

# Tenth Global Conference on **Environmental Taxation**

**Water Management  
and Climate Change**

**Lisbon**

23-25 September 2009

CONFERENCE PROCEEDINGS



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# X Annual Global Conference on Environmental Taxation

Lisbon, 2009

## **“Water Management and Climate Change”**

The Annual Global Conference on Environmental Taxation is part of an annual series of international conferences focussing on issues involved in designing and implementing environmentally related taxes. The conferences are not intended to advance any particular environmental agenda on an advocacy basis but rather to advance knowledge, understanding and debate. They provide a forum for scholars from different fields, such as Law, Economics, Political Science, International Relations, Natural Sciences, as well as representatives of national governments, the private sector and non-governmental organisations to exchange the latest research on the use of environmentally related taxes and other market-based instruments to advance environmental policy objectives.

Previous editions of the conference have been attended by over 300 participants annually, representing 70 countries in Africa, America, Asia and Europe, and coming from several different kinds of institutions, such as academia, government, business and social movements. The knowledge produced at the conference has been made public through an annual publication of a selection of presented papers – the *Critical Issues in Environmental Taxation Series*, published by the Oxford University Press since 2006.

The tenth edition of the Conference will take place in Lisboa (Portugal) and shall focus on ‘Water Management and Climate Change’. This cross-cutting issue is in the agenda of every level of government and requires the input of all stakeholders. Therefore, the organisation represented by the Steering Committee and the National Organising Committee (please see list of members below) takes efforts to involve reference institutions in the support of this event.

Within this thematic framework, the conference will focus inter alia on the following areas: Water, Energy, International Transports, Policies & Instruments’ Coordination, International En-

vironmental Justice, Competitiveness Issues, Capacity Building Issues and Governance Issues. Each issue will be launched with a plenary session for all conference participants, followed by a number of panel sessions to examine specific issues in more depth. The conference also includes a doctoral track, where young researchers can present their work projects and get the feedback of academics and professionals in the field.

Parallel to these sessions there will be some specific workshops and streams, namely on the Law and Economics of Environmental Policy, a growing field of legal research where the formal and procedural aspects of environmental policy are subject to a cost-benefit analysis that informs policymakers and the public in general with respect to the actual consequences of environmental law. Moreover, three other panels shall focus on issues high in the current political agenda, namely the role played by environmental taxes in providing incentives for the economy to change investment, production and consumption patterns such that global warming can be alleviated, issues of implementation of Environmental Fiscal Reform (EFR) measures and the discussion of the reform of energy taxation in the European Union.

### **Conference Bodies**

Steering Committee

Prof. Hope Ashiabor, *Macquarie University Law Department*

Prof. Janet Milne, *Vermont Law School*

Prof. Kurt Deketelaere, *Law Faculty of the University of Leuven*

Prof. Lawrence A. Kreiser, *Cleveland State University Department of Accounting*

### **National Committee**

Eng. António Pita de Abreu, *Energias do Brasil (EDP)*

Prof. António Sá da Costa, *APREM*

Prof. Casalta Nabais, *University of Coimbra*

Prof. Catarina Roseta Palma, *ISCTE*

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Prof. Filipe Duarte Santos, *University of Lisboa*

Prof. Luís Pais Antunes, *Institute for Strategic and International Studies and Law Firm PLMJ*

Prof. Luís Veiga da Cunha, *New University of Lisboa*

Prof. Manuel Lopes Porto, *University of Coimbra*

Prof. Maria da Glória Pinto Garcia, *Portuguese Catholic University*

Prof. Nuno Garoupa, *University of Illinois College of Law*

Prof. Paulo de Pitta e Cunha, *University of Lisboa*

Mr. Rogério Fernandes Ferreira, *Law Firm PLMJ*

Prof. Rui Chancerelle de Machete, *Portuguese Catholic University and Law Firm PLMJ*

Prof. Rui Ferreira dos Santos, *New University of Lisboa*

Prof. Vasco Pereira da Silva, *Portuguese Catholic University*

Prof. Viriato Soromenho-Marques, *University of Lisboa*

### **Chair of the National Committee**

Prof. Cláudia Dias Soares, *Portuguese Catholic University*

### **Advisory Board**

Mr. Aldo Ravazzi, *Ministry of the Environment, Italy*

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Prof. Peter Berck, *University of California (Berkeley), USA*  
Prof. Pier Carlo Padoan, *OECD, France*  
Mr. Robin Miège, *European Commission, Belgium*  
Prof. Runar Brännlund, *University of Umeå, Sweden*  
Ms. Sabine Preuss, *GTZ, Germany*  
Ms. Susanne Akerfeldt, *Ministry of Finances, Sweden*

#### **Conference Delegates**

Mr. Alamgir Khan Gandapur, *The World Conservation Union (IUCN), Pakistan*  
Prof. Amitabh Kundu, *Jawaharlal Nehru University, India*  
Prof. Bengt Kriström, *University of Umeå, Sweden*  
Prof. David Duff, *University of British Columbia, Canada*  
Prof. José Marcos Domingues, *University of Rio de Janeiro, Brazil*  
Dr. Moses M. Kiara, *The Kenya Institute for Public Policy Research and Analysis, Kenya*  
Prof. Nancy Olewiler, *Simon Fraser University, Canada*  
Prof. Pedro Herrera Molina, *University Complutense de Madrid, Spain*  
Mr. Ricardo Ulate Chacón, *Ministry of the Environment, Costa Rica*

# Invited Pannels

## Panel 1

### Discussing the reform of energy taxation in the EU

#### Panel chaired by Henrik Hammar

The last couple of years the policy debate has highlighted the need for increased international cooperation in response to urgent climate and environmental challenges. In order to meet the goals in the EU Climate and Energy Package, Member States need powerful and cost-effective tools. The general point of departure in this panel is how energy taxation can become a sound, non-distortive, effective and efficient policy tool for Member States to apply on the internal market. How can the EU Energy Taxation Directive help?



#### Henrik Hammar

*Associate Professor, Gothenburg University, and Senior Administrative Officer, Ministry of Finance, Sweden*

Henrik Hammar is Associate Professor and Senior Administrative Officer, Ministry of Finance, Sweden. He holds a PhD in economics at Gothenburg University in 2001 and has been secretary in two Swedish Governmental Tax Committees between 2001 and 2005. He developed policy oriented research at the Swedish National Institute of Economic Research between 2005 and 2008. Since 2008 he is working at the Ministry of Finance, Sweden, with reforming the Swedish system of energy and CO<sub>2</sub> taxation

#### Speakers



#### Adela Tesarova

*DG TAX UD, European Commission*

Adela Tesarova works in the excise unit of the European Commission's directorate general for taxation and customs where she is responsible for energy taxation. She also deals with tax related aspects of energy, climate change and transport policies and with issues such as environmental tax reforms and market-based instruments. Before joining the European Commission in 2005 she worked as VAT consultant in Price-waterhouseCoopers Czech Republic and prior to that as an external consultant for a public agency. She holds a master's degree in international economic relations from the University of Economics, Prague.



### **Mateja Vranicar**

*Head of Department, Department for Tax and Custom policy and Legislation, Ministry of Finance, Slovenia.*

MPA 1997, J.F. Kennedy School of Government, Harvard University. The Department headed by Mateja Vranicar is responsible for drafting legislation, for expert support for policy decisions and for international matters, as well as negotiations on EU legislation in areas of taxation and customs. Before taking this post in 2006 she was a head of Division on indirect taxation. She was responsible for transposition of EU legislation on VAT and excise duties into the Slovenian legislation. In this framework she took part in the development of specific environmental charges.



### **Björn Strenger**

*Deputy Director, Swedish Ministry of Finance, Sweden*

LL.M. University of Stockholm, Sweden; 1994 specialised in EC-law. Dealing with EC-law and trade policy negotiations at the National Board of Trade 1995-1998. State Aid matters at the Ministry of Industry 1998-2006. Working with the legal design of energy and other environmental taxes at the Swedish Ministry of Finance since 2006 with a particular emphasis on state aid and other internal market considerations in an EU and world wide perspective.

### **Riemara Schuivens**

*Directorate-General for Tax & Customs Policy & Legislation, Ministry of Finance, the Netherlands*

Riemara holds a master of laws degree at Leiden University, the Netherlands, and is specialised in Dutch Tax Law. She is a policy and legal advisor at the Customs & Consumer Taxes Directorate and is responsible for the energy tax and coal tax since 2006 and tax on land filled waste since 2008. She also took part in other environmental taxes and deals with state aid cases concerning environmental taxes. She is a parttime author for the Dutch Tax Encyclopedia on Excises “De Vakstudie Accijnzen”, on the subjects tax on groundwater, tax on tap water and tax on land filled waste.



## Panel 2

### How can action against climate change survive the economic crisis?

Panel chaired by **Susanne Åkerfeldt**

Climate change is a crucial challenge facing our planet and calls for massive and coordinated policy action. Cost-effective economic instruments, such as taxation, has a key role to play in providing incentives for the economy to change investment, production and consumption patterns such that global warming can be alleviated. Ambitious work has started in many areas, but what will the impact be of the severe global economic and financial crisis the world is facing today? Will action against climate change now come to a halt or can the crisis actually stimulate new innovative solutions, and what role will cost effective measures play?



