Alberto Majocchi
2010	GCET 11	Bangkok, Thailand	Rae Kwon Chung
2011	GCET 12	Madrid, Spain	Eduardo Merigo
2012	GCET 13	Vancouver, Canada	Kathryn Harrison
2013	GCET 14	Kyoto, Japan	Kazuhiro Ueta
2014	GCET 15	Copenhagen, Denmark	Hans J. Larsen
2015	GCET 16	Sydney, Australia	Bob Carr
2016	GCET 17	Groningen, Netherlands	Hans Vos
2017	GCET 18	Tucson, Arizona, USA	Ethel Branch
2018	GCET 19	Madrid, Spain	Pedro Herrera Molina
2019	GCET 20	Limassol, Cyprus	Paul Ekins
2020	GCET 21	A Virtual Global Event	Susanne Åkerfeldt

Parallel Sessions

The presentations address three themes: COVID-19's Influence on Environmental Taxation Policies, Tax Policies and Sectoral Challenges, and Cross-Sectoral Issues in Fiscal Policy. See page 24 for an overview of which panels fit within each theme.

The numbers following each presentation title identify the abstract number. Abstracts begin at page 25 of this Conference Program and are arranged in numerical order. When a paper is co-authored, the presenter's name is underlined. PowerPoints for the Parallel Sessions will be available to registrants for review prior to GCET21 upon receipt of a password for access.

Session A

Panel 1: Addressing the Impacts of Agriculture

Moderator: Kris Bachus, KU Leuven, Belgium

Economic Instruments for Phosphorus Governance—How Taxes and Cap-and-Trade Systems Achieve Sustainable Phosphorus Management (#58)

Beatrice Garske, University of Rostock, Germany

Livestock Products and Transnational Economic Instruments (#60)

Felix Ekardt, University of Rostock, Germany

Meat Tax or How to Deal with Climate Change and Health Care (#64)

Paloma Garcia Córdoba, Pompeu Fabra University, Spain

Environmental Tax: Case Studies for Typical Dairy Farms in Brazil (#67)

Gabriela Mota da Cruz and Silvia Helena Galvão de Miranda, Agroicone, Brazil

Panel 2: Substitution—Taking Chemicals and Products Out of the Economy

Moderator: David Gee, Brunel University, United Kingdom

The Contribution of Waste Economy to Circular Economy and Sustainability—A Quantitative Assessment for Austria (#36)

Ina Meyer and Mark Sommer, Austrian Institute of Economic Research, Austria

Using Fees to Improve Chemical Management in Europe (#43)

Daniel Slunge, University of Gothenburg, Sweden

An Analysis of the Drivers of Substitution of Dangerous Flame-retardants in Electronics in Sweden (#52)

Jessica Coria, Marion Dupoux and Daniel Slunge, University of Gothenburg, Sweden

How to Govern Plastics Effectively by Economic Policy Instruments – the Example of the Ubiquitous Plastic Pollution of Soils (#56)

Jessica Stubenrauch, University of Rostock, Germany

Panel 4: Changing Vehicle Technology

Moderator: Hope Ashiabor, Macquarie University, Australia

Will COVID-19 make Danish Car Taxation More Environmentally Sustainable? (#62)

Morten Jespersen, Confederation of Danish Industry, Denmark

Remodulation of Italian Bonus-malus in the Pandemic Frame work: A Balance between Economic and Environmental Issues (#55)

Alessia Tomo, University of Naples Federico II, Italy

Tax Incentive to Electric Vehicle Technology: A Brazilian Case Study (#37)

Rafaela Cristina Oliari, Elena Aydos and Carlos Araujo Leonetti, Federal University of Santa Catarina, Brazil

Internet of Things and the design of CO2 taxes for Non-ETS sectors (#54)

Álvaro Antón Antón, CEU Cardenal Herrera University, Spain

Panel 9: COVID and the Revenue Side of the Environmental Tax Equation

Moderator: Mikael Skou Andersen, Aarhus University, Denmark

After Covid-19, a Carbon Pricing to Finance the European Budget and to Achieve Carbon Neutrality in the European Union (#12)

Alberto Majocchi, University of Pavia, Italy

The Green Dividend: A Cost-effective Market-based Alternative to the Green New Deal (#59)

Russell Mendell, Researcher and author, United States

The Different Tax Possibilities of Reaching the Environmental Challenges in a Post-coronavirus Era (#22)

Elizabeth Gil Garcia, University of Alicante, Spain

Fixing Long-term Price Paths for Fossil Energy - The Optimal Incentive for Limiting Global Warming (#45)

Stephan Schulmeister, Independent Economic Researcher, Austria

Session B

Panel 3: Creating Sustainable Municipalities

Moderator: Roberta Mann, University of Oregon School of Law, USA

Tax Policy for Sustainable Tourism (#57)

Francesco Montanari, University G. D'Annunzio of Chieti-Pescara, Italy

The Impact of COVID-19 on Brazilian's Municipal Environmental Tax Revenue (#49)

Bernardo Nobrega and Jean-Raphaël Gros-Désormaux, Brazilian Institute of Tax Studies, Brazil

From the "Green New Deal" to the "Teal Deal": How EU Principle can Transform the "Environmental" into "Ecological" Taxation (#35)

Carlo Soncini, University of Parma, Italy

Disaster Assistance and Carbon Pricing in Canada: Lessons for Public Health Emergencies (#41)

Tracy Snoddon, Wilfrid Laurier University, Canada

Panel 7: Viewing the EU's Energy Tax Policy in the COVID Era

Moderator: Stefan Speck, European Environment Agency, Denmark

100 Years of Externalities (#44)

Astrid Ladefoged and Mirka Janda, European Commission, Belgium

Carbon Taxes and Trade Spillovers within Europe (#7)

Saptorshee Kanto and Massimiliano Mazzanti, University of Ferrara, Italy

Building a Robust Energy Tax Directive? (#47)

Herman Vollebergh, Tilburg University, The Netherlands

Circular Economy and Tax Policies in the Age of COVID-19: Inputs from Comparative Experiences (#39)

Silvia Giorgi, University of Chieti-Pescara, Italy

Panel 12: Greenhouse Gas Emissions and Transnational Perspectives

Moderator: Theodoros Zachariadis, Cyprus University of Technology

Industrial Nomadism and Environmental Protection in EU (#14)

Agime Gerbeti, Italian Association for Energy Economics (AIEE), Italy

Covid-19 and implications on climate change linking (#31)

Stefan Weishaar, University of Groningen, The Netherlands

Taxing Carbon Emissions from International Shipping (#76)

Tatiana Falcao, Muenster University, Germany

The Liberalization of International Trade on Environmental and Ecosystem Services by GATS of the WTO: Trailing New Paths to Green Prosperity (#66)

José Maria McCall Zanochi, Federal University of Ceará, Brazil

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Panel 10: Carbon Pricing and COVID—National Case Studies

Moderator: Susanne Åkerfeldt, Swedish Ministry of Finance, Sweden

Impact of COVID-19 on Canadian Support for Carbon Pricing (#15)

Kathryn Harrison, University of British Columbia, Canada, Erick Lachapelle, Université de Montréal, Canada, and Matteo Mildenberger, University of California, Santa Barbara, USA

To be or not to be? - Taxing the Swedish Aviation Sector before and after COVID-19 (#23)

Yvette Lind, Copenhagen Business School, Denmark

Carbon Pricing in Perú: Energy Transition and Development in a Covid-19 Context (#70)

Carlos Trinidad Alvarado and Daniela Soberón Garreta, Climate Policy Institute, Peru

The Tax on CO2 in Argentina is Sick with COVID-19 (#77)

Rodolfo Salassa Boix, University of Murcia, Spain

Panel 15: Clean Technology

Moderator: Deborah Jarvie, University of Lethbridge, Canada

Tax Policies for Clean Manufacturing: Implementing the Green New Deal (#1)

Roberta Mann, University of Oregon, United States

Incentive Tax Policies in Solar Energy as an Sustainable Alternative for Brazil in the Post-Covid19 Era (#65)

Germana Parente Neva Belchoir, Iasna Chaves Viana and Nathalie Alves de Almeida, Brazilian Institute of Tax Studies, Brazil

Repercussions of The Covid-19 Pandemic on The Development Of Solar Energy In Brazil (#30)

Denise Lucena Cavalcante, Juarez Freitas and Paulo Caliendo, Brazil

Greening R&D Tax Incentives for an Environmentally Friendly Economic Recovery: Proposals from Spain (#21)

José María Cobos Gómez, Garrigues Law Firm, Spain

Panel 16: COVID and Opportunities for Broader Tax Reform

Moderator: David Duff, University of British Columbia, Canada

Environmental Taxation in an Age of COVID-19: an Italian approach (#9)

Alberto Comelli, University of Parma, Italy

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José Eudson Mota Félix, Federal University of Ceará, Brazil

The Carbon Tax: Efficient, Effective, and Procedurally Perfect (#69)

Tracey Roberts, Cumberland School of Law, United States

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Nancy E. Shurtz, University of Oregon, United States

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Moderator: Anna Mortimore, Griffith Business School, Australia

Public Transport at the Cross-roads in the Wake of the Covid-19 Lockdown: Can Fiscal Instruments Provide a Pointer out of the Quandary? (#61)

Hope Ashiabor, Macquarie Business School, and Anna Mortimore, Griffith University, Australia

Covid-19 and Urban Mobility: Has the Time Come for a Paradigmatic Shift? The Potential of Environmental Tax Policies in the Post-pandemic Age (#33)

Marina Bisogno, University of Naples Federico II, Italy

Decarbonising the Transport Sector: The External Costs Approach Applied to the Diesel Differential (#38)

Chiara Antonelli, Gionata Castaldi and Andrea Rampa, Ministry of Economy and Finance, Italy

Healing the Achilles' Heel? Or How to Include Transport and Heating Fuels in GHG ETS: Design Lessons from California and Australia for Germany's New National Fuels ETS (#34)

Sven Rudolph, Elena Aydos, Seiji Ikkatai, Takeshi Kawakatsu and Achim Lerch, Kyoto University, Japan and University of Newcastle, Australia

Panel 6: COVID Recovery and Pollution Control—How to Balance Strategies

Moderator: Ina Meyer, Austrian Institute of Economic Research, Austria

Climate Policy Leadership and Competitiveness Post Covid-19: Strengthening Carbon Prices for Industry (#53)

Luisa Dressler, Florens Flue, Jonas Teusch and Kurt Van Dender, OECD Centre for Tax Policy and Administration, Paris

Recovery as Quickly as Possible? A Discussion of Recession and Recovery in the Economy with Stock Pollutants (#25)

Eiji Sawada, Kyushu Sangyo University, Japan

Enforcing Sustainable Revenue-Based Cap-and-Trade Systems in a Post-COVID World: Evidence from Northeast Asia (#17)

Joseph Dellatte and Sven Rudolph, Kyoto University, Japan

Impacts of Carbon Pricing under COVID-19 in China (#20)

Xiang-Yu Wang, Chang-jing Ji, Mikael Skou Andersen and Bao-Jun Tang, Aarhus University, Denmark

Panel 13: Strategic Assessments

Moderator: Jacqueline Cottrell, Green Budget Germany, Germany

Is the Rhetoric of Environmental Taxes Still Current After the COVID-19 Pandemic? A Policy Analysis (#29)

Amedeo Rizzo, Bocconi University, Italy

Public Opposition to Environmental Taxation: Merging Tax Law into Environmental Law (#6)

Fanny Vanrykel, U-Saint Louis, Belgium

What Affects Chinese Households' Behavior in Sorting Solid Waste? A Case Study from Shanghai, Shenyang, and Chengdu (#10)

Yanmin He, Hideki Kitagawa, Xin Kou, Peii Tsai and Choy YeeKeong, Otemon Gakuin University, Osaka, Japan

Climate policy in Iran: Status Quo and the Case for Market-based Instruments (#3)

Bahareh Ghafouri and Sven Rudolph, Kyoto University, Japan

Session E

Panel 8: EU Support Policies in the COVID Era

Moderator: Stefan Weishaar, University of Groningen, The Netherlands

A Taxonomy of Sustainable Activities to Orient Covid-19 Tax Measures to Environmental Objectives (#28)

Sébastien Wolff, University of Louvain, Belgium

EU and MS' Public Aid for the Economic Recovery: Solidarity and (Green) Conditionality (#51)

Jerónimo Maillo, CEU San Pablo University, Spain

The Purposefulness and Serviceability of Support Schemes In View of the COVID-19 Crisis (#27)

Theodoros Iliopoulos, Hasselt University, Belgium

How the Necessary Economic Support Measures Can Cushion the Corona Crisis and Accelerate the Ecological Transition (#75)

Holger Bär, Mattias Runkel and Kai Schlegelmilch, Green Budget Germany, Germany

Panel 11: Environmental Taxes and COVID—National Case Studies

Moderator: Bill Butcher, University of New South Wales Business School, Australia

How is China's Environmental Tax Policy More Effective in the Post-COVID-19 Era? (#11)

Lin Fei and Ping Gao, Central University of Finance and Economics, China

Towards a Green New Deal for South Africa—Exploring the Intersect of COVID-19 and Climate Change (#40)

Lee-Ann Steenkamp, University of Stellenbosch, South Africa

The Future Spanish Tax on Non-reusable Plastics (#72)

Teresa Puchol Tur, University of Valencia, Spain

The impact of the pandemic emergency on the objectives of sustainable development and the tax measures adopted by the Italian legal system (#19)

Caterina Verrigni, University of Chieti-Pescara, Italy

Panel 14: Relationships among Environmental Taxation and Other Policy Instruments

Moderator: Marta Villar, CEU San Pablo, Spain

Reconciling EU Tax and Environmental Policies: The VAT as a Vehicle to Boost Green Consumerism under the EU Green Deal (#13)

Francesco Cannas and Matteo Fermiglia, Hasselt University, Belgium

Tax Policy and Environmental Concerns in a Post Covid-19 World: Perspectives from Brazil (#48)

Daniel Giotti de Paula, National Treasury, and Lígia Barroso Fabri, Attorney, Brazil

Assessing Public Aid for True Green Digital Recovery: A Matter of Tax Good Governance in the EU (#24)

Marta Villar, CEU San Pablo University and Amparo Grau, University Complutense of Madrid, Spain

Australia's COVID-19 Response to Climate Change and Biodiversity Protection: An Impossible Dream or Outright Contradiction? (#71)

Natalie Stoianoff, University of Technology Sydney, Australia

Conference Themes

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- Panel 7: Viewing the EU's Energy Tax Policy in the COVID Era (Session B)
- Panel 8: EU Support Policies in the COVID Era (Session E)
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Taxation Policies and Sectoral Challenges

- Panel 1: Addressing the Impacts of Agriculture (Session A)
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Cross-Sectoral Issues in Fiscal Policy

- Panel 2: Substitution—Taking Chemicals and Products Out of the Economy (Session A)
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Abstracts

Abstracts appear in numerical order.

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01 – Tax Policies for Clean Manufacturing: Implementing the Green New Deal

Roberta F. Mann

The “Green New Deal” (GND) resolution proposed in the United States Congress “recogniz[es] the duty of the Federal Government to create a Green New Deal.” The GND resolution presents several goals, including achieving “net- zero greenhouse gas emissions through a fair and just transition for all communities and workers,” investment in “infrastructure and industry . . . to sustainably meet the challenges of the 21st century,” and the creation of “millions of good, high-wage jobs.” The resolution contemplates “spurring massive growth in clean manufacturing in the United States and removing pollution and greenhouse gas emissions from manufacturing and industry as much as is technologically feasible, including by expanding renewable energy manufacturing and investing in existing manufacturing and industry.” While reasonable minds can differ about the merits of the GND, it presents an excellent opportunity to consider how the United States’ manufacturing sector could be remade to meet environmental goals. This Article will assess the effect of the existing tax system on the specific goals of the GND outlined above and consider what changes could be made to encourage clean manufacturing in the United States. The Article will also consider how tax changes could move the economy towards another of the GND’s goals: income equality.

Biographical note

Roberta Mann is the Mr. & Mrs. L.L. Stewart Professor of Business Law at the University of Oregon. She has been an enthusiastic participant at GCET conferences for many years.

03 – Climate Policy in Iran
Status Quo and the Case for Market-Based Instruments
Bahareh Ghafouri, Sven Rudolph

Following the outbreak of COVID-19, Iran was strongly affected, and the late response of the country led to a high number of infected people and a critical mortality rate. This experience highlights the importance of proper governance in the face of crisis and has immediate implications for another major global threat, climate change.

Being a heavily fossil fuel-based economy, CO₂ emissions in Iran have surged over the last decade, making Iran a significant global emitter. Currently, Iran has an unconditional emissions reduction target of 4% compared to 2010 levels by 2030. To achieve this goal, policies such as promoting renewable energies and using market-based instruments have been considered by the government. However, to date, Iran has no carbon pricing mechanism in place, as climate policies are mostly limited to laws emphasizing energy-efficiency, adjusting value added tax and re-organizing subsidies.

Against this background, we aim to (1) evaluate the efficacy of Iran's climate policies so far, (2) find out whether market-based instruments such as carbon taxation and cap-and-trade have the potential to be part of Iran's policy mix for climate mitigation, and (3) examine the role of good governance.

To answer these questions, we conduct an exploratory study of the existing academic literature on climate policy in Iran as well as of recent official government documents and respective laws in Iran. We then survey existing evidence on carbon pricing effects on the environment, economy, and social justice from jurisdictions with carbon pricing policies in place. We also take a specifically close look at carbon pricing options in developing countries and the role of governance.

Our review shows that Iran's climate policies are not stringent enough and additionally suffer from a lack of enforcement. Therefore, market-based policies might act as a complement to existing policies, and the revenues raised could also be used to cushion economic, environmental, or social crises. We discuss prerequisites for their introduction with respect to institutions, political decision-making, and design in a developing country setting. Considering the unique circumstances of Iran, we hence suggest feasible market-based approaches to climate policy in Iran.

Biographical note

Bahareh Ghafouri is a PhD student at the Graduate School of Global Environmental Studies, Kyoto University, Japan. She has earned her master's degree in Environmental Sciences, specializing in landscape ecology, from the University of Tehran, Iran. Considering the broad adverse effects of climate change, currently Bahareh is particularly interested in the use of environmental policy instruments for climate change mitigation. Therefore, in her PhD research, she intends to explore the chances of carbon taxation and its distributive effects in Iran.

**06 – Public Opposition to Environmental Taxation:
Merging Tax Law into Environmental Law**
Fanny Vanrykel

Environmental taxation has been promoted for decades to address environmental problems. This has been part of a broader literature that advocates the merits of economic instruments. While these instruments are advocated for being more straightforward than traditional regulation, the lack of success of environmental taxation is puzzling. One commonly cited reason to explain that reality is that people dislike taxes. Citizens have an aversion for taxes, including environmental ones. This argument has shaped the main strategies building public trust in environmental taxation, mainly focusing on how to use revenues deriving from such taxes. In that sense, controversies are perceived as incidental, or as “leaks” to use Callon’s word. While I do not deny that people may have an aversion for taxes, my argument is that this is only a part of the story. Drawing on the hybrid nature of environmental taxation, which merges environmental law into tax law, I argue this prism primarily focus on the fiscal nature of environmental taxes. By contrast, a detour by environmental law scholarship shows that regulating environmental problems is inherently controversial because of the nature of these problems. This paper argues that there is no reason why responding to those problems via economic instruments such as taxes would be less controversial. Controversies lie at the foundations of environmental taxation, just like they inhabit environmental law. Therefore, I suggest to start considering more carefully the potential of public participation to environmental taxation.

Biographical note

Fanny Vanrykel is a F.N.R.S. Research Fellow at U-Saint Louis and at ULiège (Belgium). Her PhD project aims to provide a novel approach to opposition to environmental taxation, by focusing the complexities behind the regulation of cars via tax law.

07--Carbon Taxes and Trade Spillovers Within Europe

Saptorshee Kanto Chakraborty and Massimiliano Mazzanti

Carbon taxation has been suggested among the market based policies to tackle climate change since the early 90's, often associated to ecological tax reforms rationales. Before the advent of emission trading in the EU, some countries introduced forms of carbon taxation, which is still used to deal with non EU ETS sectors. Due to this historical evolution of environmental policies over the last decades, in presence of a 'federal system' that assigns to EU countries the governance of energy and fiscal issues, an heterogeneous set of country driven carbon/energy policy settings is present, which can determine effects on growth and trade. We investigate the possible existence of asymmetries among the European Carbon area countries reaction to the policy adoption responsible to combat climate change via carbon usage reduction.

Biographical note

Massimiliano Mazzanti is full Professor in Economic policy, University of Ferrara, at the Department of Economics & Management, where he is lecturer in Macroeconomics; Environmental economics and policy, Ecological Economics. He has directed the inter university centre SEEDS (www.sustainability-seeds.org) since the foundation in 2012. He coordinated the PhD programme in 'Economics and Management of Innovation and Sustainability', joint University of Ferrara and Parma programme, between 2012-2016.

He graduated at the University of Bologna then he continued the education with Msc in Environmental & Natural Resources Economics at the Department of Economics, UCL London, and PhD. in Economics at the University of Rome Tre. Main Research competences revolve around applied environmental economics and policy issues such as: sustainable development, environment and trade, climate change policies, environmental innovation, environmental policy design and assessment, environmental fiscal reforms, waste management and policy, economic valuation of the environment, beyond GDP - green accounting issues.

