



university of
 groningen

22nd Global Conference on Environmental Taxation

23 – 24 September 2021
Groningen, The Netherlands
Conference Program

Environmental Tax
Policy Institute

Vermont Law School USA



Globalisation
Studies
Groningen

nea

Nederlandse Emissieautoriteit
Dutch Emissions Authority

Contents

| | |
|---|----|
| Welcome to the GCET22 | 3 |
| About GCET | 4 |
| About the University and Groningen | 5 |
| Virtual Conference Venue..... | 6 |
| General Programme..... | 7 |
| Time Zones for Selected Locations | 9 |
| Keynote speakers..... | 10 |
| Kreiser Award for Environmental Taxation..... | 14 |
| Climate policy Implementation workshop..... | 16 |
| Presenter Instructions..... | 17 |
| Moderator Tips and Instructions | 17 |
| List of session moderators | 18 |
| Zoom Access Instructions | 19 |
| Zoom-hotline during conference | 20 |
| Publication opportunity: Critical Issues in Environmental Taxation..... | 21 |
| Abstracts (01 – 76) | 33 |

Welcome to the GCET22

It is a great pleasure to (digitally) welcome you to the Netherlands for the 22nd Global Conference on Environmental Taxation (GCET22) which will be held on the 23rd and 24th of September 2021 in Groningen.

Over the past 21 years, the GCET conferences have materialized as a useful and important meeting place for experts and scholars from all parts of the world taking interest in experiences and insights relating to environmental taxation in a wide sense. The fiscal perspective has also become significant following the recent economic crisis and pandemic that sent an already expansionary fiscal and monetary policy into overdrive. Finance Ministers will need to find new sources to raise revenue – environmental taxation seems to be a natural contender. While much of the media attention is devoted to the pandemic crisis and the ailing economies, the climate crisis continues unabated.

The IPCC Special Report on ‘Global Warming of 1.5°C’ suggests pathways to limit global warming if global net emissions decline by 45% (below 2010 levels) by 2030 and reach net zero around 2050. Given the still rapidly increasing GHG concentration in the atmosphere, this is a daunting task, especially since many jurisdictions have not succeeded in decoupling economic growth from GHG emissions. It requires nothing less than a fundamental transition of our economy. Despite all pessimism, many jurisdictions have vowed to take drastic measures and have designed plans to limit global warming and set targets for 2030, 2050 and beyond. The European Commission for example has issued its ‘Fit for 55’ package over the summer, which is aiding the implementation of the European Green Deal.

This year’s conference will explore the wide range of strategies and instruments to implement the environmental goals for 2030 and 2050. We have a set of high-profile Keynote speakers guiding us through the conference and 19 parallel sessions with 66 papers inviting the 125 participants to debate. The conference also features a practitioners workshop on Climate policy implementation that is co-hosted by the Dutch Emissions Authority (Nea). There will thus be a lot of food for thought!

Even though we all would have loved to meet physically, these are unfortunately not yet the times. Please use the conference breaks to actively engage with each other, for example by meeting friends, colleagues and yet unknown people in our virtual conference venue and use your conference glass to toast to a bright and better future and a successful conference!

Stefan Weishaar

Conference Chair
Professor of Law & Economics
Faculty of Law
Groningen University

About GCET

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 helped build professional networks of colleagues across international boundaries that facilitate the exchange of knowledge during and outside the conferences.

| Year | | Location | Organizing Host |
|-------------|---------|-------------------------|--|
| 2000 | GCET1 | 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 | KU Leuven |
| 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 | Computense 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 | Tuscon, 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 | GCET 21 | A Virtual Global Event | GCET International Steering Committee |
| 2021 | GCET 22 | Groningen, Netherlands | Groningen University |

About the University and Groningen

The University of Groningen was founded in 1614. The University is a research university with a global outlook, deeply rooted in Groningen, a City of Talent, and in the North of the Netherlands. Quality has had top priority for more than four hundred years, and with success: the University is currently in or around the top 100 on several influential ranking lists.

The Faculty of Law is actually older than the University itself and dates back to 1596. Yet the Faculty is a modern, internationally oriented institution that measures itself amongst the best law faculties in Europe. It offers a number of Dutch and English-taught bachelor and LLM programmes that are top rated in The Netherlands.

The city of Groningen is the largest city in the north of the Netherlands and has approximately 230,000 inhabitants. Groningen was founded more than 950 years ago emerged as a regional power in the north of the Netherlands and became a semi-independent city-state when it was a member of the German Hanseatic League, a major international trade league in the Middle Ages. Groningen is a university city, with an estimated 31,000 students.

It is vigorous, authentic and unspoiled. It is a city bursting with energy. Surrounded by countryside where the silence embraces you like an old friend. Coming to Groningen will make you step into a different world and you will enjoy it to the fullest. We guarantee you will come back for more!

Please find below some videos about the city and surroundings (they are also accessible via the virtual conference venue (gather)).

[Campus Tour City Centre – You tube](#)

[Historic Tram Ride \(1919\) – You tube](#)

[Festivals and Nightlife in Groningen – You tube](#)

[Waddenzee \(a short introduction – You tube](#)

[Relax here: Dutch Wadden Sea, World Heritage UNESCO – You tube](#)

Virtual Conference Venue

Our online conference is using Zoom for all meetings. Hyperlinks are provided in the conference programme. However, we also took some time to (virtually) allow you to meet conference participants and to walk onto the square in front of the Academy Building of the University of Groningen. In fact, you will be able to (virtually) step inside the Academy Building and walk through the main conference hall to the Zoom meeting (either a plenary/workshop session or a parallel session in Track 1-4) where you need to be. You will also be able to see several films about Groningen and its relaxing surroundings. We used gather.town to pull that off.



Gather builds virtual spaces for people to live and interact more effectively online. They provide a web-based video calling experience that serves the urgent needs of people today. This video-calling experience is combined with a 2D map, letting you walk around (as an avatar) and talk (informally) to the other people right next to you.

Try it out!

[‘Virtual Conference Venue’](#)

General Programme

Below you find an overview of the GCET22 program. All times are provided in Central European Summer Time (CEST). Participants should calculate their corresponding times. A chart at the end of this program overview provides some time zone correlations.

Thursday 23rd of September

13:00 [Opening and Kreiser Award](#)

Welcome by Stefan E. Weishaar, conference chair
Kreiser Award for Environmental Taxation
Remarks by Janet E. Milne, Recipient of the 2021 Kreiser Award
Meet and greet everyone

14:00 - 15:30 [Keynote session 1](#)

Mark Bressers (Director of the Dutch Emissions Authority)
Towards a decarbonized industry, Stacking instruments: blessing or burden

Senator Mike Barrett
Massachusetts finds a way on Climate Policy

Prof. Peter Van den Bossche (Director of Studies of the World Trade Institute (WTI) and former Member of the Appellate Body of the World Trade Organization)
The EU's Draft Carbon Border Adjustment Mechanism and its Consistency with WTO Law

15:45 -17:00 **Parallel sessions 1**

[Track 1](#) Energy Transition 1
[Track 2](#) Green Finance
[Track 3](#) Carbon pricing country experiences 1
[Track 4](#) Reconciling Environment and Society 1

17:30 - 18:45 **Parallel sessions 2**

[Track 1](#) Revenue Recycling and Dividends
[Track 2](#) Environmental Taxation and the Pandemic
[Track 3](#) Plastic and taxation
[Track 4](#) Carbon Emissions and Trade

20:00 - 21:15 **Parallel sessions 3**

[Track 1](#) Critical Issues in Environmental Taxation
[Track 2](#) Environmental taxation in Brazil
[Track 3](#) Greening Taxes 1

Friday 24th of September

9:00 - 10:30 **Parallel sessions 4**

[Track 1](#) Greening the economy and support schemes
[Track 2](#) Energy Transition and Trade
[Track 3](#) Carbon pricing country experiences 2
[Track 4](#) Reconciling Environment and Society 2

11:00 - 12:15 **Parallel sessions 5**

[Track 1](#) European Green deal
[Track 2](#) Aviation and Carbon pricing
[Track 3](#) Greening Taxes 2
[Track 4](#) Greening Road Transport

12:45 - 13:45 [Climate Policy Implementation Workshop](#)

14:15 - 15:45 [Keynote session 2](#)

Mr. Vicente Hurtado Roa (Head of the Energy Taxation and other Indirect Taxes Unit, European Commission)
The review of the Energy Taxation Directive

Prof. Dr. Xiaoping Zhang (Central University of Finance and Economics (CUFE), Beijing)
The National Chinese Emissions Trading System

Prof. Nathalie J. Chalifour (University of Ottawa, Canada. She is a member of Royal Society of Canada's College of New Scholars)
What Canada's Supreme Court Decision on Carbon Pricing Means for Global Efforts to Decarbonize

16:00 [Closing Remarks and Announcement of GCET23](#)

Time Zones for Selected Locations

| | EDT | Brazil | Groningen | China | Japan | Sydney |
|----------------------------|------------|---------------|------------------|--------------|--------------|---------------|
| | CEST-6 | CEST-5 | CEST | CEST+6 | CEST+7 | CEST+9 |
| Parallel sessions 4 | 03:00 | 04:00 | 09:00 | 15:00 | 16:00 | 17:00 |
| Parallel sessions 5 | 05:00 | 06:00 | 11:00 | 17:00 | 18:00 | 19:00 |
| Workshop | 06:45 | 07:45 | 12:45 | 18:45 | 19:45 | 20:45 |
| Opening | 07:00 | 08:00 | 13:00 | 19:00 | 20:00 | 21:00 |
| Keynotes | 08:00 | 09:00 | 14:00 | 20:00 | 21:00 | 22:00 |
| Parallel sessions 1 | 09:45 | 10:45 | 15:45 | 21:45 | 22:45 | 23:45 |
| Closing | 10:00 | 11:00 | 16:00 | 22:00 | 23:00 | 00:00 |
| Parallel sessions 2 | 11:30 | 12:30 | 17:30 | 23:00 | 00:30 | 01:30 |
| Parallel sessions 3 | 14:00 | 15:00 | 20:00 | 02:00 | 03:00 | 04:00 |

Note: Parallel Sessions are planned around the presenter's time zones, the majority of whom are in Europe. Participants should consult their own time converters, such as <https://www.worldtimebuddy.com/>.

Keynote speakers



Dr. Mark Bressers

Towards a decarbonized industry, Stacking instruments: blessing or burden

Mark Bressers is director of the Dutch Emissions Authority (NEa). The Netherlands Emissions Authority (NEa) is the independent national authority for the implementation and supervision of market instruments that contribute to a climate-neutral society. That includes the EU ETS, but also the implementation of a national Dutch carbon tax for the industry and the supervision on the Dutch market system for renewable energy. Before that, Mark was policy director at the Ministry of Economic Affairs and Climate and the ministry of Interior and Kingdom Relations. He was also a Strategic Advisor to the Biobased Economy and Green Growth directorate at the Ministry of Economic Affairs. Mark studied Public Administration and Organizational Science at Radboud University Nijmegen.



Senator Mike Barrett

Massachusetts finds a way on Climate Policy

Mike Barrett is the State Senator for Bedford, Carlisle, Chelmsford, Concord, Lincoln, Waltham, Weston, and large parts of Lexington and Sudbury. Mike serves as Senate Chair of the Joint Committee on Telecommunications, Utilities, and Energy. He also serves as Assistant Majority Leader of the Democrats in the State Senate. Mike was the chief architect of An Act Creating A Next Generation Roadmap for Massachusetts Climate Policy. The bill became law this past March. By common agreement, it positions Massachusetts among the leading states in the nation on steps taken to deal with global warming. Mike is a graduate of Harvard College magna cum laude and the Northeastern University School of Law, and is a member of the Massachusetts Bar. He's married, lives in Lexington, and is the father of twin daughters.



Prof. Peter Van den Bossche

The EU's Draft Carbon Border Adjustment Mechanism and its Consistency with WTO Law

Peter Van den Bossche is Director of Studies of the World Trade Institute (WTI) and Professor of International Economic Law at the University of Bern, Switzerland. Since 2018, he serves as President of the Society of International Economic Law. From 2009 to 2019, he was a Member of the Appellate Body of the World Trade Organization (WTO) and served as chairman of the Appellate Body in 2015. He is an honorary professor at Maastricht University, the Netherlands (since 2018), and a visiting professor at the University of Geneva (since 2018), at LUISS Guido Carli University, Rome, Italy (since 2016), at the Universidad San Francisco de Quito, Ecuador (since 2016), and at the College of Europe, Bruges, Belgium (since 2010). Since 2020, he is Editor of the World Trade Review, Cambridge University Press. Peter is the author (with Werner Zdouc) of *The Law and Policy of the World Trade Organization*, 4th edition (Cambridge University Press, 2017), 1077 p.; and (with SHAN Wenhua) of the Chinese edition of this book (Law Press – China, 2020), 1151 p. Peter is also the author (with Denise Prévost) of *Essentials of WTO Law* (Cambridge University Press, 2016), 302 p.



Mr. Vicente Hurtado Roa

The review of the Energy Taxation Directive

Vicente Hurtado Roa is the Head of the Unit in the European Commission responsible for Energy Taxation and other indirect taxes. His first steps in the Directorate General for Taxation started in 2006 when he was responsible for drafting the review of the Savings Directive before becoming the assistant to two previous Director Generals responsible for taxation. His experience in the European Commission also covers seven years in the Secretary General, working first on the European Semester and then in the relations with the European Council. Previously to join the European Commission, Vicente had been a tax consultant in Garrigues for ten years with an expertise in international taxation.



Prof. Dr. Xiaoping Zhang

The National Chinese Emissions Trading System

Xiaoping Zhang is an Associate Professor of Law at the Central University of Finance and Economics (CUFE) of Beijing, PRC and Director of CUFE Research Center for Chinese Environmental Financial Law. He serves as the Standing Member of Council and Deputy Secretary of China Energy Law Institute and Member of Water Law Committee of Chinese Hydraulic Engineering Society.

His expertise and research interest are environmental law, energy law, and fiscal and taxation law. He has been working in the field of climate change since 2008 and hosted several research projects funded by governmental agencies. From 2017-2018, Xiaoping participated in the special training workshops on “Carbon Asset Management”, “Greenhouse Gases MRV”, and “Forestry Carbon Sink Project Development” in Beijing Environmental Exchange.

He was seconded to Department of Treaties and Law, Ministry of Finance of PRC from May 2020 to May 2021.

Xiaoping received his PhD from Law School of Renmin University and holds a bachelor degree in economics.



Prof. Nathalie J. Chalifour

What Canada’s Supreme Court Decision on Carbon Pricing Means for Global Efforts to Decarbonize

Nathalie Chalifour is a Full Professor with the Centre for Environmental Law and Global Sustainability at the Faculty of Law, University of Ottawa, Canada. She is a member of Royal Society of Canada’s College of New Scholars.

Natalie'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 Canadian legal framework for climate change, with an emphasis on constitutional law, carbon pricing, and environmental justice. She is the co-editor of three international books, including *Energy, Governance and Sustainability* (Edward Elgar, 2016), and *Food Law in Canada* (Carswell 2020).

In 2020, Natalie made written and oral submissions on behalf of interveners before the Saskatchewan and Ontario Courts of Appeal, as well as the Supreme Court of Canada, in the recent constitutional challenge to Canada's national carbon pricing legislation. The Supreme Court cited two of her articles in the decision upholding the law. She has been a frequent media commentator about the case.

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.

Kreiser Award for Environmental Taxation

The Kreiser Award is an honour 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.

| Year | | Location | Recipient |
|------|---------|------------------------|----------------------|
| 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 | Tuscon, 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 |
| 2021 | GCET 22 | Groningen, Netherlands | Janet E. Milne |

Recipient of the 2021 Kreiser Award



Janet E. Milne is Professor of Law and Director of the Environmental Tax Policy Institute at Vermont Law School, USA, where she has taught courses in environmental taxation since 1994. Her research has also focused primarily on environmental taxation with climate change often taking centre stage. She edited *Environmental Taxation and the Law* (2017), together with Mikael Skou Andersen edited the *Handbook of Research on Environmental Taxation* (2012), and has served as a co-editor of *Critical Issues in Environmental Taxation* since its inception in 2002. She has participated in national and international conferences, hosted the Third Global Conference on Environmental Taxation (GCET3) in Vermont in 2002, and co-chaired the virtual GCET21 in 2020.

Before joining the law faculty, Janet served as tax legislative assistant to US Senator Lloyd Bentsen, Chairman of the US Senate Committee on Finance, an attorney at Covington & Burling in Washington, D.C., and associate director of Maine Coast Heritage Trust, a land conservation organization. She received her law degree from Georgetown University Law Center and clerked for Frank M. Coffin, Chief Judge of the US Court of Appeals for the First Circuit.

Climate policy Implementation workshop

Implementing Climate policy poses special challenges. It often involves employing different carbon pricing instruments in parallel. In transport for example fuel taxes, blending obligation stimulus measures, carbon crediting and other measures can be deployed next to each other. In conventional ETS sectors, both emissions trading and energy taxes and innovation subsidies may apply.



Policy interactions pose challenges and offer opportunities to implementing agencies. How to make instruments work together?

How to avoid duplicating efforts by companies? How to prevent avoidance behaviour? How to ensure the robustness of data needed for monitoring and reporting requirements? Can experiences with implementing taxes and crediting systems help devise better regulation?

Taking stock of the various experiences on implementation, this workshop seeks to identify smart and effective carbon pricing strategies in practice. It expressly targets civil servants, enabling them to meet on neutral ground to discuss implementation issues with their peers and academics under Chatham House Rules.

The workshop is co-hosted by the [Dutch Emissions Authority](#). As an executive governmental agency, the Dutch Emissions Authority is responsible for the implementation of the Dutch CO2 tax and the EU Emissions Trading System in the Netherlands.

Professor Niels Philipsen will deliver a short presentation on Smart Instrument Mixes to help jump-start discussion.

Niels Philipsen is Vice-Director of research institute METRO at the Faculty of Law of Maastricht University and Professor of Shifts in Public and Private Regulation at Erasmus University Rotterdam, both located in the Netherlands. His research and teaching interests include Law and Economics, competition law, torts and insurance and environmental law. He holds a Master degree in Economics (1998), with specialisations in microeconomics and antitrust policy, and a PhD degree in the field of Law and Economics (2003).

In 2003 Niels worked as a temporary agent at the European Commission (DG Competition) in Brussels. In Summer 2005 he was a visiting scholar at the University of Illinois in Urbana-Champaign (USA), and in Spring 2007 he was a “European Visiting Professor” at Peking University in Beijing (China). Between 2017 and 2020 he was Adjunct Professor of the School of Law and Economics at the China University of Political Science in Beijing.

Since 2004 he has been working as an academic in many research projects, including contract research for various ministries, European Commission, OECD, insurers, and professional organizations. In the field of environmental law, for example, he participated in the PF7 project EFFACE (EU Action to Fight Environmental Crime) (2012-2016), several research projects related to issues of environmental liability for the EU and the Dutch government, and in a project on ‘Smart Mixes for Transboundary Environmental Harm’, sponsored by the Dutch Royal Academy of Sciences. The latter project has resulted in an edited volume on smart mixes between different regulatory and policy instruments, of which Philipsen is one of the editors.

Presenter Instructions

At GCET conferences presentations on particular topics tend to come from all corners of the world. This conference is no exception to this. The virtual setting therefore poses challenges for the scheduling of the presentations. Rather than forcing participants to present in the middle of the night, we aim to make conference recordings of presentations available for a limited time after the conference for delegates through a password-protected site.

To ensure that the virtual format is as engaging as possible, parallel sessions will be conducted in a slightly different manner from parallel sessions where we could gather in person. We would like to encourage discussion among the presenters and attendees. We would therefore like to ask you to prepare concise presentations (10 minutes) so as to allow more time for interactive discussion led by the moderator.

Knowing that our ordinary work does not stop just because we are at a virtual conference and that video sessions are intense, the sessions are shorter and the breaks are a little longer.

We will be using 'Zoom' for our conference. In order to familiarize yourself with Zoom please find some general access instructions on how to use it [here](#) and in this booklet.

Moderator Tips and Instructions

When presenters and attendants log in to the session prior to the announced time, we suggest that you say a word of welcome to each.

When beginning the session, you can ask everyone to type their location in the chat box to see who is present and from which part of the globe they join.

Ask everyone to turn on their camera, to see who is present – use gallery view.

Ask participants to mute their microphone (and turn off camera if their connection is fragile).

Explain that questions can be written in the chat box – or announced by using 'raise hand/thumbs up' function in zoom.

As a session's moderator and host, you will request each presenter to share his/her powerpoint slides in Zoom (prior to each presentation).

To share slides, the presenter will have first to click on 'share screen' (green box at top of screen; move mouse cursor to the top if you do not see it, to make it appear).

When the presentation is done, you must ask the presenter to click 'stop sharing' before you can allow the next presenter to share.

During the presentation, click gallery view to be able to watch the presenter and some of the attendants.

A panel session lasts 75 minutes.

There should be time to take at least one or two questions after each presentation, but you may also wait until all presentations have been done.

When all presentations have been delivered, there is time to reflect and discuss – we encourage an interactive approach.

Prepare yourself by reviewing the abstracts for your panel.

Think about a couple of thematic issues to facilitate the discussion and exchange among participants.

Close the session by spending 5 minutes to sum up what insights you yourself gained from the presentations and the discussion.

A participant from Groningen University will start and end the recording of the session.

List of session moderators

Please find below a list of the moderators for the respective session.