#### **Susanne Åkerfeldt**

*Senior Adviser, Ministry of Finance, Sweden*

LL.M. University of Uppsala, Sweden; Associate Judge of Appeal; Working with energy and other environmental taxes at the Swedish Ministry of Finance since 1992 designing environmental tax policy and legislation as well as co-ordinating it with other economic instruments nationally and at an EU-level, negotiating energy tax matters within the EU; chairman of Council Working Party on Tax Questions during Swedish Presidencies of the EU in 2001 and 2009.

#### **Speakers**



#### **Paul Ekins**

*Professor of Energy and Environment Policy, King's College London*

Paul Ekins has a PhD in economics from Birkbeck College and a BSc in electrical engineering from Imperial College (both University of London). He joined King's College London as Professor of Energy and Environment Policy in January 2008, having been Head of the Environment Group at the Policy Studies Institute and Professor of Sustainable Development at the University of Westminster since 2002. He was a Member of the Royal Commission on Envi-

ronmental Pollution from 2002-2008 and, from 2003-2007, was on the UK Government's Sustainable Energy Policy Advisory Board. He is the Director of the UK Green Fiscal Commission, which is exploring the prospects for and implications of large-scale environmental tax reform in the UK. His academic work focuses on the conditions and policies for achieving an environmentally sustainable economy, with a special focus on energy policy, and the modelling of the energy system, on innovation, on the role of economic instruments such as environmental taxes, on sustainability assessment and on environment and trade. He is the author of numerous papers and articles on environmental taxation and other sustainable development issues.



### **Runar Brännlund**

*Professor in Economics, Umeå University, Sweden*

His research is focused on natural resource economics and environmental economics and policy. Not the least are issues related to environmental taxation and other policy measures one of his major research and interest areas. He has been involved in most governmental committees in Sweden, related to environmental taxation and policy, during the last 15 years. In 1995-1997 he was the head secretary to the Swedish "Green Tax Commission", 1999-2000 he was a part time secretary and expert to the "Swedish Climate Commission", and in 2006-2007 he was a member of the "Governmental Scientific Advisory Council in Climate Policy".



### **Chris Lenon**

*Global Head of Tax, Rio Tinto Plc*

Chris Lenon has been the Global Head of Tax of Rio Tinto Group since 1993. Chris is responsible for a global tax team of 90. Prior to joining Rio Tinto, Chris was Head of Tax at APV plc and also held various roles with Inland Revenue, including three years in the Oil Taxation Office. Chris holds a BA (Hons) in History from Trinity College, Cambridge

and is currently Chairman of the CBI International Tax Committee and a member of both the Fiscal Committee and Bureau of the International Business Advisory Committee (BIAC) to the OECD and the Fiscal Affairs Group of Business Europe. Chris is Chairman of the Green tax Group of Business Europe.



### **Kai Schlegelmilch**

Vice-President, Green Budget Germany

Diploma in Political Economics, Johann Wolfgang Goethe University, Frankfurt/Main, Germany; advisor on different energy and climate related matters at the German Federal Ministry for the Environment since 1999; vice-president and founding member of Green Budget Germany; working for international organizations such as UNDP, UNEP, UNECE, UN-ECLAC, OECD, European Commission and European Environment Agency; vast experience of fiscal and economic instruments, including organising many conferences and workshops on international level, writing articles and several books on environmental tax/fiscal reforms.



### **Carolyn Fischer**

Senior Fellow, Resources for the Future, Washington D.C.

University of Michigan, 1997, Ph.D. in Economics with fields in public finance and natural resource economics. She is with Resources For the Future since 1997. Carolyn Fischer has taught at John Hopkins University and served as a staff economist for the Council of Economic Advisors; her research focuses on policy mechanisms and modeling tools that cut across environmental issues, including environmental policy design and technological change, international trade and environmental policies and resource economics; she has taken part in many international workshops and conferences and published a vast amount of articles and books relating to her area of research.

### **Panel 3**

## **The Law and Economics of Environmental Policy**

**Panel chaired by Michael Faure**

In times of economic crises efficient policies are even more urgent. Law and Economics of Environmental Policy is a growing field of legal research where the formal and procedural aspects of environmental policy are subject to a cost-benefit analysis that informs policymakers and the public in general with respect to the actual consequences of environmental law. This panel shall address the use of market-based instruments and standard-setting within environmental policy, as well as the first vis-à-vis the latter.



### **Michael G. Faure**

*Professor, Maastricht University and Erasmus University Rotterdam, The Netherlands*

Prof. Dr. Michael G. Faure LL.M. studied law at the University of Antwerp (licenciate in law 1982) and criminology at the University of Gent (licenciated in criminology 1983). He obtained a Master of Laws from the University of Chicago Law School (1984) and a doctor iuris from the Albert Ludwigs Universität Freiburg im Breisgau.

He was first a lecturer and then a senior lecturer at the department of criminal law of the law faculty of Leiden University (1988-1999) and became academic director of the Maastricht European institute for transnational legal research (METRO) and professor of Comparative and International Environmental Law at the law faculty of Maastricht University in September 1991. He still holds both positions today.

In addition, he is academic director of the Ius Commune Research School and member of the board of directors of Ectil. Since the first of February 2008, he is half time professor of comparative private law and economics at the Rotterdam Institute of Law & Economics (RILE) of the Erasmus University in Rotterdam and academic director of the European Doctorate in Law and Economics (EDLE) programme.

Since 1982 he is equally attorney at the Antwerp Bar.

## Speakers



### **Marjan Peeters**

*Professor of Environmental Policy & Law, Maastricht University*

Marjan Peeters defended her Ph.D at Tilburg University, the Netherlands, in 1992. Her study concerned a legal analysis of emissions trading. In 1993 she joined the Dutch Ministry of Transport and Water Management, where she conducted various tasks, like issuing environmental permits, enforcement actions, developing policy documents and legislation. In 2001, she returned to the academic world, this time at Maastricht University. Since 1 April 2008 she holds the position of Professor of Environmental Policy and Law, in particular Climate Change Issues. In January 2008, Marjan has become a member of the governing council of the IUCN Academy of Environmental Law ([www.iucnael.org](http://www.iucnael.org)). Marjan focuses in her research on climate change policies, regulatory approaches, and administrative approaches towards uncertain risks.



### **Anna Rita Germani**

*Assistant professor in Economics, University of Rome "La Sapienza"*

Anna Rita Germani is assistant professor in Economics at the University of Rome "La Sapienza" where she teaches Environmental Economics. She completed her Master in Agricultural and Resource Economics at the University of Arizona (USA) and her PhD at the University of Naples "Federico II" (Italy). She has published on national and international journals on issues relative to law and economics, environmental economics and game theory.



### **Timo Goeschl**

*Professor of Environmental Economics, at the Department of Economics, University of Heidelberg*

Timo Goeschl is Professor of Environmental Economics at the Department of Economics, University of Heidelberg. He previously

held faculty positions at the University of Wisconsin-Madison and the University of Cambridge. His research interests are in environmental and resource economics, law and economics, and the economics of innovation. Timo's work has been published in the *Journal of Environmental Economics and Management*, *Environmental and Resource Economics*, *Journal of the European Economic Association* and other outlets.



**Michael G. Faure**

*Professor, Maastricht University and Erasmus University Rotterdam, The Netherlands*

Prof. Dr. Michael G. Faure LL.M. studied law at the University of Antwerp (licenciate in law 1982) and criminology at the University of Gent (licenciated in criminology 1983). He obtained a Master of Laws from the University of Chicago Law School (1984) and a doctor iuris from the Albert Ludwigs Universität Freiburg im Breisgau. He was first a lecturer and then a senior lecturer at the department of criminal law of the law faculty of Leiden University (1988-1999) and became academic director of the Maastricht European institute for transnational legal research (METRO) and professor of Comparative and International Environmental Law at the law faculty of Maastricht University in September 1991. He still holds both positions today.

In addition, he is academic director of the *Ius Commune* Research School and member of the board of directors of Ectil. Since the first of February 2008, he is half time professor of comparative private law and economics at the Rotterdam Institute of Law & Economics (RILE) of the Erasmus University in Rotterdam and academic director of the European Doctorate in Law and Economics (EDLE) programme. Since 1982 he is equally attorney at the Antwerp Bar.

## **Panel 4**

### **Bringing Environmental Fiscal Reform to life: Strategies, institutional settings and stakeholder cooperation**

#### **Panel chaired by Detlef Schreiber**

This panel is focusing on issues of implementation of Environmental Fiscal Reform (EFR) measures. Looking at different approaches from China, India and Uganda and other countries with regard to energy and water issues, the discussion will focus on important aspects for the implementation concerning strategies, institutional settings and stakeholder cooperation. Framework conditions are unique in every country even if the environmental problems faced may be similar. The panel aims to shed a light on important questions that should be considered during the policy development process and a variety of solutions to go about.

#### **Detlef Schreiber**

*GTZ, Head of Section Environment, Resource Efficiency and Waste Management*

Dr. Detlef Schreiber holds a diploma in Geosciences and a PhD in Economic Geology. During 13 years he gained working experience in industry and industrial research in Germany and Latin America. Since 1994 he is working for GTZ as a technical advisor for environmental management in various positions. Between 2001 and 2007 he was GTZ Coordinator/Senior Advisor to MERCOSUR (Argentina, Brasil, Paraguay and Uruguay) in the framework of German Technical Cooperation in the area of “Competitiveness and Environment”. Since 2008 he is heading the Environment, Resource Efficiency & Waste Management Section in the GTZ head office.