The publication record witnesses more than 70 papers in peer reviewed international journals, six books as co-editor published with Routledge and Springer, and many other contributions in books and reports. Regarding Journals, he has published extensively in high ranked journals such as Research Policy, Ecological Economics, Resource and Energy Economics, Environmental & Resource economics, Journal of Environmental Planning and management, Applied Economics. Many contributions have found space in inter and multi-disciplinary journals such as Environmental science and policy, Environmental sciences, Economics and Industrial Democracy, the Journal of environment and development. In 2014, the paper Cainelli G. Mazzanti M. Montresor S. (2012), Environmental Innovations, Internationalisation and local networks, Industry and Innovation 19(8), received the DRUID society 2014 award, with the motivation that the paper bridges the literatures on environmental innovation, spatially dependent collaboration patterns, and internationalization

He is Associate editor of the Journal of Environmental Planning & Management, *Economia Politica* Journal of Analytical and Institutional Economics, Italian Economic Journal. He has collaborated and published policy-oriented reports under research contracts with OECD, UNIDO, The World Bank. He has directed research units within EU projects in FP7 and H2020 programmes, in addition to the participation as leader of SEEDS unit to the existing WMGE ETC EEA.

09 – Environmental Taxation in an Age of COVID-19: an Italian Approach

Alberto Comelli

Introduction

In the first months after the outbreak of the pandemic, Italy responded by adopting a series of decree-laws that laid down a wide range of often piecemeal sectoral provisions. In tax matters, they largely drew their inspiration from the measures adopted in the case of natural disasters, such as earthquakes. In fact, the suspension of the terms for some tax and social security payments and obligations has been provided for, subject to specific selective criteria of a subjective, geographical, quantitative and time nature. The resulting rules and regulations are particularly complex.

Before the outbreak of the pandemic, two important tax reforms were already at an advanced stage of discussion, i.d. the reform of the personal income tax (IRPEF), in terms of progressivity, and the reform of the legal status of tax judges. For the time being, they have laid aside.

Environmental taxation provisions in the context of emergency legislation

There is no doubt that, during the health emergency, the lawmaker has not placed the rules and regulations on environmental taxation at the top of the agenda. I would like, however, to mention three significant provisions.

The plastics tax introduced by the 2020 Budget Law, with a view to boosting the green economy, should have entered into force on July 1, 2020. It was decided to postpone its entry into force to January 1, 2021. It is a tax on the consumption of disposable manufactured goods, even partially made with the use of plastics (the so-called plastics tax).

The entry into force of the tax on the consumption of sweetened beverages intended for human food consumption (the so-called sugar tax) was postponed to the same date. This tax was also introduced by the 2020 Budget Law.

Another interesting provision envisaged in the context of the pandemic concerns some incentives for specific energy efficiency measures, for reducing the seismic risk, as well as for installing photovoltaic systems and charging columns for electric vehicles. In particular, a 110% deduction for IRPEF purposes is envisaged for natural persons with regard to expenses incurred from July 1, 2020 to December 31, 2021, with its breakdown into five equal annual instalments. The natural persons carrying out business activities, arts or professions are excluded.

First Conclusions

In Italy and, more generally, in Europe, there is growing awareness of the importance of environmental protection and preservation for the benefit of future generations, also from a tax viewpoint.

The crisis caused by the pandemic is an excellent opportunity to rethink some fundamental principles of the tax system, so far considered stable and long-established. Nevertheless, the courage to plan an overall reform of the system, involving also environmental taxation, has been lacking so far, at least in Italy.

Finally, the discussion among legal scholars on the distribution of the environmental taxation burden and on the role of tax shifting on the beneficiaries of goods or services supplied by the taxable person remains open.

Biographical Note

Alberto Comelli is Associate Professor of Tax Law and European Tax Law at the University of Parma (Italy). He works for the most important reviews specialized in tax law. He made publications in several fields of tax law and he teaches in many master courses.

He is the coordinator of a research group founded in 2008 with the aim of studying a number of European and international tax issues through in-depth analyses, in close cooperation with a number of important foreign universities and research institutes. Research into topical subjects includes value added tax, environmental taxation, the European Court of Justice's case law, tax assessment, taxpayers' protection and tax litigation.

He is a member of the European Association of Tax Law Professors based in Amsterdam. He has an excellent knowledge of English and Spanish acquired in some local universities, including the Malaga University. He has also a fairly good knowledge of French.

10 – What Affects Chinese Households' Behavior in Sorting Municipal Solid Waste? A Case Study from Shanghai, Shenyang, and Chengdu

Yanmin He, Hideki Kitagawa, Xin Kou, Peii Tsai, Choy YeeKeong

With rapid economic growth and urbanization, issues surrounding disposal of municipal solid waste (MSW) in the cities across China have become an urgent and formidable problem related to public health and environment. In this study, we aim to examine the residents' environmental behavior in sorting MSW and to clarify factors that contribute to their waste-separation cooperation and other related environmental cooperative issues based on questionnaire survey in Shenyang, Chengdu and Shanghai. Methodologically, we apply a discrete choice model to examine whether individuals' garbage sorting behavior differs based on their characteristics, social attributes, residential circumstances, environmental awareness and, whether these factors are correlated with individuals' receptiveness to refuse charge system and to policies requiring garbage sorting. We will also examine whether individuals' garbage sorting behavior, their receptiveness to fee-based waste collection, and their receptiveness to policies requiring garbage sorting differ across areas. In this survey, we will introduce a 16-item scale of pro-environmental behavior and a nine-item scale of altruism to check how internal motivational factors affect people's environmentally conscious voluntary behavior.

The results of analysis also show that participants of the garbage sorting program tend to be the elders and employed person. These results, combined with significance of external and internal moderations, emphasize the importance of strengthen advertising and educational activities on related garbage sorting policies in each community and enterprise. In addition to this, this study also shows that to promote garbage sorting in various areas in the future, it is necessary for each community to strengthen their waste sorting rules and properly set up waste collection spots.

Residents' receptiveness to refuse charge system varies across cities, and many respondents oppose such a refuse charge program. It is found that if a fee-based system were introduced, a designated-bag system would be most supported by residents.

Overall, the present work is expected to contribute to an important understanding of the motivational forces and incentives behind human pro-environmental behavior and action.

Biographical note

Yanmin He is a senior lecturer at Faculty of Economics at Otemon Gakuin University, Osaka, Japan. She received a PhD from Kyoto University. Prior to joining Otemon Gakuin University, she was a research fellow at Institute of Economic Research of Kyoto University. Her research interests lie at the intersection of environmental and energy economics, public economics.

11 – How is China’s Environmental Tax Policy More Effective in the Post-COVID-19 Era?

Lin Fei, Gao Ping

COVID-19 swept globally, and posed a great threat to people's health and social economic development. With the implementation of a large-scale national shutdown policy, global carbon dioxide emissions have dropped significantly. The epidemic has led to weak supply and demand on high-pollution industries, as well as substantial carbon emission reductions. Under this particular condition, it makes sense to review or evaluate environmental tax policies. This article takes China as an example to explore the possible changes of environmental taxation policies in the post- COVID-19 era. The article is divided into three parts, which explores the impact of COVID-19 on the supply and demand side of Chinese high-pollution and high-energy industries, and combined with Chinese relevant tax policies during this period, proposes that the direction of environmental tax policy reform should be focused on improving tax efforts and tax neutrality.

First of all, according to the data analysis, this article found that in the short term, China's high-pollution industries were severely hit by the epidemic. For example, the economic benefits of industries such as coal and steel declined sharply in the first quarter, especially for small-scale enterprises. In addition, Chinese environmental protection tax revenue and energy conservation and environmental protection expenditures also fell sharply in the first quarter. In the long term, due to the elimination of companies with weak competitiveness, China’s supply-side reform and industrial structure transformation probably will be promoted in the post-COVID-19 era.

Secondly, this article sorts out Chinese preferential tax policies during the epidemic, compares them with foreign tax policies, and discusses the effects of different tax policies. For example, it is found that most countries focus on reducing the tax burden of small-scale enterprises during the epidemic. However, there are differences in specific preferential policies. Some countries adopt the method of direct tax exemption, while others adopt the method of delaying tax payment.

Finally, this article suggests that more emphasize should be put on the principle of tax neutrality in formulating environmental tax policies. Due to the overall economic downturn, the room for upward adjustment of tax burdens of environment-related tax may be limited. Therefore, it is necessary to make a balance between economic protection and environmental protection. Additionally, we should put more emphasis on the implementation of environmental tax preferential policies, and use modern collection and management methods to improve efficiency of levying instead of increasing tax burden.

Biographical note

Lin Fei, who graduated from Xiamen University in 2019, is taking a successive postgraduate and doctoral program in Central University of Finance and Economics at present. Her research direction is environmental taxation. She is currently an intern in the Environmental Planning Institute of the Ministry of Ecology and Environment of China, participating in the preparation of China's environmental tax policy development report.

12 – After COVID-19, a Carbon Pricing to Finance the European Budget and to Achieve Carbon Neutrality in the European Union

Alberto Majocchi

The aim of this paper is to examine the possibility of introducing a carbon price to complement the Emission Trading System in the transport, agriculture, small and medium-sized enterprises and building sectors. Today, 43% of emissions in Europe are included in the ETS and are required to hold emission allowances, purchased either at auction or on the market. There are two main limits to be exceeded: 57% of emissions do not pay a price in sectors excluded from the ETS and European carbon pricing can encourage carbon leakages and the loss of competitiveness of European companies.

Carbon Pricing must be high enough to change consumer and producer behaviour, but introduced gradually to allow adaptation to new energy market conditions. Part of the revenue could be used for a redistribution in favour of employees with lower incomes. The imposition of a compensatory duty at the border will avoid carbon leakages.

In the European Commission's programme, the Green Deal occupies a central position, but in the aftermath of the pandemic the problem has arisen of reviving the economy and securing employment. The Recovery Plan is based on the issue of bonds on the market guaranteed by the European budget, which will have to have its own resources to service the debt. To this end, the Commission has made several proposals, including a border carbon adjustment, but does not envisage the introduction of a carbon tax. The Commission's idea is to extend the ETS to transport, shipping and domestic heating.

The paper seeks to explore the feasibility of introducing carbon pricing in all sectors excluded from the ETS, showing its benefits in administrative terms and as a financing instrument for the EU budget. It will have to be accompanied by a border carbon adjustment, which as a custom duty constitutes an own resource without having to resort to the procedure laid down in Article 311 of the Treaty on the Functioning of the European Union, and at the same time will facilitate the introduction of a similar price in exporting countries. In the paper it will be shown the compatibility of this measure with WTO rules and its validity as a tool to put the European economy on a fair and sustainable development path.

Biographical note

Alberto Majocchi is Professor Emeritus of Public Finance in the University of Pavia. He has taught in the University of Venezia-Ca' Foscari, Varese, Castellanza and Leuven. He has been Visiting Professor in the University of Cambridge and York. From 2003 to 2010 he has been President of the Institute for Studies and Economic Analysis (ISAE) in Rome. He is currently Honorary Director of the Italian Journal of Law and Economics of Taxation, President Fondazione Magni for Ayamé (Ivory Coast) and Vice-President of the Centre for Studies on Federalism (Turin).

13 – Reconciling EU Tax and Environmental Policies: the VAT as a Vehicle to Boost Green Consumerism Under the EU Green Deal

Francesco Cannas, Matteo Fermeglia

The European Union (EU) has acquired a global frontrunner role in the fight against climate change and environmental degradation. Notwithstanding the ambitious and far-reaching European stance in the field of climate and environmental law, however, EU's tax policy is often inconsistent with its climate objectives. This is all the more the case with regard to indirect taxation, where the alleged environmental purpose of domestic indirect tax measures does not necessarily entail its incompatibility with EU primary law (see, for example, the CJEU case C-40/00, *Commission vs. France*).

The European Green Deal (COM 2019/640 final) as the cornerstone of future EU environmental and climate policies, albeit not expressly encompassing indirect taxes within its scope, sets a clear stage to an unprecedented approach to transitional policies to transform the economy. With specific regard to the EU's VAT system, the Green Deal encourages the Council to rapidly adopt the European Commission's 2018 proposal to allow a more targeted use of rates to reflect increased environmental ambitions.

Whilst the “greening up” of VAT does not constitute *per se* a novel exercise, this contribution will build on the existing literature by conceptualizing an original model of consumption-based indirect taxation linked to the carbon emission intensity of production chains. Following a brief overview of some of the most relevant issues pertaining to the EU political discussions on VAT reforms, the main features of a carbon labeling program launched by the UK in 2007 are presented. Where the foremost aim of that program is to steer consumers' behaviors towards sustainable products through a low carbon-emissions labeling system. Importantly, moreover, the above UK labeling program is based on carbon emissions/unit of production process calculation method, which might prove particularly suitable to achieve proper calibration of the EU-wide VAT mechanism in line with the EU's climate and environmental objectives. We thus argue that such labeling regime should be adequately embedded in VAT tax levy design so as to properly benchmark tax consumptions rates against established carbon emissions intensity ratios. In fact, where multiplication of tax rates constitutes an element potentially hampering VAT's neutrality, this contribution will analyze a set of full-fledged criteria to ensure adequate increase of tax rates with regard to targeted carbon-intensive B2C transactions with a view to reconcile the (undesirable) regressivity of VAT and its use to achieve EU's (desirable) environmental and climate goals.

Biographical note

Francesco Cannas: Post-doctoral researcher at Hasselt University; adjunct professor of Tax Law at the University of Eastern Piedmont “Amedeo Avogadro”, and a member of the editorial committee of *Rivista di Diritto Tributario Internazionale*. Francesco authored several publications in legal journals and books and is frequently invited as speaker at postgrad courses and international conferences. He is also a qualified Italian practicing lawyer.

Francesco was awarded several degrees, among which a Master in Corporate Tax Law by the Bocconi University of Milan in 2012, an LL.M. in International Taxation by the Vienna University of Economics and Business (WU) in 2013, a Ph.D. by the same Austrian university in 2017 and a Law Degree Conversion Diploma (GDL) by the BPP University in 2018.

14 – Industrial Nomadism and Environmental Protection in EU

Agime Gerbeti

In the industrial field, the limits of a structured regulation on the national territorial spaces has become evident and inadequate due to changes of world trade and production. Faced with these difficulties in Europe, the subject of environmental protection has been taken over by the “European superstate”, passing from a national legal system to a “super - legal system“. The EU has acted mainly with the instrument of environmental markets through which it was hoped to achieve environmental protection at the lowest possible cost or, in a cost effective way with the lowest environmental impact. Now we can say that these markets suffered global economic phenomena such as: a) robotization, which allows companies to acquire machinery and softwares instead of training personnel (more difficult to move and replace); b) the development of the internet that leads every consumer to buy goods on line and, c) of course, globalization all over the world.

Companies today can choose in which legal system to establish the company headquarter, where to pay taxes and on which market to buy skills. The relations of forces have been reversed and it is now the States that compete with each other to offer the best industrial conditions, with low taxes and lower environmental standards.

In presence of the “industrial nomadism” the environmental protection guaranteed by any legal system is ineffective due to the practical impossibility of enforcement. The economy is now supranational and, above all, supra-each individual legal system.

The European Union is the only legal system in the world that sets clear environmental limits. Also a carbon border tax seems to promise a protection to companies from the carbon leakage risk. The legislators should remember that no virtuous behavior will ever be adopted in a structured way by companies if this behavior is not perceived as beneficial. Incentives, duties and obligations do not represent these conditions. These measures deploy their effectiveness only in the proximity and in the presence of the State and if the State does not supervise, or does not continue its incentive action, prerequisites that generated virtuous behavior will fall.

Therefore the task of the State must be to impose those conditions that make environmentally sustainable behaviors advantageous for industrial competitiveness, for the profitability of companies.

Biographical note

President of the AIEE Scientific Committee. She taught environmental and social sustainability at LUMSA University. She works for GSE and before for the Ministry of Environment. The "Charge on emissions" proposal, contained in her book "CO₂ in goods and European industrial competitiveness", is among the mechanisms assessed at European level for an environmental tax reform.

15 – Impact of COVID-19 on Canadian Support for Carbon Pricing

Kathryn Harrison, Erick Lachapelle, Matto Miltenberger

The COVID-19 pandemic has the potential to impact public support for climate change mitigation -- but in what direction? Will participation in collective action and embrace of both the regulatory and spending functions of the state reinforce public support for climate policy, including carbon taxation? Or will the pandemic undermine support for climate action by shifting attention to the economy and support for incumbent fossil fuel-intensive industries? In 2019, we conducted a 4-wave panel survey of Canadians' attitudes to climate change and carbon pricing as a federal carbon tax and dividend scheme was implemented, followed by a national election. Having previously polled respondents' attitudes to climate change and carbon pricing, we are in a unique position to assess how the same Canadians' attitudes to carbon pricing have *changed* following the COVID-19 pandemic. In June 2020, we completed a fifth wave of our survey, the results of which will be reported in this paper. We will explore how respondents' experience with COVID-19, both health and economic, affected their support for carbon pricing. We will also report the results of a framing experiment that drew an analogy between collective action on COVID-19 and climate change.

Biographical note

Kathryn Harrison is a Professor of Political Science at the University of British Columbia. Harrison received Bachelor's and Master's degrees in Chemical Engineering before completing her PhD in Political Science. Before entering academia, Harrison worked as a chemical engineer in the oil industry, and as a policy analyst for both Environment Canada and the United States Congress. She has served as Senior Associate Dean and Acting Dean in the UBC Faculty of Arts. Professor Harrison is the author or editor of several volumes, including *Global Commons, Domestic Decisions: The Comparative Politics of Climate Change*, and has published widely on Canadian and US climate and environmental policy. She is currently working on a book on the comparative politics of carbon taxes in Canada, Australia, France, and Ireland. She is a frequent commentator on climate policy, via op-eds, media interviews, and twitter (@khar1958).

17 – Enforcing Sustainable Revenue-Based Cap-and-Trade Systems in a Post-Covid World: Evidence from Northeast Asia

Joseph Dellatte, Sven Rudolph

Initial allocation and revenue use design features in cap-and-trade schemes such as auctions and proceeds earmarking to energy efficiency projects are often used as a leverage to ease policy implementation. In Northeast Asia, greenhouse gas emissions trading schemes (GHG ETS) implemented (South Korea, China) or considered (Japan) do not deem full auctioning a worthwhile option, even if it would enhance the sustainability of the schemes. Anxiety to lose competitiveness and fears of harsh political opposition from industrial and corporate sectors covered by the scheme have prevented GHG ETS from generating significant revenue. However, the COVID-19 crisis raises the question on initial allocation and revenue use a new with two interdependent issues: (1) how to generate extra public revenues for financing the re-launch of affected economies, and (2) how to accelerate the energy transition.

Against this background, this paper raises the question whether the COVID-19 global shock represents a new opportunity to overcome national resistance to implement revenue-raising ETS in China, South Korea and Japan. We analyze how urgent post-COVID policy concerns such as industrial re-location, border carbon-adjustment, Green Deal relaunch plans, and the need to find additional public revenue sources influence existing political barriers to the implementation of sustainable design features in GHG ETS, particularly full auctioning and earmarking of revenues for environmental, economic, and social purposes. We compare the three Northeast Asian countries' national response to the COVID-19 crisis and the impact these responses could have on current domestic barriers to the implementation of auction-and-earmarking-based GHG ETS. Methodologically we use document analysis with respect to national responses to the COVID-19 crisis and semi-structured expert interviews on the domestic barriers to implementing sustainable GHG ETS. As a major result, we provide policy recommendation on how to exploit post-COVID-19 opportunities for enhancing Northeast Asian GHG ETS and for making them more sustainable.

Biographical note

Dellatte Joseph is a PhD Candidate at the Graduate School of Economics of Kyoto University in Japan. He has a background in Economics, History, International relations and Environmental policy and studies barriers to sustainability in connecting carbon market policies in the East-Asian region.

18 – Pandemic Reveals Flawed Taxation Design: Lessons from Past Disaster Policy

Nancy E. Shurtz

The COVID-19 calamity is visiting widespread hardship throughout American society. The Federal government has responded with the Coronavirus Aid, Relief and Economic Security (CARES) Act of 2020. Its principal provisions feature a combination of direct aid to citizens, expanded unemployment insurance eligibility, and loans to businesses. While it is too early to ascertain ramifications of a policy response of unprecedented magnitude, we have a rich history of other disaster relief responses that provides instructive insight into the effectiveness of various policy regimes.

The most significant relief packages of other natural disasters have accompanied widespread destruction associated with hurricanes. In the aftermath of Hurricane Katrina in 2005, Congress passed the Katrina Emergency Relief Act. After the devastating season that brought us Harvey, Irma and Maria, we were given the Disaster Tax Relief Act of 2017. These acts (including CARES) are all similar in several respects. All provided some immediate relief in the form of direct assistance. All provided limited relief to middle class citizens by allowing unpenalized withdrawals from retirement plans. All contained aid provisions to businesses, with such common elements as the employee retention credit. Charitable giving was encouraged. However, the temporary nature of these measures provided little lasting stabilization.

Empirical evidence reveals wide disparity in the impacts of disasters across class and ethnic lines. The economically impoverished are most vulnerable because governmental aid is generally insufficient to facilitate recovery of meager asset bases. Middle class and minority populations are forced to aggressively invade savings and retirement funds, reducing their net wealth. Wealthy parties, however, able to utilize reserve assets, actually *increase* their net wealth in the longer term, by acquiring distressed assets at post-disaster discount values.

Warning shots have been fired. Untold millions are unemployed for an indeterminate period, most in lower income strata. Over 25 million have lost health insurance coverage. Lockdowns force more in-home market labor and prolonged school closures create acute childcare shortages. Even positive trends like cleaner urban air and lower traffic congestion are decidedly temporary phenomena. This pandemic reveals chronic structural deficiencies on basic functional levels.

Remedial policies to be adopted include an integrated basic income tax. Personal care and public service must be recognized in the tax system as *real* economic activities. Fiscal revenues must be raised primarily on the basis of equity. Environmental taxes should be part of such an integrated revenue and distribution scheme.