Parallel session 1

| | |
|---------------------------------------|----------------------|
| Energy Transition 1 | Zhang Xiaoping |
| Green Finance | Tatiana Falcão |
| Carbon pricing country experiences 1 | Mikael Skou Andersen |
| Reconciling Environment and Society 1 | Alberto Comelli |

Parallel session 2

| | |
|---|-------------------|
| Revenue Recycling and Dividends | Fitsum Tiche |
| Environmental Taxation and the Pandemic | Shi-Ling Hsu |
| Plastic and taxation | Mona Hymel |
| Carbon Emissions and Trade | Susanne Åkerfeldt |

Parallel session 3

| | |
|---|------------------------|
| Critical Issues in Environmental Taxation | Roberta Mann |
| Environmental taxation in Brazil | María Amparo Grau Ruiz |
| Greening Taxes 1 | Felix Ekardt |

Parallel session 4

| | |
|--|-----------------------|
| Greening the economy and support schemes | Marta Villar |
| Energy Transition and Trade | Theodoros Zachariadis |
| Carbon pricing country experiences 2 | Claudia Kettner |
| Reconciling Environment and Society 2 | Hope Ashiabor |

Parallel session 5

| | |
|-----------------------------|--------------------------|
| European Green deal | Stefan Speck |
| Aviation and Carbon pricing | Irene Burgers |
| Greening Road Transport | Daniela Kletzan-Slamanig |
| Greening Taxes 2 | Jerónimo Maillo |

Zoom Access Instructions

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 check carefully 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. (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' feature. You can [find advice here](#).

Not a Zoom pro? Watch the ['join a meeting' tutorial](#) to get started.

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 following 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.

Please note that you can also access all zoom links via our ['Virtual Conference Venue'](#).

Zoom-hotline during conference

In case moderators or presenters need assistance for zoom during the sessions please contact Danny Sibon via e-mail (D.Sibon.1@student.rug.nl), or phone/whatsapp at: +31621665447.

Publication opportunity: Critical Issues in Environmental Taxation

Participants at the 22nd Global Conference on Environmental Taxation will have the opportunity to publish their research in Critical Issues in Environmental Taxation.

Critical Issues is published annually by Edward Elgar Publishing Ltd. Edward Elgar has a very strong publishing record in the fields of environmental economics, environmental law, and environmental taxation. You will have received a copy of last year's Critical Issues with your conference material to give you an impression.

Each volume of Critical Issues is limited to approximately 100,000 words (16-19 papers) and has a thematic approach, often inspired by the conference theme. The theme for each volume is determined after the paper review process is complete. Readers of Critical Issues include academics, policy makers, accountants, lawyers, and economists.

Papers accepted for publication in Critical Issues deal with insights and analysis for achieving environmental goals through tax policy. Manuscripts submitted for possible publication are reviewed by two external reviewers and should deal with topics that are timely and of regional, national, or international interest. Authors of accepted manuscripts will receive one copy of the publication.

Final versions of manuscripts accepted for publication in Critical Issues must be received by **1st of November 2021**. Please send your paper to Stefan E. Weishaar: s.e.weishaar@rug.nl.

Your manuscript should meet the following requirements in addition to any requirements described in a letter of acceptance.

Format.

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If you have any questions regarding the Critical Issues, please email Stefan E. Weishaar, at s.e.weishaar@rug.nl

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Detailed Parallel Sessions

Parallel session 1 (Thursday 23rd September, 15:45-17:00 CEST)

ENERGY TRANSITION 1 [Track 1](#)

Moderator: Zhang Xiaoping

The Role of Extractive Taxes in the Energy Transition (ID: 1)

Dr. Roshelle Ramfol, University of South Africa

A Path to Supporting Data-Driven Renewable Energy Markets (ID: 5)

Benjmain L. Gerber, President & CEO, M-RETS

Carbon taxes without tears? A tax swap proposal for the electricity sector (ID: 45)

Yoram Bauman, Stand-up economist, standupeconomist.com

Emmett Thomas Allen, Undergraduate econ major, University of Georgia

GREEN FINANCE [Track 2](#)

Moderator: Tatiana Falcão

Doing Good is Good for Business – How Carbon Emission Reduction Impacts the financial Performance of Firms Listed on the Johannesburg Stock Exchange (JSE) (ID: 2)

Dr. Lee-Ann Steenkamp, University of Stellenbosch Business School

Green Finance: contribution to climate policy, supporting factors and barriers (ID: 16)

Mag. Daniela Kletzan-Slamanig, Austrian Institute of Economic Research (WIFO)

Angela Köppl, Austrian Institute of Economic Research (WIFO)

The future of the EU's financing in times of disruption and recovery: paving the way for a fiscal-induced green transition in the Member States (ID: 28)

Stefanie Geringer, University of Vienna

Negotiating the Environmental Improvement in the Market: the Brazilian introduction of Green Bonds (ID: 31)

Professor Paulo Antônio Caliendo Velloso da Silveira, Pontifical Catholic University of Rio Grande do Sul (PUC/RS), Brazil

Andrei Cesar Schneider, Pontifical Catholic University of Rio Grande do Sul (PUC/RS), Brazil

CARBON PRICING COUNTRY EXPERIENCES 1 [Track 3](#)

Moderator: Mikael Skou Andersen

Households' energy demand and the effects of carbon pricing in Italy (ID: 4)

Ivan Faiella, Senior Economist, Banca d'Italia, Italy

Luciano Lavecchia, Economist, Banca d'Italia, Italy

Abatement in the EU ETS – Evidence from Austria (ID: 9)

Dr. Claudia Kettner, Senior Economist, Austrian Institute of Economic Research (WIFO)

Daniela Kletzan-Slamanig, Senior Economist, Austrian Institute of Economic Research (WIFO)

Carbon Tax in Brazil: New Green Deal or Green Dystopia? (ID: 29)

Professor Denise Lucena Cavalcante, Federal University of Ceará - BRAZIL (Environmental Taxation Research Group)

Professor Mônica Rocha Victor de Oliveira, Member of the Environmental Taxation Research Group - UFC/Brazil

Carbon pricing in the United States: what's trending? (ID: 50)

Professor of Law and Director, Janet E. Milne, Environmental Tax Policy Institute, Vermont Law School

RECONCILING ENVIRONMENT AND SOCIETY 1 [Track 4](#)

Moderator: Alberto Comelli

State Level Environmental Justice Efforts in Green Deals (ID: 7)

Professor Ross Astoria, University of Wisconsin, USA

Investing in Ourselves Through "Green Deals": Creating a Holistic Economy that Supports Both Growth and Equity (ID: 24)

Professor Nancy E. Shurtz, University of Oregon School of Law

Professor Krystal Noga-Styron, JD, PhD. Professor of Law and Justice at Central Washington University

Capitalism and the Environment: A Tax-Centred Regime (ID: 54)

Shi-Ling Hsu, D'Alemberte Professor, Florida State University College of Law, USA

Parallel session 2 (Thursday 23rd September, 17:30 - 18:45 CEST)

REVENUE RECYCLING AND DIVIDENDS [Track 1](#)

Moderator: Fitsum Tiche

Carbon Tax Revenue Recycling as a Mechanism for promoting a Green Economy — A South African Perspective (ID: 3)

Ashley Baldwin, University of Stellenbosch Business School

Dr. Lee-Ann Steenkamp, University of Stellenbosch Business School

Carbon Dividends and the Political Philosophy of Claims to the Global Commons (ID: 11)

Associate Professor, Tracey M. Roberts, Samford University, Cumberland School of Law

Recent experiences with carbon taxation and revenue recycling – lessons for implementation in central and eastern Europe (ID: 37)

Professor Mikael Skou Andersen, Aarhus University

ENVIRONMENTAL TAXATION AND THE PANDEMIC [Track 2](#)

Moderator: Shi-Ling Hsu

Is the Future of Work "At Home?" (ID: 8)

Prof. Roberta Frances Mann, University of Oregon School of Law, USA

Environmental taxation in the post pandemic phase: an Italian approach (ID: 20)

Alberto Comelli, Full Professor of Tax Law and European Tax Law, University of Parma, Italy

Energy Taxation in the context of the EU Green Deal and the recovery plan (ID: 63)

Dr. Álvaro Antón Antón, Universidad CEU Cardenal Herrera

Carbon Tax in Malaysia's Covid-19 Economic Recovery Plan: Strategies to Design an Effective and Acceptable Policy (ID: 70)

Associate Professor, Izlwanie Muhammad, Universiti Sains Islam, Malaysia

PLASTIC AND TAXATION [Track 3](#)

Moderator: Mona Hymel

The Italian Plastic Tax: An Efficient Measure for the Green Deal? (ID: 22)

Dr. Silvia Giorgi, University of Chieti- Pescara, Italy

Plastic free but no free trade? (ID: 25)

Associate Professor, Rodolfo, SALASSA BOIX, Pompeu Fabra University of Barcelona, Spain

The mismatch between plastic consumption and recycling: reflexions about plastic waste environmental taxation in Brazil (ID: 34)

Lucas Nogueira Holanda, Tax Law Specialist, Federal University of Ceará (Brazil)

CARBON EMISSIONS AND TRADE [Track 4](#)

Moderator: Susanne Åkerfledt

The EU Carbon border adjustments for imported products and WTO law (ID: 42)

Tatiana Falcão, Coordinator of Helsinki Principle 3 (carbon Pricing) at the Coalition of Finance Minister for Climate Action, World Bank

Prof. Dr. Joachim Englisch, Tax Law Professor, University of Muenster, Germany

Carbon Tax and Emissions Transfer a Spatial Analysis (ID: 68)

Sahar Amidi, University of Orleans

Rezgar Feizi, University of Kurdistan

Dr. Thaís Núñez Rocha, University of Orleans

Dr. Isabelle Rabaud, University of Orleans

Parallel session 3 (Thursday 23rd September, 20:00 - 21:15 CEST)

CRITICAL ISSUES IN ENVIRONMENTAL TAXATION [Track 1](#)

Moderator: Roberta Mann

Looking beyond instruments: A revised frame for analysing carbon taxes in law (ID: 12)

Fanny Vanrykel, ULiège – UsaintLouis

Fiscality And Extrafiscality In Environmental Taxation: Which One Must Prevail? (ID: 32)

Andrei Cesar Schneider, Pontifical Catholic University of Rio Grande do Sul (PUC/RS), Brazil

"Provisions primarily of a fiscal nature": time to dispel doubts? (ID: 41)

Erika Scuderi, Institute for Austrian and International Tax Law

Are plastic taxes environmental or fiscal measures? A legal analysis of the Italian and Spanish experience in the framework of the circular economy strategy (ID: 56)

Marina Bisogno, Postdoctoral researcher in Tax Law, University of Naples Federico II

Marta Villar, Professor of Tax Law, CEU San Pablo University

ENVIRONMENTAL TAXATION IN BRAZIL [Track 2](#)

Moderator: María Amparo Grau Ruiz

The New Brazilian National Policy on Payments for Environmental Services: linking Green Deals with nature-based solutions in biodiverse countries (ID: 21)

José Maria Zanocchi, Federal University of Ceará UFC/CNPQ (GTA - Environmental Taxation Research Group)

A European Green Deal: An Analysis of Fiscal Impacts in Brazil (ID: 53)

Stephanie Cristina de Sousa Vieira, Environmental Taxation Research Group – UFC, Brazil

Professor Dr., Denise Lucena Cavalcante, Environmental Taxation Research Group – UFC, Brazil

Reflections about a Conscious Choice Architecture on Environment Tax Policies in Brazil (ID: 55)

Edilson Da Silva Medeiros Junior, Environmental Taxation Research Group – UFC, Brazil

Lucas Nogueira Holanda, Environmental Taxation Research Group – UFC, Brazil

The Unconstitutionality of Tax Benefits Granted by Brazil to Pesticides: A Look Towards the Goal of Sustainable Development Zero Hunger and Sustainable Agriculture (ID: 71)

Amanda Ferraz da Silveira, Pontifical Catholic University of Paraná (PUCPR)

Helene Sivini Ferreira, Pontifical Catholic University of Paraná (PUCPR)

Manuel Munhoz Caleiro, State University of Mato Grosso do Sul (UEMS)

GREENING TAXES 1 [Track 3](#)

Moderator: Felix Ekardt

Possibilities for a Green Fiscal Reform in Brazil (ID: 46)

Maria Carolina Maldonado Mendonça Kraljevic, Environmental Taxation Research Group – UFC, Brazil

Food is in the air... water and soil pollution. The tax perspectives to reduce the environmental impact of the food economy (ID: 47)

Full Professor of Tax Law, Marco Allena, Università Cattolica del Sacro Cuore, Italy

Land Value Taxation and Sustainable Urbanism (ID: 48)

Mr. Paulo Carvalho, Vermont Law School

Parallel session 4 (Friday 24rd September, 09:00 – 10:15 CEST)

GREENING THE ECONOMY AND SUPPORT SCHEMES [Track 1](#)

Moderator: Marta Villar

Greening EU State aid control (ID: 58)

Professor of EU Law. Jean Monnet Chair, Jerónimo Maillo, Universidad CEU San Pablo, Spain

Developing Case Studies to test a Potential Evaluation Framework for Tax Expenditures related to environmental protection (ID: 69)

Natalie P. Stoianoff, Faculty of Law, UTS

Michael Walpole, School of Accounting, Auditing and Taxation, UNSW Sydney

Binh Tran-Nam, School of Accounting, Auditing and Taxation, UNSW Sydney

ENERGY TRANSITION AND TRADE [Track 2](#)

Moderator: Theodoros Zachariadis

Digitalisation in the service of the energy transition: Timeo Danaos et dona ferentes (ID: 40)

Theodoros G. Iliopoulos, Hasselt University, Belgium

Alessia Tomo, University of Naples "Parthenope", Italy

Global Green Tax Reform and Global Justice: The Case for a Carbon Border Tax (ID: 44)

Yan Xu, Scientia Associate Professor, UNSW Sydney

Can woody biomass power generation be a promising means to achieve carbon neutrality as a medium-term goal? A Numerical Simulation Analysis (ID: 64)

Eiji Sawada, Kyushu Sangyo University

The Dutch and German coal exit – an Impact Analysis of policy making (ID: 76)

Sami Madani, University of Groningen and EnWB

CARBON PRICING COUNTRY EXPERIENCES 2 [Track 3](#)

Moderator: Claudia Kettner

Carbon Markets in Developing Countries: The Case of Mexico and Prospects for North American Linking (ID: 17)

Assoc. Prof. Dr. Sven Rudolph, Kyoto University

Joseph Dellatte, PhD candidate, Graduate School of Economics, Kyoto University, Japan

Bahareh Ghafouri, PhD candidate, Graduate School of Global Environmental Studies, Kyoto University, Japan

Multi-Level governed Carbon pricing in Canada: A Sustainability Evaluation of Provincial and Federal Programs (ID: 33)

Assoc. Prof. Dr., Sven Rudolph, Kyoto University Hakubi Center/Graduate School of Global Environmental Studies, Japan

Prof. Takeshi Kawakatsu, Ph.D., Faculty of Public Policy, Kyoto Prefectural University, Japan

Carbon Emission Trading Pricing Mechanism in China: Practice and Experience (ID: 74)

Mingde Cao, China University of Political Science and Law
Hui Wang, Shanghai Maritime University, Law School

RECONCILING ENVIRONMENT AND SOCIETY 2 [Track 4](#)

Moderator: Hope Ashiabor

Paris Target, Climate Justice, Climate Litigation, and the German Federal Constitutional Court (ID: 6)

Prof. Dr. Dr. Felix Ekardt, Forschungsstelle Nachhaltigkeit und Klimapolitik (Research Unit Sustainability and Climate Policy)

An equity framework for carbon taxation (ID: 10)

Ms. Bahareh Ghafouri, Kyoto University

Does Sustainable Taxation of Goods and Services Improve Social Justice among Households? Some evidence from Belgium (ID: 60)

Sebastien Wolff, Catholic University of Louvain

Solar Energy for Poverty Alleviation (SEPAP): Economic feasibility study of SEPAP in Jinzhai County, China (ID: 72)

JIN Zhe, Kyoto University

Parallel session 5 (Friday 24rd September, 11:00 – 12:15 CEST)

EUROPEAN GREEN DEAL [Track 1](#)

Moderator: Stefan Speck

Will the polluter pays principle help deliver the European Green Deal? (ID: 13)

Mirka Janda, European Commission

Astrid Ladefoged, European Commission

Stephen White, European Commission

Aligning the EU Budget with the European Green Deal and the Sustainable Development Goals – Some Reflections (ID: 14)

Associate Professor, Theodoros Zachariadis, The Cyprus Institute

Environmental Neutrality: Redesigning EU VAT to Support the Implementation of the European Green Deal (ID: 19)

Prof. Dr. Matteo Fermeglia, Hasselt University, Belgium

Prof. Dr. Francesco Cannas, Hasselt University, Belgium

The role of environmental taxation in the European Green Deal (ID: 18)

Stefan Speck, Economics and Sustainability Expert, European Environment Agency

AVIATION AND CARBON PRICING [Track 2](#)

Moderator: Irene Burgers

Do aviation taxes affect passenger numbers? New evidence on mitigation potential of existing policies (ID: 15)

Viola Elisabeth Helmers, RWI - Leibniz-Institute for Economic Research, Germany

Dr. Edwin van der Werf, Wageningen University, The Netherlands

Short-lived and ineffective: the Dutch Aviation Tax of 2008-2009 (ID: 43)

Benjamin Weggelaar, Wageningen University, The Netherlands

Dr. Edwin van der Werf, Wageningen University, The Netherlands

Constructing Linkage between Chinese Emission Trading System (ETS) and the EU ETS in aviation sectors (ID: 49)

Xie Ying, University of Macau

GREENING TAXES 2 [Track 3](#)

Moderator: Jerónimo Maíllo

A meat tax for sustainability and healthy diets in the EU: An overview (ID: 27)

Paloma Garcia Córdoba, Universitat Pompeu Fabra

A Green Deal for Rural Stewardship Funding (ID: 75)

Paul Martin, University of New England

Andrew Lawson, University of New England

Future of Right to Environment in the Light of Green Taxation in India (ID: 73)

Dr. (Mrs.) Kiran Kori, Assistant Professor of Law, Hidayatullah National Law University,

GREENING ROAD TRANSPORT [Track 4](#)

Moderator: Daniela Kletzan-Slamanig

Fiscal Policies to Address Air Pollution from Road Transport in Cities and Improve Health in Indonesia (ID: 30)

Dr. Kai Schlegelmilch, Green Budget Germany (GBG)

Dr. Jacqueline Cottrell, Freelance Associate, Green Budget Germany

Dr. Anja Rosenberg, Energy Community Secretariat

Dr. Verena Streitferdt, Pertini-Consulting

Dr. Aditya Mahalana, The International Council on Clean Transportation

Prof. Budi Haryanto, Research center for climate change, Universitas Indonesia, Green Budget Germany (GBG)

Proposal for the Internalisation of External Costs of Road Transport in Hungary (ID: 52)

András Lukács, President, Clean Air Action Group

Dávid Kosztyi, Member of the Experts' Committee, Clean Air Action Group

Opportunities and Challenges on the Way to establishing a Value Chain for the Recycling of Lithium-Ion Batteries from Electromobility (ID: 57)

Dr. Ina Meyer, Austrian Institute of Economic Research – WIFO, Austria

Abstracts (01 – 76)

1) The Role of Extractive Taxes in the Energy Transition

Dr. Roshelle Ramfol, University of South Africa

The global mandate to reduce the use of fossil fuels is reshaping the extractive industry, driving the demand for energy transition minerals and metals that support zero-carbon energy source technologies. This expansion is accompanied by a simultaneous decline in traditional carbon intensive energy sources such as coal, oil and gas and the requisite fiscal revenues from these sectors. Sound policy changes are required to support the rapid transformation of a global economy intent on producing less greenhouse gas emissions. The challenge lies in the fact that many resource-rich countries are dependent on fiscal revenue from fossil fuels. Within the context of an evolving energy-mix, the substitution of extractive inputs does not confer an identical tax base with equalised fiscal revenues. The Organization of the Petroleum Exporting Countries data indicated that between 2004 and 2008, consumption taxes in G7 countries was more than OPEC oil production revenues. Taxing energy at the producer or consumer can affect the fiscal revenues of both countries that generate tax revenue from oil production but also importing countries that derive revenue from fuel consumption. Herein lies the conundrum the OECD refers to as the “fiscal entanglement in preparing for a low-carbon future”. On the one hand tax revenue will reduced as industries reduce their fossil fuel usage, while on the other hand there is also an opportunity to increasing tax revenue from “behavioural taxes” and the expansion of key mining sectors. While the parameters for a country to transit to renewable energy is subject to factors such as revenue dependence on fossil fuels, level of economic diversification and a country’s climate (sunlight intensity duration and exposure and wind speed). This paper examines the uncertainties around the basket of mineral and metal inputs and the modelling of tax regimes specific to energy transition minerals and explores the types of fiscal instruments that can be levied to generate tax revenue.

Short bio

Roshelle is an academic at the University of South Africa in the Department of Taxation. She has expertise in the taxation and fiscal considerations of extractive industries. She actively contributes to the discourse on designing fiscal policies for resource-rich developing countries and the energy transition. Prior to joining academia, she headed the Taxpayer Education unit at the South African Revenue Service tasked to promote fiscal citizenship.

2) Doing Good is Good for Business – How Carbon Emission Reduction Impacts the financial Performance of Firms Listed on the Johannesburg Stock Exchange (JSE)

Dr. Lee-Ann Steenkamp, University of Stellenbosch Business School

Responsible investment incorporates environmental, social and governance (ESG) aspects in investment decisions. The notion of being a responsible and active investor impacts the market performance of companies. In South Africa (one of the top 15 CO₂ emitters in the world), shareholders have intensified pressure on listed companies to disclose their carbon emission information. Various empirical studies have been conducted to ascertain the relationship between ESG factors and financial performance. However, these studies have yielded mixed results and nearly all were conducted prior to the introduction of South Africa’s carbon tax in 2019. It is therefore apposite to examine the relationship between a company’s carbon emission reduction

(which is part of the environmental pillar of ESG) and its financial performance. One way in which to measure a company's carbon emission reduction is to evaluate its self-disclosed targets and commitments as published annually in the audited financial statements and integrated report. Also, financial performance can be quantified by various financial indicators, such as share price and earnings per share. The sample used in this study comprises all 30 companies listed in the Financial Times Stock Exchange and Johannesburg Stock Exchange FTSE/JSE Responsible Investment Index in South Africa. This index ranks all JSE listed companies annually against a set of ESG criteria. It is therefore deemed an appropriate point of departure for examining whether the axiom of 'doing good is good for business' holds true in a country which is both an emerging market and a large emitter.