#### **Speakers**



#### **Ye Ruqiu**

*Chinese Co-Chair of the Task Force on Economic Instruments for Energy Efficiency and the Environment*

Prof. Ye Ruqiu is Counsellor of the State Council and Advisor to the Ministry of Environmental Protection. His research areas include e.g. environmental protection, global environment, trade

and environment, environmental management, environmental science and technology and environmental chemistry. He graduated as a Candidate of Chemical Science at Leningrad University, USSR in 1963. From 1981, he was a Senior Research Fellow and Director and Deputy Director of the Institute for Environmental Analysis and Measurement and National Centre of Environmental Analysis and Measurement, respectively. From 1988-1998 he was a Member of the 7th and 8th Session of the National Committee of China People's Political Consultative Conference. From 1995-2001 he was Deputy Director of the China National Environmental Protection Agency. From 1995-2004 he served as a Co-Chair of the Working Group on Trade and Environment, China Council for International Cooperation on Environment and Development (CCICED) and the following Task Force WTO and China's Environment.



### **Divya Datt**

*The Energy and Resources Institute, India*

TERI has established a presence not only in different corners and regions of India but is perhaps the only developing country institution to have established a presence in North America and Europe and on the Asian continent in Japan, Malaysia and the Gulf. TERI employs over 700 staff members, drawn from a range of disciplines and experience. The institute works closely with several multilateral organizations, national governments, corporate organizations, NGOs, and academia around the world. TERI's Vice Chairman Dr. Pachauri is elected as Chairman of the Intergovernmental Panel on Climate Change in year 2002. In 2007, Dr Pachauri led IPCC and former US Vice-President Al Gore shared the Nobel Peace Prize.



### **Callist Tindimugaya**

*Head of the Department for Water Resources Planning and Regulation, Ministry of Water and Environment, Uganda*

Dr Callist Tindimugaya is a Water Resources Specialist with a PhD in Water Resources Management and over 17-years experience in



water resources development and management. Dr Tindimugaya has been working with the Ministry of Water and Environment in Uganda since 1990, and has been involved in several water development and management related activities. He is currently working as Head of the Department for Water Resources Planning and Regulation with overall responsibility for regulating the use and pollution of water resources of Uganda in order to meet the needs of various socio-economic activities in a sustainable manner.



### **Juerg Klarer**

*Managing Director, Aequilibrium Consulting GmbH, Switzerland*

Juerg Klarer has extensive international experience in the areas of environmental finance, environmental investment, environmental policy, and sustainable development in companies.

In these areas Juerg Klarer has worked for a number of renowned international and national organizations, including several bilateral development agencies, UN organisations, OECD and the World Bank.

In the past 16 years, Juerg Klarer has led, or been involved in, national and regional projects in Europe, North-Africa and Asia.

## Brief Introduction of Plenary Speakers



**Filipe Duarte Santos** is a researcher in Geophysical Sciences and Global Change in the Department of Physics of Lisbon Faculty of Sciences. He is, since 1979, full professor of Physics, Geophysics and Environment at the University of Lisbon and Director of the Research Center SIM - Systems, Instrumentation and Modeling in Environmental and Space Sciences and Technology. Mr. Santos holds a M.Sc. in Geophysics by the University of Lisbon and a Ph.D. in Theoretical Physics by the University of London.

Author of more than a hundred articles in areas of Nuclear Physics, Nuclear Astrophysics and Global Change, Mr. Santos has recently published a considerable number of reports and articles covering climatic change and its impacts. In addition, besides being principal researcher of various specific research projects in environment, he is the coordinator of the SIAM Project, “Climate Change in Portugal. Scenarios, Impacts and Adaptation Measures”.

His large academic career includes being visiting professor at University of Wisconsin, University of North Carolina and University of Indiana in the USA, Munich University in Germany, University of Surrey in the UK and Vrije University in the Netherlands.

Mr. Santos is Vice-President to the UN Commission on the Peaceful Uses of Outer Space, delegate to the Conference of Parties of the United Nations Framework Convention on Climate Change and has been Research Fellow at the Atomic Energy Authority in Lisbon. He is also member of the Portuguese Inter-Ministerial Commission on Climate Change, member of the Portuguese National Council for the Environment and Sustainable Development and member of the National Academy of Sciences. He is also the Coordinator del Area de Desarrollo Sostenible, Cambio Global y Ecosistemas del Programa CYTED (Ciencia y Tecnologia para el Desarrollo).



**Viriato Soromenho-Marques** (1957) teaches Political Philosophy, Philosophy of Nature, and European Ideas in the Departments of Philosophy and European Studies of the University of Lisbon, where he is Full Professor. Since 1978 he has been engaged in the civic environmental movement in Portugal and Europe. He was Chairman of Quercus (1992-1995). He is member of the National

Council on Environment and Sustainable Development. He was one of the authors of the Portuguese National Strategy for Sustainable Development (2004). He was Vice-Chair of the European Environmental and Sustainable Development Advisory Councils network (2001-2006). He is the scientific coordinator of the Gulbenkian Environment Program. He is one of the twelve members of the High Level Group on Energy and Climate Change by invitation of the President of the European Commission. In the spring of 2008 he was elected member of the Lisbon Academy of Sciences, Class of Humanities (Letras).

He wrote three hundred works on Philosophy, Environment and International Relations matters. He was speaker in almost a thousand conferences in Portugal and twenty other countries. Among other books, he was the author of the following titles: Europe: The Risk of the Future (1985); Europe: Maze or Common House (1993); Back to Earth (1994); Citizenship (1996); Our Fragile Future (1998); Reason and Progress in Kant's Philosophy (1998); The Federal Revolution (2002); Water Policy in 21st Century, coordination (2003); Between Collapse and Sustainable Development (2005); The Return of the United States (2008).

Home-page: [www.viriatosoromenho-marques.com](http://www.viriatosoromenho-marques.com)



**Kurt Deketelaere** is Secretary-General of the League of European Research Universities (<http://www.leru.org>) (full-time), since July 2009, Full Professor of Law, Faculty of Law, University of Leuven (Belgium) (<http://www.law.kuleuven.be>) (full-time), since October 2004, and (parttime), since September 2007, Honorary Professor of Climate Change Law, Centre for Energy, Petroleum and Mineral Law and Policy, University of Dundee (part-time), since September 2008, and Honorary Chief of Staff, Flemish Government, since July 2009.



**Michael Curley** is an attorney by training but has spent the majority of his career in finance. He is the founder and executive director of the International Center for Environmental Finance, which is funded with a \$3 million grant from the U.S. Environmental Protection Agency (EPA) and works in the former Soviet Union,

Central America and Asia to develop financial systems for environmental infrastructure. For several years Mr. Curley served as Senior Financial Advisor to the Office of International Affairs at EPA.

Mr. Curley is a pioneer in the financial guaranty insurance industry. In the 1980's, Mr. Curley raised the venture capital for, and founded the third financial guaranty insurance company in the world, where he served as president and CEO until he sold the company to the Hong Kong Shanghai Bank.

Mr. Curley served as the President and CEO of the New York Job Development Authority, the State's economic development bank. He also served as deputy secretary and general counsel of the New York State Department of Economic Development. He was also counsel to the New York State Science & Technology Foundation, the State's venture capital agency. Prior to that, Mr. Curley served as the Parliamentarian of the New York State Assembly and associate counsel to the Speaker. Early in his career, he served as an assistant to Congressman Richard D. McCarthy in Washington. After leaving government in 1979, Mr. Curley became a partner in the New York City law firm of Shea & Gould.

Mr. Curley is the author of a textbook, the Handbook of Project Finance for Water and Wastewater Systems, published by Times/Mirror Books. He has also written a monograph on environmental finance and over a dozen published articles on finance and economic development. Mr. Curley founded the Environmental Finance Centers at the University of Maryland, Cleveland State University and at the Maxwell School at Syracuse University. He serves as a Senior Lecturer at the Johns Hopkins University where he teaches Environmental Law and Environmental Finance and was also an Adjunct Professor of Banking and Finance at New York University where he taught Venture Capital as well as Capital Markets & Investment Banking. Mr. Curley was appointed to the Environmental Financial Advisory Board at EPA in 1990, where he has served four Presidents. He currently co-chairs the Board's Financial Innovations Committee. Mr. Curley also serves on the board of directors of the International Rural Water Association, where he chairs the Marketing Committee, and was co-chair of the Environmental Finance and Budget Subcommittee of Mary-

land Governor Martin J. O'Malley's Transition Team. He is on the Advisory Board of the Maryland-Asia Environmental Partnership. Governor William Donald Schafer appointed him to the "Blue Ribbon Panel on the Financing of the Chesapeake Tributaries"; and, while living in New York City, Mayor Edward I. Koch appointed him to the board of directors of the United Nations Development Corporation.



**Henrik Hammar**

*Associate Professor, Gothenburg University, and Senior Administrative Officer, Ministry of Finance, Sweden*

Henrik Hammar is Associate Professor and Senior Administrative Officer, Ministry of Finance, Sweden. He holds a PhD in economics at Gothenburg University in 2001 and has been secretary in two Swedish Governmental Tax Committees between 2001 and 2005. He developed policy oriented research at the Swedish National Institute of Economic Research between 2005 and 2008. Since 2008 he is working at the Ministry of Finance, Sweden, with reforming the Swedish system of energy and CO<sub>2</sub> taxation

## The Kreiser Award

The Kreiser Award for Environmental Taxation is an honor granted annually to a person who has made a significant contribution to the advancement of environmental taxation and other economic instruments in research or policy. In some years, the award will also be given to an institution which has advanced the field of environmental taxation.