Biographical note

Nancy E. Shurtz, the Bernard A. Kliks Professor at the University of Oregon School of Law, received her B.A. from University of Cincinnati, her J.D. from Ohio State University and her LL.M. in taxation from Georgetown University Law Center. Before coming to Oregon she taught at the Wharton School of Business at the University of Pennsylvania. Before that, she practiced with the law firm of Ginsburg, Feldman and Bress in Washington D.C. Professor Shurtz teaches in the areas of taxation, estate planning, sustainable business, and women and the law, and has written and spoken extensively in these four areas. Professor Shurtz is currently the book review columnist for the *Estate Planning* magazine and Senior Editor of the Books & Media Committee of the Real Estate, Trust and Estate Law Section of the American Bar Association.

19 – The Impact of the Pandemic Emergency on the Objectives of Sustainable Development and the Tax Measures Adopted by the Italian Legal System

Caterina Verrigni

The emergency situation that involved the majority of the world's population has put everyone in front of completely new scenarios and imposed a substantial reflection also on the role that environmental taxation can play in this context.

Italy faced the emergency first with exceptional measures aimed at protecting citizens' health and slowing the growth of contagion, then steps were taken to support citizens and businesses to mitigate the economic and social impact of the emergency. .

The tax measures aimed at environmental protection, in part, were addressed to the energy sector, such as the 110% bonus (art. 119 and 121 of Legislative Decree 19 May 2020, n. 34) intended for specific interventions aimed at increasing the energy efficiency of buildings (ecobonus) and / or to reduce seismic risk (sismabonus), as well as relating to the installation of photovoltaic systems and columns for charging electric cars.

It is a tax deduction that the subject can use, as an alternative, as a discount on the consideration due to the supplier (who, in turn, recovers the amount as a tax credit that can be transferred to third parties such as banks, insurance companies, etc.).

Another incentive measure for the development of the circular economy is represented by the extraordinary contribution that does not contribute to the formation of income (art. 227, DL n. 34/2020) intended for micro, small and medium-sized enterprises that carry out eco-compatible activities operating in the Economic Environmental Zones (ZEA) established within national parks.

The Italian tax measures are in line with the European green deal, as a growth strategy developed by the European Commission in December 2019 which aims to transform the European Union into a modern and competitive economy with a climate impact close to zero.

Biographical note

Caterina Verrigni, Professor of Tax Law, University of Chieti - Pescara. He is the holder of the course of Tax Law. Speaker at national and international conferences: Jornadas Latinoamericanas de Derecho tributario, Lima (Peru), report "The tax officer in the excise system" (2014), "Energy taxation, environmental protection and state aids: tracing the path from divergence to convergence", Universidad San Pablo, Madrid, Jean Monnet Project 2015; The digital economy in the Italian and European tax system, Università Cattolica Milano; Mexico City, "International trade and multilateralism in the customs sector" report (2015); State aids, taxation and the energy sector, Madrid, Santa Cruz de la Sierra (Bolivia), report on The questions in the Italian tax system (2016), Public finance and tax measures for the cultural heritage", IBFD (Amsterdam) 2017. Participation in international research projects:" Reordinación y financiación de las competencias locales en a contexto de crisis económica "University of Girona (E) (2013 - 2016); Energy taxation and State aid control: looking for a better coordination and efficiency "2014 - 2016 University of Madrid; "The new elements of contributory capacity: the environment" (2015); PRIN 2013, Financial and tax interventions for the areas affected by disasters in the Italian system; PRIN 2015-2019 on "Public Finance and Taxation for the Protection and Promotion of Historical and Artistic Cultural Heritage". Author of over 70 publications.

20 – Impacts of Carbon Pricing Under Covid-19 in China
Xiang-Yu Wang, Chang-jing Ji, Mikael Skou Andersen, Bao-Jun Tang

China is the world's largest carbon emitter, and has been actively responding to climate change and emissions reduction by exploring various carbon pricing policies, such as the upcoming national carbon market and possible carbon tax in the future. The COVID-19 has a profound impact on economic production and energy use. This study applies the Computable General Equilibrium Analysis to describe the economic impact and emissions impact of different carbon pricing levels under the epidemic with C3IAM/CEEPA model. Research shows that, affected by the epidemic, China's GDP will drop by 3.73%-5.83% in 2020, and carbon emissions will fall by 4.23%-6.87%. If the power sector is further regulated with carbon pricing of 50-100 yuan/ton, GDP loss will increase by 0.02%-0.06%, and emissions will decrease by 0.05%-0.09%. The coal, construction, and transportation sectors have been greatly affected by the epidemic. The rebound in labor supply and consumption levels can greatly reduce the economic losses of these sectors.

Biographical note

Xiang-Yu Wang, aged 26, is a PhD candidate of Center for Energy & Environmental Policy Research in Beijing Institute of Technology and visiting student in Aarhus University, focusing on market-based instruments and environmental policy.

21 – Greening R&D Tax Incentives for an Environmentally Friendly Economic Recovery: Proposals from Spain

José María Cobos Gómez

The Covid-19 health crisis and its tremendous economic repercussions have drastically shifted governments' priorities when defining their short- and medium-term objectives.

In Spain, a country with high structural unemployment and considerable dependence on tourism, the impact of Covid-19 has been felt particularly strongly in human and economic terms. Faced with these new circumstances, the Spanish government has had to rethink the environmental tax measures it had been proposing in recent months. The following three examples are of note: firstly, the government has postponed its planned elimination of the tax benefits currently afforded to diesel over gasoline. Secondly, the tax on the use of air transport, which was opened for public consultation in February 2020, appears to no longer be a priority. And thirdly, the tax on items made with single-use plastic, on which a proposal limited to packaging was just presented, will not enter in force until July 1, 2021, if ultimately approved.

Despite the foregoing, there is a broad consensus that the crisis poses a clear opportunity to adopt economic stimulus measures that would allow for more sustainable and environmentally friendly growth. In particular, there are a number of sectors that could be key for reconciling economic recovery with sustainability, such as renewable energies, energy efficiency and electric vehicles.

To make this goal a reality, a firm commitment to R&D and to environmental investments is needed. Like other countries, Spain offers tax incentives to support R&D activities. However, the effectiveness of these incentives are a topic of debate, and there has been no shortage of proposals to restrict or even eliminate such tax relief.

Against this backdrop, we have the perfect chance to “re-green” tax systems, shifting tax incentives for R&D toward efforts such as eco-innovation and environmental investment. In this paper, we will analyze the lessons that can be learned from the Spanish experience and put forth proposals to improve the efficiency of such tax incentives.

Biographical note

José María Cobos (PhD) is a partner in the Tax practice area of the law firm Garrigues. He has extensive experience in the field of business taxation, restructuring transactions and advice for tax groups, as well as in personal and wealth planning, family business and tax inspection and regularization proceedings. He also provides advisory services relating to environmental taxation, R&D and environmental tax incentives and environmental accounting, to both private enterprises and public authorities. He has been an associate lecturer at Comillas Pontifical University since 2005, where he teaches subjects relating to taxation and accounting. He also lectures regularly on postgraduate courses at Centro de Estudios de Garrigues and Universidad Europea de Madrid. He has a Degree in Law and Business Administration (Comillas Pontifical University) and a PhD in Law (Cardenal Herrera-CEU University). He is a member of the Madrid Bar Association.

22 – The Different Tax Possibilities of Reaching the Environmental Challenges in a Post-Coronavirus Era

Elizabeth Gil García

The health crisis originated by the COVID-19 outbreak has led to the subsequent economic shock. Even if the effects of the pandemic will vary from country to country, a virus that does not know borders is globally creating social and economic costs, so coordinated actions are necessary. The OECD and the EU are considering new and existing ideas, especially in the area of environmental taxation. This is because environmental taxes (as well as consumption taxes) are regarded as less detrimental to growth than other type of taxes (especially, labour taxes).

The containment measures undertaken by the different countries and the uncertain situation generated have implied a reduction in consumption and in the investor confidence. Thus, a significant decrease of revenues is expected for the following years, so new tax measures may be considered. However, if ensuring a robust demand for consumption and investment is key to recovery from the COVID-19 outbreak (as the OECD has stated) stimulus tax measures may also be considered.

With the aim to mitigate the impact of the pandemic and to turn into a more resilient economy for future crises, environmental taxation appears then as one of the options to be explored at the same time that environmental-related objectives are attained. In Europe, as the Commission has recently stated, the green transition is a challenge even more important than before the crisis. In other words, such challenge has been accentuated with the crisis.

This paper will explore the different tax possibilities of reaching the environmental challenges in a post-coronavirus era where the generation of new revenue will be necessary to cope with the fiscal demands. On the one hand, environmental taxes can be a way to generate new resources, but the environmental goal should be clearly present. For this purpose, the proposals of introducing carbon taxes and taxes on non-recycled plastics will be assessed. On the other hand, tax incentives to foster environment protection may have a positive effect on taxpayers (e.g. to support environment-friendly investments) but a negative impact on the tax revenue.

The author will analyse both perspectives of environmental taxation taking into account the balance between the need to generate new resources as well as the need to stimulate environment-friendly consumptions and investments.

Biographical note

Elizabeth Gil García is an Assistant Professor at the Tax Law Department of the University of Alicante. She received her Law degree and LL.M. (with honours) from the U. Alicante in 2012 and 2013, respectively. She finished her Ph.D. at the U. Alicante in 2016, with the additional title of International Doctor. She is an IFA member and a member of the YIN Committee. In her research, she focuses on the taxation of R&D&I, environmental taxation, international taxation and EU tax law, having published around 40 papers in national and international books and journals. She has been a visiting lecturer at the Autonomia University of Madrid and a visiting researcher at the International Bureau of Fiscal Documentation, the Max Planck Institute of Tax Law and Public Finance and the Institute for Austrian and International Tax Law. Moreover, she has presented in several conferences both at the national and international level.

23 – To be or not to be? Taxing the Swedish Aviation Sector Before and After Covid-19

Yvette Lind

There have been several Swedish attempts to tax the aviation sector yet none of them were successful as they were considered to clash with EU law and/or international law. A new aviation tax was introduced in 2018 as a response to ongoing climate change and the need to reduce air travelling and co2 emissions. These two goals, reducing co2 and reducing air travelling, are not necessarily the same which may induce some confusion yet both are mentioned by the Swedish legislator in the preparatory works. The aviation tax was introduced by a government consisting of the Social Democrats and the Green Party. During the last general election (an unprecedented long process before a government could finally be elected with a majority vote), the aviation tax was very close to being permanently repealed as the Conservative Party strongly pushed for this. In fact, the tax was officially repealed in the budget that came into place before the question of the government itself was finally resolved. Later, when the Social Democrats and the Green Party managed to obtain a majority vote, they brought back the aviation tax.

Since the government, at the present time, is in a sensitive situation considering the support in the parliament, not to mention the ongoing pandemic and the effects it has had on the aviation industry it is of great interest to explore the future of it. Will it endure the great crisis, or will the Swedish Government decide to abolish it in order to incentivise the aviation sector post-COVID-19?

This paper aims to analyse the future of the Swedish aviation tax through a discursive analysis considering the legal, fiscal, and political context which in it subject to at present time.

Biographical note

Yvette Lind is an Assistant Professor in Tax Law at Copenhagen Business School. Doctorate in legal science, with a focus on income taxation and social insurance contributions in connection to cross-border working, from Umeå University (Sweden) in 2017. Followed by a Post-doc on fiscal state aid funded by the TOR/Skattenytt research foundation (Sweden) between 2017-2019. Scholarship holder at the Max Planck Institute for Tax Law and Public Finance (Munich) in 2019. Associate editor at the Nordic Journal of Law and Society (NJOLAS) in addition to guest editor for a variety of journals such as Florida Tax Review and Nordic Tax Journal. Areas of expertise primarily concern international taxation, state aid law, social insurance law, environmental taxes, and constitutional law.

24 – Assessing Public Aid for True Green Digital Recovery: A Matter of Tax Good Governance in the EU

Marta Villar, Amparo Grau

All around the world, the initial tax policy responses to face the COVID-19 crisis were focused on alleviating cash-flow problems through temporary measures. After this fully understandable urgent reaction, it is time to be proactive and consider how an update of systemic aspects could play a key role in the European economic recovery in line with the UN Sustainable Development Agenda.

When confronting the economic difficulties caused by the COVID-19 outbreak, the EU State aid regulation has been relaxed to enable EU Member States to take swift and effective action to support citizens and undertakings. Simultaneously, an attempt has been made not to neglect the necessary green and digital twin transitions in accordance with EU objectives. Besides, resource efficiency and the transition to a circular economy have been more prioritized on the policy agenda.

In this complicated context, the targeted and proportionate application of EU State aid control serves to make sure that any national support measure is effective in helping the affected undertakings during the COVID-19 pandemic, but also in allowing them to bounce back from the current situation. This broad and multifaceted perspective of the State aid regime is theoretically aligned with the so-called “Next Generation EU budget”.

This paper will explore the current use of tax incentives and other financial measures in Spain in contrast to other selected member States under the scope of the EU law. The research will lay down a framework to identify dynamic tax proposals to move towards these declared objectives, and, in parallel, will detect the available degree of adaptability of the State aid regime, according to its nature and purpose.

The main issue at the heart of the problem resides in designing better concomitant control mechanisms. This leads us to explore either the expected advantage derived from cumulative control tools through coordination of different institutional efforts, or through a sector-by-sector (e.g. car industry) analysis to check how the regular and transparent evaluation of the impact of financial aid measures is being reviewed -or could be improved. The intention is to ensure coherence between the newly ecologically driven digital strategies, and the tax measures compliant with traditional, well-defined limits to harmful competition in the EU legal framework.

Lack of proper control entails serious risks, such as the segmentation of the internal market and a solidarity breach. This could be in detriment of social cohesion within the Union and consequently deserves careful attention.

Biographical note

María Amparo Grau Ruiz. PhD in Law at University Complutense of Madrid (UCM); MBA at University San Pablo-CEU. She is Full Professor of Financial and Tax Law at UCM and Visiting Professor of Transnational Taxation at Northwestern University. Member of the United Nations Subcommittee on Environmental Taxation issues. Head of the IUS-SustentaRSE research group and leader of several projects of the Spanish National Research Plan, like AudIT-S (Auditing sustainability with IT) or Certifica-RSE (Certify CSR). She has been invited by DG TAXUD and DG GROWTH as external expert at the Platform for Tax Good Governance and the Fiscalis Program. Prof. Grau has received the Mitchell B. Carroll Prize by IFA; Prix Pierre Coppens by the Revue Pratique des Societes-Université Catholique de Louvain; and the Prize by the Spanish Royal Academy of Jurisprudence and Legislation.

Marta Villar is Full Professor of Tax Law at CEU San Pablo University (Spain) and lawyer practicing European and tax law in Madrid. She has published and lectured extensively on a broad range of topics,

including environmental and energy taxes. She holds a PhD degree (*Cum laude*) from the University Complutense of Madrid and a master's degree on European Law from the *Université Libre de Bruxelles*. Her professional experiences include from attorney advisor in the Spanish firm J&A Garrigues and legal advisor of EU and tax law matter for more than 30 years. She is member of the EC of IFA and was external consultant of the European Commission (TAXUD). Prof. Villar has led many research projects and enjoyed several researches stay at different universities abroad. She was the Conference Chair of the 19th GCET.

25 – Recovery as Quickly as Possible?
A Discussion of Recession and Recovery in the Economy with Stock Pollutants
Eiji Sawada

When financial crises, natural disasters, pandemics, or conflicts force the economy into a major recession, discussions will be held on how to recover as soon as quickly. What does ‘recovery as quickly as possible’ mean? How does it mean to proceed with recovery? In economics, we should focus on the net social benefits of economic activity and consider the maximization of the sum of its discounted present value to determine the path of efficient economic activity in the long run. The speed of recovery is determined as a result of solving such problems. We do not consider the problem of the fastest speed of recovery as the objective, because speeding up the recovery process does not come for free.

In this study, we run numerical simulations of recovery from a major recession in a hypothetical dynamic model of economic activity with pollution to examine whether economics can justify ‘recovery as quickly as possible’. It is not clear that everything will return to normal once the economic level returns to its original level. If the pollutants accumulate as stock pollutants, even if the economic level is the same, the level of the stock of contamination may be different. Rapidly increasing economic activity can also significantly increase pollution emissions in a short period of time. In particular, in the case of environmental problems where environmental damage is dramatically increased by crossing a certain threshold, quick recovery comes at a great cost.

Since the discussion in this study is based on the several hypothetical scenarios, our conclusions do not explain the actual recovery of a particular area as it is. Nevertheless, some of the findings on the property of quick recovery suggested by this study will provide important perspectives in the discussion of the recovery from a major recession.

Biographical note

Eiji Sawada is a faculty of economics at the Kyushu Sangyo University in Japan and is teaching environmental economics and microeconomics. His main research interest is the environmental economic theory and its application. Current research projects in progress are 1) A study on Regional Wetland Conservation Considering the Structure of the Flyway Network (2020 - 2022), 2) Comparison of Woody Biomass Economy between Japan and China: From the Viewpoint of Space, Region and Policy (2019 - 2021).

26 – Proposal for Brazil’s Tax System Transition Through Economy Degrowth in the COVID-19 Era

José Eudson Mota Félix, Sofia Laprovitera Rocha

Since its formal declaration as a pandemic by World Health Organization (WHO), COVID-19 has changed paradigms in all areas. It is expected that environmental taxation does not appear as an exception. Social isolation forced people to adopt to a new economic reality. Almost all production chains had their activities sustained by health protocols, keeping on only essential services as supermarkets or pharmacies. With this, society experiences a forced economic degrowth. Ironically, this effect of the health crisis can be the key to solution to another crisis, in the case, environmental and fiscal crisis. Literature exposes abundantly that human’s actions results in an excessively exceed of planetary boundaries. In other words, consumption and production levels are much larger than the amount of natural resources and their capacity to restore. Green capital is threatened for both present and future generations. Not by chance, Goal 12 from United Nations (UN) Sustainable Development Goals is concerned about ensuring sustainable consumption and production patterns. An economic stop like this, even if through a pandemic, can be a golden opportunity to ratify economics degrowth relevance and put into practice measures to ensure environmental and fiscal sustainability. Tax regimes based predominantly on consumption tend to be more sensitive to times of crises. If economy stops, naturally tax collection falls and the largest share of public finances get lost just at the time when they are most needed. Brazilian’s tax system follows this logic. Based on Organisation for Economic Co-operation and Development (OECD) data, Brazil’s taxation on consumption revolves around 44%, against 21% on income and only 6% on property. Besides, this model operates a regressive taxation scenario where the poorer ones pay more.

Hence the importance in starting, as soon as possible, the transition to a progressive and green tax system. Because through it it may be possible achieve fiscal justice, providing fundamental rights and, no less important, fulfill goals to build a resilience reality in Brazil strongly integrated to the preservation of the ecologically balanced environment.

Biographical note

José Eudson Mota Félix: Master’s degree in law at the Federal University of Ceará - UFC (2020). Researcher at the Environmental Taxation Group (GTA) of the Federal University of Ceará - UFC (2019). Researcher at the Contemporary Public Finance Study Group of the Federal University of Ceará - UFC (2019). Researcher in the Study and Research Group in Administrative and Tax Law (GEPDAT) of the University of Fortaleza - UNIFOR (2018). Specialist in Tax Law and Process at the University of Fortaleza - UNIFOR (2018). Public Servant in the Federal Court of Ceará - JFCE (2015). Bachelor of law from the University of Fortaleza - UNIFOR (2015). Volunteer monitor by the Voluntary Monitoring Program (PROMOV) of the University of Fortaleza - UNIFOR (2014). Public Servant in the Municipality of Fortaleza (2008). E-mail: joseeudson@jfce.jus.br.

27 – The Purposefulness and Serviceability of Support Schemes in View of the COVID-19 Crisis

Theodoros Iliopoulos

This submission focuses on the future of support schemes for renewable energy sources (RESSS) in the EU in view of the COVID-19 crisis. More specifically, the questions raised are a) whether the enactment of RESSS retains its purposefulness in the landscape emerged after the outbreak of the COVID-19 crisis; b) whether and how the supranational RESSS framework should change.

The supranational renewable energy policy has prioritised the attainment of a low-carbon energy transition. The Renewable Energy Directive 2018/2001/EU acknowledges that energy markets do not ensure a proper share of renewable energy sources in the energy mix and affirms that RESSS are important for the deployment of renewables.

However, the COVID-19 crisis has dramatically affected energy markets. Indeed, since March 2020 the share of renewables in many states has significantly increased. At the same time, the price of energy from fossil fuels has notably dropped, while renewable energy projects have managed to remain profitable.

This submission argues that RESSS remain purposeful and the COVID-19 crisis implications should be a spur to further accelerate the efforts for the energy transition. Besides, estimations forecast a post-COVID-19 economic rebound, which is expected to also lead to an increased demand for energy. It is thus suggested that the proper use of RESSS under the current circumstances can make renewable energy projects gain ground on conventional energy plants, can foster the rapid development of more innovative and costly technologies, and can place renewables in a position to cover much more of the energy demand of the ‘normal’ life, compared with what they did before COVID-19.

It is argued that the legal principles that govern RESSS could largely ensure their serviceability, but Member States should make a more careful selection of the projects that will be supported, so as to focus on those with a high potential. Furthermore, a political economy-related shift of mind should occur. Accordingly, the Commission only accepts the internalisation of negative externalities as a valid normative basis for the enactment of RESSS. It is suggested that the existence of positive externalities, or of barriers to entry and risk, and the lack of provision of merit goods should also be regarded as market failures that justify the enactment of RESSS, especially in view of the COVID-19 crisis that may exacerbate such problems, be it not in the very short-term. Such a broader approach will have symbolic value, but also practical results.