Short bio

Dr 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. She 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.

3) Carbon Tax Revenue Recycling as a Mechanism for promoting a Green Economy — A South African Perspective

Ashley Baldwin, University of Stellenbosch Business School

Dr. Lee-Ann Steenkamp, University of Stellenbosch Business School

South Africa's carbon tax was introduced in June 2019 to reduce greenhouse gas (GHG) emissions, improve sustainable development, and to systematically transition the country to operating within a greener economy. It is obvious that by international standards, South Africa's carbon tax rate of approximately US\$8 per tCO₂ emitted is inadequate. It could therefore be questioned whether this tax is sufficient to change economic behaviour, transition the country away from being fossil fuel dependent and provide the necessary impetus to meet the country's climate change mitigation targets. In addition, the carbon tax revenue is not earmarked or used for specific climate action measures. Instead, the revenue is allocated to the general budget, without being ringfenced. This raises concerns about whether the carbon tax revenue will be used for promoting a green economy, or whether it is merely another revenue stream for the government. This study will explore the intersect of five green growth dimensions and four types of revenue recycling schemes. These are direct payments of premiums or subsidies, reduction of existing taxes, earmarking, and allocation to the national fiscus. We will draw on the revenue recycling lessons learned from 30 jurisdictions across the world. The study concludes with recommendations as to how the South African government can utilise carbon tax revenue recycling for promoting a green economy in the post-COVID-19 era.

Short bio

Ashley Baldwin is an industrial engineer working as a senior business analyst at a consulting company in South Africa. She obtained her Undergraduate and Honours degrees in Industrial Engineering at the University of Pretoria, South Africa. Ashley subsequently obtained her Master's

degree in Business Administration (MBA) at the University of Stellenbosch Business School, South Africa. Together with her MBA supervisor (Dr Lee-Ann Steenkamp), Ashley examined the country's new carbon tax and revenue recycling possibilities with a view of promoting South Africa's green economy.

Dr 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. She 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.

4) Households' energy demand and the effects of carbon pricing in Italy

Ivan Faiella, Senior Economist, Banca d'Italia

Luciano Lavecchia, Economist, Banca d'Italia

This paper proposes a novel methodology to estimate the demand and elasticity of electricity, heating, and private transport fuels by aligning the microdata of the Italian Household Budget Survey with several external sources. These estimates are used to evaluate the effects of a set of one-off carbon taxes on energy demand and expenditure. According to our simulations, the increase in energy prices prompted by carbon taxation would decrease energy demand. Our simulations suggest that the effects of carbon taxation are generally regressive: expenditure would increase more for poorer households while their energy demand is compressed. The carbon tax could achieve a significant decrease in GHG emissions and raise revenues, which could be recycled to compensate vulnerable households or reinvested to support the energy transition.

Short bio

Ivan Faiella is Senior Economist at the Bank of Italy. He is coordinator of the Bank of Italy Task Force for the G20 Sustainable Finance, member of the Italian Observatory on Energy Poverty, of the G20 Energy Sustainability Working Group, of the Network for Greening the Financial System, of the Committee for the Estimation of Natural Capital and of the Scientific Committee of "Energia". His publications are available at www.researchgate.net/profile/Ivan_Faiella. Twitter: @I_Faiella. LinkedIn: <https://www.linkedin.com/in/ivan-faiella-a0167451>.

Luciano Lavecchia is an Economist at the Bank of Italy, DG Economics, Research and Statistics. He's a member of the Bank of Italy Task Force for the G20 Sustainable Finance. Previously, seconded at the Italian Ministry of Economic Development (2015-2018). He's a member of the Italian energy poverty observatory (OIPE). Luciano holds a PhD in Applied Economics from the University of Palermo and an MSc in Economics and Social sciences from Bocconi University. His research interests are climate-related financial risks, energy (in particular energy poverty) and fiscal policy. His publications are available at <https://ideas.repec.org/f/pla547.html>. Twitter: @LucianoLavecchi

5) A Path to Supporting Data-Driven Renewable Energy Markets

Benjmain L. Gerber, President & CEO, M-RETS

To support 24/7 carbon-free energy initiatives, M-RETS, a renewable energy tracking platform, facilitated the first-ever hourly Renewable Energy Certificate (“REC”) claim when Google finalized an hourly REC retirement in January 2021. This is an exciting first step in building out the data available in existing environmental commodity markets like RECs to help facilitate and quantify efforts toward economy-wide decarbonization in both voluntary and compliance markets. M-RETS believes existing REC markets are uniquely situated to begin and sustain this process in a way that does not disrupt – and hopefully supports – existing markets. Certain consumers are demanding more granular data integrations on RECs such as hourly data to support evolving sustainability goals. These evolving goals place the highest value on quantifying the benefits of their decisions toward decarbonizing their environmental footprint. Hourly generation data access is an important first step in a multi-faceted process to establish data-driven renewable energy markets. In recognition of this, M-RETS suggests a four-phase process to work through the important market implications of the decisions necessary to achieve the growth of globally scalable data-driven renewable energy markets. The achievement of completing the first hourly retirement in a production REC platform is just the beginning. M-RETS plans to continue leading the development of a process that can scale globally to multiple consumers. M-RETS views this paper and the rollout of this achievement as a call to action for creating an advanced renewable energy commodity market built for and driven by increased data access.

Short bio

Benjamin Gerber is the President and Chief Executive Officer of M-RETS. Under his leadership M-RETS developed and successfully implemented an industry leading environmental attribute registry. Initially this allowed M-RETS to increase its footprint from 15 states and Manitoba to all North America. The M-RETS platform brings unprecedented innovation to the industry as well as access to data in pioneering ways such as hourly production data and peak period production data. Ben is a sought-after speaker on issues related to environmental commodities as well as innovation in the utility sector. He has been published by energy news outlets such as Utility Dive, appeared as a guest on local and national media, and is regularly asked to present at national and international conferences on renewable energy, decarbonization, and the role of technology and innovation in the utility sector. Prior to his appointment as CEO of M-RETS, he served as Director of Energy and Labor/Management Policy at the Minnesota Chamber of Commerce. He joined that organization in January 2012, representing the Chamber’s energy interests at both the Legislature and the Public Utilities Commission. Ben owned an asphalt maintenance company while attending college at the University of Michigan where he graduated with a degree in political science in 2005. He graduated from William Mitchell College of law cum laude in 2010 and is admitted to the Minnesota State Bar. Ben is the Vice Chair of the Minnesota State Bar Association Public Utilities Law Section.

6) Paris Target, Climate Justice, Climate Litigation, and the German Federal Constitutional Court

Prof. Dr. Dr. Felix Ekardt, Forschungsstelle Nachhaltigkeit und Klimapolitik (Research Unit Sustainability and Climate Policy)

With a real bang, the German Federal Constitutional Court has adjudicated what is probably the most far-reaching decision ever made by a supreme court worldwide on climate protection. German lawmakers must make the post-2030 climate targets enshrined in the German Climate Protection Act much more specific. And they must distribute the remaining greenhouse gas budget fairly between generations. The latter will force much more ambitious climate targets - and above all more ambitious instruments - even before 2030. My contribution will discuss how the court delivers

a new normative framework for environmental policy and accepts the binding character of the Paris target in law. For the first time, a constitutional complaint for more environmental protection was successful in Germany. The court's decision was made on four constitutional complaints. The first was filed in 2018 by individual plaintiffs and two environmental NGOs represented by attorney Franziska Heß and me. The SFV had prepared the complaint by commissioning legal opinions to me since 2010 (which were based on my habilitation thesis from originally 2002, now from 2019). In 2018, the constitutional complaint met with almost unanimous skepticism in politics, jurisprudence, and the media. When it was accepted for decision by the Constitutional Court in August 2019 - surprisingly for many - the picture changed. It was now followed in January 2020 by further constitutional complaints, including by activists from Fridays for Future and people from Bangladesh, supported by other environmental associations.

Short bio

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. www.felix-ekardt.eu

7) State Level Environmental Justice Efforts in Green Deals

Professor Ross Astoria, University of Wisconsin

Policy makers seem to have coalesced upon two general mechanisms for incorporating environmental justice (EJ) into greenhouse mitigation programs and policies. The first is procedural. Governments are proposing and developing governance structures that include members of disadvantaged communities. The second is to develop greenhouse gas mitigation policies that aim to prioritize abatement projects that benefit disadvantaged communities. California, New York, Washington, and Virginia are four states implementing such EJ programs. Several new governance structures are required: the identification of "disadvantaged communities", the development of state institutions and competencies to support inclusion of individuals from those communities, the appropriation of funds to support the programs, and the deployment of more spatial and temporally granular sensors, to name a few. While states are pioneering these efforts, the Biden-Harris administration has taken them up in their climate initiatives. The White House Environmental Justice Advisory Council, for instance, has just submitted its draft recommendation (May 13, 2021) on the Justice40 Initiative, the Climate & Economic Justice Screen Tool, and revisions to EO 12898. The proposed research to be conducted during summer 2021 will survey state efforts in implementing their EJ programs with the goal of identifying recommendations for the federal government and other states.

Short bio

Professor Astoria has been the lead text consultant on Congressional legislation (Deutsch, H.R. 763), and has published on international trade law, utility law, the Clean Air Act, and smart cities and global warming governance. He is on the inaugural editorial board of the journal Smart Cities and Society. His main field of research is the interaction of carbon pricing with other environmental and social policies. He teaches law, policy, and political theory at the University of Wisconsin, Parkside.

8) Is the Future of Work "At Home?"

Prof. Roberta Frances Mann, University of Oregon School of Law

The COVID-19 pandemic changed the world. All over the world, countries shut down and many workers continued their jobs from home. Employers both large and small discovered that workers can be productive from home. Many employers plan to allow employees greater flexibility to work from home after the pandemic is over. Many workers welcome that opportunity. The widespread shutdowns had an environmental effect. Air pollution and carbon emissions decreased. Wildlife returned to city streets. Office buildings reduced energy use. Workers stopped commuting. Dry cleaners went out of business. With workers spending more time at home, home energy use increased. People who could afford it moved to larger homes away from population centers. Home delivery services boomed. Restaurant takeout and personal protective equipment increased use of single-use plastics. Determining whether a large-scale shift to remote work is a net positive or negative for the environment is a complicated question with many variables to consider. Regardless, the trend towards remote work will likely continue. Assuming that remote work is a net positive for the environment, how can tax policy facilitate the shift? Tax policy can incentivize behavior by creating deductions, credits, or lower tax rates on favored activities. In the United States, limitations on deductions for home offices and employee business expenses increase home workers' tax burdens. Specific to the environmental impact, incentives for home energy efficiency and distributed renewable energy could be enhanced. This paper will explore these and other issues.

Short bio

Roberta Frances Mann is the Mr. & Mrs. L.L. Stewart Professor of Business Law at the University of Oregon. Her scholarship focuses on the intersection of tax law and environmental issues. Professor Mann first attended the Global Conference on Environmental Taxation in 2002 and has presented at GCET almost every year since then. She has served on the International Steering Committee for the GCET multiple times. Her recent articles include *Borrowing from Millennials to Pay Boomers: Can Tax Policy Create Sustainable Intergenerational Equity*, 36 Ga. St. U. L. Rev. 799 (2020) (with Jonathan B. Forman); *Tax Policies for Green Manufacturing: Implementing the Green New Deal*, 17 Pitt. Tax Rev. 1 (2019); and *Saving the Planet by Cutting Corporation Taxes: A Comparative Case Study Analysis*, 23 Fla. Tax. Rev. 238 (2019). (with Fiona Martin and Bill Butcher). In 2018, Professor Mann published her co-edited volume *TAX LAW AND THE ENVIRONMENT* with Tracy M. Roberts.

Jonathan Barry Forman is the Kenneth E. McAfee Centennial Chair in Law at the University of Oklahoma. Professor Forman teaches individual income tax, corporate tax, pension law, nonprofit organizations, and tax procedure. Professor Forman is an expert on the taxation of work. He is the author of *Making America Work* (Urban Institute Press, 2006) and the co-author with Professor Mann of the recent article *Borrowing from Millennials to Pay Boomers: Can Tax Policy Create Sustainable Intergenerational Equity*, 36 Ga. St. U. L. Rev. 799 (2020) (with Roberta F. Mann).

9) Abatement in the EU ETS – Evidence from Austria

Dr. Claudia Kettner, Senior Economist, Austrian Institute of Economic Research (WIFO)
Daniela Kletzan-Slamanig, Senior Economist, Austrian Institute of Economic Research (WIFO)

The European Emission Trading System (EU ETS) is a key instrument of the EU's climate policy. Since its start in 2005, the credibility of the EU ETS has, however, been put into question due to the

persistent oversupply of allowances. Thus, the environmental effectiveness of the scheme, i.e. its ability to incentivise emission abatement measures, remains a matter of discussion. Numerous changes to the design of the EU ETS have been made in order to tackle this issue. Against this background, the paper focuses on two research questions: (1) Has the EU ETS despite a considerable surplus of allowances and low prices spurred abatement activities of the covered firms, and (2) have firms perceived a change in the incentives provided by the scheme over time? To answer these questions a case study for Austria is conducted in which a comprehensive data analysis (matching allocation and emissions data from the EUTL with company level data from the AMADEUS database) is combined with a survey among firms covered by the EU ETS. The results will deliver information on abatement activities by Austrian participants in the EU ETS, differentiated by sectors as well as by installation and firm sizes. In addition, we will focus on the timing of activities, to assess potential differences between the three trading phases. Especially the comparison between Phases 2 and 3 will be of interest as a significant change in the allocation mechanism occurred (EU-wide cap, increased share of auctioning).

Short bio

Claudia Kettner-Marx is Senior Economist at WIFO and has been working in the Research Group "Environment, Agriculture and Energy" since 2008. Prior to that position she worked as a researcher at the Wegener Center for Climate and Global Change at the University of Graz and as a freelance researcher at WIFO and Joanneum Research, Graz. Her key areas of research include EU and Austrian climate and energy policy (with focus on the role of market-based instruments) and indicators for sustainable development. She holds a doctoral degree in Social and Economic Sciences from TU Wien, a Master's degree in Economics from the University of Graz and a Master's degree in Renewable Energies from the TU Wien.

Daniela Kletzan-Slamanig is Senior Economist at WIFO in the Research Group "Environment, Agriculture and Energy", which she joined in 1999 after her graduation in Economics at the University of Graz in 1998. Her main fields of research are economic instruments in environmental policy with a focus on climate change, sustainable consumption and environmental taxation. She has coordinated the Research Group from 2003 to 2008.

10) An equity framework for carbon taxation

Ms. Bahareh Ghafouri, Kyoto University

While climate change affects countries and people differently, climate policies such as carbon taxes also raise equity questions. So far, an explicit agreement on what equity really is has not been surfaced and, in fact, various perceptions among stakeholders such as the general public, politicians, and even amongst academics such as economists, philosophers, and political theorists do exist. In the carbon tax literature, equity is mostly treated with respect to the distribution of burdens among different income groups. However, empirical lessons from carbon taxation in developing countries are scarce and there is great uncertainty regarding respective distributional effects. Iran is a major carbon emitting country which can effectively reduce its emissions through well-designed carbon taxation. Informed political decision-making, however, also requires information about the distributional effects of such a policy, not least due to its impact on the political feasibility. As a preparational step, this paper aims at comprehensively identifying relevant equity dimensions in order to develop an equity framework for a systematic study of carbon taxation in Iran (and beyond). To do so, the paper surveys relevant theories regarding distributive equity, procedural equity as well as intersectionality theory. In addition, the paper studies the particular perception of justice and equity in Iran and compares it to western theories. Not least, the paper presents relevant data from

Iran to better contextualize the equity framework. The paper thus provides a comprehensive framework for equity analysis in carbon taxation, with a particular focus on developing countries and the Middle East.

Short bio

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.

11) Carbon Dividends and the Political Philosophy of Claims to the Global Commons

Associate Professor, Tracey M. Roberts, Samford University, Cumberland School of Law

Carbon taxes have begun to garner support in Congress. Many plans for the use of revenues from carbon taxes have been proposed, including reductions in payroll, income, corporate, and capital gains taxes, block grant funding for payments to low-income households to offset the impacts of a carbon tax, allocations for carbon capture and sequestration payments, and funds for the Green New Deal to speed the transition to a carbon neutral economy. While a broad array of politicians, legal scholars, and economists have championed each of these alternatives, concerns about environmental and distributive justice have derailed climate legislation in the past. Consequently, issues of fairness and justice, rather than efficiency are likely to drive the climate change debate going forward. Of the several carbon and greenhouse gas taxes being considered, two propose to refund or rebate a significant portion of the revenues to consumers in a "carbon tax and dividend" plan. A carbon tax and dividend program imposes a Pigouvian tax on a pollutant and then transfers as a "dividend" to the public of all or a portion of the tax proceeds. The presentation discusses the law and philosophy of the commons as a framework for an equal dividend. First, the presentation draws from Roman law and feudal law, the Magna Carta and the Treaty of the Forests, and incorporates the writings of Hugo Grotius, John Locke and Antoine-Nicholas De Condorcet to clarify the origins of individual claims to the commons. Second, it clarifies American writings on the subject, including those of Thomas Paine, Henry George, and modern theorists, including Nozick, Rawls, Murphy, and Nagel. Third, the presentation situates conflicting claims to the commons in the clash between common law rights of capture, the ad coelum doctrine and modern economic theories allocating rights to common pool resources.

Short bio

Tracey Roberts is an associate professor at Samford University, Cumberland School of Law. She writes and teaches in the areas of taxation, real property and environmental law. Professor Roberts uses historical research, economic analysis, and tax policy and public finance tools to examine tax structures, environmental and land use regulation, and private governance systems. Her book, *Tax Law and the Environment*, coauthored with Roberta Mann, was published in 2018. She received her LL.M. in Taxation from New York University, her J.D. from Vanderbilt University Law School, and her A.B. from Harvard University.

12) Looking beyond instruments: A revised frame for analysing carbon taxes in law

Fanny Vanrykel, ULiège - USaintLouis

This is a legal analysis of carbon taxes, as a regulatory strategy to curb greenhouse gas (GHG) emissions. The aim of this research is to offer a fresh perspective on the relationship between climate change, taxes and the law. It departs from the predominant view that pervades legal scholarship on the topic, which understands this relationship in instrumental terms. This approach focuses on the specific features that differentiate regulatory strategies but has little regard to their substance. It also tends to relegate the law to a mere matter of constraint and the legal context to a 'clean clinique. Instead, this research establishes an original framework of analysis to study the legal particularities of carbon taxes, which enables to look beyond instruments. This analytical framework regards the legal implementation of a carbon tax as a process of equalisation of carbon emissions.

Short bio

Fanny is a FNRS research fellow, conducting her PhD at ULiège and USaintLouis. Her project concerns carbon taxes which she studies through an original perspective, that is the equalisation of carbon emissions. Previous work experience include participation to an interdisciplinary research on policy instruments for a low carbon society.

13) Will the polluter pays principle help deliver the European Green Deal?

Mirka Janda, European Commission

Astrid Ladefoged, European Commission

Stephen White, European Commission

The European Green Deal stresses that only by making full use of pricing and well-designed tax reforms can Europe meet its environmental objectives in an efficient and just way. This means applying the Polluter Pays Principle in European Union law and national policies. Environmental taxes are the competence of the European Union level in only limited circumstances, such as the Energy Taxation Directive: which has slowed their adoption and implementation. More widespread pricing takes place through charges, such as for water use, or through extended producer responsibility schemes, such as for waste. There have been successes, such as plastic bag charging or the emissions trading scheme. But, the evidence suggests that there is still a systematic failure to price pollution across policy areas and for all sectors, and so externalities are not properly internalised. In addition, progress to phase out environmentally harmful subsidies is slow. Overall, the level of environmental taxes and environmentally harmful subsidies have both remained broadly constant over recent decades, and a joined-up response is needed at the European Union and the national level. Doing so would be good for the environment, growth and jobs.

Short bio

Mirka Janda works at the European Commission, Directorate General for Environment, Unit for Sustainable Development Goals, Green Finances & Economic Analysis. She has more than 15 years of professional experience in evaluation and impact assessment across different departments of the European Commission. In 2015, she was one of the co-authors of the Commission's Better Regulation Guidelines. Since 2018 she has worked on market based instruments and (environmental) taxation.

Astrid Ladefoged is Head of Unit for Sustainable Development Goals, Green Finances & Economic Analysis within the Directorate General for Environment at the European Commission. She 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.

Stephen White works at the European Commission, Directorate General for Environment, Unit for Sustainable Development Goals, Green Finances & Economic Analysis. He is an environmental economist with more than 25 years of professional experience in modelling, evaluation and impact assessment. In 2001, he was one of the original designers of the Commission's Impact Assessment system, and a co-author of the Commission's Better Regulation Guidelines.

14) Aligning the EU Budget with the European Green Deal and the Sustainable Development Goals – Some Reflections

Associate Professor, Theodoros Zachariadis, The Cyprus Institute

The European Union has adopted an ambitious environmental agenda, framed in the European Green Deal, which encompasses all aspects of environmental sustainability – climate stabilization, elimination of pollution, circular economy and sustainable agriculture. Moreover, the UN Sustainable Development Goals have formally become part of the regular macroeconomic monitoring process in the EU. At the same time, financial resources of unprecedented amounts will be mobilized at EU level in the current decade: apart from the multi-year EU budget, additional economic recovery funds will be provided to all EU member states. A substantial fraction of these resources must be committed to green actions, and this commitment is monitored through legally binding arrangements, for example through the Sustainable Finance Regulation and the Regulation on the Recovery and Resilience Facility. This presentation will build on latest policy developments in this context, addressing questions such as the following: Apart from meeting legal requirements, how much do the National Recovery and Resilience Plans of EU Member states (submitted in April-May 2021) make an actual contribution to the objectives of the European Green Deal? To what extent are the UN Sustainable Development Goals actually mainstreamed in EU economic policy? How might the EU budget for 2021-2027 be used to alleviate shortcomings in the sustainability performance of the Recovery Plans? Are green fiscal policies an essential part of these plans?