The award is named after Professor Larry Kreiser, a pioneer researcher in the field of environmental taxation and the individual who had the inspiration and energy to begin gathering experts from key disciplines together to create a forum for exchanging the latest research and experience on the use of environmental taxes. This initial idea was the seed that led to this successful series of annual conferences on environmental taxation.

Prior award recipients include: (2006) Dr. Nancy Olewiler, Professor of Economics, Simon Fraser University, Vancouver, Canada; (2007) Prof. Dr. Ernst Ulich von Weizsacker, Dean, Bren School of Environmental Science and Management, University of California, Santa Barbara, California; and (2008) Professor Hope Ashiabor, Associate Professor of Law, Macquarie University, Sydney, Australia.

In 2009, the Kreiser Award recipients are Professor Alberto Majocchi and the Centro de Estudos de Direito do Ordenamento, do Urbanismo e do Ambiente – CEDOUA (Urbanism, Planning And Environmental Studies Law Center)



**Alberto Majocchi**, born in Vigevano on May 25, 1939, is Full Professor of Public Finance from 1976. He teaches now in the University of Pavia, Faculty of Economics. Starting from 1997, he has been appointed as Director of the European School of Advanced Studies in Integrated Environmental Management, patronised by the Institute for Advanced Studies of the University of Pavia. From 2001 to 2005 he has been appointed as Deputy Rector charged of the relations with the European Union.

He has been Professor of Public Finance in the Universities of Venice, Varese and Castellanza and has been Visiting in the Universities of Cambridge and York (UK). In the academic year 1992-93 he has been teaching “Economic Aspects of European Integration” in the Katholieke Universiteit Leuven (Belgium).

From 1991 to 1993 he has been working as a national expert for the European Commission in Brussels. During this period he has been involved in drafting the Proposal for a Council Directive Introducing a Tax on Carbon Dioxide Emissions and Energy.

He has represented the European Commission in the Joint Session of Trade and Environment Experts within the OECD that has prepared the Procedural Guidelines on Trade and Environment approved in 1993. In the same time span he has represented the EC in the Group on Environmental Measures and International Trade within the GATT in Geneva.

He has also been a member of a group of international experts preparing on behalf of the European Commission a Report on the role of the Community budget within a Monetary Union.

In 1994 he has chaired the study-group charged of drawing a blueprint for a White Paper on Fiscal Reform, presented by the Italian government in December 1994, where the idea was put forward of cutting the rates of the personal income tax to be financed by the revenue provided through an increase in energy taxation, with the main goal of gaining a double dividend downsizing the distortions in the existing tax system and improving environmental conditions.

From January 1995 to June 1996 he has been acting as the economic advisor to the Minister of the Environment in Rome. He has prepared a blueprint for environmental taxation where a number of new taxes were suggested, among them a landfill tax, an SO<sub>2</sub> tax

on large combustion plants, a supplementary energy tax based on the carbon content of different fuels, whose revenue could be used to fund a lowering of social security contributions.

From 1999 to 2001 he has been a member of the Bureau of the Joint Working Party on Trade and Environment within OECD in Paris.

From March 2003 he is President of the Institute for Studies and Economic Analyses in Rome.

His scientific activity has been addressed mainly to the following issues:

- fiscal federalism and local taxes
- economic policy in the European Union
- fiscal policy
- environmental economics



## **Centro de Estudos de Direito do Ordenamento, do Urbanismo e do Ambiente – CEDOUA** (Urbanism, Planning and Environmental Studies Law Center)

The **Centro de Estudos de Direito do Ordenamento, do Urbanismo e do Ambiente** (Urbanism, Planning and Environmental Studies Law Center) – CEDOUA – was created in Coimbra on March 18th 1994. Its founding associates were the Faculty of Law of the University of Coimbra, the Centro de Estudos e Formação Autárquica (CEFA) and the Associação Nacional de Municípios Portugueses (ANMP).

Of its main activities, we can list:

- Since 1995/1996, teaching a postgraduate course with the duration of two semesters, aimed at jurists, engineers, architects and other graduates on matters related to urbanism, planning and environment. Currently in its 15th annual edition, this course includes in its subjects Environmental and Urbanistic Tax Law;
- CEDOUA’s Scientific Journal (REVCEDOUA), which is published every semester, with 20 publications issued
- International Seminars (four Seminars so far) - two of them were focused on financial aspects of urbanism and environment (“The financial and tax system of urbanism”; “The Euro Stadiums in its financial, urbanistic and environmental perspectives”).
- Numerous short Thematic Courses also about urbanism, territorial order and environmental law.
- CEDOUA has signed various protocols with other entities. Furthermore, it has several publications on themes related to urbanism, urban planning and environmental law - for instance, *O Imposto Ambiental (Environmental Tax)* and *O Direito Fiscal do Ambiente - O Enquadramento Comunitário dos Auxílios de Estado a Favor do Ambiente (Environmental Tax Law – EU State Aid Perspective)*, among others

# Conference Program

**Wednesday, 23 September**

**10h00** RECEPTION AND REGISTRATION

**11h-11h30** WELCOME & COFFEE

**11h30-13h30** DOCTORAL TRACK

## **DOCTORAL TRACK 1**

### ***Challenges of implementing new environmental tax instruments***

Challenges in implementing new water management policies in a semi-arid island state: An overview and proposed policy reforms in Cyprus

**Christos Zoumides, Theodoros Zachariadis**

Balancing market incentives, regulations and stakeholder governance for the protection of aquifers during coalbed methane extraction

**Deborah Lynn Jarvie**

Regulating phosphorous from the agricultural sector – a two-fold system including stocks and flows

**Line Block Hansen, Lars Gårn Hansen, Gitte Holten Rubæk**

## **DOCTORAL TRACK 2**

### ***Water B***

Socio – environmental Approach to Drip Irrigation System Implementation as a Climate Change Adaptation Measure within N'hambita Community Carbon Project Area, Mozambique

**Jelena Barbir**

The Water Dilemma in the North China Plain. An Analysis of Policy and Institutional Measures to Ensure the Future Use of Scarce and Polluted Water Resources

**Yannick Kühn, Christian Böber, Jürgen Zeddies**

Introducing the polluter pays principle for cost recovery in the water supply and sanitation sector: a case of conflicting objectives?

**Delphine François, A. Correljé, J.P.M. Groenewegen**

Taxes on land-based emissions in the marine coastal waters: viability of the Spanish models for the sustainability in developing countries

**Roberto Muhájir Rahnemay Rabbani**

## **DOCTORAL TRACK 3**

### **Dealing with air emissions**

Implementation of Tradable Carbon Permits in Developing Countries  
**Roberto Muhájir Rahnemay Rabbani, José Manuel Iglesias Casais**

Carbon Tax and Equity  
**Emmanuel Combet, Frédéric Gherzi, Jean-Charles Hourcade, Daniel Théry**

Public Demerit Goods and Marginal Cost of Indirect Taxation with an Application to Carbon Dioxide Emissions in Belgium  
**Bart Defloor**

RAMEA, a shared environmental accounting tool to control and monitor regional environmental taxes  
**Elisa Bonazzi, Paolo Cagnoli, Michele Sansoni, Marco Setti, Stefano Bontempi**

**15h30-17h30 INVITED PANELS**

### **Panel 1**

#### **Discussing the reform of energy taxation in the EU**

**Panel chaired by Henrik Hammar**  
*Associate Professor, Gothenburg University, and Senior Administrative Officer, Ministry of Finance, Sweden*

The last couple of years the policy debate has highlighted the need for increased international cooperation in response to urgent climate and environmental challenges. In order to meet the goals in the EU Climate and Energy Package, Member States need powerful and cost-effective tools. The general point of departure in this panel is how energy taxation can become a sound, non-distortive, effective and efficient policy tool for Member States to apply on the internal market. How can the EU Energy Taxation Directive help?

## **SPEAKERS:**

### **Adela Tesarova**

*DG TAXUD, European Commission*

### **Mateja Vranicar**

*Head of Department, Department for Tax and Custom policy and Legislation, Ministry of Finance, Slovenia*

### **Björn Strenger**

*Deputy Director, Swedish Ministry of Finance, Sweden*

### **Riemara Schuivens**

*Directorate-General for Tax & Customs Policy & Legislation, Ministry of Finance, the Netherlands*

## **Panel 2**

### **How can action against climate change survive the economic crisis?**

#### **Panel chaired by Susanne Åkerfeldt**

*Senior Adviser, Ministry of Finance, Sweden*

Climate change is a crucial challenge facing our planet and calls for massive and coordinated policy action. Cost-effective economic instruments, such as taxation, has a key role to play in providing incentives for the economy to change investment, production and consumption patterns such that global warming can be alleviated. Ambitious work has started in many areas, but what will the impact be of the severe global economic and financial crisis the world is facing today? Will action against climate change now come to a halt or can the crisis actually stimulate new innovative solutions, and what role will cost effective measures play?