Biographical note

Theodoros G. Iliopoulos has studied law at National and Kapodistrian University of Athens (LLB degree in 2014). He has an LLM in “EU Law” from National and Kapodistrian University of Athens (2015) and an LLM in “Law and Economics” from Utrecht University (“cum laude”, 2016). He has worked as a lawyer and as a university teaching assistant. Since September 2017, he has been a doctoral researcher in energy and environmental law at Hasselt University. His research focuses on supranational renewable energy law. More specifically, his research examines what the legal framework for the promotion of renewable energy sources in the European Union is and how it should develop.

28 – A Taxonomy of Sustainable Activities to Orient Covid-19 Tax Measures to Environmental Objectives

Sébastien E. Wolff

In 2018, the European Commission presented a new plan for sustainable finance aiming at reorienting capital flows towards sustainable activities. Among other measures, the Commission announced the development of a Taxonomy of environmentally sustainable economic activities. Are included in the Taxonomy 140 groups of activities contributing to six environmental objectives: (1) climate change mitigation, (2) climate change adaptation, (3) sustainable use and protection of water and marine resources (4) transition to a circular economy, waste prevention and recycling, (5) pollution prevention and control and (6) protection of healthy ecosystems. Pursuant to the Taxonomy, all major European companies will be required to publish the share of activities complying with the Taxonomy.

Since the rapid outbreak of COVID-19 through the world, governments are facing requests from exposed sectors to benefit from tax reliefs or subsidies. The aim of this paper is to discuss the opportunity and the pertinence to refer to the Taxonomy for selecting the beneficiaries of tax measures and subsidies. On the one hand, energy transition and environment protection will be fostered by the selection of activities that contribute to one of the six objectives included in the Taxonomy; on the other hand, it will provide a unified definition of environmental activities for tax purpose and help to safeguard a fair competition across Europe when it comes to protecting the environment and combating climate change.

In the first section, the paper discusses the potential legal obstacles for using the Taxonomy as a reference for tax matters. For instance, as the first goal of the Taxonomy was to include environmental measurement in the financial sector, its use may be subject to limitations as harmonization at the EU level for tax matters normally requires unanimity among Member states. In the second section, the Global Block Exemption regulation for environmental State Aids is compared and tentatively aligned with the Taxonomy. The objective is to spot similarities and potential refinements in criteria settled to exempt certain tax measures qualifying as state aid and to bring more uniformity within European legal framework when environment is at stake. Finally, the third and last section lists different uses by governments of this new framework to design tax policies in response to the impact of the COVID-19 on the economy. This part explores different policy options, including requiring companies to conduct one of the listed activities in order to benefit from targeted subsidiaries and taking into account environmental data to calculate reliefs for income taxes.

Biographical note

Sébastien E. Wolff: Born in Brussels in 1986, Sébastien Eric Wolff holds a master degree in law, a master degree in economics (University of Louvain, Belgium), a specialization degree in tax law and in European taxation (ICHEC Brussels Management School, Belgium). Since 2011, he is a teaching assistant and PhD researcher in the field of tax law at the University of Louvain and at the Lunds Universitet (Sweden) under the supervision of Pr. Dr. E. Traversa. The topic of his PhD thesis relates to the implication of taxes in the achievement of the European climate transition plan. He is currently also an adviser to the Belgian government for sustainable finance and a professor at the Université de Lorraine (France) and the ICHEC Brussels Management School (Belgium). His areas of interest cover international and European tax law with a special focus on energy taxation and R&D policies.

29 – Is the Rhetoric of Environmental Taxes Still Current After the COVID-19 Pandemic?

A Policy Analysis

Amedeo Rizzo

The COVID-19 pandemic has significantly impacted the climate change debate. During the emergency, people's safety became the main and only item on the political agenda of many governments, especially those of the countries more severely hit by the virus. This naturally brought backwards the debate about climate change and environmental degradation. Additionally, the lockdown rules adopted by many of the most polluting countries has led to a significant drop in daily global carbon dioxide emissions (-17% in April 2020). Government policies have drastically altered the trend of energy demand around the world.

This phenomenon has led us to wonder whether environmental taxation is still a hot topic in the policy debate. The objective of this paper is to analyse the use of environmental taxes under a policy perspective, using the criteria of good tax design to detect whether the pandemic has affected – positively or negatively – their application and adoption.

As environmental taxes are Pigouvian taxes, their objective is to disincentivise a specific behaviour that produces negative externalities, taxing it. They can be considered “self-destructive” as their long-term objective is to annihilate their own taxable base. Therefore, the reduction of pollution is not an actual disincentive to the adoption of this kind of taxes.

Under the economic dimension, environmental taxation can often have counterintuitive consequences. Indeed, behind the “polluters pay” principle, which is the main motto of the advocates of these taxes, lies an important issue. The goods that are targeted by environmental taxes, like fossil fuels, are often fundamental to their consumers, and thus characterized by an inelastic demand. Therefore, producers can easily rebate the tax on their consumers, who will have to use these goods despite the higher prices. In the end, the economic burden can mainly fall upon a disadvantaged slice of the population, which has no alternatives to the use of the polluting good.

According to this evidence, the post-pandemic phase constitutes the perfect moment to adopt environmental taxes, as people have already reduced their use of fossil fuels. Smart-working allows a large number of individuals not to depend on petrol, for instance, when reaching their workplace. People will be able to get used to the idea of higher prices in a moment in which they are freer to decide not to adopt polluting behaviours and to find alternatives for the future.

Biographical note

Amedeo Rizzo works as Academic Fellow at Bocconi University and SDA Bocconi, School of Management, where he carries on research activities on international and European corporate taxation, tax policy, corporate tax governance and accounting. He is part of the Group of Experts on anti-corruption for Transparency International Italy and one of the founding partners of the audit company Imperium Audit SpA. He has previously worked for DG ECFIN at the European Commission and for the International Tax and Transfer Pricing Team of Pricewaterhouse Coopers, Milan. He also collaborated with Centre for Budget and Governance Accountability, India, on financial transparency issues in Asia-Pacific countries. Amedeo graduated magna cum laude with a Master of Science in Law and Business Administration from Bocconi and received a thesis award. Afterwards, he continued his studies with a Master of Science in Taxation at the University of Oxford.

30 – Repercussions of the Covid-19 Pandemic on the Development of Solar Energy in Brazil

Denise Lucena Cavalcante, Juarez Freitas, Paulo Caliendo

The Covid-19 pandemic broke out in a setting environmentally susceptible to the emergence of epidemics and pandemics associated with, among other factors, poor air quality, pathologies related to chemical pollution, and a growing loss of biodiversity. Amidst the severe environmental crisis and the difficulties created by the sanitary and economic setbacks following the unexpected Covid-19 pandemic, the resumption of the development of renewable energy production has become a major challenge. Both nationally and internationally, a considerable effort is necessary to rebuild economies and health care systems, with less regressive taxation and the concomitant inducement of huge environmentally undeferrable investments, particularly in solar energy, considering the highly favorable Brazilian climate. The discussion on the defrayal of an emergency universal wage also pertains to this setting. Thus, without precluding other structural reforms, the tax system would have to be redesigned to incorporate fair carbon pricing and the exemption of taxes directly or indirectly related to clean energy production. This is an ecosystemically adequate and proportional way of promoting, by way of sustainable taxation, a new and technology-intensive (big data, artificial intelligence, internet of things) model of production, consumption and post-consumption preordered to prevent increasingly likely future pandemics, considering that the current model, with its synchrony of structural flaws, is prone to tragedies of the commons. Based on these premises, we approach the perspectives of renewable energy production centered on solar energy in the setting of the Covid-19 pandemic. Though it is early to evaluate the impact of the pandemic on social and economic life, it is possible to envisage how it may affect environmental goals and policies in the Brazilian energy sector. The study also reviews specific advances in solar energy production in 2020, supported by reports of actual cases and experience.

Biographical note

Denise Lucena Cavalcante: Full Professor of Tax Law at *Universidade Federal do Ceará/UFC*. Post-doctoral degree from *Universidade de Lisboa*. PhD from *Pontifícia Universidade Católica de São Paulo/PUC/SP*. LLM at UFC. Head of the Environmental Taxation Research Group (UFC/Brazil). Government tax Attorney.

31 – Covid-19 and Implications on Climate Change Linking

Stefan Weishaar

In November 2019 the coronavirus (COVID-19) pandemic broke out, causing human suffering, fatalities and giving rise to an unprecedented wave of economic shutdowns that engulfed many countries around the globe. The health crisis thus swiftly turned both into an economic and financial crisis that was catching the world in an ill prepared state. Growth in the global GDP and global trade have both been on the decline since 2017, underlining the mounting trade tensions between major economies.

Given the economic difficulties companies face, the mounting public debt levels and the many years of expansionary monetary policy, it is expected that the current crisis will take long time to be resolved. There is the risk that the profound domestic economic and social problems overpower the urgency of the climate change crisis regularly emphasised by the IPPC and give rise to more unilateral and protectionist measures. This could endanger the increased climate change ambitions that several nation states and regions have been taking and could undermine the prospects of international climate change cooperation, in particular relating to linking of emissions trading systems. This paper therefore reviews the implications of Covid-19 for collaborative approaches to climate policies and analyses how susceptible ETS linking is to protectionism. The paper pays particular attention to the recent EU developments.

Biographical note

Stefan Weishaar: Professor of Law and Economics, Head LETS Link Emissions Trading Systems Research Group, Department of Business Law, European Law and Tax Law, Faculty of Law at University of Groningen.

33 – Covid-19 and Urban Mobility: has the Time Come for a Paradigmatic Shift? The Potential of Environmental Tax Policies in the Post Pandemic Age

Marina Bisogno

The pandemic opened new challenges for urban mobility, modifying citizens' habits in ways that are not always favourable to the environment. Physical distancing risks limiting collective transports in favour of private mobility with significant negative consequences in terms of air pollution and urban congestion. However, pandemic could act as a catalyst for a breakthrough on urban transports if public policies will be able to guide and stimulate the diffusion of environmentally friendly alternatives. Recent studies state that renewables energies are almost cheaper than fossil fuels in large parts of the world and this is one of the reasons why the shift to low emissions cars could be more easily implemented. Moreover new forms of mobility and micro-mobility are key elements of the post covid-19 transport strategy, if properly regulated and supported. In this sense, many European countries, including Italy, provide tax incentives for the purchase of electric bikes or scooters. Tax policies that will be adopted in the coming months at all levels of government – municipalities, regions, states and European Union - will determine decisively whether the unsustainability of the transport system will increase or, instead, if this will be a good opportunity to change and accelerate the right transition to more sustainable transport patterns. It would be a terrible mistake to use fiscal measures to mitigate the economic and social effects of the covid-19 leaving the climate crisis unresolved, because we will no longer have time to solve it. National governments and European Union should not squander this opportunity. This contribution aims at assessing how the pandemic is changing mobility choices, what taxation can do to avoid environmentally harmful practises and incentive more sustainable habits in transport sector in the post-pandemic age, and if these new forms of mobility will have implications on transport tax system. Its principles will have to take into account the need to recover government revenues to refund public debt without betraying policies goals like smart and clean mobility.

Biographical note

Marina Bisogno obtained a double degree Ph.D. in Tax Law with Doctor Europaeus certificate at the University of Naples Federico II and the University of Paris 1 Panthéon-Sorbonne. She is assistant professor in Tax Law at the University of Naples Federico II and fully qualified lawyer. Her principal line of research concerns environmental taxation from a legal perspective. She is member of some research projects on environmental matter and she is author of various publications in the area of taxation.

**34 – Healing the Achilles’ Heel? Or:
How to Include Transport Fuels in Emissions Trading Schemes:
Design Lessons from California for Germany’s New National Fuels ETS**
Sven Rudolph, Seiji Ikkatai, Elena Aydos, Takeshi Kawakatsu, Achim Lerch

Emissions from the transport sectors are the Achilles’ Heel not only of climate policy in general but also of Emissions Trading Schemes (ETS). Despite of emissions reductions in industry and electricity sectors in many countries, transport sector emissions have not significantly decreased, and ETS, with some exemptions, have mainly focused on large stationary emission sources. From 2021 onwards, however, Germany will phase-in a national ETS for heating and transport fuels, using a fixed-price escalator for the first years and earmarked revenue recycling to citizens. California has already gathered five years of experiences with fuels treatment in an ETS, which could help improve fuel ETS program design towards a more sustainable approach, in Germany and beyond.

Against this background, we will describe the design of the German National Fuels ETS and evaluate it based on ambitious sustainability criteria for ETS design. We will then analyze the California Cap-and-Trade Program with respect to coverage, cap size, initial allocation, price management, and revenue recycling as well as look at its results in order to derive design lessons for a sustainable German National Fuels ETS. We base our analysis on sustainability economics concepts of environmental effectiveness, social justice, and economic efficiency and, more concretely, on sustainability criteria developed for ETS design and evaluation.

We mainly conclude that ETS can be used for sustainably limiting transport sector emissions, but the respective design has to reflect the specifics of the sector. Germany’s new program could greatly benefit from immediately moving to full auctioning of capped emissions and re-distributing all revenues as an equal per capita climate dividend.

Biographical note

Dr. Sven Rudolph is Associate Professor at Kyoto University’s Hakubi Center / Graduate School for Global Environmental Studies, Japan. He holds a doctoral degree in economics from Kassel University, Germany. His expertise is in sustainability economics and political economy. Besides being a passionate university teacher, Sven has given numerous lectures at international conferences and has published his works in four books and a variety of renowned international journals. Sven has work experience as an environmental NGO campaigner, he has informed national governments in Germany and Japan, and he has extensively collaborated across discipline and national borders. Sven has presented annually at GCET since 2007 and has become a member of its International Program Committee. His current research is focused on linking domestic carbon markets in the Pacific region, multi-level governed carbon pricing in Canada, and the political economy of sustainable carbon markets across the globe.

35 – From the “Green New Deal” to the “Teal Deal”: How Can EU Principle Transform the “Environmental” into “Ecological” Taxation

Carlo Soncini

The recent pandemic crisis reveals the urgency of protecting both the health and well-being of humans and animals in its “natural” environment.

The need for a “great reset” emerged during the Pandemic emergency has been stressed by the president of World Economic Forum – Klaus Schwab – by whom “the pandemic represents a rare but narrow window of opportunity to reflect, reimagine, and reset our world.”

So environmental or better “ecological” taxation can play a wider role than ever before. This paper has a law approach but the opinion of economists cannot be disregarded.

A recent study of Oxford University affirms that fiscal policies can play an essential role in this (R)evolutionary perspective. Stern and Stiglitz deeper explain how can be addressed fiscal policies suggesting specific “Guidelines for policy-makers”.

So BIO-Earth and human development are strictly connected as mapped in another very important research that reveals clear opportunities in conserving Earth’s remaining intact terrestrial ecosystems. Indicating how global human influence maps, the authors affirm that “ecosystems that have low human influence are vital contributors to human well-being”.

Biodiversity has been, also, recognized by the EU as a human right, since provides the essential infrastructure support in life on the hearth and human development. So, a deeper and wider application of the European principles on “environmental” taxation or better “ecological” taxation (in its wider meaning): through promoting fiscal policies can stimulate a better diffusion of inclusive social justice together with the rights of the future generations, including health and environmental protection, according to non-discrimination and equality principle.

In this perspective at the European level is an important follow up of the purpose of European taxes (see Traversa, Edoardo; Bizioli, Gianluigi. *Solidarity in the European Union in the Time of COVID-19: Paving the Way for a Genuine EU Tax?*. In: *Intertax: international tax review*, Vol. 48, no.8/9, p. 743-753 (2020)). At the national level, the recent legislation has introduced new exemptions and reductions on ecological taxation, related to the “special” economic environmental zone (corresponding at Italian national park). These “Green (and Blu)” exemptions and reductions are not so relevant in the amount, at the moment, but that can be strengthened in the future according to European principles and legislation.

Biographical note

Carlo Soncini: University of Parma, Visiting Scholar Boston College Law School 2019-2020.

36 – The Contribution of Waste Economy to Circular Economy and Sustainability - A Quantitative Assessment for Austria

Ina Meyer, Mark Sommer

The circular economy has emerged as a key concept to a sustainable economic paradigm. It rejects the prevailing linear “take-make-use-dispose” economy and proposes a system based on circular resource flows which avoid excess primary resource extraction and waste production. By disposal of given waste streams and by recycling of waste into secondary raw materials, the waste economy already fulfils an important environmental function today: the substitution of primary raw materials with secondary raw materials. Primary raw material production is energy-intensive and drives the emission of greenhouse gases. Circular material efficiency strategies such as recycling of materials already in circulation reduce waste and shrink resource and energy demand. It is thus considered as climate mitigation strategy. In addition, it creates local employment and added value. The waste economy has – under certain price and policy conditions - the potential to spur the development of sustainability innovations such as circular business models, waste processing technologies or waste collection systems. It may thus support the transition to a resource-efficient and low-carbon economic model. But resource price volatility of secondary resources resulting from altered market conditions, i.e. due to the Covid-19 pandemic, represents a stumbling block for long-term investments in CE-oriented business models.

Against this backdrop the paper presents a quantitative assessment of the Austrian waste economy in terms of employment, value added and CO₂ emissions by taking a broader perspective including effects of substitution of primary resources with secondary resources in relevant industries including resource price sensitivity analyses.

Using the macroeconomic model WIFO.DYNK (Dynamic New Keynesian), adapted to link monetary and physical waste stream data for Austria, a comprehensive economic analysis of the waste and resource economy is carried out. The dynamic macroeconomic one-region and multi-sector (62 industrial and service sectors) model WIFO.DYNK applies extended input-output tables based on IO tables of Statistics Austria. In contrast to static IO models, WIFO.DYNK accounts for technology and price-driven changes in input factors for the industrial sectors: capital, labour, energy, domestic and imported goods. Model input data - waste streams such as metals, minerals and organic wastes, investment and operating costs of processing plants, collection and transport activities, prices of materials and model results regarding aggregated and sectoral value added, employment and CO₂ emissions are presented. Indirect and induced economic impacts as well as resource substitution effects from the waste economy are reported. Conclusions regarding drivers and barriers for a circular waste economy are derived.

Biographical note

Ina Meyer is senior economist at the Austrian Institute of Economic Research (WIFO) specialized in the field of climate change and sustainable economics, energy-economic impact analyses, scenarios analyses as well as interdisciplinary and transdisciplinary research approaches. Her current research comprise policy- and application-oriented research in resource efficiency in national and international projects. Ina studied economics at the Free University of Berlin and received her doctorate degree from the University of Potsdam in close collaboration with the Potsdam Institute for Climate Impact Research (PIK).

**37 – Tax Incentive to Electric Vehicles Technology:
A Brazilian Case Study**
Rafaela Cristina Oliari, Elena Aydos, Carlos Araujo Leonetti

This paper analyses the Brazilian incentive program for the automobile industry, introduced by Law n. 13.755, on December 10, 2018, the so-called “*Rota 2030*” (Route 2030). *Rota 2030* aims to support technological development, competitiveness, innovation, vehicle safety, protection of the environment, energy efficiency, and the quality of vehicles, trucks, bus, *chassis* with engine and auto parts, through the granting of tax benefits, such as rate reductions and deductions of research and development (R&D) expenses, for the next fifteen years. Participating companies are required to comply with standards established by the authorities regarding vehicular labelling, energy efficiency, technological performance of autonomous vehicles, and expenditures with R&D. The aim of this paper is twofold: firstly, to compare *Rota 2030* with its predecessor “*Inovar Auto*”, a program that was condemned by the World Trade Organization (WTO) in 2017; and secondly, to provide a contextual analysis of the Brazilian public policy in the energy sector. The paper concludes that: (i) in contrast with *Inovar Auto*, *Rota 2030* is not a protectionist program, and, in principle, it complies with the international trade rules, and (ii) although *Rota 2030* encourages the development of disruptive technologies linked to electric and hybrid vehicles, such as Electric Vehicle (EV) and Full Hybrid Electric Vehicle (FHEV), the technological development fostered by the tax incentives will lead to incremental technologies still connected to vehicles with the internal combustion engine (ICE), such as Micro Hybrid Electric Vehicle (micro-HEV) and Mild Hybrid Electric Vehicle (mild-HEV).

Biographical note

Rafaela Cristina Oliari: Federal University of Santa Catarina, Brazil.

38 – Decarbonising the Transport Sector: The External Costs Approach Applied to the Diesel Differential

Chiara Antonelli, Gionata Castaldi, Andrea Rampa

In many OECD countries, the so-called “diesel differential”, i.e. lower tax rates applied to diesel than to gasoline, is still into force.

This does not reflect both environmental and social external costs, as diesel emits more air pollutants per litre than gasoline, and diesel vehicles, due to the higher efficiency of their engines, might display a higher rebound effect in usage. Thus, the differential is not justified on this ground (Harding, 2014).

According to the official EU statistics, only Belgium and the UK (by February 2020) apply the same tax rate to diesel and gasoline. All the other countries still display lower tax rates for diesel (European Commission, 2020).

In Italy, current environmental costs (i.e. climate and well-to-tank costs) are still 10% higher for diesel than for gasoline. Despite this, the ordinary excise duty for diesel is 18% lower than gasoline. Moreover, the cost-coverage ratio, i.e. the amount of external costs internalised by current average taxes and charges, is around 66% (EC, 2019). Thus, a reform path would be desirable, but competitiveness and distributive issues are always at stake.

The current paper explores what could be the optimal tax rate for diesel and gasoline in Italy considering two dimensions: i) the external costs of road transport; ii) the distributional impact of diesel and gasoline.

Building on existing literature, the study proposes a new methodology for policymakers that provides an indicator of environmental effectiveness and the distributional impact of any envisaged reform. The scenario analysis unveils several interesting insights and concludes that the removal of the diesel differential *per se* is not enough to achieve environmental effectiveness.