Short bio

Theodoros Zachariadis is a tenured Associate Professor at the Energy, Environment and Water Research Centre of the Cyprus Institute. In 2009-2020 he served as an Assistant and then Associate Professor of environmental policy and energy resource management at the Cyprus University of Technology. In 2015-2020 he was the Dean of the University's Faculty of Geotechnical Sciences and Environmental Management. He holds a Diploma and a Doctorate in Mechanical Engineering from the Aristotle University of Thessaloniki, Greece. He is a member of the Scientific Committee of the European Environment Agency, a Visiting Professor at Aarhus University, Denmark, a Manager at the United Nations Sustainable Development Solutions Network Europe and an associate editor of the international Journal "Energy Economics". He is also a member of the Leadership Council of SDSN Cyprus. He is the recipient of the 2009 Research Prize of the Republic of Cyprus and the 2019 Environmental Prize awarded by the President of the Republic of Cyprus. His research interests are on the techno-economic analysis of energy, environmental and transport policies, with a special interest in environmental taxation. He was the lead organizer of GCET20 that was held in Limassol, Cyprus, in September 2019.

15) Do aviation taxes affect passenger numbers? New evidence on mitigation potential of existing policies

Viola Elisabeth Helmers, RWI - Leibniz-Institute for Economic Research

Dr. Edwin van der Werf, Wageningen University

Due to the undeniable impact of climate change on economies and welfare, a number of policy instruments were implemented within the past decade to try and mitigate anthropogenic greenhouse gas emissions. One such instrument is the taxation of passenger aviation, currently implemented by seven EU countries in varying forms. This study examines the impact of the German Aviation Tax on passenger numbers since its implementation in 2011, using data on yearly departing passengers for 225 EU airports between 2007 and 2018. A dynamic panel difference-in-differences estimation shows that tax implementation cause a drop in passenger numbers of up to -16% in the year of implementation, and a less prominent - 11% in the following year, after which growth rates bounce back to pre-tax levels. This calls into question the effectivity of the German tax as a mitigation instrument, at least in its current state. Comparisons also show, that the inclusion of large international airports in the data set results in a downward bias of the estimated tax impact, due to large numbers of transfer passengers, an effect thus far neglected by previous studies. Similarly overlooked has been the necessity of a proper control variable for ticket prices, as commonly used CPI include these taxes. Both caveats are addressed in the study, adding to the validity of aviation tax research as a basis for policy-making.

Short bio

Viola Helmers has been working on empirical impact evaluation of the German Aviation Tax's effect on passenger numbers since 2019. She obtained a Master's degree in Agricultural and Food Economics from Bonn University, and a Master's degree in Management, Economics, and Consumer Studies from Wageningen University and Research (WUR) in the Netherlands. She specialized in Environmental and Resource Economics and has worked as research assistant at Bonn University, WUR, and the Center for Development Research (ZEF) in Bonn. In September 2020 she joined the RWI's Environment and Resource department as a research assistant under Prof. Manuel Frondel, and is also currently a Ph.D. candidate at RWI's Ruhr Graduate School in Economics.

Edwin van der Werf is Associate Professor at Wageningen University, the Netherlands (since 2011). Research Network Fellow at CESifo, Munich, Germany, since 2009. PhD in economics from Tilburg University and CentER, the Netherlands. He is an environmental and resource economist and especially interested in the economics of climate change mitigation policy, notably the design of policy instruments to reduce emissions.

16) Green Finance: contribution to climate policy, supporting factors and barriers

Mag. Daniela Kletzan-Slamanig, Austrian Institute of Economic Research (WIFO)

Angela Köppl, Austrian Institute of Economic Research (WIFO)

Achieving the emission reductions to meet the long-term climate policy objectives requires a comprehensive restructuring of our economies and a massive scaling-up of investments in climate-friendly technologies, infrastructures, and R&D. There is growing awareness that public finance alone will not be sufficient and private funds will be needed to fill this investment gap. The EU has launched a process for greening the financial sector and highlighted the key role of private finance and capital markets to align investments to sustainability and the Paris targets. The need for new financial instruments and financial market regulation has been emphasized. Developing an appropriate regulatory framework reduces investors' uncertainty and can also lessen climate related financial risks. To assess the current relevance of green finance in the financial market and climate policy (with focus on Austria) we carried out an online survey among experts and stakeholders. The results give an insight on key strategies, policies and actors that can support the scaling-up of green

finance. In particular, conclusions can be drawn regarding key policies that should be integrated in post-Covid stimulus packages to ensure that the recovery is Paris-aligned. Green fiscal measures (carbon pricing, removal of fossil fuel subsidies) are regarded as the most relevant supporting policies for green finance. Furthermore, measures for risk management and financial sector regulation as well as green public investments are regarded as important. In contrast, inadequate regulation at the national level, insufficient consideration of climate related risks and lobbying by “brown” sectors are perceived as the main barriers.

Short bio

Daniela Kletzan-Slamanig is senior economist at the Austrian Institute of Economic Research (WIFO), which she joined in 1999 after her graduation in Economics at the University of Graz in 1998. She is part of the research area "Environment, Energy and Agriculture". Her main fields of research are economic instruments in environmental/climate policy with a focus on environmental taxation and environmentally harmful subsidies, eco-innovation and policy evaluation.

Angela Köppl is Senior Economist at WIFO and has been working in the Research Group "Environment, Agriculture and Energy" of WIFO since 1992. She held the position of WIFO's Deputy Director twice and was responsible for research coordination in this position. received her doctorate in Economics from the University of Vienna in 1991. From 1987 to 1992 she worked as a research assistant in the Department of Economics at the Institute for Advanced Studies. In 2002 she spent a research stay at the Massachusetts Institute of Technology in Cambridge. She is Vice President of the Austrian Chapter of the Club of Rome. As a member of the board of the Climate Change Center Austria (CCCA) in its early years, she contributed significantly to its establishment. Key areas of her research are questions of climate change and the restructuring of the energy system, economic instruments of climate policy, such as eco-taxes and emissions trading, as well as Austrian and EU energy and climate policy.

17) Carbon Markets in Developing Countries: The Case of Mexico and Prospects for North American Linking

Assoc. Prof. Dr. Sven Rudolph, Kyoto University

Joseph Dellatte, PhD candidate, Graduate School of Economics, Kyoto University

Bahareh Ghafouri, PhD candidate, Graduate School of Global Environmental Studies, Kyoto University

Mexico is the tenth biggest greenhouse gas emitter in the world. It confirmed its Nationally Determined Contribution in December 2020 to unconditionally reduce emissions by 22% below business as usual (BAU) by 2030. However, Mexico's climate action is now judged highly insufficient, because the confirmation in fact represents a reduction of former ambitions as BAU estimations have been raised. Still, Mexico was one of the first developing countries to implement a national emissions trading scheme (ETS) in January 2020. It is well known that ETS not only offer economic, environmental and social benefits but also allow for linking of domestic schemes, thus even improving sustainability features and representing a pathway to a bottom-up global climate regime architecture. In North America, the Western Climate Initiative (WCI) and the Regional Greenhouse Gas Initiative (RGGI) are already based on sub-national linkages. The aim of our paper is to evaluate the design and performance of the Mexico ETS and assess one prerequisite for sustainable North American linking, namely the harmonization of major design elements. We apply ambitious sustainability criteria developed in an earlier paper, analyze available performance data from the early pilot phase and conduct a comparative design analysis of the Mexico ETS, the WCI and RGGI. We show that, while being an important step in the right direction, Mexico's ETS is neither

sustainable nor ready for linking yet. Still, the results of our paper can be used to further pro-program improvement and linking readiness both in Mexico and in other developing countries.

Short bio

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 more than 90 lectures at international conferences and workshops, and he has published five books and more than 100 articles, more than 30 of which peer-reviewed. Sven has work experience as an environmental NGO campaigner and has informed governments around the globe on carbon pricing. He has extensive experience in international collaboration across disciplinary boundaries. His current research is focused on linking domestic carbon markets in the Pacific region, the political economy of carbon pricing, and climate justice in carbon market design.

Joseph Dellatte is an Climate change Economist and Historian of International relations at the Graduate School of Economics of Kyoto University in Japan. He works in the Political-economy of Climate Policy, cooperative international carbon pricing mechanism, and international Governance of Emissions Trading schemes.

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.

18) The role of environmental taxation in the European Green Deal

Stefan Speck, Economics and Sustainability Expert, European Environment Agency

Environmental taxes and particularly energy taxes were, until recently, most notably seen as a source for revenue generation. With the latest changes in policies in the Climate Law as part of the EGD, their behavioural aspects are coming to the fore. The latter conflict with the former dimension in the long-term as a shrinking tax base limits the idea of implementing any significant tax shifting programme. Furthermore, it becomes evident that higher carbon pricing – which itself is an essential policy tool for the energy transition – calls for special policies addressing regressive effects of higher energy bills of vulnerable citizens. Other fiscal policy tools, including tax policies aiming to promote investment into sustainable economic activities and the transition process, deserve increased attention in Europe. Green corporate tax incentives exist in European countries but are widespread in the US and are playing a great role in the latest plans put forward by Biden. The inclusion of these fiscal policies will align our taxation systems with EU climate objectives and can accelerate the transition process. The role of taxation in the European Green Deal (EGD) requires not only focusing on the 'stick' approach (energy taxation and carbon pricing) but also applying 'carrots' (such as corporate tax incentives) as both policies change behaviour and promote and support investments for the necessary transition towards a climate-neutral Europe.

Short bio

Stefan Speck is working at the Integrated Assessments for Sustainability (IAS) programme at European Environment Agency (EEA) in Copenhagen. He holds a PhD in economics from Keele

University in England. His work at the EEA focuses on the application of market-based instruments (MBIs) for environmental and climate policy, environmental fiscal reform and sustainability transition including sustainable finance. He published widely on environmental fiscal reform and green economy; he was co-editor of the books *Environmental Tax Reform: A Policy for Green Growth* (2011), *Environmental Fiscal Mechanism and Reform for Low Carbon Development: East Asia and Europe* (2013), and *Carbon Pricing Design, Experiences and Issues* (2015).

19) Environmental Neutrality: Redesigning EU VAT to Support the Implementation of the European Green Deal

Prof. Dr. Matteo Fermeglia, Hasselt University

Prof. Dr. Francesco Cannas, Hasselt University

This contribution appraises the potential for indirect taxation to support EU's environmental and climate policies under the European Green Deal. The focus of our work lies on Value Added Tax (VAT) as a tool to favour the green and low-carbon transition. In particular, we analyse one of the main pillars of the EU VAT system, namely the principle of neutrality, and elaborate on how it could be adapted and put at the foundation of a more environmental-friendly form of indirect taxation. The idea behind our work is to intertwine the principle of neutrality underlying the VAT system, which is primarily focused on the absence of charge on businesses and prevention of market distortions, with the co-existing EU's environmental and climate goals. Accordingly, VAT rates should be set, at least in part, on the basis of the environmental and climate impacts of consumption throughout the supply chain. Next, we will critically scrutinise the array existing of legal and administrative tools aimed to assess companies environmental and climate performance (e.g., ISO 14001 and EMAS, as well as other voluntary standards for reporting of GHG emissions) in the EU. We will show how the adequate calibration and use of such tools can steer indirect taxation as an instrument to influence demand of less impactful goods, while not impinging on the inherent elements of neutrality as the key underpinning of VAT in line with the EU's climate and environmental objectives laid down in the European Green Deal.

Short bio

Matteo Fermeglia is Assistant Professor of International and European Environmental Law at Hasselt University. In 2017, he was Visiting Scholar at Columbia Law School, where he collaborated with the Sabin Center for Climate Change Law. Also in 2017, he was awarded the Raul Estrada- Ouyela Award for Emerging Scholars in Climate Law.

Francesco Cannas is Adjunct Professor of Tax Law at the University of Eastern Piedmont and postdoctoral Researcher at the University of Hasselt. Previously, he was an Adjunct Professor at the State University of Milan and a Researcher at the Singapore Management University. He was awarded his LL.M. and PhD in Business Taxation by the Vienna University of Economics and Business.

20) Environmental taxation in the post pandemic phase: an Italian approach

Alberto Comelli, Full Professor of Tax Law and European Tax Law, University of Parma

In the presentation made during the 2020 GCET, I analysed the European Green Deal - i.e. the European Commission's Communication COM(2019) 640 final of December 11, 2019 - and the European Commission's Communication COM(2020) 312 final of July 15, 2020. In the wake of these important soft law instruments, the European Commission has continued its action, with a view to

identifying a common evolutionary pathway for Member States in terms of environmental taxation and, more generally, of corporate taxation. The European Commission's Communication COM(2021) 251 final of May 18, 2021, entitled "Business Taxation for the 21st Century", is particularly important in this regard. It underlines that the international corporate tax system is outdated and it should be reformed in-depth, considering the possible reallocation of taxing rights and the minimum effective taxation at a global level. This Communication reaffirms the great importance of the European Green Deal (and of its objectives) as a fundamental part of EU's tax agenda. In this regard, a critical step will be the forthcoming proposal to reform the Energy Taxation Directive (Council Directive 2003/96/EC) "by rationalising the system of minimum rates and removing outdated exemptions and reduced rates". Furthermore, the European Commission will propose a Carbon Border Adjustment Mechanism for reforming the pricing mechanisms to support EU climate objectives. On the other hand, the European Commission believes that the desirable tax reforms by Member States should shift the labour tax burden to less distortionary taxes. In particular, the polluter pays principle, enshrined in Article 191, paragraph 2, of the Treaty on the Functioning of the EU, should be further strengthened and implemented.

Short bio

Alberto Comelli is Full Professor of Tax Law and European Tax Law at the University of Parma (Italy). He works for the most important reviews specialised in tax law. He made publications in several fields of tax law and European tax law, including *Iva comunitaria e iva nazionale*, published in 2000 and *Poteri e atti nell'imposizione tributaria*, published in 2012. He is also co-editor, together with Professor Cesare Glendi, of *La riscossione dei tributi* published in 2010 and together with Professor Massimo Basilavecchia, of *Discussioni sull'oggetto del processo tributario*, published in 2020. 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 tax issues through an in-depth analyses based, inter alia, on the comparison with other European tax systems. In close cooperation with a number of important foreign universities and research institutes, he is carrying out intensive research into topical subjects, including the income taxes, value added tax, environmental taxation, tax assessment, tax collection, taxpayers' protection, evidence and proof, tax trial. He was a member of the Committee set up by the Italian Ministry of Economy and Finance to design the system to computerise the tax trial. He is a member of the European Association of Tax Law Professors based in Amsterdam and he is an active member of the Italian working group. 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.

21) The New Brazilian National Policy on Payments for Environmental Services: linking Green Deals with nature-based solutions in biodiverse countries

José Maria Zanochi, Federal University of Ceará UFC/CNPQ (GTA - Environmental Taxation Research Group)

International cooperation is paramount to the effectiveness of the policies and measures to tackle with the environmental challenges of this Age, particularly the fight against climate change. Despite of ambitious Green Deals announced by a few countries recently, the World is still far from the pathway to limiting warming to 1.5 degrees Celsius above pre-industrial levels. Investing in nature-based solutions worldwide will be vital to the attainment of planetary environmental targets, not only in relation to carbon neutrality, but also to protect biodiversity and bring about other pressing Sustainable Development Goals. Brazil has just enacted the National Policy on Payments for Environmental Services, setting forth a wide range of programs to foster and sponsor the conservation of strategic natural assets and the restoration of ecosystems. It introduces new

opportunities to public and private funding, both nationally and internationally. This study aims to investigate how voluntary cooperation policies set forth under Article 6 of the Paris Agreement can scale up national policies such as these to the global level and thus contribute decisively to net zero targets and countries contributions. It will explore the interlinkages between the climate regime and legal frameworks elsewhere as a benchmark to secure the financing of climate action, under the common but differentiated responsibility principle of the UNFCCC, both by public and private funding.

Short bio

Member of the Environmental Taxation Research Group of the Federal University of Ceará, Brazil (UFC/CNPQ). PhD Student affiliated to the UFC. (jose.zanocchi@mzg.com.br)

22) The Italian Plastic Tax: An Efficient Measure for the Green Deal?

Dr. Silvia Giorgi, University of Chieti- Pescara

The European Parliament and the Council of the European Union adopted Directive 2019/904 to prevent and reduce the environmental impact of certain plastic products and to promote the transition to a circular economy (Directive (EU) 2019/904). In implementing such a Directive, Italy introduced a tax on the consumption of single-use plastic items (by Article 1, paragraph 634 of Law No. 160 of 27 December 2019), but its enactment has been postponed three times, due to Covid-19 economic-rebound, to some application doubts and to the European Council announcement regarding the introduction of a new EU Own Resource calculated on the weight of non-recycled plastic packaging waste generated by Member States. Therefore, the Italian Plastic Tax should enter into force on 1 January 2022, but, meanwhile, its scope and application could be revised. Against this backdrop, the paper will be divided into two sections; in the first one the analysis will focus on the state of art: the relationship between the Italian Plastic Tax and the EU Plastic Own Resource in place since 1 January 2021; the subjective and objective scope of application of the Italian Plastic Tax, also according to the opinion and practical indications of Customs Agency; its obligation and penalty regimes. In the second part, the investigation will involve: nature and goals of the Italian measure; its suitability to affect people behaviours also through a reward rationale; current weak points and prospects for making such a tax more effective and pursuant with EU and circular-economy goals.

Short bio

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 (in Italian). She is also editor of A-ranked Italian scientific journals such as *Rivista trimestrale di diritto tributario* and *Rivista di diritto tributario internazionale*.

24) Investing in Ourselves Through "Green Deals": Creating a Holistic Economy that Supports Both Growth and Equity

Professor Nancy E. Shurtz, University of Oregon School of Law

Professor Krystal Noga-Styron, JD, PhD. Professor of Law and Justice at Central Washington University

Part of the Green New Deal (GND) resolution (2/7/19) was the significant commitment of public resources to infrastructure overhaul, green energy investment, and redistributive measures. Critics of that proposal pointed to the massive monetary costs associated with such an agenda. Conversely, supporters of the GND pointed out the massive tax savings of the 2017 Tax Cuts and Jobs Act enjoyed by corporate America and their affluent investors. These same arguments are being made now about President Biden's \$2.3-2.65 trillion proposed American Jobs Plan. A chief thrust of these "green deals" is the message that future public policy concerns must integrate economic development and fiscal policy, environmental quality, and commitment to egalitarian principles across racial and class lines as part of a rededication of government to fulfill its constitutional directive to "promote the general welfare." In this paper, I will examine the use of direct expenditures in place of the conventional political (and often hidden) practice of tax subsidies. This paper will compare the more redistributive approach of Biden with the more regressive approaches sponsored by the Republican Party. Key strategic directives of Biden are to raise taxes and eliminate loopholes. GOP proposals, by contrast, argue for raising revenue via consumer-based means, such as through tolls, and other like-minded levies. A bold, fresh and substantive policy approach demands serious exploration, one that does not lose sight of equity concerns that were so prominent in the New Deal of the 1930's, but also one that can garner multilateral political and popular support.

Short bio

Nancy E. Shurtz, the Bernard A. Kilks Professor of Law at the University of Oregon School of Law, earned her B.A. from the University of Cincinnati, her J.D. from Ohio State University, and an LL.M. in Taxation from Georgetown Law. Prior to coming to Oregon, Professor Shurtz taught at the Wharton School of Business at the University of Pennsylvania and practiced law at the Washington D.C. firm of Ginsburg, Feldman and Bress. Professor Shurtz teaches and writes in areas of taxation, estate planning, and sustainable business practice. She regularly addresses leading academic and policy consortiums, including the Critical Tax Conference, the Global Conference on Environmental Taxation, and the Law and Society Conference. Book publications include two leading tax hornbooks [Wolters Kluwer], Sustainability and Business Law [Carolina Academic Press], and Education Planning: Taxes, Trusts & Techniques [ABA Publishing].

Krystal E. Noga-Styron, J.D., Ph.D., is a Professor and Program Director of Law and Justice at Central Washington University. She is a former prosecuting attorney, and serves as a judge pro tempore throughout the state of Washington. She serves as a consultant with various think tanks and policy and research institutes.

25) Plastic free but no free trade?

Associate Professor, Rodolfo, SALASSA BOIX, Pompeu Fabra University of Barcelona

In order to transpose the content of Directive (EU) 2019/904 into the Spanish legal system and achieve the goals of the European Green Deal of 2019 and its "Circular Economy Action Plan" (2020-2024), the Spanish Government presented to Congress a Bill on Waste and Polluted Soils. Different measures with regard to waste are established there, among which is the Tax on non-reusable plastic containers (Plastic Tax) that levies their manufacture, import, and intra-community acquisition, although it exempts their exportation. This tax is in line with Decision 2020/2053/EU, on the EU's own resources system, which establishes a uniform rate of €0.80 per kilogram to the weight of plastic packaging waste generated in each Member State that is not recycled. If we want to a promote circular economy and reduce non-reusable plastics it is not enough to discourage their manufacture or internal consumption, but also those that enter from another country. However, this

must be done within the framework of certain and specific international legal limits, since Spain is a member of different multinational organizations and contracting party to international commercial treaties that could be affected by this tax, especially the General Agreement on Tariffs and Trade (GATT). Considering that the Plastic Tax is an internal environmental tax that seeks to reduce the use of non-reusable plastic within Spain and that its taxable event has a direct impact on international trade, our purpose is to verify whether this tax and any other similar taxes, violates free trade according to GATT parameters.