## **SPEAKERS:**

### **Paul Ekins**

*Professor of Energy and Environment Policy, King's College London, UK*

### **Runar Brännlund**

*Professor in Economics, Umeå University, Sweden*

### **Chris Lenon**

*Global Head of Tax, Rio Tinto Plc*

### **Kai Schlegelmilch**

*Vice-President, Green Budget Germany*

### **Carolyn Fischer**

*Senior Fellow, Resources for the Future, Washington D.C., USA*

### Panel 3

## The Law and Economics of Environmental Policy

### Panel chaired by Michael Faure

*Professor, Maastricht University and Erasmus University Rotterdam, The Netherlands*

In times of economic crises efficient policies are even more urgent. Law and Economics of Environmental Policy is a growing field of legal research where the formal and procedural aspects of environmental policy are subject to a cost-benefit analysis that informs policymakers and the public in general with respect to the actual consequences of environmental law. This panel shall address the use of market-based instruments and standard-setting within environmental policy, as well as the first vis-à-vis the latter.

### PRESENTATIONS:

The regulatory approach towards coal fired power plants in the EU

#### **Marjan Peeters**

*Professor of Environmental Policy & Law, Maastricht University, The Netherlands*

An experimental study on discretionary environmental enforcement

#### **Anna Rita Germani**

*Assistant professor in Economics, University of Rome "La Sapienza", Italy, **Andrea Morone**, University of Bari, Italy, **Piergiuseppe Morone**, University of Foggia, Italy*

Instrument Choice and Morals: Taxes vs. Standards in a Climate Change Experiment

#### **Timo Goeschl**

*Professor of Environmental Economics, at the Department of Economics, University of Heidelberg, **Grischa Perino**, Lecturer, School of Economics, University of East Anglia, UK*

Optimal specificity in environmental standard-setting: Europe versus the US

#### **Michael G. Faure**

*Professor, Maastricht University and Erasmus University Rotterdam, The Netherlands, **Jason Scott Johnston**, University of Pennsylvania Law School, USA*

## Panel 4

### **Bringing Environmental Fiscal Reform to life: Strategies, institutional settings and stakeholder cooperation**

#### **Panel chaired by Detlef Schreiber**

*GTZ, Head of Section Environment, Resource Efficiency and Waste Management*

This panel is focusing on issues of implementation of Environmental Fiscal Reform (EFR) measures. Looking at different approaches from China, India and Uganda and other countries with regard to energy and water issues, the discussion will focus on important aspects for the implementation concerning strategies, institutional settings and stakeholder cooperation. Framework conditions are unique in every country even if the environmental problems faced may be similar. The panel aims to shed a light on important questions that should be considered during the policy development process and a variety of solutions to go about.

#### **SPEAKERS:**

##### **Ye Ruqiu**

*Chinese Co-Chair of the Task Force on Economic Instruments for Energy Efficiency and the Environment, China*

##### **Dyvia Datt**

*The Energy and Resources Institute, India; Shilpa Nischal, The Energy and Resources Institute, India*

##### **Callist Tindimugaya**

*Head of the Department for Water Resources Planning and Regulation, Ministry of Water and Environment, Uganda*

##### **Juerg Klarer**

*Managing Director, Æquilibrium Consulting GmbH, Switzerland*

**19h00** DEPARTURE BY BUS (GUIDED TOUR) TO DINNER

**20h00** CONFERENCE DINNER

INTRODUCTION TO THE GETC SERIES

**Janet Milne**

THE KREISER AWARD

KEY-NOTE SPEAKER

**Alberto Majocchi**

**Thursday, 24 September**

**09h00-10h30 PARALLEL SESSIONS 1 TO 4**

### **STREAM 1** **National experiences 1**

Climate Change Management in the United States Post Bush: Focusing on Fiscal and Economic Policy

**Mona L Hymel**

Recent U.S. tax laws greatly expand use of Tax Code to encourage resource conservation

**Bruce W. McClain, Paul J. Lee, John T. Geekie, Larry Kreiser**

Lost in Translation? A Political-Economy Analysis of Market-Based Climate Policy Instruments in Japan

**Sven Rudolph, Seung-Joon Park**

Tax instruments for climate change prevention and mitigation: The Australian experience

**Natalie P Stoianoff**

### **STREAM 2** **Challenges of implementing and enforcing environmental tax reforms 1**

Water Consumption as a Sign of Solid Waste Production: a Proposal to Assess the Charge on Domestic Waste Management in Urban Area

**Belén García, Pedro M. Herrera, Pablo Chico**

Waste Policy in the Presence of Illegal Disposal and Organized Crime

**Alessio D'Amato, Mariangela Zoli**

Environmental Damage and Urban Blight Caused by Excessive Property Taxes on Real Property Improvements in Urban Areas

**Larry Kreiser, Hans Sprohge, Bill Butcher, Julsuchada Sirisom**

Design on the Framework of China Environmental Taxation Policy and Its Implementation Strategy

**Jinnan Wang, Ge Chazhong, Gao Shuting, Zhao Yue**

### **STREAM 3**

#### **Energy sustainability**

Market based instruments for energy sustainability

**Andrea Zatti, Giorgio Panella, Fiorenza Carraro**

Tax incentive options to promote environmentally friendly products – the case of energy efficient domestic appliances

**Shailendra Mudgal, Benoît Tinetti, Anil Markandya, Ramon Ortiz**

External costs from energy generation and their internalisation in new member states

**Vojtech Maca, Jan Melichar, Milan Scasny**

Like Water for Energy: The Water-Energy Nexus through the Lens of Tax Policy

**Roberta Mann**

### **STREAM 4**

#### **Equity issues**

Future global challenges to achieve fairness in environmental taxation: moving beyond the dimensions of horizontal and vertical equity

**Ann Hansford, Margaret McKerchar**

Achieving social justice and addressing climate change – a comparison of carbon taxes and emissions trading systems in Canada and Australia

**Karen Bubna-Litic, Nathalie Chalifour**

The distributive effects of carbon taxation in Italy

**Chiara Martini**

Water services pricing: economic and social issues

**Giorgio Panella, Andrea Zatti**

**10h30-11h45** PLENARY SESSION

***Water Management & Climate Change:  
Interrelationships***



## **SPEAKERS:**

**Filipe Duarte Santos**  
**Viriato Soromenho-Marques**  
**Kurt Deketelaere**

**11h45-12h00** COFFEE BREAK

**12h00-13h30** PARALLEL SESSIONS 1 TO 4

## **STREAM 1**

### **National experiences 2**

New Tax-Financed Environmental Incentives in the United States

**Michael Curley**

An ecological tax reform for Austria – evaluation of economic and emission effects

**Daniela Kletzan-Slamanig, Angela Köppl, Kurt Kratena, Alexandra Wegscheider-Pichler**

Canada's twisted path to COP 2009 (Copenhagen 2009)

**Brigitte Alepin, Francois Therriault, Julie Larocque**

Addressing environmental problems through motor vehicle taxes: Experiences of the Republic of Serbia

**Milos Milosevic, Monika Milosevic**

## **STREAM 2**

### **Instrument design issues**

Transaction costs, risks and policy failure

**Paul Martin, J. Shortle**

The Design on China's Carbon Tax to Mitigate Climate Change

**Jinnan Wang, Chazhong Ge, Gang Yan, Kejun Jiangb, Lancui Liu, Zhangfeng Dong**

The Greenhouse Gases Emission Taxes

**Maria Luisa Fernandez de Soto Blass**

## **STREAM 3**

### **Energy sustainability**

Overcoming the Barriers for Implementing Demand-Side Management Energy Policies: Tradable Green Certificate Schemes and Feed-in Tariffs Re-visited  
**Hope Ashiabor**

Environmental Taxation of Hydraulic Power in Spain: a Model for Developing Countries?  
**José Manuel Iglesias Casais, Roberto Muhájir Rahnemay Rabbani, Allivia Rouse Ferreira Dos Santos**

The role of taxation in energy and environmental policy: guidance to policy-making  
**Katri Kosonen, Gaëtan Nicodème**

The Spanish Energy Tax System  
**Isabel Bassas Pérez**

## **STREAM 4**

### **Legal issues 1**

State Aid and the EU Council Directive 2003/96/EC: The case for augmenting the environmental component  
**Iñaki Bilbao Estrada, Álvaro Antón Antón**

The compatibility of fiscal measures for environmental protection in business with the Community rules on State Aid  
**Gemma Paton Garcia, Gracia Maria Luchena**

WTO Law on Subsidies: a hindrance to the international competitiveness of renewable electricity generators?  
**Carol Ni Ghiollarnath**

Can unilateral trade measures significantly reduce leakage and competitiveness pressures on EU-ETS-constrained industries? The case of China  
**Xin Wang, Tancrede Voituriez**

Emissions trading schemes, domestic policy and the WTO,  
**Keith Alexander Kendall, Daniel Redmond**

**13h30-15h30** CONFERENCE LUNCH

**15h30-17h30** PARALLEL SESSIONS 1 TO 4

## **STREAM 1**

### **National experiences 3**

Environmental Tax Reform: Administrative and Compliance Cost of Energy Taxes in the Czech Republic

**Jan Pavel, Leoš Vitek, Jiri Pribil**

A Separate Environmental Tax for China: A Scheme Design and Its Implementation

**Jinnan Wang, Chazhong Ge, Shuting Gao, Gang Yan, Zhanfeng Dong**

Positive Impacts on Climate Change: How the waters for economic instruments between America and Europe are getting warmer

**Kai Schlegelmilch**

Water resources management in Uganda: Policy and Institutional Framework

**Christine Echokit Akello, Ronald Kaggwa**

Public perceptions of environmental taxes in Norway: a unison demand for earmarking

**Steffen Kallbekken, Marianne Aasen**

## **STREAM 2**

### **Carbon taxes**

Carbon Taxation: Why and How? Advantages of a Carbon Tax, and Lessons from Theory and Practice

**David Duff, Shi-Ling Hsu**

Carbon tax in China: from why to how

**Zhanfeng Dong**

Could a carbon tax help achieve France's CO<sub>2</sub> emissions goals?