The methodology is integrated with revenue effects including short and long-term price elasticities as proxies of beneficiaries’ reactions to the reform. Finally, the paper discusses several options for revenue reuse in the post-Covid era to decarbonise the transport sector.

Biographical note

Gionata Castaldi is currently official at the Italian Ministry of Economy and Finance. He works on topics related to environmental taxation. From 2016 to 2020, he was a senior Economist in Environmental Economics at the Italian Ministry of Environment – T.A. Sogesid. in the Environmental Economics Unit.

Specific areas of interests and activities include environmental fiscal reform, natural capital and accountability, sustainable finance, subsidies that have relevant environmental impacts.

He is part of the OECD Bureau at the Working Party on Integrating Environmental and Economic Policies (WPIEEP). Since 2016, he is the Italian delegate at the WPIEEP and the Joint Meeting of Tax and Environment Experts (JMTEE) at OECD. In 2017, he was part of the scientific committee for the fifth annual conference of the Italian Association of Environmental and Natural Resource Economists.

In 2012-2015, he was a full-time Ph.D. student in Environmental Economics at the University of Rome “Tor Vergata” and achieved his Ph.D. on March 2018. In 2011-2012, he was an intern at the Italian National Procurement Agency, Research and Development area, where he conducted research activities on the electronic market of public bodies for Italian e-procurement.

39 – Circular Economy and Tax Policies in the Age of Covid-19: Inputs from Comparative Experiences

Silvia Giorgi

Although official empirical data on producer and consumer behaviors are not available yet, some lawmakers seem to consider Covid-19 pandemic as an opportunity to implement environmental policies. In particular, in the first emergency phase, countries tend to increase tax expenditures aiming at combining economic goals with green ones (e.g. tax breaks for energetic efficiency should impact on building sector; tax incentives for buying bicycles should affect sustainable mobility and green productions).

Nevertheless, tax measures seem to be random and to show the lack of structured and farsighted policies.

Instead, moving from the emergency phase to the economic relaunch, the random measures which have been introduced so far are insufficient and, probably, inefficient for redesigning environmental taxation tools and effectively affect taxpayers' behaviors. For instance, in Italy, no significant incentives or disincentives for affecting producers' behaviors have been adopted, while circular economy is generally considered a crucial and unwaivable goal in the political debate both at the European and national level.

Against this backdrop, in the first part of the paper some of the most relevant environmental incentives which have been introduced for facing Covid-19 economic crisis will be analyzed, considering and comparing some European national experiences. The investigation will involve: the nature of the measures (taxes or subsidies); their time validity (permanent or temporary); their features and purposes; their likely significant effect on the achievement of the environmental objectives.

In the second part of the paper, moving from such an analysis, some "virtuous" experiences will be identified: the impact on the structure of production and consumers' behaviors with specific reference to circular economic goals will be evaluated. With a perspective view, some inputs for effectively promote circular economy, using both taxation and tax expenditures, will be drafted.

Biographical note

Silvia Giorgi is Ph.D. in Tax Law and her main topic of research involves Business Taxation and Environmental Taxation. She has been Postdoctoral Research Fellow and Lecturer in the taxation field both in Ph.D. courses and university classes.

Silvia has been Member of many International Research Project on Cultural heritage and Environmental Taxation and has attended several international and national conferences on these topics. Her publications appeared in peer-refereed Italian scientific journals and international books and she published a book on Intangible Assets in Business Taxation in 2020. She is also editor of A-ranked Italian scientific journals such as *Rivista trimestrale di diritto tributario* and *Rivista di diritto tributario internazionale*.

40 – Towards a Green New Deal for South Africa –
Exploring the Intersect of Covid-19 and Climate Change
Lee-Ann Steenkamp

South Africa's primary energy supply is dominated by coal, resulting in this country ranking in the top 15 carbon dioxide (CO₂) emitters globally. As part of its commitments under the Paris Agreement on Climate Change, South Africa enacted the Carbon Tax Act on 1 June 2019. Although the first reporting period was set to conclude on 31 May 2020, the COVID-19 impact on the country's economy and fiscal systems has resulted in the government extending the deadline by three months.

Prior to the outbreak of COVID-19, South Africa was experiencing its second recession in recent years. The country's high unemployment rate, deepening structural inequality and credit rating downgrades worsened the socio-economic consequences of the pandemic. In response, the government announced a R500 billion stimulus package. Notwithstanding the undeniable necessity of such a reallocation of funds, it does mean that future expenditure on and subsidies of climate change-related endeavours will be severely restrained.

It is evident, then, that a longer-term solution is required to build a more ecologically and socially just future. Across the globe, momentum has been growing for governments to implement a "Green New Deal". Such a government-led program would address the intertwining issues of climate change, human rights, economic justice, and a sustainable transition to a post-COVID-19 world.

It is the purpose of this study to explore how South Africa could go about implementing such a deal. To that end, the following climate policy recommendations for addressing the intersect of COVID-19 and climate change responses will be examined.

First, a combined collaborative approach is required between government, business, NGOs and society. Policies cannot be viewed in isolation but should address the joint effect of climate change and the pandemic; for example, education, health and sustainable agriculture.

Second, greater emphasis on supporting cleaner transport modes is needed. South Africa does not have well-developed, safe and reliable mass transit systems. The concomitant impacts come at great cost to economic productivity, public health and emissions.

Third, a just transition to sustainable development is necessitated by a post-pandemic recovery plan. This could be directed towards more local employment, less exposure to fossil fuels, support of innovation and improvements to human and environmental health.

Last, none of the above will be possible without concerted political will to enter into a Green New Deal.

Biographical note

Lee-Ann Steenkamp is a senior lecturer in taxation at the University of Stellenbosch Business School, South Africa. She holds a Master's degree in Taxation and is a registered Master Tax Practitioner (SA). Her research focuses on 'green tax' issues, including biodiversity conservation, the taxing of energy use in developing countries and most notably South Africa's new carbon tax. Lee-Ann obtained her PhD in Public Law from the University of Cape Town, wherein she examined the transition from the old Kyoto Protocol to the new Paris Agreement on Climate Change. Lee-Ann has published numerous papers in peer-reviewed journals and is a contributing author to a number of books and university-prescribed textbooks. Lee-Ann is also a member of the Carbon Tax subcommittee of a prominent professional accounting body in South Africa, which makes policy recommendations to National Treasury.

41 – Disaster Assistance and Carbon Pricing in Canada: Lessons for Public Health Emergencies

Tracy Snoddon

The COVID-19 pandemic has dealt a significant blow to the global economy. Lives have been lost and many people have suffered serious illness and hospitalization. Economies have been locked, leading to job loss, the shuttering of businesses, and the closing of borders. Billion dollar support programs have been implemented to help individuals and business weather the storm. Economies are slowly opening up but the aftereffects of the pandemic will be felt for some time.

In Canada, governments have been criticized on the state of their emergency preparedness for a public health crisis such as COVID-19. Among the complaints are a fragmented provincial health policy landscape, a lack of intergovernmental coordination and federal leadership, and an insufficient stockpile of emergency supplies.

The current pandemic and governments' response to it has focused attention more generally on the question of how to prepare for and cope with disaster. This question applies not only to a public health emergency such as a contagious disease outbreak but also to extreme weather events such as floods and hurricanes, environmental disasters, terrorist attacks and other man-made disasters. Developing policies to prepare for and cope with disasters is challenging. The losses associated with, and the frequency of, future events are uncertain and difficult to predict. The benefits and effects of adaptation or mitigation investments are sometimes uncertain. The effects of disasters can spill over local, subnational, and national borders. Multiple regions and multiple levels of governments may be involved. This last challenge is particularly relevant for Canada. The federation is highly decentralized and the constitutional division of powers is somewhat murky when it comes to some areas such as public health and the environment. The intergovernmental financing, coordination, and political challenges that result can further impede the development of efficient policies.

The paper has two objectives. First, Canada's experience with natural disaster assistance and carbon pricing is assessed. The analysis considers how the design of these policies contributes to or lessens intergovernmental financing, coordination and political challenges associated with addressing problems in these areas. Second, the paper uses insights from the case study analysis to make recommendations on how to improve Canada's ability to prepare for and cope with public health emergencies in the future.

Biographical note

Dr. Snoddon, an Associate Professor of Economics at Wilfrid Laurier University, is an economist who specializes in public policy challenges in federal settings. Current research focuses on climate policy and measures of risk, disaster financing in Canada, and fiscal federalism challenges relating to carbon pricing and equalization. Her research has been published in various outlets including *Canadian Public Policy*, *Economics of Governance*, and *Policy Options*.

Her recent paper with Dr. Trevor Tombe, "Analysis of Carbon Tax Treatment in Canada's Equalization Program", was awarded the Vanderkamp Prize for best CPP article in 2019. Other recent publications include *The Rocky Road to Canada-wide Carbon Pricing*, C.D. Howe Institute E-Brief (2018), *Carbon Pricing and Intergovernmental Relations in Canada*, with Debora VanNijnatten, IRPP Insight No. 12 (2016), and *Carbon Copies: The Prospects for an Economy-wide Carbon Price in Canada*, C.D. Howe Institute E-Brief (2016).

43 – Using Fees to Improve Chemical Management in Europe

Daniel Slunge

As COVID-19 strains fiscal budgets both in terms of lower revenues and higher expenditures, regulatory agencies may need to find innovative ways to finance their activities. The European Chemicals Agency (ECHA) is furthermore struggling with loss of revenues due to Brexit as well as lower revenues from registration fees after the REACH registration deadline 2018. In this explorative paper we discuss how fees can be used to both generate revenue and improve chemical management in Europe. In particular we analyse how fees can be used to incentivize information provision and a phase out of substances of very high concern (SVHC).

Despite the “No data no market” principle in REACH, the quality of the mandatory registration dossiers companies need to submit before placing new substances on the market is in many cases incomplete. Based on a review of the current cost of non-compliance, we suggest that this can be raised by increasing both the probability of detection and the sanctioning fees.

In order to attain an authorisation for the use of a SVHC, REACH requires companies to prove that the benefits of continued use are larger than the costs. However, due to asymmetric information, it is difficult for the regulator to know if the information provided by the companies is correct. Based on a review of the estimated costs and benefits in 114 socio-economic analyses submitted to ECHA by companies seeking authorisation we discuss design options for an authorisation system providing effective incentives for truthful reporting of costs and benefits. One option is a revised authorisation fee being a share of the SVHC substitution costs reported by companies seeking authorisation. We find that an authorisation fee of 1000 EUR/tonne SVHC could lead to a phase out of 49-71% of the total amount of SVHCs under authorised use on the European market.

Identifying and reducing the risk posed by SVHCs is central to REACH. However, 13 years after the regulation entered into force only around 250 substances have been identified as SVHCs and the use of these substances is in many cases still substantial. Based on read across, substances with a similar chemical structure as a known SVHC can be identified and flagged as a suspected SVHC. We discuss how a differentiated fee on the use of SVHCs and suspected SVHCs can be designed. Finally, we estimate the effects on revenue generation and on the use of SVHCs from the suggested fees.

Biographical note

Daniel Slunge, PhD, is a health and environmental economist doing applied research on valuation, risk perceptions and policy instruments related to chemical management and vector borne diseases. He is based at the Gothenburg Centre for Sustainable Development at the University of Gothenburg. He is very active in the research-policy interface and combines research with advisory work for national and international organisations such as the World Bank, UNEP and the Swedish Chemical Agency. He recently served as an expert on the Swedish governmental inquiry on a tax on chemicals in clothes and shoes and in the writing of the Global Chemicals Outlook II report.

44 – 100 Years of Externalities

Astrid Ladefoged, Mirka Janda

A hundred years after Arthur C. Pigou's call to put price on externalities, a number of different theoretical and methodological approaches to internalisation of external costs later, the polluter pays principle has still not resulted in a real change of price signals.

In the European Union (EU), competences in the taxation field generally remain with Member States. Taxation is the last EU policy area where decision-making relies on unanimity, which makes EU level coordination a lengthy and not always successful process. To date, EU tax policies have mainly focussed on targeted deliverables responding to specific problems. There is no common and holistic vision for EU tax policies that is shared by all Member States. Coordination is even harder when we move to the global level.

With the Covid-19 crisis, tax revenues have come under immense pressure. Part of our response to the crisis needs to look at taxation in a systemic and structural way. Future-proof tax systems needs to address current and emerging challenges brought by not only the Covid-19 crisis, climate change and environmental degradation, but also by globalisation, digitalisation and ageing of population. These challenges need to be addressed through systemic reforms rather than a piece meal approach addressing different issues in isolation. Such reform(s) need to take into consideration the need to ensure sustainability of tax revenues, support the transition to a green economy, ensure social justice for citizens and competitiveness for business. Shifting taxation from labour and business to unsustainable consumption and pollution has a potential to address all these aspects, in particular if coordinated at EU and international level.

Countries should step up their effort in putting prices on externalities with due regard to adverse social impacts. In the EU, the already announced revision of the Energy Taxation Directive and ETS and introduction of a Carbon Border Adjustment mechanism could be important elements introduced in a context of broader tax reforms for which the European Green Deal calls.

It is in the strong interest of Europe to support and cooperate with our international partners on also taking forward the necessary sustainable fiscal reforms outside Europe. There is popular perception that the regressive effects make environmental taxes undesirable despite their environmental benefits. Despite the perception of regressivity, if properly designed, the effect of reforms on the poor can be offset by using the revenue for redistributive expenditure, similar to other taxes.

Biographical note

Astrid Ladefoged is Head of Unit for Sustainable Development Goals, Green Finances & Economic Analysis within DG Environment at the European Commission. Her unit works on developing environmental strategy through the implementation of the European Green Deal and through better regulation and economic analysis. The unit promotes implementation of the UN Sustainable Development Goals and ensures co-ordination of environmental issues in G7/G20 and OECD processes. It drives the integration of environment and resource efficiency considerations into EU policies and the promotion of market based instruments. It contributes to the promotion of green jobs and skills and greening the financial system. Astrid has more than 20 years of professional experience with the EU's green policies including at national level in a ministry, at European level in a think-tank and finally for more than 15 years in the European Commission in several departments and in the cabinet of former Commissioner Vella.

**45 – Fixing Long-term Price Paths for Fossil Energy –
the Optimal Incentive for Limiting Global Warming**
Stephan Schulmeister

Neither carbon taxes nor emission trading schemes can ensure that the costs of emitting greenhouse gases, in particular CO₂, will steadily rise. This is so because the effective emission costs for households and enterprises consist of the *overall price* of the good the use of which causes emissions as a *by-product*. If, e.g., global fossil energy prices decline faster than a carbon tax or the emission permit price rises, then the final good and its use become cheaper. The paper documents the extent of and the main reasons for the instability of fossil energy prices as well as of CO₂ emission prices (including the role of “technical trading”). Due to this instability, carbon taxes and trading schemes cannot anchor the *long-term expectation* that the effective emission costs will *rise continuously*. Such an expectation, however, is a prerequisite for steadily growing investments in energy efficiency and/or renewable energy because their profits mainly consist of the saved fossil energy costs (“opportunity profits”).

This paper presents an alternative approach taking the EU as example: The EU sets a path of steadily rising prices (e.g., by 5% per year) of crude oil, coal and natural gas by skimming off the difference between the EU target price and the respective world market price through a monthly adjusted quantity tax. Instead of the prices of fossil raw materials, the (implicit) quantity tax should fluctuate (mitigated by a buffer fund). In this way, the uncertainty about future price developments of crude oil, coal and natural gas and, hence, of the effective emission costs would be eliminated. Firms and households could calculate the profitability of investments in avoiding carbon emissions. Expected profits would be the higher the earlier the investments are made. At the same time, such a tax would ensure a uniform EU carbon price in all sectors. Given the size of the EU import bill for fossil energy, the amount of potential receipts of such an implicit and flexible CO₂ tax would be (very) huge. Part of the revenues could be used for large-scale projects like the thermal refurbishment of the entire building stock in the EU or the creation of a trans-European network for high-speed trains, another part should offset the burden of energy price increases on low-income groups.

This proposal and its impact would mitigate not just global warming but also the economic and social effects of the (post-)Corona crisis.

Biographical note

Stephan Schulmeister: Senior Fellow at the Austrian Institute of Economic Research 1972 to 2012. Visiting scholar at New York University, Wissenschaftszentrum Berlin, University of New Hampshire, International Monetary Fund. Key area of research: Instability of financial markets and its impact on the real economy.

47 – Building a Robust Energy Tax Directive?

Herman R.J. Vollebergh

This paper discusses EU energy tax reform against current challenges and ambitions such as the corona crisis and the Green Deal. Using well-known principles of excise taxation in a common union I propose an energy tax structure that balances ambitions of the single (energy) market with the need for corrective taxation due to challenges such as climate change, circular economy ambitions and other more local externalities related to air quality and congestion. Using this evaluative framework, I illustrate the challenges for the current Energy Tax Directive and discuss reform options to better align the Directive towards this structure. Also, prominent issues in international excise design such as corrective border adjustments both within and outside a common union will be discussed.

Biographical note

Herman Vollebergh is professor of Economics and Environmental Policy at Tilburg University (Department of Economics, Tilburg Sustainability Centre and CentER) and Senior Research Fellow at the PBL Netherlands Environmental Assessment Agency. His current research covers a broad range of topics including the design and effects of market based incentive mechanisms, like taxation, subsidies and tradeable permits in the energy or waste market, (environmental) cost-benefit analysis, long run relationship between emissions and income, and the effect of environmental policy on technological change. Finally, he is strongly involved in applying his academic work to the policy community including the OECD, European Union and the Dutch government.

48 – Tax Policy and Environmental Concerns in a Post Covid-19 World: Perspectives from Brazil

Ligia Barroso Fabri, Daniel Giotti de Paula

As the world cautiously readies itself to deal with the economic fallout of the Covid-19 pandemic, governments turn to the fiscal demands arisen from lockdown measures which saw vast sectors of the economy completely paralyzed for months. Brazil attempted to hold off a complete shutdown of the workforce, however, even if it has adopted this (questionable) strategy, the economic impacts are already significant, so there is no doubt that economic recovery measures will be the center of attention in the coming years.

In the aftermath of a turbulent global crisis, tax law policies have often provided efficient tools in steering economies back into recovery, and a post-Covid-19 scenario will certainly be no exception. Considering how often issues of economic output outweigh environmental concerns in policy development, it is of the utmost importance that forthcoming recovery movements do not hinder the hard earned green initiatives, but rather interact with and are mindful of such ongoing efforts. To that end, fiscal policies enacted under the umbrella of economic recovery ought to be subject to additional scrutiny vis-à-vis their impacts on environmentally focused issues.

The proposed paper intends to contribute to the subject matter at hand, as it will analyse preliminary measures adopted by Brazil in the wake of the pandemic, thus assessing if and how they coordinate with current environmental policies. To that end, issues regarding tax expenditures, state aid rules and possible new tax levies and policies will be sought out and compiled in order to paint an introductory picture of the new directions taken by the country. The intended goals of the paper are two-fold: a) to determine how big a role environmentally oriented policies will play during the economic recovery (e.g. via new environmental taxes in lieu of tax expenditures), and b) to assess whether the novel fiscal concerns – as well as the resulting measures designed to resolve them – will carry direct or indirect effects on the current state of environmental policies.

Biographical note

Lígia Barroso Fabri - Bachelor of Laws (PUC/MG). Master in Procedural Law (with a focus on Tax Law) by the Federal University of Espírito Santo – UFES. Specialist in Tax Law from PUC Minas. Member of the Environmental Taxation Study Group of the Federal University of Ceará (UFC). Substitute Counselor of the Council of Tax Appeals of the Municipality of Vitória. Lawyer with expertise in Tax Law and Customs Law. e-mail: ligia.fabri@yahoo.com.br

49 – The Impact of Covid-19 on Brazilian’s Municipal Environmental Tax Revenue Bernardo Mendonça Nobrega, Jean-Raphaël Gros-Désormaux

Brazil is a country with a plentiful fauna and flora. It has part of the Amazon Forest in 9 of its 26 states covering an estimated 61% of the nation’s territory, the Atlantic Forest in 15 states, and over seven thousand kilometers of shorelines. But this rich environmental diversity comes with a financial burden for the Municipalities.

The Brazilian Constitution stipulates, among other things, that all 3 federative entities (Union, States and Municipalities) are responsible for environmental protection. On the other hand, the Constitution also determined the entities tax competences amongst the entities, and, on this distribution, the Municipalities got the lowest tax revenue possibility between them.

This created a problem for the Municipalities that now need to handle the burden of environmental protection without the resources to do so. To solve this problem, many Brazilian Municipalities created Environmental Taxes and charges. Of the Environmental Taxes created, this paper aims to focus on Touristic and Natural resources Taxes. Those taxes are mainly used by Municipalities with natural beauties and high tourist circulation, charging visitors entering the area.

These taxes have a fiscal and an extra fiscal objective. In stipulating a financial burden for the visitor, it controls entry and, therefore, human caused pollution, while also serving as a source of revenue, in order to deal with environmental protection.

With the COVID-19 crises, lockdowns measures reduced tourism and circulation of people. At the same time, while this situation seems to contribute to the reduction of greenhouse gas emissions, improvements in air and water quality, and lower human pressures on wild species and locations, it results in a lack of revenue coming from these types of environmental taxes.

In this context, this paper aims to study the importance of the revenue from environmental taxes and charges for Brazilian Municipalities fiscal budgets, using as example those raised from touristic areas and considering the COVID-19 scenario.

Considering the uncertainty of COVID-19 crisis and its consequences to tourism and the pressure over natural resources, it is relevant to discuss the main taxation criteria of this kind of municipal taxes, its role in environmental policy and its budgetary impact.