Short bio

JD, National University of Cordoba, Argentina LLM, Rovira i Virgili University of Tarragona, Spain PhD, Rovira i Virgili University of Tarragona, Spain Associate Professor of Tax and Public Finance Law at Pompeu Fabra University of Barcelona, Spain Invited Professor of Tax Law at Catholic University of Cordoba, Argentina and Rovira i Virgili University of Tarragona, Spain Former Associate Researcher of the National Council of Scientific and Technological Research of Argentina Former Postdoctoral Researcher of the University of Murcia, Spain

27) A meat tax for sustainability and healthy diets in the EU: An overview.

Paloma Garcia Córdoba, Universitat Pompeu Fabra

The European Green Deal sets out the way to make Europe the first climate-neutral continent by 2050. Agriculture is responsible for 10.3% of the EU's GHG emissions and nearly 70% of those come from the animal sector, according to the Annual European Union greenhouse gas inventory. The Farm to Fork Strategy published in 2020 is an essential element of the European Green Deal and it suggests that tax incentives should be part of the transition towards a sustainable food system and encourage consumers to choose sustainable and healthy diets. A few studies were reviewed and there are three main findings: Livestock production has negative effects in relation to climate change, meat consumption has a negative impact on health and economic instruments should be implemented in order to counteract the aforementioned effects. Could a meat tax be considered as a policy instrument available to reduce meat consumption and also to build a sustainable food system in the UE? How should the design of this tax be? This work discusses the possibility of implementing a meat tax, analyzing what the obstacles, motivations, justification and eventual design of the tax would be.

Short bio

Paloma Garcia Córdoba Lawyer Universidad Nacional de Córdoba, Argentina (2014). LL.M. in Contract and Business Law - Universitat Rovira i Virgili, Tarragona, Spain (2017) L.L.M. in Mediation and Alternative Dispute Resolution - Universidad de Valladolid, Spain (2017) PhD Student and fellow - Pompeu Fabra University, Barcelona, Spain (currently) Member of research group in environmental taxation lead by Rodolfo Salassa Boix in Universidad Nacional de Córdoba, Argentina.

28) The future of the EU's financing in times of disruption and recovery: paving the way for a fiscal-induced green transition in the Member States

Stefanie Geringer, University of Vienna

The lack of future-oriented spending at the EU level has been at the centre of criticism in academic scholarship. These long-term patterns have all but evaporated in the course of the Covid-19 pandemic. The combined means in the multi-annual framework 2021–2027 and the temporary

recovery program “NextGenerationEU” (NGEU) have been earmarked to be used at least to the extent of 30% to achieve the EU’s climate goals, translating environment-related spending into the frontrunner of a budget shaped by sustainable development policy. While the Covid-19 pandemic has taken its toll on our economies and societies, the recent developments in the EU fiscal policy reflect the current zeitgeist to break new ground and reassess earlier positions which have been thought unwavering. Seen in this light, it appears to be the right moment to critically discuss the cornerstones of the EU’s financing and particularly how the EU’s own resources are to be accrued. It is thus the aim of this paper to contribute to the discussion on the future of the EU’s financing with particular focus on environment-related measures. While discussing the implications of their concrete design regarding their influence on changes in behavior and consumption, the significance of the introduction of original EU taxes is addressed. The paper concludes with considerations on a preferable regime to provide for a sustainable funding of the EU’s budget.

Short bio

Stefanie Geringer is a PhD researcher in the Department of Tax Law at the University of Vienna and a tax adviser-in-training at BDO Austria. In her research she focuses on EU and international tax law, anti-tax avoidance measures, environmental taxation and national digital taxes.

29) Carbon Tax in Brazil: New Green Deal or Green Dystopia?

Professor Denise Lucena Cavalcante, Federal University of Ceará (Environmental Taxation Research Group)

Professor Mônica Rocha Victor de Oliveira, Member of the Environmental Taxation Research Group - UFC

The U.S. re-engagement to the climate change international negotiations and the EU environmental agenda fueled the debate on the imposition of carbon taxes. Carbon taxes may be a source of revenue to finance post-pandemic economic recovery plans. Nonetheless, carbon taxes’ ultimate goal should be the achievement environmental and development goals. The Biden plan has introduced the supply chain analysis as a relevant factor to the design of environmental policies. This development is important considering environmental regulatory competition among other public measures that may negatively impact environmental goals. Moreover, the supply chain analysis is coherent with the efforts and claims for more corporate accountability and transparency. In that context, this paper will evaluate the Brazilian bills on carbon taxes’ compability with the current proposals. The topic is relevant due to possibility of a “green dystopia” instead of a “new green deal” as a result of a poorly designed carbon tax. Instead of inducing a greener behavior, the measure may lead to an unjustifiable increase in products and services prices impacting competitiveness. The first section will describe the climate change debate after the U.S. re-entering the international negotiations and the European Union climate change agenda. The next part will determine the principles and standards that may affect the imposition of carbon taxes from the new green international agenda. Next, the paper will describe the Brazilian carbon tax proposals and their compability with the new environmental trends. The conclusion will recommend adjustments to the Brazilian proposals, if necessary.

Short bio

Denise Lucena Cavalcante: Post-doctorate at the University of Lisbon. PhD at the Pontifical Catholic University of São Paulo (PUC/SP). Full Professor of Tax Law at the Federal University of Ceará. Leader of the Environmental Taxation Research Group - UFC/Brazil. Governmental Attorney.

Mônica Rocha Victor de Oliveira: Doctor in Taxation, Graduate Tax Program, Levin College of Law, University of Florida LLM. In International Economic Organizations, University of Zurich LLM. in International Law and Economic Integration, State University of Rio de Janeiro.

30) Fiscal Policies to Address Air Pollution from Road Transport in Cities and Improve Health in Indonesia

Dr. Kai Schlegelmilch, Green Budget Germany (GBG)

Dr. Jacqueline Cottrell, Freelance Associate, Green Budget Germany

Dr. Anja Rosenberg, Energy Community Secretariat

Dr. Verena Streitferdt, Pertini-Consulting

Dr. Aditya Mahalana, The International Council on Clean Transportation

Prof. Budi Haryanto, Research center for climate change, Universitas Indonesia, Green Budget Germany (GBG)

In 2018, citizens of Jakarta sued governments for failing to take meaningful action to reduce exposure of the city's population to harmful air pollution. As a result, awareness of the negative health impacts amongst policymakers and the general population is relatively high. At the same time, green fiscal policies have been gaining ground: in February 2020, a new plastic bag excise was agreed, and the parliament debated new excise duties on fossil fuel vehicles on the basis of CO₂ emissions and unhealthy sugary drinks. Furthermore, general carbon pricing is under discussion. Due to the COVID-19 crisis policymakers will need to explore innovative sources of public revenue to fund the recovery. Green fiscal policies are a natural choice for policymakers wishing to drive the recovery and stay on track to achieve the SDGs and Indonesia's NDC targets. Together with above-mentioned factors this created a window of opportunity for reform. To support policymakers in their efforts to use this, the paper elaborates a package of measures. Several high priority actions to tackle harmful emissions quickly and effectively are proposed. Differentiated sulphur excise would deliver health cost savings. Other measures include taxes on transport fuels, a low-tech congestion charging scheme and vehicle ownership taxes calculated on the basis of harmful vehicle emissions. Overall almost a dozen fiscal policy measures are proposed: The distributional impacts of these proposals are expected to be limited and will be more than compensated for by human health improvements and health cost reductions.

Short bio

Kai Schlegelmilch: After his diploma in political economics in 1993, he has worked for more than 27 years in various institutions, focussing on energy and climate policies, particularly fiscal incentives. In the beginning he has worked for the Wuppertal Institute for Climate, Environment and Energy, the European Environment Agency, the Parliamentarian Prof. Ernst Ulrich von Weizsäcker and in the German Parliament before he joined the German Federal Ministry for the Environment, Nature Protection and Nuclear Safety in 1999. There he worked on environmental tax/fiscal reform (EFR) and other energy and climate policies. Then he contributed to the German EU Presidency in 2007. Afterwards he worked for the division on hydropower, wind energy and grid integration of renewable energies. In 2012, he was seconded to the German Environmental Protection Agency, in 2013/14 to the Environment Ministry in North-Rhine-Westphalia. Since mid-2014 he was back in the Federal Environment Ministry, dealing with marine nature conservation. In 2016, he was seconded to the Federal Agency for Nature Conservation in Bonn to work on economic instruments for biodiversity. Since mid 2019, he has worked on environmental issues in agriculture. He advised and trained Asian Governments on EFR and led several European projects on developing countries and worked with many EU and UN-organisations. In his spare time, he is Founder and Vice Chair of the

Advisory Committee of Green Budget Europe and Founder and Chairman of the Supervisory Board of Green Budget Germany (www.foes.de; www.green-budget.eu).

Jacqueline Cottrell has been an environmental fiscal policy consultant specialising in green fiscal policy, inclusive green economy, subsidy reform and green budgeting since 2004. She delivers policy and strategic advisory, human capacity development and research in low- and middle-income countries. She has worked in projects in many regions of the world, but her main focus is Southeast Asia, where she currently has projects in Vietnam and Indonesia. Jacqueline has collaborated with numerous international organizations, including the German International Cooperation (GIZ), the Agence Française de Développement (AFD), United Nations institutions (UNEP, UNESCAP, UNOSD, UNITAR and the ILO), the International Energy Agency (IEA-RETD), the Asian Development Bank Institute (ADB), University College London (UCL), the International Institute for Sustainable Development (IISD), the Vienna Institute for International Dialogue and Cooperation (VIDC), the German Development Institute (DIE), the World Bank, Green Budget Europe (GBE) and not least, Green Budget Germany (FÖS), where she has been a freelance associate since 2004. Jacqueline has published widely in the field of environmental economic policy, including studies for UNEP, UNOSD, UNESCAP, VIDC, IEA-RETD, GIZ, IISD, and DIE. In 2018, she co-wrote *A Climate of Fairness: Environmental Taxation and Tax Justice in Developing Countries* with Dr. Tatiana Falcão for VIDC. She has an M.A. in International Peace and Security from King's College London and an Individual Professional Award in Environmental Economics from the Centre for Environment, Development and Policy at the School of Oriental and African Studies (SOAS), University/London.

Anja Rosenberg brings more than 10 years of work experience in climate finance and policy analysis. Being a mathematician by training, she has contributed to the development of climate mitigation strategies by developing baseline and mitigation scenarios, evaluated clean energy and climate finance instruments and portfolios and analyzed the effectiveness of specific climate policy instruments. She has supported decision makers, research organizations, think tanks, international organizations and private actors operating in Europe and Indonesia. Currently, she works as a Technical Advisor at the Energy Community Secretariat in Vienna, seconded by the German Agency for International Cooperation (GIZ). In this position, she supports partners in Southeast and Eastern Europe in developing integrated National Energy and Climate Plans. Before, she was based in Jakarta/ Indonesia for altogether 7 years and contributed - among other assessments and strategies - to the country's "Climate Change Sectoral Roadmap (Industry Chapter)" and to the "Landscape of Public Climate Finance in Indonesia".

Verena Streitferdt has over 10 years of consultant experience on the topics of Sustainable transport, Energy and climate accounting and energy efficiency: fiscal policy & finance in the South East Asian context. Due to her great network in Indonesia and Southeast Asia she also facilitates and coordinates research teams. As a short-term consultant she has worked for organisations like the Energy Research Center of the Netherlands, Climate Works Australia, UNESCAP and the Wuppertal Institute for Climate, Energy and the Environment. For example, in one of her most recent positions she led the energy data collection and liaison with the local government to a energy modelling study of ADB for the city of Denpasar. She holds certificates as a: GHG Management Institute certified carbon accountant, DGNB Sustainable building standard consultants and RENAC Certified Green Finance specialist.

Aditya Mahalana: More than 15 years of experiences in the field of urban sustainability, air pollution, transport and energy, and climate change mitigation & financing. Familiarity with databases for emission inventory, GHG impact analysis of various policy interventions, and statistical software such as SPSS. The last 10 years working at ASEAN regional level including Indonesia with various sectoral working groups and relevant ASEAN bodies dealing with climate change, environment,

transportation, and urban sustainability. Also actively supporting various government and non-government agencies in Indonesia on climate change mitigation, air pollution, Euro Standards, and fuel quality. Currently working with the International Council on Clean Transportation (ICCT) with focus on remote sensing testing for passenger & heavy-duty vehicles and promotion of electric vehicles in Indonesia and the ASEAN Region.

Budi Haryanto: He has experienced in numerous environmental epidemiology studies such as research on air pollution and children's health, including lead, PM 2.5, ultrafine-particles, and biological exposures. Most recently he has actively contributed to the studies and development of policy and action plan on forest fire health impacts, vulnerability and health adaptation to climate change, health impact of extreme weather events, and impact of land used change to animal and vector-borne diseases. He has published more 50 papers on environmental epidemiology included 11 book chapters and 1 edited book and serves on the editorial boards of 4 environmental health and public health. He also actively involved on scientific climate talks at IPCC's COP 15 Copenhagen 2009, COP 21 Paris 2015 and COP 22 Marrakech 2016.

31) Negotiating the Environmental Improvement in the Market: the Brazilian introduction of Green Bonds

Professor Paulo Antônio Caliendo Velloso da Silveira, Pontifical Catholic University of Rio Grande do Sul (PUC/RS)

Andrei Cesar Schneider, Pontifical Catholic University of Rio Grande do Sul (PUC/RS)

The environmental improvement is moved by avoiding negative externalities and promoting positive externalities. While the first can be achieved by the payment of ecological services, the second is related to incentives attributed to positive consequences to the environment. However, it does not mean it is a costless process. The green bonds are recent mechanisms introduced in the Brazilian legal experience through the Law Nº 14.119 from January 13th, 2021, which establishes the National Policy of Environmental Services. Green bonds are instruments developed for financing green infrastructure. They are designed as debt titles and intend to attract groups of investors interested in long-term investments, due to the nature of this kind of project. According to the Climate Bonds Initiative, the Brazilian market of green bond issuance is estimated at USD5.13 billion in 2019. Therefore, there is a crescent concern toward this practice once the Brazilian Law does not set considerable boundaries or structure of this instrument. At the same time, the Brazilian development banks, like the Far South Regional Development Bank (BRDE), have specific lines of financing that may compete with this framework of debts. Thus, this work intends to demonstrate the application of green bonds in Brazil according to the National Policy of Environmental Services, evaluating not only its structure and boundaries but also the results already achieved by analyzing data from the Brazilian Development Banks and the Climate Bonds Initiative. Keywords: Green Bonds, Environmental Services, National Policy of Environmental Services.

Short bio

Paulo Antônio Caliendo Velloso da Silveira: Graduated in Law at the Faculty of Law from the Federal University of Rio Grande do Sul (1992), Master in Law at the Federal University of Rio Grande do Sul (1996) and Ph.D. in Law, in the area of Concentration of Tax Law, from the Pontifical University Católica de São Paulo (2002), Sandwich Doctorate at Ludwig-Maximilians Universität in Munich (Germany) (2001). Arbitrator of the Brazilian List of the Mercosur Controversies System. Permanent Professor at the Pontifical Catholic University of Rio Grande do Sul, in the Postgraduate, Masters, and Doctorate Program (Capes 6). Co-Owner at Caliendo Advocacia S/S.

Andrei Cesar Schneider graduated in Law at the Faculty of Law from the Federal University of Rio Grande do Sul (2018), Master's Degree Student in Law at Pontifical Catholic University of Rio Grande do Sul (Present). Legal Assistant at the Brazilian Regional Development Bank of the Extreme South.

32) Fiscality And Extrafiscality In Environmental Taxation: Which One Must Prevail?

Andrei Cesar Schneider, Pontifical Catholic University of Rio Grande do Sul (PUC/RS)

Environmental taxation is mostly approached by scholars as an instrument designed for changing ecologically harmful behaviors. Its purpose is to guide taxpayers to take actions that may implicate the minimum number of negative externalities and the maximum number of positive externalities. Therefore, once mechanisms of command and control do not represent the only solution and, in some cases, the better solutions, the environmental tax comes to the scene: i) implementing the internalization of costs from pollution in the production process; ii) awarding incentives for economical actors that promote a positive environmental impact. However, even though the preference for extrafiscality, or corrective tax, in the environmental taxation, the fiscal element of collecting revenue must be reviewed and stressed in the analysis. Nowadays, the costs of pollution have already been measured by many international organizations, like the World Health Organization, the World Bank, or the European Public Health Alliance. For this reason, the amount of costs must be considered once they are supported by the State, which needs resources for its maintenance. Thus, this paper intends to address the importance of considering the costs of pollution (fiscality) in the structure of environmental taxation by supporting the same relevance of changing behaviors (extrafiscality). The purpose of this work is to present the necessary relation between costs and tax bringing associated data and applying an empirical method necessary for analyzing the legal impact. Keywords: Environmental taxation. Fiscality. Extrafiscality. Corrective Taxes. Costs of Pollution.

Short bio

Graduated in Law at the Faculty of Law from the Federal University of Rio Grande do Sul (2018), Master's Degree Student at the Pontifical Catholic University of Rio Grande do Sul (Present). Legal Assistant at the Brazilian Regional Development Bank of the Extreme South.

33) Multi-Level governed Carbon pricing in Canada: A Sustainability Evaluation of Provincial and Federal Programs

Assoc. Prof. Dr., Sven Rudolph, Kyoto University Hakubi Center/Graduate School of Global Environmental Studies

Prof. Takeshi Kawakatsu, Ph.D., Faculty of Public Policy, Kyoto Prefectural University

Canada is the world's ninth biggest greenhouse gas emitter. In April year, Canada announced a tightened emission reduction target of 40-45% below 2005 levels by 2030. But due to policy implementation issues, Canada's climate action is still judged insufficient. However, Canada has been on the forefront of carbon pricing since the Pan Canadian Framework on Clean Growth and Climate Change was announced in 2016. Earlier this year, the respective Carbon Pricing Act has been ruled constitutional by the Supreme Court. The Act gives provinces the freedom to implement their own carbon pricing schemes as long as the price follows a well-defined upward trajectory reaching CAN\$ 50 in 2022; if not, a federal backstop price applies. The aim of our paper is to comparatively evaluate the provincial carbon pricing schemes and the federal Canadian backstop. We mainly base our analysis on a comprehensive set of sustainability criteria for carbon pricing design developed in

an earlier paper, but also consider up-to-date performance data. We show that, while being an important initiative, even the federal backstop is not in line with ambitious sustainability requirements for carbon pricing. Also, the gap between provincial and federal programs with respect to sustainability properties varies significantly, with leading provinces at best following federal guidance. Our results can be used to tailor federal backstop revisions to the aim of making Canadian carbon pricing more sustainable and even provide guidance to progressive provinces wanting to exercise leadership in sustainable sub-national carbon pricing.

Short bio

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 more than 90 lectures at international conferences and workshops, and he has published five books and more than 100 articles, more than 30 of which peer-reviewed. Sven has work experience as an environmental NGO campaigner and has informed governments around the globe on carbon pricing. He has extensive experience in international collaboration across disciplinary boundaries. His current research is focused on linking domestic carbon markets in the Pacific region, the political economy of carbon pricing, and climate justice in carbon market design.

Takeshi Kawakatsu, Ph.D., is vice president and professor with the faculty of public policy at Kyoto Prefectural University, Japan. Prof. Takeshi's expertise is in environmental economics and public finance, and his research focuses on subnational carbon pricing initiatives, especially carbon taxes in Japan and North America.

34) The mismatch between plastic consumption and recycling: reflexions about plastic waste environmental taxation in Brazil

Lucas Nogueira Holanda, Tax Law Specialist, Federal University of Ceará

The Plastic, with its practicality and durability, is one of the biggest threats to the environment, due to its slow biodegradation, damage caused to marine ecosystems and carbon emissions through its productive process. Even the incineration, important to contain the irregular discard in the sea, is a source of carbon emissions, meaning that, wherever plastic is, a carbon footprint goes with it, a hard-timing obstacle to the Paris Agreement purposes. Therefore, Plastic Recycling comes to be an important way out from the carbon emissions and the accumulation in the oceans, as a circular economy initiative. The European Union has already a circular economy strategy plan in course since 2018, besides having plastic recycling as one of the most important pillars in the 2019 European Green Deal. However, there is not too many concrete actions around the world towards plastic consume reduction, taking account the gravity of the problem. In Brazil, even though there is a tax incentive destined to waste sell for recycling, the recycling rate of the country is still less than 1,5%, above the world average of 9%. This research aims to analyze the Brazilian tax discipline concerning waste, looking for reasons that explains why it doesn't appear to work as it should, observing the economical and practical consequences of the incentives. The objectives of this research are to study Brazilian VATs, incentive techniques normally used and regional laws, among the peculiarities of a federated Stated, besides bringing reflections of how the plastic recycling policy could be improved.

Short bio

Member of the UFC Environmental Taxation Research Group. Tax Lawyer. Master's student in Constitutional Law at the Federal University of Ceará (UFC). Specialist in Tax Law and Civil Procedure by the University of Fortaleza (UNIFOR).