**Franck Cachia, Sylvie Lefranc**

The Politics of Carbon Taxation in Canada

**Kathryn Harrison**

## **STREAM 3**

### **Transport sector**

Cutting emissions from transport sector in the Czech Republic  
**Jarmila Zimmermannova**

CO<sub>2</sub>-related tax rate differentiation in motor vehicle taxes  
**Nils-Axel Braathen**

The Social Balance of Road and Rail Transport in Hungary  
**András Lukács et al**

Velib Economics: giving a price to Urban Bicycle Public Transport Services  
**Aldo Ravazzi Douvan**

## **STREAM 4**

### **Legal issues 2**

Water taxes in Europe: analysis of the situation in Spain  
**Francisco Adame Martinez**

Water charges for the protection of water resources in Brazil - The case of Pia-banha River basin (Petrópolis, Rio de Janeiro)  
**José Marcos Domingues, Paulo Sérgio Souza Leite**

The polluter pays principle and environmental taxation: a critical examination under conditions of climate change  
**Irina Glazyrina**

Água Quente: Is Water Trading the New Carbon Trading? United States and Australia  
**Mona L Hymel**

**17h30 – 18h30** CONFERENCE COCKTAIL

**Friday, 25 September**

**09h00-11h00** PARALLEL SESSIONS 1 TO 4

### **STREAM 1** **Coordinating instruments**

Cap & Trade and Tax Reform for Global Climate Policy Architecture  
**Aviel Verbruggen**

Financing public expenditures via emissions taxation under international emissions trading  
**Alessio D'Amato, Amanda Spisto**

Managing Transport Emissions through Taxes and Tradeable Permits – A comparative analysis evaluating the mechanisms in Australia's Carbon Pollution Reduction Scheme  
**Anna Mortimore**

Feed-in-tariffs in Australia. Fiscal Incentives and regulatory regimes: current developments & policies for the future  
**Peter Stewart Gillies, Patricia Blazey**

### **STREAM 2** **Pollution trading issues**

Auctioning CO2 Permits in the Czech Republic: Expected Sectoral and Overall Economic Effects  
**Lubomir Lizal**

Investment in a Market-Based Cap-and-Trade Program as a new U.S. Clean Climate Policy  
**Rahmat Ola Tavallali**

Carbon Pricing in Canada: Options and Specifics  
**T. Snoddon, R.Wigle**

The EU Emissions Trading Scheme - Insights from the First Trading Years with a Focus on Price Volatility  
**Claudia Kettner, Angela Köppl, Stefan Schleicher**

Derivatives Trading, Climate Science and Human Rights  
**Matthew Haigh**

## STREAM 3

### Environmental policy & technology

The Role of Technological and Lifestyle Changes vs. Carbon Taxes in Determining the Energy Demand of Households

**Kurt Kratena, Ina Meyer, Michael Wüger**

R&D and environmental tax deductions in Spain

**Ignasi Puig Ventosa**

Climate change mitigation options and directed technical change: A decentralized equilibrium analysis

**Gilles Lafforgue, André Grimaud, Bertrand Magné**

Growth, Innovation and Environmental Policy: Clean vs. Dirty Technical Change

**Maria A. Cunha-e-Sá, Alexandra Leitão, Ana B. Reis**

The position of CDM in EU climate policy: towards a balance that promotes a Post-2012 agreement?

**Javier de Cendra de Larragán**

## STREAM 4

### Competitiveness issues

Can environmental taxation simultaneously achieve objectives of climate change mitigation and increased output and employment?

**Paul Whitfield Ekins, Sudhir Junankar, Hector Pollitt, Philip Summerton, Martin Jaenicke, Roland Zieschank**

A Dark Recession, Red Ink, and the Green Economy: Climate Change Tax Incentives in the U.S. Economic Stimulus Program

**Janet E. Milne**

Comparing Policies to Combat Emissions Leakage: Legal and Economic Trade-offs

**Carolyn Fischer, Alan K. Fox**

Strengthening a green recovery with market based instruments

**Kai Schlegelmilch**

Scale of economic activity and environmental taxation

**Francesco La Camera, Aldo Ravazzi**

**11h00-11h15** COFFEE BREAK

**11h15-12h30** PLENARY SESSION

***Discussing environmental tax instruments  
vis-à-vis competitiveness concerns***

**SPEAKERS**

**Michael Curley**

**Henrik Hammar**

**12h30-14h30** CONFERENCE LUNCH

LUNCH SPEAKER

**Susanne Akerfeldt**

*Representative of the Swedish Presidency of the EU*

**14h30-16h30** PARALLEL SESSIONS 1 TO 4

**STREAM 1**

**Environmental Tax Reform**

Environmental Tax Reform in Retrospective and its Future Role

**Stefan Speck**

Exploring the potential of harmonising Environmental Tax Reform efforts in the European Union

**Samuela Bassi, Marc Pallemarts, Patrick ten Brink**

Why are environmental tax revenues falling in the EU?

**Katri Kosonen**

Tigers and other countries looking for Environmental Tax Reforms

**Kai Schlegelmilch**

Reforming environmental harmful subsidies in the water sector: irrigation subsidies in Spain

**Samuela Bassi, Cláudia Dias Soares, Carolina Valsecchi**

**STREAM 2**

**Searching for instruments to address climate change**

A critical legal review of tax-related financial mechanisms for climate protection in developing countries

**Maria Amparo Grau Ruiz**

Greenhouse gas weighted consumption taxes on food as a climate policy instrument

**Fredrik Hedenus, Kristina Mohlin, Stefan Wirsenius**

Value Added Tax as an environmental policy instrument?

**Frans Oosterhuis, Marije Schaafsma**

Funding for Flood Risk Management

**Jonathan Fisher, Daniel Johns, Marilena Policino, Aidan Kerr**

Fiscal Incentives to reduce deforestation activities globally

**Patricia Jane Blazey**

### **STREAM 3**

#### **Economic Aspects of Water Management**

Pricing for Scarcity? An analysis of Increasing Block Tariffs,

**Catarina Roseta-Palma, Henrique Monteiro**

A model of temperature-sensitive water pricing

**Radmilo Pesic**

Economic Criteria for Applying the Protector-Receiver Principle: Case Study of Três Picos State Park, Rio de Janeiro, Brazil

**Ronaldo Seroa da Motta, Juliana Strobel, Wilson C. Souza, Marcos Amend**

### **STREAM 4**

#### **Economic issues**

Information Sharing, Market Structure and Efficient Environmental Taxes

**Jihad C. Elnaboulsi**

Taxation of a Polluting Non-renewable Resource in the Heterogeneous World

**Julien Daubanes, André Grimaud**

Harnessing Bertrand Competition on behalf of the environment

**Oliwia Kurtyka, Philippe Mahenc**

An Adverse Selection Model Applied to Environmental Regulation

**Yang Shu**

### **16h30 CLOSING SESSION**

**Cláudia Dias Soares**

**11th GCET2010 - Bangkok-Preview Larry Kreiser & Julsuchada Siriom**





## Francisco Adame Martínez

*Professor of Tax Law, University of Seville, Spain*

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### **Brief CV**

Books: El sistema de financiación de las Comunidades Autónomas de régimen general, La consulta tributaria, Régimen jurídico y fiscal de los traslados transfronterizos de residuos peligrosos, Régimen Fiscal del Agua. Author of other publications in Spanish and international journals. Some of them are about environmental taxes.

### **Title**

**Water taxes in Europe: analysis of the situation in Spain**

### **Abstract**

This contribution offers a general panoramic of the current state of the water taxes in European Union, with special attention to the analysis of the existent taxes in Spain and the relation between these taxes and water prices. In the first section, we will offer a brief summary of the water taxes that have been introduced by the countries that are in the European Union. Next, we will explain the complex situation in Spain, where the three levels of government that have powers of taxation, which are the State, the Autonomous Communities and local have established water taxes, fees or royalties. In this paper we analyze the legal framework of these taxes. Also it will be discussed in detail in this paper the relationship between taxes on water and water prices. In practice there are huge differences between prices of water that are paid in the different Municipalities. We conclude the paper with some conclusions extracted of the Spanish experience that can be useful for other countries.



## Christine Echookit Akello

*National Environment Management Authority – Uganda  
Senior Legal Counsel*

## Ronald Kaggwa

*National Environment Management Authority – Uganda  
Environmental Economist*

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### **Brief CV of 1<sup>st</sup> author**

Ms Christine Echookit Akello, a Ugandan with a Diploma in International Environmental Law of the United Nations Institute of Training and Research and a Master of Laws of Makerere University, Uganda. I work as the Senior Legal Counsel of the National Environment Management Authority – Uganda. I am an advocate of the Ugandan Bar and a member of the Uganda Law Society and the East African Law Society.