We conclude that events like COVID-19 crisis must be considered in the (re)design of environmental taxes, specially within Brazilian particularities.

Biographical note

Bernardo Mendonça Nobrega: Master in Law, Public Policy and Regional Development by the University Center of the State of Pará - CESUPA. Specialist in tax law by the Brazilian Institute of Tax Studies - IBET. Professor at the Law Department of Estácio de Sá University and at the Brazilian Institute of Tax Studies – IBET. Lawyer.

51 – Europe and Public Aid for the Economic Recovery: Solidarity, Level Playing Field and (Green) Conditionality

Jerónimo Maillo

Europe has been strongly hit by the Covid19 virus. Although the economic crisis is a problem for the whole of the EU, some countries, such as Italy and Spain, had been more strongly hit than others, both at the level of public health and the related economic impact. All the countries have needed (and are going to need) an increase in public expending to better face the public health crisis and, above all, the economic recovery.

Within the European Union, this increase in public expending may come from the EU and the national budgets of the MS. In this regard, the two key issues that are being discussed and not yet fully designed are: first, solidarity between the MS (from the EU to its Members) and second, conditionality of the public aid. Both will be the main focus of this contribution.

Solidarity is more essential than ever. It has to play a much more important role than in the last financial crisis. First, because hopefully we have learned many lessons and better prepared. Second, there is no MS to blame and thus no moral risk. We all were surprised by the virus and initially underestimated its importance, and all MS have taken similar measures to face it. Third, the asymmetry is not only because the virus has impacted harshly in some MS than others but because not all MS have the same financial capacity; obviously some (eg Germany) can provide more funding to their companies. Fourth, we are in a Single Market and this means that all these companies are competing in the same market. The flexibilisation of European control of State aids during the pandemic has created a serious risk of breaking the level playing field, distorting competition and generating unbearable economic and political tensions. This risk can only be alleviated by a more intensive aid from the Union.

Conditionality of EU and MS aid is currently being discussed and a very controversial issue: not so much conditionality on fiscal discipline -as in the previous crisis- but on certain criteria that could push forward common goals such as Europe digitalisation or, very specially, the greening of the economy. To a certain extent, the goal might be making the crisis become an opportunity.

This contribution will look into the increase of public funding (both EU and national) in Europe and will try to understand and assess its level of solidarity and of conditionality, and how it can contribute to reinforce the future of the European Integration project and some of its priorities such as the green economy.

Biographical note

Full Professor of European Union Law at the Law School and Head of the Public Law Department (CEU San Pablo University, Madrid). Senior Research Fellow at its Royal Institute for European Studies.

He has been Fulbright Visiting Scholar at Harvard Law School (2017-2018) and Jean Monnet Professor. He has published extensively in the area of European integration. His main field of specialization is the Single European Market, EU Competition Law and market regulation. He is currently leading a Jean Monnet Network on EU-China Relations in the field of trade, climate change, competition and market regulation.

He holds a Law Degree from Salamanca University, and a LLM with honors in EU Law from the College of Europe (Bruges). He was a PhD researcher at the European University Institute (Florence, Italy) for 2 years and is Doctor in law with honors (European Doctorate) from CEU San Pablo University.

**52 – An Analysis of the Drivers of Substitution of Dangerous
Flame-Retardants in Electronics in Sweden**
Jessica Coria, Marion Dupoux, Daniel Slunge

Reducing the risks that chemical substances may cause for people and the environment can be achieved by the substitution of hazardous chemicals by less hazardous alternatives. While the willingness to switch to safer chemicals has been studied among consumers of products, there is a lack of research on what drives the substitution of chemical substances by manufacturers and intermediate firms. In this study, we surveyed companies that sell, distribute and/or import electronic products in Sweden to investigate firms' preferences and behavior towards the use of safer alternatives to flame-retardants in electronic appliances placed on the Swedish market. By means of a choice experiment, we are able to identify the relative importance of four levers for chemical substitution, namely health and environmental effects of flame-retardants, chemical regulations in Europe, the final price of the product and a label that discloses tax reductions connected to the use of safer flame-retardants. The data collected allow us to determine firms' willingness to pay to switch to safer alternatives, and compare this willingness of pay to the compliance cost of existing regulations such as the Swedish tax on electronics and the European Chemical Regulation REACH. Our results also allows us to inform policy makers how to better foster chemical substitution towards safer chemicals and even test the effect of complementary market-based/information disclosure policy interventions that increase the effect of current regulations.

Biographical note

Jessica Coria is Associate Professor at the Department of Economics, University of Gothenburg. Her main research interest is the optimal design of environmental policies. For that purpose, she does both theoretical and applied work, though most of my work is within modeling of environmental regulation.

53 – Climate Policy Leadership and Competitiveness Post Covid-19: Strengthening Carbon Prices for Industry

Luisa Dressler, Florens Flues, Jonas Teusch, Kurt Van Dendet

Carbon pricing helps to align investment and consumption choices with climate objectives, but the political economy of carbon pricing is challenging. Carbon prices to date are too low to incentivise deep decarbonisation for most energy users and other emitters of greenhouse gases. The presence of fossil fuel subsidies sometimes implies that carbon prices are effectively negative. Policies seeking higher carbon prices for industry have raised competitiveness concerns, and these have led to design choices that sometimes blunt the effectiveness of carbon prices. This raises the question of how best to use carbon pricing as part a sustainable economic recovery despite the challenging circumstances during and after the pandemic.

The stark reductions in economic activity have prompted strong fiscal policy responses, focusing on the immediate need to provide liquidity and gradually also mitigating solvency risks and anticipating on a need for economic stimulus in the post-pandemic recovery phase. It will be increasingly important to seek cost-effective approaches that align with longer term objectives, including decarbonisation. Reconciling short term stimulus needs with longer term objectives is not necessarily straightforward, but lessons from the global financial crisis could be drawn to design viable options and create synergies.

Carbon pricing can be part of tax reforms after the pandemic. Increased awareness of the need to strengthen resilience has led to calls for increased spending on public goods and concomitant higher tax revenue. There also may be pressure to increase the progressivity of taxation as part of fair burden sharing. Also, in some countries, debt to GDP ratios may rise by enough to require efforts at fiscal consolidation at some point. Exceptional times may provide a window of opportunity for broader fiscal reform, which could facilitate arriving at a politically and socially acceptable reform package.

The policy paper aims to discuss the interaction between carbon pricing and the policy dynamic triggered by the Covid-19 crisis. The paper will make suggestions for updating the carbon pricing debate for the present context. Special focus will be paid to carbon pricing for industry in a world of asymmetric climate ambition.

Biographical note

Jonas Teusch works as Economist at the OECD's Centre for Tax Policy and Administration. Based in the Tax and the Environment Unit of the Tax Policy and Statistics Division, he works on energy taxation, carbon pricing and the assessment of environmental tax reforms. He is the lead author of the recent OECD report "Taxing Energy Use 2019: Using Taxes for Climate Action". Jonas is a former researcher at the Centre for European Policy Studies" and holds a Ph.D. in Economics and Management from Université catholique de Louvain & Université de Liège, Belgium, and a Master's degree from McGill University, Canada.

54 – Internet of Things and the Design of CO₂ Taxes for Non-ETS Sectors

Álvaro Antón Antón

The road transport sector is the largest emitter of CO₂ in the transport sector. Therefore, if the objective of the EU European Green Deal is to radically reduced the EU's climate impact, it is imperative to incorporated transport sector and households emissions into carbon pricing tools, including the Energy Tax Directive (ETD).

The ETD has not been reviewed since 2003, and needs updating if the European Commission is serious about deploying its Green Deal. A new restructured ETD should send the right pricing signals to influence behaviour and investment towards low emissions energy sources for sectors, such as, transport. However, taking into account the economic situation caused by Covid-19, fundamentally, in households, new barriers could arise that block the approval of the revision of this Directive.

If this Directive is not finally amended, Member States will have to continue rely on unilateral instruments to reduce emissions in non-ETS sectors. However, the emergence of new disruptive technologies, such as the Internet of Things, can be of great help in the design of these taxes.

In this regard, it should be noted how the aforementioned technology allows the measurement of different parameters related to environmental protection (CO₂ emission, energy consumption, etc.), making possible the subsequent transmission, even in real time, of the data collected by the cited sensors to the corresponding Administrations. Consequently, we could have an important instrument to design environmental taxes that are easily administrable. At the same time, these technologies could allow the automatic crossing of data with the personal and economic situation of the user and with the utilization patterns (distances travelled, existing alternatives for collective transport on itineraries, number of occupants, etc. . .). Therefore, all these parameters could be used to adapt the tax burden to the personal circumstances of the taxpayer.

Biographical note

PhD Prof. Álvaro Antón. Associate Professor and Academic Secretary at CEU Cardenal Herrera University (CEU-UCH). Director of the CEU-UCH Master on Law (official Master and Doctorate program)

International PhD (cum laude) in Tax Law and graduated in Law and Journalism. During 2015, researcher associate of the International Fiscal Association. From 2016 until 2018 postdoctoral research fellow at the International Bureau of Fiscal Documentation.

Since 2018 sole principal researcher of the Research Project “The tax system before the collaborative economy: from clarification to new forms of public-private cooperation” funded by the Spanish Government. Previously, sole principal researcher of several research contracts with the Institute of Fiscal Studies, such as, “Taxation energy and the fight against climate change: a more efficient and effective integration”. In addition, member of several national and international research teams, such as, the Jean Monnet Projects: “Energy taxation and State aid control: looking for a better coordination and efficiency” and “Digitalization of tax administrations in the EU.”

55 – Remodulation of Italian Bonus-Malus in the Pandemic Framework: A Balance Between Economic and Environmental Issues

Alessia Tomo

Nowadays, it appears more than ever clear that fiscal measures could have a key role in the necessary balance between economic and environmental interests, in the adoption of “restart” policies that governments have to adopt in the post “Covid lockdown”. On this ground, the “recent” Italian bonus-malus system seems to be a useful instrument to point out this balance. Indeed, last year we analyzed this measure, in a comparative perspective with others feebates systems.

Therefore, now – right in the pandemic framework – this issue appears once again one of the main environmental key problems related to the vehicle sector.

Thus, the Italian government, within the law decrees aimed at adopting recovery policies, by underlining the importance of an environmental friendly “restart” after the lockdown, decided to improve the funds for the Italian feebate system. At the same time, a part of the Italian Parliament is arguing that the Italian bonus-malus as well could be a positive instrument to promote the restart of the car market that recorded a 98% drop due to the lockdown. For this reason some politicians, keeping in consideration car producers’ requests, proposed to add some provisions concerning a possible remodulation of the ecobonus in order to promote the economic reboot. For example, it has been proposed to apply the “bonus” also for the purchase of “medium-emission” cars or a “stock bonus”, that could be added to the ecobonus, to sell the cars already produced but still unsold; to abolish the ecotax (malus) during the current year. Understandably, all those possible measures are not environmental friendly, but they could appear necessary for the economic restart of the automotive sector that is one of the most relevant markets in the Italian economy. On the other hand, there are other proposals such as limiting the ecobonus only to the purchase of electric cars, that appear a much more environmental friendly measure, in line with the tax credit for the building of recharge stations for electric cars (so-called wall-box) conceived by the same decree and also in line with the “green” policies already adopted by the Italian Parliament before the lockdown.

Biographical note

Alessia Tomo: Ph.D. Student in Law at University of Naples Parthenope and fellow in Tax Law at University of Naples Federico II. She is interested in tax and public law and author of various publications in those sectors.

56 – How to Govern Plastics Effectively by Economic Policy Instruments - the Example of the Ubiquitous Plastic Pollution of Soils

Jessica Stubenrauch

Plastic pollution in soils poses a major threat to soil health and soil fertility that are both directly linked to food security and human health. In contrast to marine plastic pollution, this ubiquitous problem is thus far scientifically poorly understood and policy approaches that tackle plastic pollution in soils comprehensively do not exist.

In the presentation, the effectiveness of existing policy instruments to avoid harmful plastic pollution in agricultural soils against the background of international environmental agreements, in particular the Paris Agreement and the Convention of Biological Diversity, is assessed. A focus will be set on environmental and fertilizer legislation relevant to soil protection in the European Union and in Germany. It will be shown that command-and-control provisions exhibit various regulatory weaknesses and are unable to address the continuous plastic pollution at source. In fact, the mere improvement of detailed provisions in command-and-control law is insufficient in this respect, as the plastic pollution ecologically is also a problem of quantity. Instead, the existing governance gaps are more effectively addressed through economic policy instruments. In this respect it will be discussed to what extent comprehensive quantity-control instruments to phase out fossil fuels worldwide and in all sectors as required by climate protection law can also be effective approaches to tackle plastic pollution in environmental media like agricultural soils.

It is concluded, that the major global challenge lies in the quantitative reduction of plastic inputs at its source, which is closely linked to the necessary transformation to a post-fossil society. Provided that respective economic policy to phase-out fossil fuels is implemented on a broad geographical scale, it will be shown that a new separate anchoring of plastics in international law does not appear to be absolutely necessary.

Biographical note

Jessica Stubenrauch (PhD, Dipl. Finw. Dipl. Geogr.) holds a PhD in agricultural science. As a member of the Research Unit Sustainability and Climate Policy in Leipzig and the University of Rostock she is a post-doc researcher in the project InnoSoilPhos (Innovative solutions to sustainable Soil Phosphorus management). Her main focus within transformative governance research is on sustainable land use, which combines efficient agricultural production with the protection of natural resources. In her dissertation she investigated challenges of sustainable land use, closed nutrient cycles and interlinked resource protection from a cross-national perspective. Apart from that, she is involved in a policy consulting project on governance research on plastics and on geoengineering.

57 – Tax Policy for Sustainable Tourism

Francesco Montanari

The World Tourism Organization has stated that tourism is one of the most affected sectors from COVID-19 but, at the same time, the capacity of tourism to stimulate economies—by creating employment, attracting investments and adding value nationally, regionally and locally—is well accepted at national and international level (in this field several documents of European and international organizations have been published).

In this complicated scenario, the pandemic situation should become an opportunity for the development of new models of tourism focused on the eco-sustainability: the guidelines of these new models are also described in depth by the European Charter for Sustainable Tourism

The tourism market requires a supportive regulatory environment, and it's clear that taxation is a crucial component of it: furthermore, the tourism sector includes a broad range of different economic activities, so that most taxes are likely to have an obvious impact to this extent.

In general, the model of sustainable tourism is founded on sustainable transports, on improvement of energy efficiency and on awareness of nature and environmental protection, etc. All of these “variables” require tax measures and incentives.

Different “models” and situations of sustainable tourism should be distinguished: because one of the most relevant problem is that sustainable tourism has often developed in areas (rural or mountainous) characterized by significant economic and logistic problems as well as by population displacement and by the lack of digital structures (i.e. the lack of internet).

Consequently, the main issue is not the usual one of tourism taxation, but of the reduction of taxation on tourism activities that are environmentally-friendly.

Against this backdrop, the goal of this paper is to explore different tools of tax policy and, in particular: the provision of tax incentives in the field of direct taxation (tax credit or specific deduction) to repopulate depressed areas or to encourage people to choose these areas as touristic; significant increase in the tax deductibility of environmentally sustainable transport costs.

One of the most important ways to increase the value added of the sustainable tourism sector is the support and promotion of local capacities and skills, allowing the adoption of tax reductions on new business models by local stakeholder (or by extending already existing favourable tax regimes to local activities).

Biographical note

Francesco Montanari is Associate Professor (Qualified as Full Professor) of Tax Law, University G. D'Annunzio of Chieti – Pescara (Italy). Degree in Law and Degree in Economics, Phd in European Taxation (University of Bologna). Francesco is the author of about 70 papers in national and international journals, of several chapters in national and international books and of three books.

Francesco has been member of many International Research Projects and he is also editor of A-ranked Italian scientific journals such as *Rivista trimestrale di diritto tributario* and *Rivista di diritto tributario internazionale*. Francesco is a member of the EATLP (European Association of Tax Law Professors).

58 – Economic Instruments for Phosphorus Governance - How Taxes and Cap-and-Trade Systems Achieve a Sustainable Phosphorus Management

Beatrice Garske

Agriculture is facing various environmental, economic and social challenges which both in detail and as a whole make a transformation of agriculture towards more sustainability necessary. COVID-19 does not change this challenge. In fact, the pandemic further increases the need for a resilient agricultural sector that can feed the world even in times of global crises.

The focus of the presentation is on a detail question of agriculture, which is linked to various other resource and environmental problems: phosphorus (P), a vital but limited resource for plants, animals and humans.

The presentation starts with a short introduction on the key aspects of sustainable P management. Based on that, the relevant legal acts for P management at European level are briefly introduced. It is shown that existing legislation fails to achieve sustainable P management due to structural governance problems like enforcement deficits as well as rebound and shifting effects. To tackle these typical obstacles of command-and-control law, economic instruments are proposed.

Subsequently, economic instruments are subjected to an impact analysis for a broad range of possible instruments regulating various P-related parameters: (1) P fertilizers, P additives, P surpluses and P losses or (2) the input and output factors of animal husbandry or (3) more comprehensive parameters such as greenhouse gases, fossil fuels, and land use. The most promising instruments are picked out.

The analysis shows that two comprehensive economic instruments are able not only to tackle key sustainability challenges, i.e. limiting climate warming according to Article 2(1) Paris Agreement and halting biodiversity loss according to the Aichi Targets of the Convention on Biological Diversity, but also various P-related problems such as P hotspots due to high livestock densities. Those instruments are a cap-and-trade system for fossil fuels with a broad sectoral and geographical scope in combination with a significant reduction of livestock numbers by a statutory livestock-to-land ratio – at best supplemented by a cap-and-trade system for livestock products.

Towards the end of the presentation, the necessity of further instruments, whether economic or regulatory, is discussed, especially with regard to Europe's import dependency from phosphate rock (often contaminated by Cadmium and Uranium). Last but not least, a realignment of the EU Common Agricultural Policy is recommended.

Biographical note

Beatrice Garske (PhD, MSc, LL.M.) is a member of the Research Unit Sustainability and Climate Policy since 2012 and a research assistant in the collaborative research project InnoSoilPhos (Innovative Solutions to Sustainable Soil Phosphorus Management) at the University of Rostock within the framework of Leibniz Science Campus Phosphorus Research Rostock. She mainly works on the governance of phosphorus, soil and land use as well as agricultural policy. Her special focus is on economic instruments and integrated solutions for interlinked environmental problems. She is also familiar with governance research on other sustainability issues, such as climate change or plastics. For details see http://www.sustainability-justice-climate.eu/en/mit_garske.html and <https://www.innosoilphos.de/default.aspx>.

**59 – The Green New Dividend:
A Cost-Effective Market Based Alternative to the Green New Deal**
Russell Mendell

Policymakers are at odds over the best legislative remedy to mitigate climate damage. A revenue neutral carbon tax is the preferred framework of many policymakers. This emissions reduction technique taxes greenhouse gas emissions and returns the generated revenue to the public by way of dividends or tax reductions. It is viewed as a cost-effective method for reducing emissions. On the other hand, market-based approaches rely on behavioral shifts and the effects can be gradual. Some climate advocates are wary of these kinds of proposals, because scientists have called for more rapid emissions reductions than models would suggest this kind of policy can achieve.

Recently an alternative has emerged in political discourse, known as the Green New Deal, which 80% of US presidential hopefuls endorsed during the 2020 democratic primary. The concept builds on the success of the FDR era New Deal, which spurred public investment for infrastructure and industry and helped lift the United States out of the Great Depression. The Green New Deal similarly promises to employ millions in transitioning to a carbon neutral future through investments in green technologies and infrastructure. The challenge to implementing Green New Deal legislation is the expense, with many plans costing trillions to implement.

This paper explores a third approach which combines a revenue neutral carbon tax with Green New Deal style investment. This policy framework would invest a portion of the tax revenues into “Green Bonds.” These bonds would fund green infrastructure and technology. The funds invested would be repaid to the public when the bonds mature. The policy would be revenue neutral in the long term, while increasing federal investment into emissions reduction. This approach can be referred to as a “Green New Dividend.”

This paper focuses on a variety of questions associated with the concept of a Green New Dividend such as: What is the best institution to administer Green Bond investments? How long should dividends be deferred to ensure the long-term sustainability of the fund. What specific kinds of investments can reduce greenhouse gas emissions and provide a return, that aren’t currently attracting capital? What are procedural barriers to implementation and how might they be overcome? By addressing these questions, this paper intends to assist policymakers in evaluating the viability and implementation of Green New Dividend policies.

Biographical note

Russell Mendell is a Masters Candidate in Energy Law and Policy at Vermont Law School class of 2020. He contributed to two books, *We Rise: The Earth Guardians Guide to Building a Movement that Restores the Planet* and *Imaginary Borders*, both authored by Xiuhtezcatl Martinez. Formerly he was the Campaign Director of the youth-led environmental nonprofit Earth Guardians. His reporting from COP 21 in Paris was recognized by the Society of Professional Journalists for excellence in environment enterprise reporting. He currently serves on the board of the Colorado nonprofit Colorado Rising.

60 – Livestock Products and Transnational Economic Instruments

Felix Ekardt

The production of animal food products is (besides fossil fuels) one of the most important noxae with regard to many of the environmental problems, such as climate change, biodiversity loss or globally disrupted nutrient cycles. This presentation – based on various third-party funded projects – provides a qualitative analysis of which regulatory options there are to align livestock farming with the legally binding environmental objectives, in particular Article 2 of the Paris Agreement and the Convention on Biological Diversity. Two innovative governance approaches are developed and compared: a cap-and-trade scheme for animal products and a livestock-to-land ratio. Both instruments are measured against the above-mentioned environmental objectives, taking into account findings from behavioural sciences and typical governance problems. Both approaches are generally suitable as quantity governance in animal husbandry if they are properly designed (and they are both much more ambitious than some kind of moderate national meat tax that cannot address a target such as cutting down livestock herds by 70-80%). In the end, a combination of both approaches – the economic and the regulatory one – proved to be particularly effective ecologically. All of this simultaneously demonstrates, on the basis of a rarely considered but ecologically highly relevant sector, how a quantity governance approach that is based on an easily comprehensible governance unit (such as livestock products, fossil fuels, and pesticides) can function across all sectors and regions, how it can address various environmental problems – and how it can avoid well-known governance problems such as sectoral or spatial shifting effects, rebound effects, enforcement deficits, and problems of depicting. The question of supplementary border adjustments will also be mentioned in the presentation.