37) Recent experiences with carbon taxation and revenue recycling – lessons for implementation in central and eastern Europe

Professor Mikael Skou Andersen, Aarhus University

Carbon taxation is in place in more than ten countries in Europe, complementing the EU Emissions Trading Scheme. Carbon tax rates differ considerably, from €9 per tCO₂ in Latvia to about €108 in Sweden. Germany recently introduced carbon pricing for its domestic sectors of transport and buildings with a rate of €25 and scheduled increases to €55 by 2025. The purpose of this paper is to review experiences of introducing carbon taxes with the aim of proposing a formula for introduction in Poland, Croatia, Romania and Bulgaria. Under the EU's previous greenhouse gas reduction target their reduction shortfalls (gap-to-targets) of the non-ETS sectors amount to 12-18% although Croatia records a reduction overshoot of 6%. However, gaps are likely to widen with the new and more stringent reduction target of 55% by 2030. The four countries already tax energy use - and energy taxes are important contributors to the national budget with 7-8% of total tax revenues. The circumstances moreover suggest that recycling carbon tax revenues for a lowering of social security contributions (SSC) would be appropriate for the national contexts. An important question is whether the four CEE-countries should be aiming for parity of the carbon tax with the carbon price of ETS-allowances. With allowance prices currently well above €50/tCO₂, a too sudden alignment could cause considerable disruption to the economy. Taking into account the UNFCCC principle of differentiated responsibilities, this suggests a suitable introductory carbon tax rate for the four CEE-countries would be considerably lower.

Short bio

My 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. My research has frequently been interdisciplinary, connecting with insights and models from the natural sciences. Recent publications include "Governance, green finance and global climate advocacy of the Nordic countries" in Wurzel et al. *Climate governance across the globe*, Routledge; "Promise and performance of agricultural nutrient management policy: lessons from the Baltic Sea" with Thorsøe et al. in *Ambio – a journal of environment and society* and "Implications of Denmark's water price reform for riverine and coastal surface water quality" with Pizzol et al. in *Florida Tax Review*. I am presently coordinating the NORDFORSK funded research project NOWAGG: New Nordic Ways to Green Growth - strengthening the foundation for technological green growth innovation policy. I am member and vice-chair of the Scientific Committee of the European Environment Agency (EEA).

40) Digitalisation in the service of the energy transition: Timeo Danaos et dona ferentes

Theodoros G. Iliopoulos, Hasselt University
Alessia Tomo, University of Naples "Parthenope"

The action plan 'European Green Deal' explicitly speaks of the 'the twin challenge of the green and the digital transformation' and acknowledges that digitalisation is key for reaching its objectives.

Indeed, artificial intelligence and digitalisation, that are clearly taking an increasing role in different fields of modern societies, could be valuable for achieving environmental goals and for attaining the green energy transition, on which the emphasis of the contribution is placed. To name just a couple of examples, artificial intelligence and digitalisation are expected to facilitate the integration of renewables or to accelerate the development of smart meters and smart grids. Nevertheless, it is noted that at the same time artificial intelligence and digitalisation might obstruct the attainment of the energy transition. This is because artificial intelligence systems need a considerable quantity of data that are necessary to 'train' algorithmic decisions. Data are collected and stored in data centers that require very large amounts of power, which significantly increases the demand for electricity and, in this sense, it offsets parts of the increase in the production of renewable electricity. In this regard, this contribution appraises possible instruments, provided by the recast Renewable Energy Directive 2018/2001, through which the electrification in the sector of information and communication technologies can become greener. More specifically, this contribution aims to examine and put forward suggestions regarding the implementation of 'classic' support schemes, but also regarding the use of renewables power purchase agreements and blockchain technologies for peer-to-peer trading.

Short bio

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 (member of the Athens Bar Association) and as a university teaching assistant. Since September 2017, he has been a doctoral researcher in energy and environmental law at Hasselt University. He was awarded the 'GCET21 Young Researcher Award' in the virtual event GCET21 that was hosted by Vermont Law School in September 2020.

Alessia Tomo is a Ph.D. Student in "Il diritto dei servizi nell'ordinamento italiano ed europeo" at the University of Naples "Parthenope", in progress of formalizing co-thesis regime with the University Complutense of Madrid. Her principal research field is about Big Data, Artificial Intelligence and Data Protection from both public and fiscal perspective. She is also assistant at University of Naples "Federico II" and author of different publications at national and international level. She has already participated as a presenter at previous editions of GCET in Madrid, Spain (2018), Limassol, Cyprus (2019) and South Royalton, USA (2020).

41) Provisions primarily of a fiscal nature": time to dispel doubts?

Erika Scuderi, Institute for Austrian and International Tax Law

According to Article 192(2)(a) TFEU, environmental provisions primarily of a fiscal nature may be introduced by the Council, acting unanimously, in accordance with a special legislative procedure, after consulting the European Parliament, the Economic and Social Committee and the Committee of the Regions. However, the concept of "provisions primarily of a fiscal nature" is not precisely defined. This paper aims to answer the following research question: can European environmentally-driven taxes be introduced using the ordinary legislative procedure of Article 192(1) TFEU? To this end, the author will first set the scene by analysing the reasons why Article 192(2)(a) TFEU provides an exception to the ordinary legislative procedure of Article 192(1) TFEU. Secondly, she will propose a new interpretation of the concept of "provisions primarily of a fiscal nature" based on the analysis of the notion of "fiscal nature", the study of the term "primarily", and the assessment of whether the different language versions of the TFEU could dispel doubts on their meanings or increase the level of uncertainty. In light of this scrutiny, the paper will answer the research question and determine

whether and how environmentally-driven taxes (i.e., "Pigouvian taxes", as opposed to environmentally-related taxes) could be adopted based on the ordinary legislative procedure. Finally, the author will justify her approach, by also taking into account interpretation methods and the principle of legality.

Short bio

Erika Scuderi is a teaching and research associate at the Institute of Austrian and International Tax Law and a Doctoral candidate in Business Law at WU (Wien). She graduated in Law in 2017, from the University of Milano-Bicocca, after spending the last academic year at the Catholic University of Louvain-la-Neuve, deepening her knowledge in international, European and comparative tax law. She also earned a postgraduate Master's degree in Taxation from Bocconi University in 2018. Prior to joining WU, she worked as a legal trainee at PwC - Tax and Legal Services and within the Tax Department of Chiomenti Law Firm in Milan, where she gained relevant practical experience in the tax field. Her research interests lie primarily in the area of environmental taxation, European tax law, the use of fiscal measures to protect the Earth's and outer space's environment and taxation of outer space activities.

42) The EU Carbon border adjustments for imported products and WTO law

Tatiana Falcão, Coordinator of Helsinki Principle 3 (carbon Pricing) at the Coalition of Finance Minister for Climate Action, World Bank

Prof. Dr. Joachim Englisch, Tax Law Professor, University of Muenster

The European Commission plans to publish a legislative proposal for a CBAM in June 2021, as part of a wider package of laws aimed at implementing the EU Green Deal. The Commission is officially still exploring various options, such as a so-called "carbon tax" on selected products, a new carbon customs duty, or the extension of the EU ETS to imports. While the exact design of the CBAM is still unknown, it has already emerged that various objectives pursued in the instrument cannot be fully reconciled within the matrix of the proposal. The purpose(s) eventually to be pursued with the CBAM will not merely inform its design; it will also have legal ramifications. Against this background, the present paper endeavours to explore whether, and if so how, the various CBAM design options presented by the EU Commission could be reconciled with WTO law requirements. In line with current political priorities, we focus on a possible import BTA scheme and assess it against the main provisions of the GATT. Our main hypothesis is that a measure's effectiveness in addressing carbon leakage is limited by the risk of falling short of the WTO non-discrimination requirements. To make this evident, we will compare the CBAM instruments under discussion with the benchmark of an excise tax levied on fossil fuels. As a caveat, we base our analysis on GATT and WTO jurisprudence to the extent that it can be regarded as settled and unambiguous, in order to provide a realistic assessment.

Short bio

Tatiana Falcão is a senior policy expert in international tax and environmental taxation, providing expert consultancy services to the United Nations, World Bank and the African Tax Administration (ATAF) Forum. She is the Coordinator for Helsinki Principle 3 (carbon pricing), at the Coalition of Finance Ministers for Climate Action. Tatiana is a member of the United Nations Subcommittee on Environmental Taxation, and a member of the Scientific Committee of the Africa Tax Research Network (ATRN) of ATAF. She was previously with the U.N. Environment Program and U.N. DESA, overseeing the work of the Committee of Experts in International Cooperation in Tax Matters. Her research focuses on the interface between international tax law and policy issues, with emphasis on the impact on emerging economies. Her book "A Proposition for a Multilateral Carbon Tax Treaty"

was published by the IBFD in 2019. Tatiana is a columnist at Tax Notes International and a frequent contributor to Kluwer International Law Tax Blog. 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), the University of Cambridge (UK, LL.M) where she was the editor and treasurer of the Cambridge Law Review, and New York University (USA, LL.M). Her bachelor in law was obtained at Universidade Candido Mendes (BRA), *cuma sum laude*.

Dr Englisch holds a chair for tax law and public law at Münster University. He has also been teaching in numerous international LL.M. programs. As a post-doc researcher, Dr Englisch analysed the concept of equality of competition in international trade from the perspective of constitutional pluralism. Currently, his main research activities are devoted to International and European tax law covering both, direct and indirect taxation. Dr Englisch continuously advises the OECD and the EU Commission on tax matters since more than a decade, and he has given expert advice also to national governments, NGOs and MPs.

43) Short-lived and ineffective: the Dutch Aviation Tax of 2008-2009

Benjamin Weggelaar, Wageningen University
Dr. Edwin van der Werf, Wageningen University

Greenhouse gas emissions from the aviation sector are an important and fast-growing source of emissions worldwide. In July 2008, The Netherlands introduced a tax of €11,25 on tickets of departing passengers with final destination in Europe or north-Africa, and of €45 when the final destination is located further away. The tax was abolished one year later due to pressure from the industry and other stakeholders, as the tax supposedly pushed Dutch travelers to airports across the German and Belgian borders. This study uses the synthetic control method to analyze the impact of the Dutch aviation tax on the number of departing passengers. Counterfactuals are calculated for each Dutch airport, as well as for Belgian and German airports close to the border, in order to examine whether these airports have experienced an increase in the passengers due to the introduction of the Dutch aviation tax. We neither find a statistically significant effect of the tax on the number of departing passengers from Dutch airports, nor on the number of passengers departing from large neighbouring airports in Belgium and Germany. We find a positive effect on the number of passengers departing from competing foreign airports that cater low-cost carriers. The results suggest that the tax had little effect on passenger numbers, and that the observed fall in passenger numbers at Dutch airports was the result of the 2008-2009 Great Recession.

Short bio

Benjamin Weggelaar holds a BSc in Economics and Business Economics from Maastricht University, the Netherlands. He is currently completing his MSc in Climate Studies at Wageningen University, the Netherlands.

Dr. Edwin van der Werf is an Associate Professor at the Environmental Economics and Natural Resources group at Wageningen University. He holds a PhD in economics from Tilburg University, the Netherlands and is a Research Network Fellow at CESifo (Munich, Germany). He is specialised in the economics of climate change, notably the effect of environmental and energy policy instruments, using *ex ante* and *ex post* impact assessment tools. He has been involved in various EU projects, including TranSust.Scan (Scanning Policy Scenarios for the Transition to Sustainable Economic Structures) and ECONADAPT (Economics of Adaptation to Climate Change). He has published in leading scientific journals such as *European Economic Review*, *Energy Economics*, *Environmental and*

Resource Economics, and Review of Environmental Economics and Policy. He has previously worked at PBL Netherlands Environmental Assessment Agency, the University of Oldenburg (Germany) and the Institute for the World Economy IFW in Kiel (Germany).

44) Global Green Tax Reform and Global Justice: The Case for a Carbon Border Tax

Yan Xu, Scientia Associate Professor, UNSW Sydney

This paper considers the issue of the use of carbon border taxes to address climate change and to achieve global tax justice by discussing two questions related to the tax. First, the paper examines, if a carbon border tax is to be adopted, whether jurisdictions can act within the WTO to prevent other jurisdictions from deliberately circumventing climate change initiatives by refusing to adopt carbon taxes or other measures and selling cheaper carbon intensive products into jurisdictions with carbon taxes. Second, it looks at the extent to which a multilaterally coordinated framework on carbon border taxes could be established to help achieve global tax justice that not only protects the revenue interests and business competitiveness of developing countries but also improves the environmental outcome in those countries. The framework may include differential treatment for developing countries and financial support in adapting to carbon tax measures and in defending their economies against rich predators. The paper argues that there is a possibility to work out a globally coordinated tax policy plan to tackle climate change. This could be administered by the WTO and enforced with sanctions such as trade penalties. Ultimately, an internationally coordinated green tax plan is a critical component of an effective global response to the threat of climate change.

Short bio

Yan Xu is Scientia Associate Professor of Tax Law in the Business School at the University of New South Wales in Australia, and Adjunct Associate Professor in the Faculty of Law at the University of Hong Kong. She was awarded Fulbright Senior Research Scholar 2014-2015 and has held a number of international academic scholarships at institutions which include Columbia University and the University of Cambridge. She has published in a range of international journals, secured several competitive government grants, presented papers at high-level international conferences, and made presentations on invitation from prominent international bodies, including the Australian Commonwealth Treasury. She is often invited to act as referee for highly ranked law journals and academic books. Her research interests include comparative tax law and policy, international taxation, history of tax law, VAT, and environment taxation.

45) Carbon taxes without tears? A tax swap proposal for the electricity sector

Yoram Bauman, Stand-up economist, standupeconomist.com

Emmett Thomas Allen, Undergraduate econ major, University of Georgia

Economists consistently advocate for putting a price on carbon, but the political challenge is fierce because consumers and other interest groups object to paying more for goods like motor gasoline and electricity. In some cases, however, it may be possible to sidestep this political challenge in one important sector---electricity---because many jurisdictions impose sales taxes/VAT or other such taxes on electricity consumption. Replacing these existing taxes on electricity with a carbon tax on electricity gives utilities an incentive to reduce emissions while cushioning or eliminating the price impact on consumers. This paper studies the potential for this kind of tax swap in all 50 U.S. states and beyond.

Short bio

Yoram Bauman has a PhD in economics, he makes a living doing stand-up comedy about economics, and he advocates for carbon pricing, including as the leader of ballot measure efforts in Washington State and Utah.

Emmett Allen is a graduating senior at the University of Georgia, heading to econ graduate school.

46) Possibilities for a Green Fiscal Reform in Brazil

Maria Carolina Maldonado Mendonça Kraljevic, Environmental Taxation Research Group – UFC

In Brazil, a fiscal reform is one of the goals of the current government and three main bills are being discussed in the Congress: two constitutional amendment bills containing a broad and substantial reform and a simpler bill of law proposed by the government. Considering the obligations to fight climate change assumed internationally by Brazil and the global efforts needed to reduce the emissions of greenhouse gases and avoid negative impacts from climate changes, fiscal reforms should consider taxation as an effective climate policy instrument. However, the complexity of the Brazilian Constitutional Tax System limits the possibilities of a green fiscal reform. For such a reform to be carried out, there must be (i) compatibility between the ability-to-pay principle and the use of taxes for environmental purposes; (ii) potential for granting tax benefits for ecological products and companies; or (iii) possibility of applying the principle of selectivity to grade taxes according to the polluting potential of goods. In this context, this study analyzes which taxes could be used to induce to fight climate change or to finance mitigation and adaptation measures and presents some reflections on the possibilities of a green fiscal reform in Brazil. The conclusion of the study indicates a limited, but feasible, possibility of carrying out a green fiscal reform based solely on the taxes currently provided for in the Constitutional Tax System, through changes in the taxes already in force or the institution of new ones, without the need to amend the Federal Constitution.

Short bio

Member of the UFC Environmental Taxation Research Group of the Federal University of Ceará (2021). Master's degree in tax law at Pontifícia Universidade Católica de São Paulo – PUC/SP (2020). Postgraduate in international tax law at the Brazilian Tax Law Institute of Universidade de São Paulo – IBDT/USP (2014). Bachelor of accounting from Trevisan Escola de Negócios (2010). Bachelor of laws from Universidade Presbiteriana Mackenzie (2007). Partner at A. Lopes Muniz Advogados, in Sao Paulo. Alternate counselor at the São Paulo Municipality Tax Court (2020-2022).

47) Food is in the air... water and soil pollution. The tax perspectives to reduce the environmental impact of the food economy

Full Professor of Tax Law, Marco Allena, Università Cattolica del Sacro Cuore

Food production still results in air, water and soil pollution, contributes to the loss of biodiversity and climate change, and consumes excessive amounts of natural resources, while an important part of food is wasted. With regard to the food waste prevention, the Italian measures against the food waste and the environmental impacts attempt to reduce the waste, in order to provide a further tool to promote the circular economy, encouraging the recovery and the donation of foodstuffs, pharmaceutical products and other products for social solidarity purposes. A further tax benefit is the reduction of the tax on waste with reference to the non-domestic utilities related to commercial, industrial, professional activities that produce and distribute food products and that donate such

goods to deprived persons. Referring to the fiscal treatment of waste and bio-waste production, apart from the abovementioned tax reduction, the current framework of Italian rubbish collection tax provisions calculates the tax base independently of the amount of waste produced, and this must be changed. Finally, the food systems has been impacted by COVID-19 pandemic. Italy, as well as other Member States, will implement appropriate measures to achieve goals set forth in the Recovery Plan as the “Circular Economy and Sustainable Agriculture”.

Short bio

Full Professor of Tax Law at Università Cattolica del Sacro Cuore (Piacenza), Faculty of Economics and Law (Piacenza). At the Faculty of Economics and Law of Università Cattolica del Sacro Cuore, Private Practice and Tax Law Liaison within the framework of the of Business Management Post-Graduate Course, Faculty Member of the Law Degree Course and Faculty Member of the Sustainability Management Degree Course. Member of the Law Department. In charge of the Course of Tax Law, Taxation of Finance and of Financial Products, Faculty of Banking, Financial and Insurance Sciences at Università Cattolica del Sacro Cuore (Milan). Director of the High Education Course on Protection, Transfer and Management of Family Estates, organized by Università Cattolica del Sacro Cuore in collaboration with STEP. Member of CattolicaPer il Terzo Settore, a body of Università Cattolica that deals with themes relating to entities other than businesses across a range of areas at the University. Member of the Scientific Committee of the International Observatory for public resources of the Court of Accounts for the 2021-2024 period. Since 2021: Faculty Member at the Agrisystem Ph.D School for the Agro-foodSystem. Former Professor in charge of the Course "Taxation and Religions", Faculty of Theology of Lugano, Switzerland; 2019: Visiting Researcher at Boston College, MA, with a research project entitled Towards next Tax Compliance Standards for improving ICAP. Lessons from Italian and US domestic experiences, under the guidance of Prof. Hughes Ault.

48) Land Value Taxation and Sustainable Urbanism

Mr. Paulo Carvalho, Vermont Law School

The concept of Land Value Taxation (LVT) was first introduced in 1879 by economist Henry George. LVT is basically a property tax concept devised to place the burden of taxation on the value of land, but not on the value of land improvements – in opposition to regular property taxes, normally applied on the value of both land and improvements. The core idea behind LVT is to foster real estate investment while avoiding land speculation. The state of Pennsylvania adopted LVT throughout the 20th century. Pittsburgh is the most important example of LVT implementation in the US. The city’s central business district was renovated between 1970 and 1990, a period known as Renaissance II, when Pittsburgh charged property taxes mainly on the value of land. As a type of property tax, LVT can have an influence on how cities are organized. In effect, it can operate as a novel form of carbon pricing by encouraging land development practices that are more in line with climate change goals. This paper explores the LVT experience in Pennsylvania and argues that LVT can send a pricing signal to promote the transformation of urban spaces into more sustainable areas by (i) helping advance the creation of high density and vertical urban spaces, which would avoid urban sprawl, and (ii) facilitating the construction or renovation of buildings to reduce their GHG emissions. Keywords: land value taxation, sustainable urbanism, vertical urbanism, urban density, pricing signal, carbon taxation

Short bio

Education: - LLB at Universidade Cândido Mendes, Rio de Janeiro, Brazil - 2005 - MBA in Taxation and Accounting at Universidade Federal Fluminense, Rio de Janeiro, Brazil - 2006 - LLM in Taxation at Georgetown University Law Center, Washington, DC, USA - 2008 - LLM in Environmental Law at

Vermont Law School, Vermont, USA - expected 2022 Professional Experience (most relevant): - Tax consultant with Tax Department of Deloitte, Rio de Janeiro, Brazil - 2005 to 2007 - Senior lawyer with Tax Department of Veirano Advogados, Rio de Janeiro, Brazil - 2008 to 2015 - Founding partner responsible for tax consultancy of Severo, Vaz, Ferreira de Moura, Olympio, Megozzi e Carvalho Advogados, Rio de Janeiro and São Paulo, Brazil - 2015 to 2020

49) Constructing Linkage between Chinese Emission Trading System (ETS) and the EU ETS in aviation sectors

Xie Ying, University of Macau

Constructing linkage in the aviation sector between the EU ETS and Chinese ETS could promote the whole linkage of the two ETSs. In the Chinese 13th Five Year Plan, the Chinese government stated that it would like to support the aviation sector to enter ETS, which reflects the potential motivation of China to link with the EU aviation ETS. The article will use the Law and Economics method to find the designs (such as different cap and allocation of allowance) with different efficiency and environmental efficiency of the EU and Chinese aviation ETSs, which causing linking barriers, and legal issues in the linkage, such as double counting, double regulations, and leakage. In order to eliminate the barriers and challenges, the article will argue that Chinese ETS ought to adjust itself based on the EU ETS because of the more efficiency and environmental efficiency of the EU ETS. Because the EU ETS is impacting by the CORSIA, thus Chinese adjustment should also consider CORSIA by adopting offset. Meanwhile, the article will also point out that the subsidy should be given to Chinese aviation industries to encourage them to take part in aviation ETS under the strict limitation of Chinese administrative law relating to aviation sectors.