### **Title**

**Policy, Legal and Institutional Frameworks for Water Resources Management in Uganda**

### **Abstract**

Water resources are an integral part of the ecosystem and water is a natural resource as well as a socio-economic good. Sound water resources management is critical to Uganda’s sustainable socio-economic development. Water resources management is faced with numerous challenges which Uganda has responded to by preparing the necessary policy, institutional and legal frameworks. There is also an increasing emphasis on the application of Market Based Instruments. Integrated water resources management ensures that all aspects of resource management are taken into account in determining the appropriate levels of intervention and investment. Mainstreaming water resources management in national policies, fostering cross-sectoral integration of all major water use sectors and stakeholders, and effective decentralisation of water resources management are important aspects of water resources management in the country.



## Brigitte Alepin

*Agora Services de Fiscalité inc.*  
President

## François Therriault

*Agora Services de Fiscalité inc.*

## Julie Larocque

*Agora Services de Fiscalité inc.*

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### **Brief CV of 1<sup>st</sup> author**

Brigitte Alepin, best selling author, holds a Master degree in public administration and microeconomics from Harvard University and is a chartered accountant. She was summoned twice as an expert on evasion by Parliament. Most recently, she advises the Canadian Institute of Chartered Accountants on greenhouse gas reduction policies.

### **Title**

**Canada's twisted path to Copenhagen**

### **Abstract**

First, we present Canada's controversial and often contradicting position towards greenhouse gases reduction ("GHG") from 1992 to the present. Second, we illustrate the lower importance of national eco-taxes in Canada in comparison to other OECD. Thirdly, we explain Canada's current proposals to regulate GHG focusing on 6 components (Scope and overview, Efficiency standard, Compliance options, Example of application, Economic cost and Assessment) of the plan. Fourthly, we elaborate on the main reasons behind the time lag for Canada's lack of significant GHG reduction policies (Dependant on United States policies, Relative economic importance of the oil sands, Regional inequities if a price is put on carbon, Constitutional issues, etc). In conclusion, we give key recommendations in order to facilitate the incorporation of environmental protection in Canadian policies (North American green deal, 20 key principles for achieving green taxation, Ideas to explore from 2010 to 2013).



## Hope Ashiabor

*Macquarie University, Department of Business Law,  
Associate Professor of Law and Acting Head, Department of Business Law*

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### **Brief CV**

His research interests are in the areas of environmentally related taxes, emissions trading, and the use of tax expenditures in policy implementation. In 2008, he was awarded the Kreiser Award for Outstanding Contributions to Environmental Taxation Issues in the Asia-Pacific Region. Hope has written extensively, and prepared public submissions to government inquiries. He is co-editor to the series Critical Issues in Environmental Taxation (Oxford University Press), UK. He has also worked as a consultant to the OECD Environment Directorate, Paris on an energy tax and competitiveness issues project, as well as with other agencies.

### **Title**

**Overcoming Barriers to the Implementation of Supply-Side Management Energy Policies: Tradable Green Certificate Schemes and Feed-in Tariffs Re-visited**

### **Abstract**

The twin issues of managing carbon dioxide emissions from the combustion of fossil fuels and energy security has led many governments to scramble for solutions to mitigate the potential fall outs that they are likely to leave in their wake. Tradable green certificate schemes and feed-in tariffs have been used extensively to foster the development and uptake of renewable energy. This paper evaluates Australia's experience with tradable green certificate schemes in an attempt to ascertain their impact on the deployment of renewable energy. The paper also focuses its attention on feed-in tariffs – an industry development and deployment program designed to provide investors with certainty as a way of enabling the renewable energy sector to develop to a stage where it is truly competitive. As a context setting exercise, the paper discusses the different types of feed-in tariffs and the ways in which they operate. It then compares the relative effectiveness of both instruments in achieving the desired transformation in energy sources and technologies. While feed-in tariffs have been associated with the successful development and uptake of renewable energy in Europe, the analysis in this paper focuses on their utility in the Australian context. This examination is conducted against the backdrop of clamours for the Australian Federal Government to adopt a national feed-in tariff system. In this context, the paper poses the question as to whether one size fits all. At a broader level, the Australian experience with these instruments will be contrasted against the experience of selected OECD countries.



## Jelena Barbir

*Master student of Joint European Master in Environmental Studies (JEMES)*

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### **Brief CV**

Jelena Barbir is born on 21st of August 1983, in Osijek, Croatia. She obtained her Bachelor degree in Biology. During her bachelor studies she was interested in surface water quality and management, and that inspired her to start the Joint European Master Programme in Environmental Studies.

### **Title**

**Socio-environmental Approach to Drip Irrigation System Implementation as a Climate Change Adaptation Measure within N'hambita Community Carbon Project Area, Mozambique**

### **Abstract**

The research took place in Mozambique as a part of the N'hambita Community Carbon Project (NCCP), in the buffer zone of National Park Gorongosa, Sofala Province in aim to investigate the efficiency of drip irrigation systems (DIS) and success of DIS implementation in NCCP area, through social and environmental indicators. This paper work takes place in a context of climate change, presenting activities within the project to mitigate climate change and investigating possibilities for climate change adaptation regarding water management. The investigation of this Carbon Project initiation has been done in aim to help in making further decisions regarding drip irrigation implementation. The methodology of the research is relayed on interviews, questionnaires, GPS mapping of water sources and observation of the water use within tree nurseries and agricultural activities.



## Isabel Bassas Pérez

*Visiting Professor, Faculty of Law, University of Girona, Spain*

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### **Brief CV**

Currently I'm writing my thesis in "Electricity taxation on a regulatory market" and I teach Tax Law at Universitat de Girona and Universitat Pompeu Fabra. My research skills are: Electricity taxation & public expenses; Regional and Local entities tax power; Intern. Taxation. LL.M in ESADE.

### **Title**

**The Spanish Energy Tax System: Special reference to the Electricity Tax System**

### **Abstract**

Energy taxation has undergone a profound transformation in recent years because it stands out as a very significant instrument to promote certain energy objectives: the internalization of costs related to energy consumption, the promotion of energy efficiency, environmental protection and the promotion of the EU energy market.

The energy tax system is made up of energy taxes plus energy tax measures. It is defined according to the organization of the Spanish tax authority: 1) the state; 2) the autonomous communities (regional); and 3) the local entities.

We will analyse the current Spanish electricity tax system and if it takes into consideration some relevant aspects, such as: 1) the ability to pay a consumption tax on a commodity; 2) the stability needs of the electric system; and 3) signals regarding green electricity.



## Samuela Bassi

*Institute for European Environmental Policy (IEEP) – Policy Analyst*

## Marc Pallemmaerts

*Institute for European Environmental Policy (IEEP)  
– Senior Fellow and Head of Environmental Governance Research Team*

## Patrick ten Brink

*Institute for European Environmental Policy (IEEP)  
– Senior Fellow and Head of IEEP's Brussels office*

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### **Brief CV of 1<sup>st</sup> author**

Samuela Bassi holds a degree in economics and has developed a special focus on environmental economics. At the Institute for European Environmental Policy, which she joined in 2005, she contributes to research on market based instruments, industrial pollution, energy and climate policy, and the valuation of biodiversity and ecosystem services.

### **Title**

**Exploring the potential of harmonising Environmental Tax Reform (ETR) efforts in the European Union**

### **Abstract**

In a European future with an increasingly ageing population, pressing environmental problems, growing resource scarcity, and the need for increased energy security, a shift in the tax base from labour to environmentally damaging activities (ie Environmental Tax Reforms – ETR) could help address both economic and environmental concerns. Despite this potential, the average share of green taxes in Europe has not grown in the past 10 years and currently only accounts for 6.7 per cent of total tax revenues. Furthermore, due to the requirement for unanimity for the adoption of taxation measures at EU level, the Commission has always encountered difficulties whenever it has tabled proposals for a common European approach to ETR. This paper aims to understand, in light of expert's views and past lessons, the scope for using ETR to address current and future environmental challenges. It will also look at possible paths to develop a more harmonised approach to ETR in the EU, with a particular focus on enhanced cooperation and the open method of coordination.



## Samuela Bassi

*Institute for European Environmental Policy (IEEP) – Policy Analyst*

## Claúdia Dias Soares

*Portuguese Catholic University - Professor*

## Carolina Valsecchi

*Institute for European Environmental Policy (IEEP) – Policy Analyst*

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### **Brief CV of 1<sup>st</sup> author**

Samuela Bassi holds a degree in economics and has developed a special focus on environmental economics. At the Institute for European Environmental Policy, which she joined in 2005, she contributes to research on market based instruments, industrial pollution, energy and climate policy, and the valuation of biodiversity and ecosystem services.

### **Title**

**Reforming environmental harmful subsidies in the water sector: irrigation subsidies in Spain**

### **Abstract**

The balance between water demand and availability has reached a critical level in many European Member States as a result of over abstraction, low rainfall and drought. Although irrigation is a major consumer of water; often water prices charged to farmers tend not to enable cost recovery and water conservation within renewable capacity.

This paper explores the case of water subsidies for irrigation in Spain, where arguably low water prices have led to over abstraction and threats to ecosystems. Three OECD methodologies have been used to analyse the subsidies in place: the ‘quick scan’, the ‘checklist’, and the ‘integrated assessment’. The analysis reveals that the removal of irrigation water subsidies can help to reduce water consumption, although the extent of this reduction will depend on local conditions. Investments in improved infrastructures and irrigation practices, as well as the introduction of flanking measures to support low-income farmers, will be important to minimise social impacts and ensure effectiveness of subsidy reform.