Biographical note

Felix Ekardt is Director of the Research Unit Sustainability and Climate Policy in Leipzig which he founded in 2009. Since 2009, he is also Professor for public law and legal philosophy at the Rostock University (Faculty of Law) as well as member of the Leibniz Science Campus on Phosphorus Research - as well as member of the Interdisciplinary Faculty (Department Knowledge-Culture-Transformation). His scientific focus as a lawyer, philosopher and sociologist lies in issues around human science sustainability studies. More specifically issues of transformation and social learning processes, justice (particularly human rights), governance and law (sustainability law/ environmental law and sustainability politics/ environmental politics in terms of developing policy instruments on international, European, national and regional level. See website: <http://felix-ekardt.eu/en/werdegang.html>

61 – Public Transport at the Cross-roads in the Wake of the Covid-19 Lockdown: Can Fiscal Instruments Provide a Pointer Out of the Quandary?

Hope Ashiabor, Anna Mortimore

The outbreak of Covid-19 and the policy responses to contain it has spawned a whole host of unintended outcomes. With respect to the wider transport sector, it has saddled it with a mixed bag of challenges. This paper's focus will be on the challenges posed to the public transport segment within the wider transport sector.

The paper examines three possible options that are available to governments in tackling the challenges faced by their public transport systems. The paper draws upon historical precedents of how some jurisdictions took on the reins of existential challenges faced by the sector and transformed it into an opportunity to shift their transport network to a more sustainable footing.

In the context of this paper, the first of the options raises questions of the extent to which the demands of addressing the fallout from the pandemic is likely to foster the enactment of environmental taxes that can generate new revenue streams? The other option evaluates the possible role that tax expenditures or other forms of subsidies play in addressing the challenges. The third is the business-as-usual approach where governments sit tight in the hope that the problem will go away once the dust settles.

In concluding, the paper evaluates these divergent approaches by working out whether they could be reconciled in such a way as to re-orient the policy settings in a more sustainable direction.

Biographical note

Dr Hope Ashiabor is an Associate Professor of Taxation at the Macquarie Business School, Sydney - Australia. He is also a Chartered Tax Advisor with the Taxation Institute of Australia. His research is in the areas of environmental taxes, the regulatory aspects of carbon finance, tax expenditures, and international tax policy – areas in which he has published extensively. He is the author of *Tax Expenditures in Environmental Policy* (Edward Elgar, 2020), a co-editor to the leading series – *Critical Issues in Environmental Taxation* (Edward Elgar, UK) and a member of the editorial board of the *Asian Journal of Accounting and Governance*.

Hope has worked on consultancy projects for the OECD Environment Directorate -Paris, Ausaid, the Fiji Islands Inland Revenue and Customs Service, and a member of the City of Ryde's Renewable Energy Advisory Committee. He has held visiting positions at Cleveland State University, Walsh University, and the University of Warwick.

Prior to joining Macquarie, Hope worked as a state attorney; and before that was an in-house counsel to a commercial bank.

62 – Will Covid-19 Make Danish Car Taxation More Environmentally Sustainable?

Morten Munch Jespersen

For years, Danish lawmakers have struggled with the question of how to make the country's taxation regime on cars support the transition towards a low carbon economy, with radically reduced CO₂ emissions from private car ownership. A government committee has been tasked with the difficult mandate of creating a model in which the sale of conventional cars is eliminated entirely by 2030 without putting a strain on the public purse in the form of lost tax revenue from private car ownership.

Based on data from e.g. Statistics Denmark, econometric models from the Danish Ministry of Taxation and specially created models concerning for instance price- and substitution elasticities, this research offers a number of key insights into the effectiveness of various taxation models in terms of environmental impact, economic efficiency and redistributive effects. Specifically, the research looks at the impact of replacing the existing relatively high up-front and value-based taxation of cars in Denmark with a running tax based on technical criteria such as energy efficiency and weight. Though initially conducted to provide concrete answers in a Danish context, the research offers various insights which can be used in other contexts, specifically in relation to the efficacy of using up-front vs. running taxation, technical vs. value-based taxation and questions relating to the use of and weight given to specific technical criteria in relation to determining the optimal rates of taxation needed to ensure an increased sale of low-carbon cars. In relation to this discussion, the research also uses historic data from the Scandinavian countries to compare the respective effectiveness of placing the tax burden on the purchase, ownership or use of cars.

The research additionally offers insights into the relation between environmental taxation and concerns of economic redistribution and sustained growth and job creation – the latter of which has become particularly pertinent in light of the COVID-19 epidemic. The research thus shows, that a model in which conventional cars are taxed under the current regime of high up-front and value-based taxation while low-carbon alternatives are exempt from up-front taxation in exchange of higher, running taxation based on technical criteria can result in growth stimulus in the short run while offering redistribute effects very similar to that of the current system in the long run.

The research therefore also hopes to add to the literature considering the decoupling of economic growth and environmental degradation in the area of private transportation.

Biographical note

Morten Munch Jespersen graduated in 2015 with a MS.c. in Political Economy of the European Union from the London School of Economics (LSE). He has since worked as an economist and econometric researcher at the Danish Ministry of Taxation, as an economic advisor to the Danish Social Liberal Party and currently as a tax economist at the Confederation of Danish Industry.

During his studies Morten worked as a researcher at Institute for Social and Economic Research at the University of Essex and as a research assistant at the ResponsiveGov project at the University of Leicester. Mortens has published research at the conference on Elections, Public Opinion and Parties and has authored several publications by the Danish Ministry of Taxation and the Confederation of Danish Industry.

64 – Meat Tax or How to Deal with Climate Change and Health Care

Paloma García Córdoba

According to The Food and Agriculture Organization of the United Nations (FAO) global livestock production contributes an estimated 18% of anthropogenic greenhouse gas (GHG) emissions but why are there not so many environmental taxes in this sector?

In fact, tax on GHG emissions produced by livestock products would enforce the polluter pays principle and also, contribute to improve public health. The benefits derived from the reduction of the consumption of livestock products, beyond the environmental issue, could result in benefits in health and in public health spending specifically. Nowadays, public health systems need to be taken care of. So maybe, a ‘meat tax’ could not only be positive for climate change but also to prevent some diseases such as diabetes or cancer, associated with excessive consumption of meat.

Also, the current challenge is to reconcile the food needs of a constantly growing population with the protection of the environment. Should a new tax be created or maybe an adaptation of existing taxes could be better? How do we tax meat production? Should it be a global tax or a local tax? An indirect tax or a direct tax? Maybe, a distinction between different types of livestock could be useful. Is it possible to establish such a tax? This article will try to answer these questions and the possibility to create a ‘meat tax’. A proposal made by the Dutch government will be specifically analysed.

Biographical note

Paloma García Córdoba. PhD Student and fellow at Pompeu Fabra University. Barcelona. Currently teaching tax law.

65 – Incentive Tax Policies in Solar Energy as a Sustainable Alternative for Brazil in the Post-Covid-19 Era

Germana Parente Neiva Belchior, Iasna Chaves Viana, Natalie Alves de Almeida

The climate changes experienced today are the result of the anthropocentric and utilitarian behaviors and the use of natural resources. Due to the necessary use of energy, associated with fossil fuels, oil and natural gas, especially the production of carbon dioxide (CO₂), the environment has suffered devastating impacts. The decarbonisation of the economy and the inputs to be used by man are necessary for the purpose of sustainability of life and protection of the environment. In this perspective, environmental taxation presents itself as an essential instrument in the search for the realization of Brazilian constitutional interests, when the legal system will act in an integrated and systemic way, using sustainability as a parameter for national development. The research has a qualitative nature and uses bibliographic and documentary sources, using the deductive method. In the current pandemic moment, attention is focused on health and the economy, which are proposed exactly in that order. The solar energy sector can contribute greatly to the recovery of the post-Covid-19 economy, which will require a lot of attention under which premises it will be rebuilt. The generation of solar energy is one of the most dynamic sectors under the economic approach and which should contribute greatly in the recovery phase. Furthermore, those who produce solar energy help to reduce energy demand based on non-renewable sources, generating jobs and income, in addition to improving the health of the planet. The main objective of the research is to investigate how and to what extent the policies of fiscal incentives in solar energy can contribute to the reconstruction of the concept of environmental sustainability and to the post-pandemic moment in Brazil. In light of the challenges faced in a post-pandemic moment, it is possible to say that life will have more value, which runs through the idea of reevaluating priorities and conjectures for maintaining human life. With this, a re-reading of the importance of the environment in which society is inserted is necessarily important: that is essential for human life. The propulsion of solar energy, therefore, finds ample space for debate and to increase the economy. A new perspective of an integrated order of public policies of fiscal incentives in solar energy for environmental protection must be implemented for the use of the Brazilian energy potential.

Biographical note

Master in Law from Centro Universitário 7 de Setembro (UNI7/CE). Specialist in Tax Law from the Brazilian Institute of Tax Studies (IBET). Graduated in Law from the Federal University of Ceará (UFC/CE) and graduated in Administration from the State University of Ceará (UECE). Research groups, registered with CNPQ, in which it operates: Environmental Taxation (UFC/CE) and Ecomplex: Law, Complexity and Environment (UNI7/CE). Teacher and Lawyer. E-mail: iasnaviana@yahoo.com.br.

**66 – The Liberalization of International Trade on Environmental and Ecosystem Services
by GATS of the WTO: Trailing New Paths to Green Prosperity**
José Maria McCall Zancocchi

The COVID-19 pandemic has abruptly deaccelerated growth worldwide, exposing many of the iniquities of the current economic system and resilient unsustainable patterns of production and consumption. The calamities that followed, adding up to the reflects of the 2008 financial crisis, precipitated a necessary debate about the rule of ethics in economic considerations.

It also sets forth an opportunity to encourage of a new kind of economic progress: one that balances maximization efforts with ecological and social imperatives. As this paper will show, green prosperity incorporates the intrinsic value nature and its services in the concept of wealth and development, caring for the richness of biodiversity and social plurality. It is envisioned as a realization of green economy principles and guidelines that internalize social and environmental costs, offsetting their impact in all anthropogenic activities, abiding to the limits of social and planetary boundaries.

In that context, the international trade on environmental and ecosystem services is seen as a fitting manner promote an era of green prosperity in the post-pandemic world, in a global scale. Regulatory convergence offered by the multilateral General Agreement of Trade in Services (GATS) of the World Trade Organization, along with its conflict resolution system, should overcome existing barriers and cut transaction costs, which is expected to encourage the liberalization of that market worldwide. International cooperation such as the one set forth in Article 6 of the Paris Agreement, and in other instruments such as REDD+, shall rapidly increase public demand for carbon offset programs, especially with regards to the fight against climate change. In addition, private initiatives are expected to raise sponsorship to other private-related conservation and preservation efforts, also covering other environmental impacts, aiming at the goal of sustainable development and other criteria such as public awareness and ESG (Environmental, Social, and Governance).

This study claims that the international standardization of the trade of environmental and ecosystem services will allow the creation of a regulated market that can facilitate the proliferation of environmental offset programs and the implementation of a worldwide circular economy, along with the liberalization of related services such as recycling, reserve logistics, waste management, sanitation, consultancy and scientific research. It may also be a tool for the conservation of ecosystems and natural habitats and to sharing the benefits arising from the use of traditional knowledge, innovations and practices relevant to the conservation of biological diversity and the sustainable use of its components.

Biographical note

José Maria McCall Zancocchi : Member of the Environmental Taxation Study Group of the Federal University of Ceará, Brazil (UFC). PhD Student affiliated to the UFC. (jose.zancocchi@mzg.com.br).

67 – Environmental Tax: Case Studies for Typical Dairy Farms in Brazil

Gabriela Mota da Cruz, Sílvia Helena Galvão de Miranda

This paper simulated a Pigouvian tax on GHG emissions from livestock for milk production. Data from three typical farms of different technological levels from the CEPEA cost panel (Castro / PR - high, Caçu - medium, Leopoldina - low) were used. The year analyzed was 2018, comparing the economic and financial indicators of the properties in the scenarios with and without the adoption of tax. To calculate the value of the tax per head, for each category of cattle considered in this paper, the emission factor per head of the animal category was multiplied by the carbon price estimated in this study. The emission factors used to estimate the tax, which considered an average emission value per animal category (cow, bull and young cattle) were extracted from the Third Brazilian Inventory of Anthropogenic GHG Emissions and Removals, published by the Ministry of Science, Technology, Innovation and Communications from Brazil (MCTI; EMBRAPA, 2015); while the Carbon Market Trade Book database was used to estimate the price of the ton of carbon, which is a system that consolidates sales simulations of carbon credits in Brazil in the voluntary market (BVRIO'S, 2019). The results showed that the simulated environmental tax could make dairy farming of a lower technological level unfeasible.

Biographical note

Gabriela Mota da Cruz has a bachelor's degree in Economics from PUC-Campinas and a master's degree in Applied Economics from University of São Paulo (USP-ESALQ). She received a scholarship from Instituto Escolhas and CAPES to support this research. Her master's dissertation simulates and analyzes CO₂e abatement costs, revenue and abatement capacity for the implementation of mitigation measures in typical cattle farms. Part of her master's research was presented at the "Agricultural Trade Research Consortium", IATRC or Consortium, (Sevilla, Spain, 2019) and "20th Global Conference on Environmental Taxation", GCET20, (Limassol, Cyprus, 2019). She currently works as a Researcher at Agroicone in the area of "Economic Modeling for AFOLU". She has experience in using the general equilibrium model Trade Analysis Project (GTAP) and also in the partial equilibrium model Brazilian Land Use Model (BLUM). She participated as a researcher in the Partnership for Market Readiness (PMR-Brazil) project, financed by the World Bank.

69 – The Carbon Tax: Efficient, Effective, and Procedurally Perfect

Tracey M. Roberts

Over the past twenty years, litigants have advanced a broad array of claims to press for the U.S. federal and state governments to address climate change. They have brought actions in tort (negligence, public nuisance, trespass), alleged violations of federal statutes (Clean Air Act Endangered Species Act, Clean Water Act, NEPA, FOIA, Administrative Procedures Act and other rule making authority) argued that companies were not complying with securities and financial regulatory laws, that the US is in violation of international trade agreements, and that states are acting in contravention of the public trust doctrine. To date, these law suits have met with limited success. In 2009 legislators proposed multiple cap-and-trade bills, but none were passed, due to the lack of the needed supermajority in the Senate to overcome a filibuster. The Obama Administration's efforts to regulate carbon dioxide emissions under the Clean Air Act were curtailed by litigation. Ultimately the Trump Administration withdrew the Clean Power Plan and replaced it with regulations that were generous to fossil fuels. Most recently, the leading Democratic candidates have advanced plans for implementation of a Green New Deal to overhaul the nation's economy and infrastructure through a massive spending plan.

A carbon tax, on the other hand, has rarely garnered serious consideration, despite its advantages as more efficient, effective, precise, administrable, and amenable to reconciliation with trade policy. Now, however, the carbon tax may finally have its day and not because of its excellence as a regulatory instrument. Given outstanding deficits following the passage of \$2 trillion in spending to address COVID-19 under the CARES Act and the rising federal debt resulting from the Tax Cuts and Jobs Act of 2017, a carbon tax may be our only option as a matter of legislative procedure. The carbon tax is the one instrument that can both bypass a Senate filibuster and the budgetary limitations under the Byrd Act because it is "procedurally perfect" for budget reconciliation.

Biographical note

Tracey Roberts is an Associate Professor of Law at Samford University, Cumberland School of Law in Birmingham, Alabama. Her research focuses on the intersection of tax and environmental law. Together with Roberta Mann, at the University of Oregon, published *Tax Law and the Environment: A Multidisciplinary and Worldwide Perspective*. Her articles have been published in the *Northwestern Law Review*, the *Columbia Journal of Tax Law*, the *Columbia Journal of Environmental Law*, and the *Ecology Law Quarterly*, among other journals.

She received her A.B. from Harvard University, her J.D. from Vanderbilt University Law School and her LL.M. in Taxation from New York University School of Law.

70 – Carbon Pricing in Peru: Energy Transition and Development in a Covid-19 Context

Carlos Trinidad Alvarado, Daniela Soberón Garreta

The main greenhouse gas emission source (GHGE) in Peru is the use of land, land use change and forestry (LULUCF). According to Peruvians NDC's, GHGE from LUCUCF accounted more than half of total Peruvian emissions. However, the GHGE from the energy sector have ascended in a significative proportion, reaching 26% of the total, which are specially the related with transport. These emissions are mainly from the transport sector.

Carbon pricing (CP) is an iconic mechanism to mitigate the effects of climate change around the world, specially burning fossil fuels emissions. Furthermore, it contributes to energy transition, as it provides a market signal to increase cleaner energy use. However, a carbon price in development countries such as Perú, may be more than a climate instrument. It also could accomplish the closing of the public budget gaps of some countries in the region, which have been exacerbated by the Covid-19 crisis. The revenues of carbon pricing could be redirected towards health and social equity priorities. Moreover, the Peruvian Government could replace regressive taxes, such the VAT or salaries tax (they represent 50% of national fiscal resources), for a pollution tax. As a matter of fact, a carbon pricing in Peru could be a key development tool.

Even if different modalities of CP have been implemented around the world, the Perú's social, environmental, and economic conditions shape the CP types that should be prioritized are the following: i) a carbon tax and ii) fossil fuel subsidies substitution. The first one could be implemented by redesigning the existing fiscal institutional infrastructure and increasing the value to cover the development and social gap in Peru. Regarding to the fossil fuel substitution, its implementation should be progressive to avoid social impacts. In developing countries, CP provides additional social benefits since it generates public revenues. Also, the shock in fuel prices creates an opportunity for Peruvian government, not to eliminate fossil fuel subsidies, but to convert them into direct money transfers and improve development in the most vulnerable parts of the country, such as rural communities.

This research proposes to use CP for an energy transition and to accomplish social equity in a Covid-19 context. To this end, a regulatory impact assessment of the implementation of CP in Perú would be developed, considering the pandemic's context. First, it analyzes the socioeconomic and climatic context of Peru. Then, it will analyze the economic, social, and political effects of establishing a CP. Finally, this proposal suggests a strategy to introduce a CP, which is consistent with energy transition and development policies.

Biographical note

Carlos Trinidad Alvarado is a Peruvian lawyer and works as a senior researcher at the Climate Policy Institute. He has postgraduate studies in sustainable environmental management from the University of California, Berkeley. He was editor of the book: "Carbon pricing in Latin America: trends and opportunities" (SPDA/Konrad Adenauer Foundation, 2019), <http://bit.ly/2F73BqZ>.

71 – Australia’s Covid-19 Response to Climate Change and Biodiversity Protection: An Impossible Dream or Outright Contradiction?

Natalie P. Stoianoff

With the coronavirus crisis impacting carbon emissions levels, which only will fall further due to the ensuing economic slump, the Australian government’s response has been once again focussed on incentives and subsidies. Using taxpayers’ funds to encourage or reward good environmental behaviour such as biodiversity protection and emissions reduction is not an unusual step for the current government. In a recent report reviewing the government’s Climate Solutions Fund, it has been found that the \$2.5 billion spent over the past five years supporting mechanisms for reducing carbon emissions have been more effective in reducing emissions than a carbon tax would be. However, the same report does not consider the alternative of a carbon trading scheme. Instead, the recommendation was to support controversial schemes for carbon capture and storage. That same report notes the need for more work to be done in order to deploy low emissions technologies and encourage voluntary emission reductions. This has been backed up by the Technology Investment Roadmap Discussion Paper aimed at establishing a framework to accelerate such low emissions technologies.

Meanwhile, on the biodiversity front, that same Climate Solutions Fund will be utilised to deliver a world-first scheme to financially reward farmers who protect sensitive ecosystems, restore native habitat, store carbon such as through soil sequestration or make other environmental improvements. This biodiversity stewardship program will financially reward farmers for reducing greenhouse emissions while improving biodiversity of their land. Achieved through biodiversity certificates to be recognised by banks and other financial institutions, the \$34 million fund is expected to apply to more than 60% of the entire continent, being that part of Australia that is privately owned. However, concerns arise as to whether such a program will come into being at the expense of existing environmental protections. Such concern is all the more so given the nation’s Environment Protection and Biodiversity Conservation Act 1999 is under review with the aim to cut ‘green tape’ for development approvals.

This paper questions the impossible dream and contradiction of incentivising environmental stewardship and funding carbon capture in order to tackle climate change and achieve lower emissions with a limited pot of money while aiding development approvals by cutting ‘green tape’ and thereby putting the environment at risk.

Biographical note

Natalie P. Stoianoff is a Professor and Director of the Intellectual Property Program at the Faculty of Law, University of Technology Sydney, since 2008. She is Australia’s first female Taxation Law Professor and is a regular participant in the annual Global Environmental Taxation conference series publishing on the evaluation and impact of taxation concessions for mine site rehabilitation, local government taxes and conservation covenants. She is the Chair of the Indigenous Knowledge Forum Committee, Co-Convenor of the Technology and Intellectual Property Research Cluster, a member of the UTS Commercialisation Advisory Panel and is a Chartered Tax Adviser of The Taxation Institute.