Short bio

Education The University of Macau, M.A., International Law Macao, China 2019 - 2021 GPA: 17/20 Qufu Normal University B.A., Law Shandong, China 2015 - 2019 GPA: 81.5/100 Exchange Experience - 03/2020 Obtaining the Exchange Qualification of the University of Vienna (Winter Semester) - 03/2020 Receiving the Offer from the University of Cambridge International Summer Programme - 08/2016 Participated in the Hong Kong Chinese University Summer Visit Program (Got a Letter of Recommendation from the Asia-Pacific Institute of Business) Research Experience - 2021, showing a presentation (named "An Analysis of Obstacles and Opportunities in International Investment and Trade Law for the Legal System Construction of the One Belt and Road Carbon Market") on 1st Seminar of International Ph.D. Program on "Law & Social Change: The Challenge of Transnational Regulation" -Master Graduate Project: A Study on the Balance between Animal Welfare and Free Trade Under the WTO Framework - The Researches in Postgraduate Study: - Discussion about The Doctrine of Forum non Conveniens - Applicability of GATS obligations to water services? & Specific commitments on water services - how can they be conditioned? Universal service obligations; subsidies? - The Hardening of International Soft Law in the OTC Derivative Market: A Study of Hong Kong's Model - A Study of the Discretion of International Cooperation on Confiscation in UN Conventions - A Study of 'Estoppel' in International Law by Analyzing the 'Obligation to Negotiate Access to the Pacific Ocean' Case

50) Carbon pricing in the United States: what's trending?

Professor of Law and Director, Janet E. Milne, Environmental Tax Policy Institute, Vermont Law School

Now that the United States has rejoined the Paris Agreement and President Biden has placed climate change and the green economy high on his agenda, it is useful to step back to examine US climate policies at the federal and state levels over the first two decades of the 21st Century. What trends emerge about the use or consideration of the three prongs of carbon pricing: direct carbon pricing through carbon taxes and trading schemes, climate-friendly tax expenditures, and repeal of tax expenditures for fossil fuels? When President George W. Bush was in office, the federal government enacted significant energy legislation in 2005. President Obama built the green economy into the 2009 economic stimulus measures to help the country emerge from the Great Recession. Over a decade later amid calls for a Green New Deal, President Biden has deeply embedded climate measures into his COVID recovery and Build Back Better plans. Negotiations with Congress this year will determine the outcome. Meanwhile, at the state level, some states have pursued carbon pricing and adopted their own climate change goals. This paper examines US carbon pricing trends since the turn of the century. Based on the trends, what is qualitatively or quantitatively different today, and what do trends suggest about carbon pricing's prospects? Despite the inevitable challenges of predicting the future, we can examine the past to see what it might say as we look ahead, especially for carbon pricing as a pivotal policy to achieve climate change goals.

Short bio

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. Publications include *Environmental Taxation and the Law* (J. Milne, ed.) and the *Handbook of Research on Environmental Taxation* (J. Milne and M.S. Andersen, eds.). She is a member of the GCET International Steering Committee for the Global Conference on Environmental Taxation (GCET), hosted GCET3 in Vermont in 2002 and co-chaired the virtual GCET21 in 2020. Before joining the law faculty, she served as tax legislative assistant to US Senator Lloyd Bentsen, Chairman of the US Senate Committee on Finance, an attorney at Covington & Burling in Washington, D.C., and an attorney for The Washington Post. She received her J.D. from Georgetown University Law Center and clerked for Frank M. Coffin, Chief Judge of the US Court of Appeals for the First Circuit.

51) A New Carbon Tax for a post-pandemic recovery

Jose Pedro Bastos Neves, Ph.D. student in Economics, The New School for Social Research
Professor Willi Semmler, The New School for Social Research

There is a sharp contrast between the awareness of the adverse impacts of climate change on the economy and the sluggishness of the economies in shifting to a greener economy. Moreover, the high amount of investments required to this transition will likely be an additional obstacle in face of the increased government debt levels in the post-pandemic era. In this context, we propose a new carbon tax scheme to help finance the green transition. Its main particularity is that it is not levied directly on the economy's production, as the traditional carbon tax is. In our discussion on the feasibility of our scheme, we address explicitly the complex problem of how to identify green and brown sectors. To provide an analysis of its impact on the economy, we build a portfolio maximization model in which individuals decide on consuming or investing on brown or green assets. We then compare the scenario to the one with the classical carbon tax. Finally, we also investigate the use of the tax revenues in subsidizing the green sector. Our conclusion is that our proposed tax is a feasible and powerful instrument in helping speeding up the transition to the a greener economy, particularly during austerity times.

Short bio

José Pedro Bastos Neves is a PhD student in Economics at the New School for Social Research. He has 5 years of public policy experience. He has researched on Brazilian Economy, Structural Change, and Input-Output Tables. His current interests include Macroeconomics, fiscal policy, and climate change.

Willi Semmler teaches Economics at the New School for Social Research. His research topics are Macro Dynamics, Business Cycles, Climate Change, Financial Markets and empirical Economics.

52) Proposal for the Internalisation of External Costs of Road Transport in Hungary

András Lukács, President, Clean Air Action Group

Dávid Kosztyi, Member of the Experts' Committee, Clean Air Action Group

According to various sources, the external costs of road transport in Hungary equal to 6-13% of the GDP. The internalisation of these costs is indispensable to achieve Hungary's goal of decarbonising transport and to substantially reduce other harmful environmental and social effects of transport. According to the proposal, these costs could be gradually internalised during a 10-year period in order to avoid an extreme shock to the economy and to increase the social acceptance of the measure. The internalisation cannot be implemented by raising the fuel taxes due to several reasons. Therefore, a distance- and pollution-based road toll should be introduced on all roads and for all motor vehicles. The revenues from the road toll should be used first of all to compensate the population (especially those in need) by regular direct payments. Another part of the revenues should be used to improve the health care system and to promote environmentally friendly transport modes. Besides improving the environment, the proposed measure would greatly contribute also to creating a more just society with less inequalities. Namely, according to calculations by the authors, currently the richest 10 percent of the population cause 9 times more road transport external costs than the poorest 10 percent.

Short bio

András Lukács, a geophysicist, is a founder and President of the Clean Air Action Group (CAAG, www.levego.hu/en), a national network of Hungarian NGOs and individuals for the environment. He has headed CAAG ever since its foundation in 1988. He is author or co-author of more than 60 studies and several hundred articles on economic instruments for environmental protection, transport and environment, energy and environment, and urban sprawl. He appeared more than 10,000 times in the media. Between 2006 and 2010 he was Member of the Hungarian Economic and Social Committee, representing Hungarian environmental NGOs. He is Board Member of Green Budget Europe.

Dávid Kosztyi: Top Skills Project Management Logistics Management Business Development Publications What can be the main goals of the 21st century's company, or the role of sustainable development in corporate strategy, and its demonstration through green projects analysis. Head of Controlling Department at Díjbeszedő Holding Zrt. Hungary HUNENT Zrt. Head Of Controlling August 2018 - September 2020 (2 years 2 months) Moltech AH 4 years 1 month Controlling consultant August 2018 - January 2020 (1 year 6 months) Rösztke, Csongrád, Hungary Logistics and controlling manager February 2017 - July 2018 (1 year 6 months) Szeged Strategic Purchaser and Team Leader January 2016 - February 2017 (1 year 2 months) GE Lighting 2 years 7 months Financial Representative May 2014 - December 2015 (1 year 8 months) Kisvárda Project Coordinator Intern June 2013 - May 2014 (1 year) Kisvárda Bosch Logistics Intern December 2012 - May 2013 (6 months) Hatvan Education Szent István University Doctor of Philosophy - PhD, Research on the development potential of SMEs and the main indicators of their competitiveness · (2019 - 2023)

Szent István University Master's Degree, Management and Leadership; Business Consulting · (2014 - 2016) Szent István University Bachelor's Degree, Business Administration and Management,

53) A European Green Deal: An Analysis of Fiscal Impacts in Brazil

Stephanie Cristina de Sousa Vieira, Environmental Taxation Research Group – UFC
Professor Dr., Denise Lucena Cavalcante, Environmental Taxation Research Group – UFC

Over the last decades, human activities changed the earth system. Scientists, by the way, have suggested that we are entering in a new geological epoch: the Anthropocene. As a result, many different challenges have appeared, being necessary to discuss them. Climate change, for instance, is a matter of concern that requires mitigating measures to be adopted jointly around the world. As such, European Union embrace a strategy, named European Green Deal, to become climate neutral, which promises a green and inclusive transition to help improve people's well-being and secure a healthy planet for next generations. However, the proposals made will not only reach member states. The intention of the deal, in fact, is to encourage other countries to adopt green measures. In line with the goal of influencing other nations, as an illustration, some member states of the European Union are reluctant to proceed with the ratification of EU-Mercosur trade agreement, on the grounds that it is not in accordance with the European Green Deal, in relation to the environmental issue. Thus, whereas Brazil is a trading partner of the European Union, its social, economic and fiscal relations will be affected. Therefore, this study seeks to investigate how the European Green Deal can cause fiscal impacts in Brazil. Its aims to identify the key assumptions of the above deal; to explore its fiscal aspect and, finally, to analyze the fiscal consequences of this strategy for Brazilian society.

Short bio

Stephanie Cristina de Sousa Vieira: Member of the Environmental Taxation Research Group of the Federal University of Ceará, Brazil (UFC/CNPQ). Master Student affiliated to the UFC.

Denise Lucena Cavalcante: Post-doctorate at the University of Lisbon. PhD at the Pontifical Catholic University of São Paulo (PUC/SP). Full Professor of Tax Law at the Federal University of Ceará. Leader of the Environmental Taxation Research Group - UFC/Brazil. Governmental Attorney.

54) Capitalism and the Environment: A Tax-Centred Regime

Shi-Ling Hsu, D'Alemberte Professor, Florida State University College of Law

Capitalism has been blamed for creating the environmental chaos currently threatening humankind. While capitalism is a social force capable of vast and disruptive change, it has been unfortunate political choices that have pointed capitalism in a destructive direction. Socialism is not an answer, however. The political pathologies distorting capitalism are more pronounced and more environmentally harmful in the few sustained socialist experiments thus far. For example, the growth imperative that some attribute to capitalism has been more extreme and more environmentally harmful in socialist economies. Moreover, capitalism, unlike socialism, is capable of rapid transformation, which is now needed to quickly change economies globally to repair humankind's fractured relationship with its environment.

I espouse a vision for a capitalist economy re-oriented towards reducing pollution through pollution taxation. This book proposes, as a starting point, five pollution taxes: (i) a carbon tax, (ii) a ruminant

tax (primarily on cattle), (iii) a water usage tax, (iv) a nutrient water pollution tax, and (v) a fine particulate matter tax. These five pollution taxes not only address pressing environmental crises, but offer rich opportunities for technological innovation. In each of these five cases, technological innovation has yielded surprisingly inexpensive reductions in environmental degradation. The technologies for accurately assessing these taxes are not necessarily mature, but are all easily susceptible of scalable development within a few years.

Short bio

Shi-Ling Hsu is the D'Alemberte Professor of Law at the Florida State University College of Law, where he served as Associate Dean for Environmental Programs from 2015 to 2019. Prior to his current appointment, Professor Hsu was a Professor of Law and Associate Dean for Special Projects at the University of British Columbia Faculty of Law. He has also served as an Associate Professor at the George Washington University Law School, a Senior Attorney and Economist for the Environmental Law Institute in Washington D.C, and a Deputy City Attorney for the City and County of San Francisco. Professor Hsu practiced law with the firm of Fenwick & West in Palo Alto, California. Professor Hsu has a B.S. in Electrical Engineering from Columbia University, and a J.D. from Columbia Law School. He also has an M.S. in Ecology and a Ph.D. in Agricultural and Resource Economics, both from the University of California, Davis. Professor Hsu has taught in the areas of environmental and natural resource law, climate change, law and economics, quantitative methods, and property. He is the author of *The Case for a Carbon Tax: Getting Past Our Hangups to Effective Climate Policy*, and is the co-author (with Josh Eagle) of *Ocean and Coastal Resources Law*.

55) Reflections about a Conscious Choice Architecture on Environment Tax Policies in Brazil

Edilson Da Silva Medeiros Junior, Environmental Taxation Research Group – UFC
Lucas Nogueira Holanda, Environmental Taxation Research Group – UFC

Since the 70s, studies carried out by Daniel Kahneman and Amos Tversky have demonstrated the subjection of the decision-making process to mechanisms called heuristics and biases. In the same sense, Richard Thaler and Cass Sunstein proposed that it would be possible to induce behavior, taking advantage of heuristics and biases, through techniques called nudges, which, when intentional, would appear in controlled environments, called "choice architecture ". Every choice process would be subject to potential nudges, whether these are consciously constructed or not. When constructing, therefore, a public fiscal policy aimed at environmental protection, it must take into account the techniques resulting from behavioral economics, which has not been observed in the construction of environment fiscal policies in Brazil. In this context, this article proposes to identify fiscal policies, with environmental purposes, that present flaws and contradictions in the decision-making process, while proposing an adoption of an architecture of choices built in a multidisciplinary and conscious way, capable of maximizing their effects and minimize costs and eventual backlashes. The discussion on this topic is relevant and urgent, since public resources, already scarce as a result of the COVID-19 pandemic, are being wasted on poorly constructed fiscal policies, which are unable to induce adequate behavior.

Short bio

Edilson Da Silva Medeiros Junior: Master's degree Law student at the Federal University of Ceará. Specialist in Tax Law and Tax Process at the University of Fortaleza. Bachelor in Law at the University of Fortaleza. Member of the Environmental Taxation Research Group - UFC/Brazil. Tax Lawyer

Lucas Nogueira Holanda: Master's Student on UFC. Specialist on Tax Law and Civil Procedure by Univeristy of Fortaleza. Tax Lawyer.

56) Are plastic taxes environmental or fiscal measures? A legal analysis of the Italian and Spanish experience in the framework of the circular economy strategy

Marina Bisogno, Postdoctoral researcher in Tax Law, University of Naples Federico II
Marta Villar, Professor of Tax Law, CEU San Pablo University

The pandemic underlines the importance of ensuring that the Union has sufficient financial capacity. From 1 January 2021, the European Union budget has a new category of own resources which is based on national contributions that are proportional to the quantity of plastic packaging waste that is not recycled in each Member State. Its aim is providing an incentive to reduce the consumption of single-use plastics, foster recycling and boost the circular economy. These materials extremely useful but dangerous for the environment, has been regulated mainly by command-and-control measures, both at national and European level. During the pandemic taxation is reinforcing its tendency to become an educational instrument to incentive the so-called “green habits”. This paper aims to analyse the fiscal measures adopted in the Italian and Spanish legislation in the framework of the EU law with the double aim to provide resources and to correct the negative externalities connected to the production and consumption of plastics. The compatibility of these instruments and its design with national and European fiscal principles is questionable considering the introduction of a new contribution from Member States based on non-recycled plastic and the recent judgments of the European Court of Justice.

Short bio

Marina Bisogno is a postdoctoral researcher in tax law at the University of Naples Federico II and a fully qualified lawyer. She won a Marie Skłodowska-Curie Individual Fellowships (MSCA-IF) to study vehicle taxation at CEU San Pablo University (Madrid, Spain) under the supervision of prof. Marta Villar. She 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 was an assistant professor at the University of Naples Federico II and at the Paris Nanterre University. Her principal line of research concerns environmental taxation from a legal perspective.

Marta Villar is Full Professor of Tax Law at CEU San Pablo University (Spain). She has published and lectured extensively on a broad range of topics, including environmental and energy taxes. She holds a Ph.D. degree (cum laude) from the University Complutense of Madrid and a master’s degree on European Law from the Université Libre de Bruxelles. She is Vice-chair of the Supervisory Board of the International Fiscal Association.

57) Opportunities and Challenges on the Way to establishing a Value Chain for the Recycling of Lithium-Ion Batteries from Electromobility

Dr. Ina Meyer, Austrian Institute of Economic Research – WIFO

Climate mitigation requires decarbonizing the economy by the mid-century. With the corresponding European and national climate policies, batteries are increasingly moving to the center of the discussion as a storage technology, not only for the projected rapid rise of e-mobility, but also for their ability to balance supply and demand within the renewable and volatile electricity system. The rapid growth in battery production leads to significant material flows through the resource-intensive value chain of LIB production. For example, exponentially increasing worldwide demand for the functional materials lithium, cobalt, and nickel, among others, is forecasted. The supply of primary

raw materials requires considerable energy input for exploration and processing, and thus is responsible for GHG emissions. Recycling of LIB at their end-of-life is considered an effective strategy to manage future waste streams and to provide secondary materials for LIB production, which are significantly lower in energy-intensity and GHG emissions than primary material production. The present study discusses potentials and bottlenecks of establishing a complete value chain for recycling of LIB in Europe. Based on 7 qualitative interviews with experts from business, academia, and administration the following issues were addressed: economic viability, policy instruments (regulation, subsidies), the role of second use, securing the return of LIB (and preventing export), eco-design, recyclability, and R&D. In sum, CO₂ and resource taxes were considered an important overall tool for climate mitigation but regulation was said to be key for setting up a competitive recycling infrastructure in Europa.

Short bio

Ina Meyer is a senior economist at the Austrian Institute of Economic Research (WIFO) specialized in the field of climate mitigation, circular economy, and energy-economic impact analyses with a focus on interdisciplinary and transdisciplinary research methodologies. Her current research addresses policy- and application-oriented research in resource efficiency and decarbonization. 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).

58) Greening EU State aid control

Professor of EU Law. Jean Monnet Chair, Jerónimo Maillo, Universidad CEU San Pablo

Is Competition Policy an obstacle or a driver for increase environmental sustainability? Is there room for greening EU competition policy? Is this greening exercise possible in antitrust, mergers and/or state aid control? In which of these fields there is more room and more scope for action and reform? This contribution will submit that there is room for this greening exercise in all the aforementioned fields but the scope and the impact of the reform of State aid control may be larger. After justifying why is so, the contribution will explore in more detail how to green the EU State aid control and which reforms are necessary. Drawing on the European Commission's Consultation on Competition Policy supporting the Green Deal, in particular to the State Aid Section, as well as the replies to the consultation of the different stakeholders and the scholarly debate that is taken place, the contribution will try to identify and develop the key strategies of this necessary reform.

Short bio

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. Jena Monnet Chair (Single Market & Competition Law in the Digital and Ecological Transition Era/ 1DIGMKT) He has been Fulbright Visiting Scholar at Harvard Law School (2017-2018) 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.

60) Does Sustainable Taxation of Goods and Services Improve Social Justice among Households? Some evidence from Belgium.

Sebastien Wolff, Catholic University of Louvain

In 2020, the world records one of its warmest years, according to the WMO. At the same time, the COVID-19 crisis was pushing hundred million of people to unemployment, temporarily or permanently. Being included in UN SDGs, climate change and poverty are two main challenges faced by the humanity and 'green deals' or recovery plans announced by several countries aim at tackling such issues. Among other measures, tax reforms are frequently envisaged to contribute to a better protection of the environment and to improve social justice and fairness among citizens. To assess the real impact of such policies in Belgium, a consortium of public agencies and academics has been developing since 2016 the PEACH2AIR model to measure the quantity of goods and services consumed by the Belgian households and to couple them with their fiscal component and their impact on aerial pollution. This model was then further extended to evaluate potential fiscal reform aligning taxation with the aerial pollution caused by goods and services consumption. The first section is dedicated to the presentation of the model and the identification of the limits of the analysis. In the second section, changes in environmental footprint and in revenue are evaluated after the introduction of taxes on goods and services based on their climate and environmental impact. The results are observed according to four characteristics: the number of adults in the household, the number of children in the household, the working status of the adults (employed, self-employed, unemployed or retired) and the income (per quartile). The third and last section summarises the main findings and make recommendations for green fiscal reforms on consumption goods.

Short bio

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.

61) Implementation of green taxation to achieve climate justice in Brazil

Mariana Pompeu Egydio, Faculdade de Direito de Franca

Climate change has been a concern of environmental researchers for years. However, few actions are done to actually combat climate change and reduce damages to the environment, such as the emission of polluting gases into the atmosphere, deforestation and pollution of seas and oceans. The planet no longer supports the current highly polluting standards, which is why it is important to adopt new measures to stop it. The present study intends to analyze the possibility of implementing green taxation in Brazil through tax reform. So that green taxes act as an important instrument, reduce carbon gas emissions and reduce deforestation. By allocating part of the funds collected with green taxation to public policies for climate justice. In this way, green taxation is analyzed as fundamental for climate justice for Brazilian native peoples. Using the deductive method approach, the research uses bibliography, papers and Brazilian legislation. It is understood that from the tax

reform, Brazilian legislation will have gains by implementing green taxation. In conclusion, green taxation can be implemented in Brazil and it is important to contribute to the agreements signed for environmental preservation and against climate change. Green taxation favours environmental and economic issues with the allocation of funds raised to public policies aimed at ensuring climate justice for indigenous peoples in Brazil.

Short bio

Lawyer. Postgraduate Master of Law in Civil Law from University of São Paulo (USP). Postgraduate Specialization in Public Law from Escola Paulista de Direito (EPD). Bachelor of Laws from Faculdade de Direito de Franca.

63) Energy Taxation in the context of the EU Green Deal and the recovery plan

Dr. Álvaro Antón Antón, Universidad CEU Cardenal Herrera

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.

Short bio

Dr Álvaro Antón Antón is an Associate Professor at CEU Cardenal Herrera University (Valencia and Elche, Spain). Academic Secretary of the Elche Center of the Cardenal Herrera CEU University since October 2019 and Coordinator of the Master's Degree in Access to the Legal Profession in the center of Elche of the Cardenal Herrera University since September 2018 Dr Antón holds an International PhD (cum laude) in Tax Law from CEU Cardenal Herrera University, where he also graduated in Law in 2007 and Journalism in 2009. His PhD thesis "State aid and renewable energies support systems: an analysis of the tax benefits under the Energy Taxation Directive to promote biofuels" was awarded with the 2014 European Academic Tax Thesis Award by the European Association of Tax Law Professors. He is a former postdoctoral research fellow at IBFD. In 2014 and 2015, he was the research associate of the International Fiscal Association (IFA), developing essays on taxation of illegal activities, international tax issues of international sports organizations and international tax issues of venture capital funds. His research interests are European taxation and international tax law. He has authored several articles and book chapters for Spanish and international publications. He also has been a speaker on tax law issues at several conferences, seminars and courses in Europe and Central America. Dr Antón is also a member of the Spanish branch of the IFA, the Valencia Bar Association and a member of several European research projects on State aid tax issues and taxation of the sharing economy.

64) Can woody biomass power generation be a promising means to achieve carbon neutrality as a medium-term goal? A Numerical Simulation Analysis

Eiji Sawada, Kyushu Sangyo University

In recent years, many countries and regions have set the goal of achieving carbon neutrality by 2050 and have also announced the 2030 goal as a transitional point. One of the main means to achieve this goal is to promote the shift to renewable energy. In this paper, we focus on woody biomass power generation among the multiple renewable energy sources. The average age of standing trees is about 50 years, and if 2020 is used as a reference year, the 2030 and 2050 goals are only 10 and 30 years ahead, which is less than one cycle of the average forest resource use. Therefore, it can be said that there is a discrepancy in the timescales of goal setting and means of achieving the goals. In this paper, using the Hartmann model extended to include forest carbon sequestration and woody biomass fuel use, we attempt to simulate numerically how the medium-term goals of 10-year and 30-year will affect the efficiency of forest resources used in a 50-year cycle. The results show that in the scenario where the carbon neutrality of woody biomass power generation is skeptical, the preferential treatment for woody biomass power generation (e.g., setting a high purchase price for FIT) makes it rather difficult to achieve the mid-term goal. Furthermore, even in the scenario with maximum carbon neutrality, it distorts the efficient use cycle of forest resources in exchange for achieving the mid-term goal. In other words, it may make it difficult to achieve the next 10-year and 30-year goals after the 2050 goal is achieved.

Short bio

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).

68) Carbon Tax and Emissions Transfer a Spatial Analysis

Sahar Amidi, University of Orleans
Rezgar Feizi, University of Kurdistan
Dr. Thaís Núñez Rocha, University of Orleans
Dr. Isabelle Rabaud, University of Orleans

Finding the best way to reduce pollution in a world with growing environmental concerns is important for decisions makers. Some scholars hold that a global carbon tax is the best policy for reduced pollution. With the rising role of globalization, assessing the impacts of carbon taxation on carbon emissions embodied in the trade becomes a key question, however, this question has been overlooked. This is the first paper to bridge this gap. More specifically, our contribution consists of examining an emission tax system of trade, in the framework of the input-output table. We exploit variation in the economic sector of each country to first, identify the most and fewer contaminated categories, and second, investigate the spillover effects due to carbon taxes in an emission embodied in trade analysis. Based on the SDA (structural decomposition analysis), MRIO (multi-regional input-output model), and spatial econometric models, we estimate the spillover effect of emissions embedded in the trade before and after a carbon tax is in place, this for 5 categories, 56 sectors, 43 countries from 2000 to 2014. Our findings prove the “Electricity and Heat Production” as the highest emitter category and reveal a spillover effect of polluting production in their intermediate sectors. When countries impose a carbon tax, which is different in size by country, the effect of emissions embedded in exports and imports will decrease 0.25 percent (from 0.0823 to 0.0798) and 0.36 percent (from 0.0579 to 0.0543) respectively, to and from neighboring countries (with the geographical distance matrix). When studying the trade comparative advantage matrix, the

results are smaller but still positive 0.011 percent (from 0.00307 to 0.00318) for exports and -0.059 percent (from 0.00301 to 0.00242) for imports. Our results show that carbon tax could displace pollution to neighboring countries when taking into account the trade matrix (comparative advantage). This should be taken into account by policymakers. Establishing regional or neighboring taxes might be a solution to avoid pollution leaks and to obtain better results in reducing pollution.

Short bio

Sahar Amidi is a Ph.D. candidate (third year) at the Department of Economics, University of Orléans (France) and a researcher at the Laboratoire d'Economie d'Orléans (LEO). She spent her bachelor's and master's degrees at the University of Kurdistan, and she has been a talented student throughout the years (2011-2018). After completing her master's degree, she received a scholarship from the Campus France and the Institute Kurde of Paris to learn French and continue her doctoral studies. Her main fields of research are green economics, environmental economics, economic growth, international trade, and finance particularly, green tax.

Isabelle Rabaud (female) is currently employed as Associate Professor (Habilitated to supervise research) at the Department of Economics, University of Orléans (France) and researcher at the Laboratoire d'Economie d'Orléans (LEO), where she carries out research and teaching activities. She has recently attained the accreditation for Full Professor in Economics. Her main field of research in International Economics, in particular trade in services, globalization and environment, migration and international organization/strategy of firms. After having attained her PhD at the University of Paris Dauphine, she has worked as Assistant Professor (1997-1999) at the University of Angers, and as Deputy Head of Office "Balance of Payments and International Trade" at the French Treasury, Finance Ministry (2000-2002). She is currently WAI-ZEI Fellow (WAI, West Africa Institute; ZEI, Center for European Integration Studies, Bonn), since 2014. She has been member of the piloting committee of GDRI-DREEM (Development of Euro-Mediterranean Economic Researches from 2007-2014). She has been member of the scientific council of the GDRI IDE 838 (International Development Economics), 2016-2018.

Thais Nunez-Rocha is an assistant professor at the University of Orleans. She holds a PhD from the University Paris I Panthéon-Sorbonne and Paris School of Economics and a Master in Environmental Economics and Energy from Paris X Nanterre with a specialization in Environment, Development, and Territorial Management. She got two grants from Columbia University, one to participate in the Alliance Doctoral Mobility at Interdisciplinary Ph.D. Workshop in Sustainable Development and a Research Stay Grant by Alliance Doctoral Mobility. Her professional background and personal experience give her the proficiency in Spanish, Portuguese, French, and English. Her research interests are the environmental regulation in an open economy, with a special interest on developing countries. Thais research focuses on the composition effect as a mechanism of the impact of trade on the environment. Specifically, she studies how the strengthening of environmental regulation in developed countries affect environmental conditions and recently also health conditions in developing countries.

Rezgar Feizi, who recently graduated from the University of Kurdistan, majored in economics. Since his field of study is on general equilibrium models and the effects of economic variables, he has published several articles in the field of endogenous and exogenous change doubts. He also succeeded in completing the research project with the provincial plan and budget organization. His most important fields of study are macroeconomics, general equilibrium, environmental economics, financial economics, and international economics.

69) Developing Case Studies to test a Potential Evaluation Framework for Tax Expenditures related to environmental protection

Natalie P. Stoianoff, Faculty of Law, UTS

Michael Walpole, School of Accounting, Auditing and Taxation, UNSW Sydney

Binh Tran-Nam, School of Accounting, Auditing and Taxation, UNSW Sydney

After dismantling the Carbon Price Mechanism in 2015, the Federal Coalition Government established the Emissions Reduction Fund (ERF) as its principal policy measure to address climate change. Basically, the ERF provides subsidies to Australian businesses to find ways to reduce greenhouse gas emissions. Further, the Australian Government has recently introduced the Climate Solutions Package and a range of green initiatives. Nevertheless, according to the OECD, "Australia has adopted a piecemeal approach to emission reduction".

A relatively neglected aspect of Australia's climate change policy is the role of tax expenditures in protecting the environment and reducing greenhouse gas emissions/accumulation in the atmosphere. Tax expenditures, commonly known as tax concessions, represent a significant proportion of tax revenue (about 32% in 2016-17). They are used by governments to intervene in markets and influence the behaviour of particular taxpayers or industries. But they are sometimes difficult to identify and are less transparent than program spending as they have no annual appropriation requirement. Further, target groups of tax concessions are less clearly defined, there is little government control over the costs of the expenditure, and they are not regularly reviewed.

This paper is part of an ongoing research project that seeks to develop an evaluation framework for tax expenditures building on the Delphi Study previously conducted by the first two authors. The principal aim of the present paper is two-fold. First, it identifies suitable tax incentives and concessions relating to environmental protection in Australia. Secondly, it conducts a preliminary analysis of these tax incentives and concessions, including investigating the way they operate, examining the policy reasons for their introduction, critically analysing the expected outcomes and gathering archival data and statistics as to their operations including interaction with government departments in addition to the ATO. The method of analysis is primarily doctrinal research methodologies including archival based historical investigation.

The article consists of five sections. In the introductory section, the background and context are provided to motivate our study. In sections 2, 3 and 4, we consider, in turn, three tax incentive and concession schemes, namely, the Conservation Covenant Concession, the Mine site Rehabilitation Tax Incentive, and the Carbon Sink Forests Tax Incentive, respectively. The analysis will be conducted using a uniform structure of investigation, as described above. The concluding section then ties in the results of the Delphi Study undertaken by the first two authors and presents the next stages of the research project.

Short bio

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.

Professor Stoianoff is the author of numerous publications in the fields of intellectual property, environmental law and taxation law. As an internationally recognised leader in environmental taxation, she sits on the editorial boards of the Journal of Behavioural Economics and Social Systems, the Journal of the Australasian Tax Teachers Association, and Critical Issues in Environmental Taxation. 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. She is also currently serving on the National Standing Committee on Energy, the Environment and Agriculture.

Michael Walpole is a Professor of Taxation Law in the Business School at the University of New South Wales. His research interests include tax transfer pricing and GST/VAT and he has contributed to OECD projects on several VAT topics. Michael's PhD thesis was on the taxation of goodwill and he has undertaken a number of research projects on the taxation of intangible property. He also researches aspects of tax administration and costs of tax compliance as well as tax dispute resolution and the ethics of tax practice.

Professor Walpole has authored and co-authored several books including "Proposals for the Reform of the Taxation of Goodwill", "Understanding Taxation Law" and "Compliance Cost Control". He is editor of the Australian Tax Forum (and previously of eJTR and Australian Tax Review) and is an International Research Fellow at the Oxford University Centre for Business Tax and was also a Visiting Professor in the Centre for Tax Policy and Administration at the OECD in Paris in 2012 where he continues to participate in OECD projects as a member of the Technical Advisory Group to OECD Working Party 9 on indirect taxes.

Binh Tran Nam is a Professor of Taxation with an economics background in the Business School of the University of New South Wales. His research interests include tax policy, tax administration, international trade, development economics and survey research, having published 54 book chapters and 95 refereed articles in academic journals in Australia and internationally. In addition, he was a founding co-editor of the eJournal of Tax Research and International Journal of Development and Conflict, an associate editor of Asia-Pacific Journal of Regional Science, and an editorial board member of several other academic journals, and is an International Fellow at the Tax Administration Research Centre (Exeter University-International Fiscal Studies).

With a cumulative income from research grants and commissioned research projects approaching A\$2 million, Professor Tran Nam has served as a consultant to AusAID, the Australian Taxation Office, Australian Vice-Chancellors' Committee, Board of Taxation, DFAT, Department for International Development Vietnam, NZ Inland Revenue, NSW Taxpayers' Association, Oxfam Vietnam, UNDP Vietnam, USAID Vietnam, Victorian Community Services and World Bank Vietnam.

70) Carbon Tax in Malaysia's Covid-19 Economic Recovery Plan: Strategies to Design an Effective and Acceptable Policy

Associate Professor, Izlawanie Muhammad, Universiti Sains Islam

2020 and 2021 are challenging years for many governments around the world due to the Covid-19 pandemic. Governments have increased their spending on healthcare and stimulus packages to support the public in coping with the challenging times. The world is facing an economic downturn that requires a recovering plan to revitalize nations' economies. International organisations like the World Bank, Organisation of Economic Co-operation Development, and International Monetary Fund strongly suggest that governments should not solely focus on the economic recovery plan but also ensure environmental sustainability. As a developing nation, Malaysia essentially needs to implement a green economy strategy in its recovering plan through introducing a carbon tax. This paper discusses the features of a carbon tax, the dimensions of designing an effective carbon tax policy for developing nations, and Malaysia's carbon tax implementation framework. The discussion would assist Malaysia and other developing countries construct a viable green economic recovery

plan by implementing a carbon tax as a revenue generator while protecting natural resources and human health.

Short bio

Dr. Izlawanie Muhammad is an Associate Professor at Universiti Sains Islam Malaysia (USIM). She joined USIM in 2008 and obtained her Ph.D. (Taxation) from the University of New South Wales, Australia. She is also a Member of Association of Certified Chartered Accountant (ACCA), a Chartered Accountant of the Malaysian Institute of Accountant (MIA), and a Fellow Member of the Malaysian Tax Institute of Malaysia (CTIM). Prior to joining USIM, Dr. Izlawanie had more than six years of work experience with the Inland Revenue Board of Malaysia (IRBM) and

Bumiputra-Commerce Bank Berhad (now known as CIMB Bank). Dr. Izlawanie is an active researcher and has obtained several research grants from the Ministry of Higher Education and industries. Her research interests are tax administration, zakat, and environmental tax. She has published several research papers in indexed and non-indexed journals and presented research papers in international conferences held in Malaysia and overseas including Maldives, Australia, Turkey, and the United Kingdom. In 2021, she is a visiting researcher in the Bartlett School of Environment, Energy and Resources, University College London (UCL). During her visit, she works with Professor Paul Ekins in developing a carbon tax framework for Malaysia.

71) The Unconstitutionality of Tax Benefits Granted by Brazil to Pesticides: A Look Towards the Goal of Sustainable Development Zero Hunger and Sustainable Agriculture

Amanda Ferraz da Silveira, Pontifical Catholic University of Paraná (PUCPR)

Helene Sivini Ferreira, Pontifical Catholic University of Paraná (PUCPR)

Manuel Munhoz Caleiro, State University of Mato Grosso do Sul (UEMS)

Brazil is one of the countries that most uses pesticides in its agricultural production chain. Access to these substances is facilitated through the granting of tax incentives. At the federal level, these incentives consist of attributing extremely reduced tax rates, reduced calculation bases and the possibility of exemption, as in the case of the Tax on Industrialized Products, Social Integration Program and Contribution to Financing Social Security and Tax on Circulation of Goods and Services, respectively. The granting of these benefits has been encouraging the increase in the use of pesticides in Brazil and, consequently, the expansion of the market. From 2000 to 2012 the sale of these substances grew 190% in the country. In 2019 alone, 503 pesticides were registered, of which 110 are classified as extremely toxic and 52 as highly toxic. In this context, the aim is to analyze the constitutionality of the tax benefits granted by Brazil to pesticides in view of the right to an ecologically balanced environment, having as a guideline the objective of sustainable development, zero hunger and sustainable agriculture (SDG2). The initial hypothesis is that these incentives are unconstitutional and promote a mismatch in public policies that turn to the above mentioned SDGs. Therefore, it is proposed that the taxes levied on these substances be considered as instruments of environmental taxation, so that the use of pesticides is gradually discouraged, based on the implementation of a national pesticide reduction plan, and that public policies promoting sustainable agricultural production are expanded.

Short bio

Amanda Ferraz da Silveira, Pontifical Catholic University of Paraná (PUCPR) – Brazil PhD student and Master's in Law from the Pontifical Catholic University of Paraná (PUCPR).

Helene Sivini Ferreira, Pontifical Catholic University of Paraná (PUCPR) – Brazil PhD and Master in Law from the Federal University of Santa Catarina (UFSC). Adjunct Professor of the Graduate Program and the Postgraduate Program in Law at the Pontifical Catholic University of Paraná (PUCPR).

Manuel Munhoz Caleiro, State University of Mato Grosso do Sul (UEMS) – Brazil PhD in Law from the Pontifical Catholic University of Paraná (PUCPR). Adjunct Professor of the State University of Mato Grosso do Sul (UEMS) and Professor of Postgraduate Program in Law at Federal University of Goiás (UFG).

72) Solar Energy for Poverty Alleviation (SEPAP): Economic feasibility study of SEPAP in Jinzhai County, China

JIN Zhe, Kyoto University

The purpose of this research is to examine the economic feasibility of solar energy for poverty alleviation projects (SEPAP) in Jinzhai county, China. SEPAP works by installing panels on farmland or rooftops so that poor households can sell the electricity to the grid company and earn about 3000 Yuan each year. SEPAP has been implemented at an astonishing speed since 2014. As of July 2020, China has built and put into operation a total of 26.49 million kilowatts of photovoltaic power stations for poverty alleviation, benefiting 1,472 counties, 138,091 villages, and 4.18 million poor households. Jinzhai county was chosen as the place for this case study since Jinzhai county has been promoted as a successful model for SEPAP development. The cost and benefit analysis (Calculating net present value and internal rate of return) of two different types of solar projects showed the importance of the government's subsidy to the projects which were installed in 2014. However, Arthur conducted a scenario analysis by assuming the different levels of government subsidy on electricity price and found that government subsidy should be adjusted to a relatively low level after 2020. Solar projects can bring economic benefits without government subsidies because of the decreasing installation cost.

Short bio

Jin Zhe is a Ph.D. student at the Graduate School of Advanced Integrated Studies in Human Survivability (GSAIS), Kyoto University. He is specializing in Development Economics, Political Economy and Renewable energies. He is doing quantitative and qualitative research on solar energy deployment for poverty alleviation in China.

73) Future of Right to Environment in the Light of Green Taxation in India

Dr. (Mrs.) Kiran Kori, Assistant Professor of Law, Hidayatullah National Law University

The whole world community has been badly suffered due Covid 19 pandemic in terms of health, fiscal and industrial standstill. There is a need to improve the economic sufficiency by imposing Green Taxes on those who pollute the environment as an attempt to substantially reduce the pollution and conserve the climate from greenhouse gases. The Stockholm Declaration of 1972 has shown the concern about the depleting environment globally. Hence the concept of Sustainable Development had been thought of, which was supported by many countries. India is no way behind in terms of environment pollution. The questions then raise that one, what happens to the pledge taken by countries? Second, why could they not control the environment pollution? Third, what else is needed to protect Mother Nature? The paper tries to evaluate these questions. The Covid 19

pandemic has also forced the world community to rethink about the attempts undertaken to protect the environment. The concept of Green Taxation has been thought upon lately to curb the parties involved in the contamination of the environment. The various environmental challenges are increasing the pressure on the governments to find the way to reduce environmental damage while minimizing harm to economic growth. The paper concludes with a focus on the pros and cons of implementation of Green Taxation in the developing economy of India.

Short bio

Dr. Kiran Kori is Assistant Professor of Law at Hidayatullah National Law University, India. She has 12 years of experience in teaching and research. Her specialisation is in Human Rights with a doctoral degree. She has published various papers on human rights issues and environmental issues. She has recently taught courses on Banking & Insurance Laws, Tort Laws and Property laws.

74) Carbon Emission Trading Pricing Mechanism in China: Practice and Experience

Mingde Cao, China University of Political Science and Law
Hui Wang, Shanghai Maritime University, Law School

In response to the global challenge of climate change, the Chinese government has put forward the goal of peaking GHGs emissions by 2030 and achieving carbon neutrality by 2060. In order to achieve these goals, high expectation is placed on the carbon emission trading mechanism, in which a reasonable pricing mechanism is one of the important factors affecting the success of the national carbon market. Although China's current legislation relating to carbon emissions trading mechanism has made detailed provisions on the pricing of carbon emissions trading, from the practice on pricing mechanism of China's carbon emissions trading, it is not difficult to find out that there are several problems in the carbon pricing mechanism that need to pay special attention, such as insufficient transparency in price setting procedures, low transaction prices, and volatility of carbon prices. As a result, it will affect the effectiveness and efficiency of China's carbon market. For the purpose of ensuring the successful operation of the ongoing national carbon market, it is a necessity to further improve the pricing mechanism, by enhancing transparency of the pricing procedure, setting safe valve mechanism for carbon prices, and so forth. For other countries that are about to adopt a carbon emission trading mechanism, the practice of China's carbon pricing mechanism may be used as a reference sample for the design of related systems.

Short bio

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75) A Green Deal for Rural Stewardship Funding

Paul Martin, University of New England

Andrew Lawson, University of New England

Environmental advocates and policy makers are attracted to landholder duties of environmental stewardship, but if it is not feasible for the duty holder to do what is needed they cannot work. The parties to the Convention on Biological Diversity (CBD) all committed to adopting economically and socially sound measures to incentivise conservation and sustainable use of biodiversity, and to provide funding and incentives to implement national strategies (CBD, arts 11, 20).

Sufficient money to make environmental stewardship feasible is often not available, especially in rural areas. The Australian Centre for Agriculture & Law will present evidence of stewardship investment issues from more than 120 published reports, and from recent case studies and landholder and community group surveys.

This evidence suggests that better environmental funding instruments (including tax reforms) are necessary, but far from sufficient. A stewardship funding business model, that incorporates multiple instrument types and efficient transacting, within a coordinated strategy, is essential to actually satisfy national CBD obligations.

Short bio

Prof. Paul Martin is the Director of the Australian Centre for Agriculture and Law at the University of New England (UNE) based at Armidale, Australia. He has substantial practical and academic experience in issues of natural resource governance, including stewardship investment. His profile is at <https://orcid.org/0000-0002-0243-2654>

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76) The Dutch and German coal exit – an Impact Analysis of policy making

Sami Madani, University of Groningen and EnWB

Despite the climate crisis global coal consumption increased over the past decades. Nevertheless it is apparent that a sustainable energy transition requires reduced consumption of fossil fuels, including coal. It is therefore unsurprising that policy makers seek to eliminate coal from national energy mixes. In our paper we employ an Event Study approach to compare the Dutch and German policy decisions taken to exit coal by analysing their economic impact. This provides insights on how decision makers are approaching the coal exit and allows us to offer guidance as to what policy makers should consider when implementing coal exit strategies.

Short bio

Sami Madani, has more than 10 years of experience in the energy sector, focusing on energy trading, energy transition and IT digitization. He is a department head at EnBW and pursues his PhD research at the University of Groningen. Previously he was Associate Partner at The Advisory House, a multi-award winning consultancy for European energy consulting.