She is the author of numerous publications in the fields of intellectual property, environmental law and taxation law. Her tax research has led to membership of the Critical Issues in Environmental Taxation Editorial Review Board and after hosting GCET16 in Sydney she is the Lead Editor of 2 publications from the series (August 2016): *Volume XVII, Green Fiscal Reform for a Sustainable Future - Reform, Innovation and Renewable Energy*, and *Volume XVIII, Market Instruments and the Protection of Natural Resources*.

72 – The Future Spanish Tax on Non-reusable Plastics

Teresa Puchol Tur

The objective of the article is to make a detailed analysis of the future tax of non-reusable plastics in the Spanish tax system.

On June 2 the Council of Ministers presented the Draft Law on Waste and Contaminated Soils. The purpose of this law is the transposition of Directives 2018/851 of the European Parliament and of the Council of May 20, 2018 amending Directive 2008/98 / EC on waste and Directive 2019/904 of the European Parliament and of the Council of June 5, 2019 regarding the reduction of the impact of certain plastic products on the environment. Both directives are pertinent modifications for the purposes of Special Taxes.

As it is indicated in Directive 2019/904 and in the explanatory memorandum of the Preliminary Draft, the objective of this new regulation is to reduce the waste generated and specifically plastic waste. Indeed, as indicated in the aforementioned Directive, between 80% and 85% of marine litter is plastic waste, of which single-use plastics represent 50%.

The future tax on non-reusable plastics will be indirect and will form part of the Special Taxes, which are harmonized at the European level. Due to the environmental nature of the tax it will form part of what is known as Environmental Taxes.

The article will consist of five sections: a first one where the object of study will be presented and how to find the tax on non-reusable plastic in environmental taxation and a brief exposition of environmental taxation in Spain. Next, an analysis of the regulatory directive and taxes similar to the Spanish tax on non-reusable plastics will be carried out in the member countries of the European Union. Next, the tax proposed in the Preliminary Draft will be analyzed. Finally, the main conclusions of the work will be presented.

Biographical note

Teresa Puchol Tur is 24 years old, she has a degree in Economics from the University of Valencia and has completed a Master in Business Law, Commercial, Labor and Tax Consulting, also at the University of Valencia. She has focused her study on Special Taxes. She is currently the beneficiary of a scholarship for the training of doctors and is going to start a Doctorate in Law, Political Science and Criminology at the University of Valencia, where she will proceed with the study of taxation, focusing on indirect taxation.

75 – How the Necessary Economic Support Measures Can Cushion the Corona Crisis and Accelerate the Ecological Transition

Holger Bär, Matthias Runkel, Kai Schlegelmilch

Introduction

The Corona crisis is shattering our societies and is forcing governments to provide emergency aid and far-reaching economic measures of historic proportions. While we focus on health and support for employees and companies, we must not repeat the mistakes of past economic crises. The economic recovery measures can not only “restart” the economy, but also set the course for the necessary transformation. Climate protection can and must be a driver of economic recovery.

Lessons learnt from economic stimulus programmes after the financial crisis for 2008/9

Economic crises teach us that they are always both an opportunity and a risk. They often bring radical change and trend-setting decisions - both positive and negative. In the 2008 financial crisis, climate protection and other long-term goals were pushed into the background, while short-term economic interests instead dominated the political agenda. Climate protection lost priority on the political agenda. Now, there is no time for another postponement. Economic recovery and climate protection can - and must - go hand in hand this time.

Avoid the “wrong things” and doing the “right thing”

The Hippocratic Oath says: "Primum non nocere, secundum cavere, tertium sanare - first do not harm, secondly be careful, thirdly heal". A good approach therefore attempts to think of short- and long-term challenges together: when dealing with the acute and short-term effects, not to lose sight of the requirements of long-term transformation tasks and to find potential synergies between the different objectives:

1. Health: measures reduce the number of new infections and strengthen the health system.
2. Emergency aid for employees and companies: Measures provide short-term support for employees, households, and companies to cushion social hardship and economic downturn.
3. Green structural change: measures steer the economic relaunch in the right direction and promote sustainable structural change.

"Thinking about tomorrow" means above all keeping an eye on green structural change - without it we will not achieve any climate protection or development goals. We should regard the massive public spending in the context of combating the corona crisis as investments in the future and use it to prepare companies and employees for structural change, to accelerate it and thus combine economic opportunities and climate protection. Proposals for the right responses to the Corona crisis will thus be given and analysed.

Conclusions, recommendations and research tasks

Finally, conclusions and recommendations are drawn and the remaining research tasks are identified.

Biographical note

Kai Schlegelmilch is a banker and environmental economist. He has more than 26 years of experiences in environmental economics and policies, mainly in the Ministry for the Environment, Nature Conservation and Nuclear Safety (since 1999) where he supported the introduction of the Ecological Tax Reform. In his private capacity, he is Chair and Co-Founder of Green Budget Germany (founded 25 years ago in 1994), a think tank on environmental fiscal instruments. Similarly on European level in 2008, he co-founded Green Budget Europe. He wrote many studies and advised many countries on how to implement such instruments. In 2016, he was appointed Member of the UNESCAP Eminent Expert Group on tax and public expenditure. In Viet Nam in 2012, a major environmental protection tax law was implemented after his intensive consultancy.

76 – Taxing Carbon Emissions from International Shipping

Tatiana Falcão

The post-apocalyptic world of covid19 will require countries across the world to create novel, and sometimes creative approaches to form new tax bases, capable of generating new resources to recover from the economic downturn caused by the pandemic.

Carbon taxes are one of the main policies raised by the OECD in dealing with the restoration of the public finances post covid 19 crisis. It is therefore one of the main instruments for domestic resource mobilization.

In this article, I will be discussing how carbon taxes might be employed to capture carbon emissions that are released in the high seas, where no country has jurisdiction to tax.

Taxing carbon release into the atmosphere is about pricing negative externalities so that the cost of releasing pollution into the atmosphere is taken into account in the final price of the commercialized product. It is about making the polluter pay for the pollution produced because of its commercial or private activity.

According to this theory, popularly principled as the polluter pays principle, from an economic perspective, it would be impossible, for example, for a UK-based individual to acquire a product manufactured and distributed from China for a cheaper price than the nationally produced product, in a world where the environmental cost of transportation is factored into the overall cost of production. This result is only possible because the environmental cost of production and distribution is not accounted for in the retail price of the product.

As further demonstrated, factoring in the cost of pollution released in the high seas is crucial in attributing a price to products produced and consumed through global supply chains. Only by doing so will one ever know the true cost of production of an item, taking into account the environmental impact that the production and commercialization of that product might generate to the global commons.

Furthermore, an open discussion on the international pricing of carbon – over activities that occur in international (shared) areas, may also motivate countries to issue their own carbon prices, in an attempt not to lose jurisdiction to tax.

The article will suggest policy approaches to assure that the environmental cost of transport, and particularly of the carbon emissions released in international waters is captured in the final price of products traded internationally, in order to reestablish geographic economic equity through the application of a carbon tax instrument.

Biographical note

Tatiana Falcão is a senior policy expert in international and environmental taxation. She is a frequent contributor to the work of the United Nations, most recently acting as the manager of the Green Fiscal Policy Network at the United Nations Environment Program. She has previously worked in the secretariat of the United Nations Committee of Experts on International Cooperation in Tax Matters.

She is a member of the United Nations' Subcommittee on environmental Taxation, and a member of the BEPS Monitoring Group (BMG).

Tatiana's academic work, published in numerous books, articles and scientific papers, focuses primarily on international environmental taxation and the development of policies that aim to curb carbon emissions on a cross-border basis. Tatiana has a monthly column on emerging economy issues in Tax Notes

International and is a regular commentator in international tax topics. Her most recent book “A Proposition for a Multilateral Carbon Tax Treaty” was published by the IBFD in 2019.

In 2019 Tatiana was named by the International Fiscal Association’s Women in Tax Committee one of the top 40 women-lawyers who have shaped international taxation over the last 100 years.

Tatiana is a graduate of the Vienna University of Economics and Business (AU, Ph.D), University of Cambridge (UK, LL.M), and New York University (USA, LL.M).

77 – The Tax on CO₂ in Argentina is Sick with Covid-19
Dr. Rodolfo Salassa Boix

With the goals of facing the effects of climate change and becoming an OECD Member Country, in 2017 Argentina implemented a Tax on CO₂ under the presidency of Mauricio Macri (2015-2019). Until this year, the country had only regulated the Tax on Liquid Fuels and Natural Gas, but without an explicit environmental purpose. The Tax Reform Act of 2017 (N° 27430) eliminated the natural gas from this tax and incorporated a new Tax on CO₂ emissions generated by certain liquid and solid fuels: unleaded gasoline, virgin gasoline, natural gasoline, solvent, turpentine, diesel oil, kerosene oil, fuel oil, petroleum coke and coal.

The tax is calculating by applying a fixed amount for each liter or kilogram of fuel, with different values for each case. By virtue of the inflationary process that Argentina has been suffering for years, the Tax Reform Act of 2017 orders that these amounts must be updated quarterly (January, April, July and October). Although they have been updated every three months since 2018, this changed with the Decree 488/2020 (May 18) issued due to the economic and social crisis generated by Covid-19. This Decree provided that the increases corresponding to July 2020 will not be applied to gasolines and diesels. Its main purpose is to lighten the tax burden that levy the purchase of the most used fuels for passengers and goods transportation and, in this way, to protect the regional economies and the workforce associated with the oil industry.

Since its regulation in 2017, the goals of the Tax on CO₂ have not been achieved. The behavior of individuals when purchasing the levied fuels was practically unmodified, due to its insignificant tax burden; research projects to face the climate change were not financed, since its tax collection has no environmental allocation, and Argentina is not an OECD Member Country.

The exceptional health situation we are experiencing seems to be affecting all these goals. The current question is to know whether this new Decree will be able to achieve its purposes of cushioning the economic and social crisis that hit the country and, when the pandemic is over, whether the Tax on CO₂ will be modified, under the new presidency of Alberto Fernández (2019-2023), to transform it into an authentic environmental tax or it will remain as the collection tax that was until now.

Biographical note

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Professor of Tax Law at National University of Cordoba (Argentina)

Invited Professor of Tax Law at Catholic University of Cordoba (Argentina) and Rovira i Virgili University of Tarragona (Spain)

Researcher at National Council of Scientific and Technical Investigation (Argentina)

Researcher at University of Murcia (Spain) as the Main Researcher of the project: “Customs law and the environment: a sustainable alternative to face the vulnerability caused by climate change”.

Director of Ciencia, Derecho y Sociedad Editorial of the University of Cordoba (Argentina)

Index of Presenters, Moderators, Chairs

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Vanrykel	Fanny	U-Saint Louis	Belgium	Presenter	6	Session D, Panel 13
Verrigni	Caterina	University of Chieti-Pescara	Italy	Presenter	19	Session E, Panel 11
Villar	Marta	CEU San Pablo University	Spain	Moderator		Session E, Panel 14
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Zacharaidis	Theo	Cyprus University of Technology	Cyprus	Moderator		Session B, Panel 12

Technical Instructions for Participants and Presenters

We are delighted to welcome you to the very special online version of the 21st Global Conference on Environmental Taxation. Because the conference is happening in a virtual venue this year, we want to be sure that you have important information about how to access the event and to maximize your ability to participate.

Be sure to check your time zone. All times are CEST (Central European Summer Time). If you are outside Europe, please carefully check the conversion to CEST against your local time.

Access to the Zoom platform for the conference. The conference will run on the Zoom platform. Two days prior to the conference you will receive by email the Zoom links to connect to the various plenaries and parallel sessions.

Preparing for Zoom. We recommend that you download the Zoom desktop client to your computer; this will provide you with more features, <https://zoom.us/download>. (NB: If you have already been using Zoom, please check that you have the most recent and updated version.)

Now and before the conference, familiarize yourself with the Zoom features you may need—share screen, naming/renaming yourself, mute/unmute microphone, chat and the 'raise hand' features. You can find advice at <https://support.zoom.us/hc/en-us/articles/200941109-Attendee-controls-in-a-meeting>.

Not a Zoom pro? Watch the 'join a meeting' tutorial to get started <https://www.youtube.com/watch?v=hIkCmbvAHQQ>.

How to improve your Zoom performance during the conference. There are several ways to ensure that you will be able to engage well during the conference.

Use the most appropriate technology:

- Connect from your computer (not iPhone).
- Use a headset or an external microphone; even a simple one will easily outperform one inbuilt in a computer.
- Use a cable internet connection or position yourself close to the router.

Consider your environment:

- Choose a quiet location and a neutral background.
- Make sure you are in a well-lit area.

Check video and audio:

- Put your camera at face level.
- Position yourself so that most of the light is coming from in front of you.
- Mute your microphone when not speaking.

Showing PowerPoint slides (for presenters):

- Have your PowerPoint presentation open and ready on your PC when session begins.
- To show your PowerPoint when invited by moderator, click on ‘share screen’ (green box at top of screen; move mouse cursor to the top if you do not see it).
- When done with presentation, click on stop sharing.

Remember some ground rules for each session. For any session, remember to follow these important steps.

- Join 10 minutes before the session is scheduled to begin.
- Enter your full name in Zoom.
- To see some of the participants while slides are shared, click gallery view.
- Use chat function or raise hand in Zoom to ask question.
- Turn off your camera if the connection gets fragile.

Panel Presentations. We are asking presenters to limit their presentations to eight (8) minutes and a maximum of ten (10) PowerPoint slides, including the title and thank you slides. The moderator will keep a keen eye on the clock. Consequently, the presentations and slides (if you use them) should focus on your key points. The advance posting of your full set of PowerPoint slides prior to the conference will allow delegates to familiarize themselves with your topic in advance—and to look for more details after the conference for a limited period of time. The PowerPoint you use during the actual presentation, if any, will likely be shorter, given the 10-slide limit.

Panel Discussion and Questions. After the panelists make their presentations (one immediately after the other), the session will turn to discussion and questions. The shorter presentations will allow more time for viewers to engage with you and others on the panel. The moderator will field questions and may also invite panelists to discuss points among themselves. We hope that the discussion can be as lively as possible!

Assistance for presenters and moderators. If you have not tried Zoom before, you may connect to the helpdesk at Aarhus University prior to the conference to see that it functions and practice ‘share screen.’ GCET delegates will receive a link to the helpdesk in an email prior to the conference. The AU Learning Lab helpdesk is open weekdays from 2-3 PM (CEST). Because the helpdesk has limited capacity, please do not wait until the last day.

We look forward to seeing you in the GCET21 virtual venue!

Publication Opportunity—*Critical Issues in Environmental Taxation*

Presenters at GCET21 will have the opportunity to submit their papers for possible publication in *Critical Issues in Environmental Taxation*. The Call for Papers for *Critical Issues* will be sent very soon after the end of the conference. **Papers must be submitted by October 15, 2020.** Kindly note that the deadline is earlier than in previous years.

Papers should be sent by email to Prof. Janet Milne, jmilne@vermontlaw.edu, and Christine Saul, csaul@vermontlaw.edu. Submissions must follow the manuscript requirements described below. *Critical Issues* is published annually by Edward Elgar Publishing Ltd. Edward Elgar has a strong publishing record in the fields of environmental economics, environmental law, and environmental taxation. Additional information on Edward Elgar and *Critical Issues* can be found at www.e-elgar.com. Publication of a volume each year depends on receiving a sufficient number of quality papers that are recommended for publication following peer review.

Each volume of *Critical Issues* is limited to approximately 100,000 words (16-19 manuscripts) and has a theme approach. The theme for each volume is determined after the manuscript review process is complete, but we expect the theme will focus on COVID-19. Readers of *Critical Issues* include academics, policy makers, accountants, lawyers, and economists.

Manuscripts accepted for publication in *Critical Issues* deal with insights and analysis for achieving environmental goals through tax policy and related market-based approaches. They address topics that are timely and of regional, national, or international interest. Manuscripts submitted for possible publication are reviewed by two external reviewers. Authors of accepted manuscripts will receive one copy of the publication. Final versions of manuscripts accepted for publication in *Critical Issues* should meet the following requirements:

Format. All manuscripts are limited to a maximum of 6,000 words including footnotes, tables, figures, etc. Each table will count as 300 words and each figure will count as 500 words. References are to be placed at the end of the manuscript as endnotes. All manuscripts must be double-spaced, including endnotes, using Microsoft Word format (Times New Roman 11). Authors should follow the Edward Elgar style guide, <https://www.e-elgar.com/author-hub/as-you-write-your-book-or-chapter/>.

English. The manuscript must be written in clear, fluent English so that readers will not be able to distinguish authors who use English as a first language from those who use English as a second language. The editors of *Critical Issues* encourage any authors who are not fluent in English to engage their own editors who can help them to meet this standard for the final manuscript.

Abstract. If the manuscript starts with an abstract, the abstract should be eliminated from the manuscript prior to submission for possible publication. Note, however, that accepted authors may be asked to submit an abstract and key words later in the publication process.

Author Credentials. An endnote following the name(s) of author(s) should indicate the author affiliation (without abbreviations) and email address.

Copyright. The author(s) must be the sole owner(s) of the complete copyright and all other rights in the manuscript (apart from copyright material not owned by the author but included in the manuscript with the permission of the copyright holders). The author(s) have the responsibility for obtaining any necessary copyright permissions.

Exclusive Publication. The author(s) of accepted manuscripts must not have published the manuscript previously in another publication and should not publish the manuscript in any other publication without the express permission of the editors of *Critical Issues*.

Publisher Requirements. The author(s) of accepted manuscripts must respond to the editors promptly when receiving requests to review proofs and sign publication agreements.

Call for Abstracts

The abstract submission deadline is **June 15, 2020**.

Decisions about abstract acceptance will be made by **July 15, 2020**.

The Conference Theme

The main theme of GCET21 is **Environmental Taxation in an Age of COVID-19**. COVID-19 has shaken the globe in profound ways and will affect current and future environmental policies, as well as many others. What seemed certain or predictable a few months ago may now be called into question. New challenges and opportunities will arise. The conference theme invites participants to consider the short and long-term consequences of COVID-19 for environmental taxation and other market-based policies. Will current policies need to change? What are the implications for future policy choices and design? This topic covers a wide variety of issues relating to the role of market-based policies in the present and future.

Some issues may relate directly to the impact of COVID-19 on environmental goals and policies, such as:

- Is COVID-19 shifting pollution patterns in a way that will influence the role of market-based instruments—will it change environmental goals?
- Are changes in producer and consumer behavior temporary or permanent, and will those changes influence the role of current or future environmental tax policy? Which changes are most significant from an environmental policy perspective?
- Does the economic impact of a devastating pandemic affect the political economy and design of environmental taxes and other market-based instruments, such as carbon pricing which is already sensitive to issues of regressivity?
- Will land development patterns change in the long term and what are the implications for the landscape resources, energy consumption and related tax policies?
- Will the fiscal demands of addressing a pandemic encourage the enactment of environmental taxes that can generate new revenue, or will governments prefer tax expenditures and other forms of subsidies?
- Are governments relaxing legal or fiscal standards that previously may have limited tax expenditures, such as state aid rules? Are they suspending existing environmental taxes?
- These are just some questions by way of illustration, not limitation.

Some topics may be highly relevant enough though they are not directly related to the pandemic. The impacts of COVID-19 and responsive policies operate within the context of existing policies and environmental protection efforts. Hence, it is important to continue to investigate those policies, whether they have been implemented or are still aspirational. Lessons from the present will contribute to the future. For example,

- What barriers and opportunities already exist, and how can they be overcome?
- Are best practices emerging for any particular type of market-based instrument or particular situations?
- What can we learn from case studies?
- Are significant developments occurring in theory, in practice, or in both?
- Which national or subnational experiences provide valuable lessons to other countries?
- To what extent does research on these issues shed light on policies in the era of COVID-19?
- And more.

People interested in submitting abstracts are encouraged to think about how their research, analysis and perspectives can add to discussions about how the world pre-COVID-19 intersects with the world in the midst of and after COVID-19. In addition, abstracts may be submitted on environmental taxation and a green transition more generally.

GCET21 Young Researcher Award: One of the key objectives of GCET is the promotion of junior contributions and the fostering of state-of-the art scientific research. Accordingly, any student or researcher younger than 35 can be a candidate for the “GCET21 Young Researcher Award”. Proof of age needs to be submitted (scanned copy of a government identification). Only papers based on accepted abstracts will be considered for the Young Researcher Award.

Abstract submission requirements

All abstracts must be submitted in Word format (.doc or .docx files) to Janet Milne at jmilne@vermontlaw.edu with a cc to Christine Saul at csaul@vermontlaw.edu. Please use the subject heading “GCET21-Abstract submission.”

Format and style of abstracts:

Please use Times New Roman (TNR), 12 pt., left alignment, single spaced, with a line between paragraphs. The title should be centered in TNR 12 pt., bold, with initial capitals. The name of the author and any co-authors should be placed below the title in TNR of 12 pt., bold and centered. The name of the presenting author must be underlined.

Length:

Abstracts should not exceed 400 words. No figures, tables, footnotes, endnotes or other references should be included in the abstract.

Biographical information about the presenting author:

At the end of the abstract, please include a paragraph of up to 150 words with main biographical details of the presenting author. These bios may be included in the conference's book of abstracts.

Time zone information:

When you submit your abstract, your email should indicate the time zone in which you are located.

Paper Submission:

After an abstract is accepted the submission deadline for draft full papers is September 1, 2020. Full papers should not exceed 6,000 words, including figures, tables, footnotes, endnotes and other references. Authors should strictly adhere to this word limit. More information about the requirements for full papers will be provided when abstracts are accepted.

Contact Information

The GCET21 Chairs are Janet Milne, Mikael Skou Andersen and Hope Ashiabor.
Please contact us if you have any questions.

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