## Iñaki Bilbao Estrada

*Endesa research chair for taxation and Climate Change  
CEU Institute for Environmental Law and Ethics  
Universidad CEU Cardenal Herrera*

## Álvaro Antón Antón

*Research Student Ministerio de Ciencia e Innovación  
.Endesa Research Chair for Taxation and Climate Change  
.CEU Institute for Environmental Law and Ethics  
.Universidad CEU Cardenal Herrera*

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### **Brief CV of 1<sup>st</sup> author**

Iñaki Bilbao specializes in teaching and researching in the area of Tax Law. He holds a bachelor's degree in Law and a European doctorate (cum laude). He is principal researcher in numerous projects, primarily "The tax treatment of emission rights" and is Director of the Institute of Law and Environmental Ethics at UCH-CEU.

### **Title**

**State aid and the EU Council Directive 2003/96/EC: the case for augmenting the environmental component**

### **Abstract**

The burning of fossil fuels to produce energy is responsible for 80% of EU carbon dioxide emissions. This implies that the measures adopted by the EU to combat climate change should be integrated within EU energy policy which is currently being developed in order to reach ambitious internal reduction targets of at least 20% by 2020. In order to assist this integration and the fulfilment of these objectives the EU is relying principally on market based instruments (foremost among which are the emission rights trading scheme and taxation) as a basis upon which to build its climate and energy policies. However, the joint application of these two instruments may result in a regulatory overlap and consequently undermine their efficacy. Reductions or exemptions from environmental taxes could be the key to guaranteeing coherency between the different instruments. Their application must be carefully examined in order to avoid the awarding of tax breaks which may be deemed state fiscal aid contrary to article 87 of the EC Treaty.

# Patricia Blazey

Macquarie University  
Sydney

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## **Brief CV**

Patricia Blazey lectures in Business Law, Chinese Trade Law, European Trade Law and Evidence Law. She is admitted as a solicitor and barrister in New South Wales in Australia. Her PhD thesis is entitled 'Mechanisms to lower deforestation globally'. She publishes in two main areas climate change – effects of deforestation and Chinese Law.

## **Title**

**Fiscal incentives to reduce global deforestation**

## **Abstract**

Forests, in the climate change debate can be likened to a see-saw. On the one hand forests provide a natural and effective carbon dioxide (CO<sub>2</sub>) abatement mechanism that combats global warming by storing an estimated 60 per cent of the world's terrestrial carbon. On the other hand deforestation accounts for about 20 per cent of CO<sub>2</sub> emissions. International efforts to reduce deforestation are now at the forefront of international discussions on climate change. In 2007 COP13 the Bali Action Plan was drafted calling for 'policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries'. One initiative is a Reducing Emissions from Deforestation and Degradation' (REDD), a mechanism whereby developing countries that reduce emissions from deforestation and forest degradation are financially compensated. This paper examines whether REDD can be an effective mechanism as well as exploring other fiscal initiatives at both international and national levels.



## Elisa Bonazzi

*University of Bologna  
- Faculty of Agriculture in agreement with Arpa Emilia-Romagna.  
Ph.D. student (DEIAgra), temporary research fellow (Diproval). Bologna (Italy).*

### Michele Sansoni

*Arpa Emilia-Romagna (Regional Environment Agency). Project Manager. Bologna (Italy).*

### Marco Setti

*University of Bologna - Faculty of Agriculture, Diproval, Economic Unit.  
Associate Professor. Bologna (Italy).*

### Paolo Cagnoli

*Arpa Emilia-Romagna, (Regional Environment Agency).  
Head of energy and environmental assessment dept. Bologna (Italy)*

### Stefano Bontempi

*University of Bologna - Faculty of Agriculture, Diproval, Economic Unit. Ph.D. Bologna (Italy)*

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#### **Brief CV of 1<sup>st</sup> author**

Elisa Bonazzi (Bologna, December 1980) is a PhD Student at the University of Bologna, where she is working as a temporary research fellow in Environmental Economics in agreement with Arpa Emilia-Romagna. She has got a Master's degree in Economics (University of Bologna) and a MSc in Environmental Economics (University Bocconi, Milan).

#### **Title**

**RAMEA, a shared environmental accounting tool to control and monitor regional environmental taxes**

#### **Abstract**

RAMEA is a regional NAMEA (National Accounting Matrix including Environmental Accounts), an official and standardized statistical information system that gives the possibility to analyse the pressures placed on the environment by production and consumption activities, extending the economic aggregates with related environmental themes (at this stage focused on air emissions). We have integrated RAMEA matrix with a new theme on environmental taxes, following Eurostat guidelines. We focused on the possibility of steering a sustainable economy, investigating the use of eco-taxes coordinated with RAMEA in order to improve the knowledge base to support policy makers. Following EU directions, environmental taxes have long been an instrument to boost the behaviour change of citizens by giving monetary values to negative externalities on the environment, like polluting. The main attempt has been to control and monitor eco-taxes and revenues by means of RAMEA, thinking also of new shapes of eco-taxes and paying attention to global economic crises.



## Nils Axel Braathen

*OECD, Principal administrator*

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### **Brief CV**

Working in the Environment Directorate of OECD since 1996, i.a. on environmental taxes, transport and environment, economics of waste, instrument mixes for environmental policy, and on a meta-analysis of value-of-statistical-life estimates stemming from stated preferences surveys in environment, traffic and health risk contexts.

### **Title**

**Incentives for CO<sup>2</sup> emissions reductions in motor vehicle taxes**

### **Abstract**

This paper compares CO<sub>2</sub>-related tax rate differentiation in motor vehicle taxes in OECD member countries. The comparisons make it clear that the tax rates applied per tonne CO<sub>2</sub> emitted over a vehicle's lifetime varies significantly between countries – with Norway, Portugal, Ireland and Denmark having particularly high tax rates for high-emission vehicles. While there are good reasons to increase the tax rates per vehicle or per year with increasing CO<sub>2</sub> emissions per vehicle driven, it is more difficult to see strong reasons why the tax rate per tonne lifetime CO<sub>2</sub> emissions should increase with increasing emissions per km driven. Given the much lower marginal abatement costs for other CO<sub>2</sub> emission mitigation options (e.g. as regards industry – cf. the CO<sub>2</sub> emission permit prices in the EU's Emission Trading System, that have been below 15€ per tonne CO<sub>2</sub> in recent months), one can question why so strong incentives are provided in these countries to abate CO<sub>2</sub> emissions from some motor vehicles.



## Karen Bubna-Litic

*Associate Professor, Faculty of Law, University of Technology, Sydney*

## Nathalie J. Chalifour

*Assistant Professor, Faculty of Law, University of Ottawa*

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### **Brief CV of 1<sup>st</sup> author**

Karen Bubna-Litic is a Solicitor and Barrister of the Supreme Court of W.A and the Director of Exchange programs in the Faculty. She researches in the areas of environmental law, corporate social responsibility and climate change law. She has written in the field of corporate environmental responsibility, with book chapters on ecotaxation and environmental reporting and articles on the linkages between sustainability and corporate practice. Her current research examines climate change and its associated economic incentives, particularly emissions trading, as a driver for better corporate environmental performance, and the social justice outcomes of carbon pricing policy.

### **Title**

**Achieving Social Justice and Addressing Climate Change – A Comparison of Carbon Taxes and Emissions Trading Systems in Canada and Australia**

### **Abstract**

There has been extensive debate as to the best instrument choice for reducing greenhouse gas emissions and the impacts of climate change – namely emissions trading systems versus carbon taxes. While these policies are often examined for their efficiency, efficacy, comprehensiveness and impacts upon competitiveness. While there are numerous studies about the distributional impacts of carbon taxes, there is relatively little research about the overall fairness of the policies and even less comparing the policies in this regard. This paper compares the fairness of carbon taxes and emissions trading using two case studies, namely the impacts of British Columbia's carbon tax on women, and the impacts of Australia's Carbon Pollution Reduction Scheme on indigenous groups. We discuss and compare how the respective policies, including the use of revenue generated to create mitigation policies, impact upon the disadvantaged group. While we recognize that our paper offers a modest contribution to a broad and large issue, we hope it will spark debate and focus attention on the critical issue of selecting and designing carbon pricing policies that provide the best outcomes for both climate change and social justice.



## Franck Cachia

*Ministry of ecology, energy, sustainable development and sea (MEEDDM)  
Economist – climate change policies*

## Sylvie Lefranc

*Ministry of ecology, energy, sustainable development and sea (MEEDDM)  
Economist – fiscal policies*

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### **Brief CV of 1<sup>st</sup> author**

Present position : economist at the MEEDDM (Since 09/ 2008)  
Previously : economist-statistician at the French National Statistics Institute  
Education  
M.Sc in International Economics and Finance (Paris-Dauphine university)  
Recent publication  
06/2009 L’impact de la récession économique sur les émissions de CO<sub>2</sub>,  
Le Point Sur n°15

### **Title**

**Could a carbon tax help achieve France’s CO<sub>2</sub> emission goals?**

### **Abstract**

The Green paper on market-based instruments for environment and related policy purposes (March 2007) proposed to include a CO<sub>2</sub> component in the Community’s minimum taxation levels. Following this idea, this paper analyses the relevance of the implementation of a “carbon tax” as an additional instrument to tackle climate change. The performance of this instrument is assessed according to a number of criteria, in particular economic allocative efficiency and distributional equity. Empirical evidence from France will be provided to illustrate the theoretical analyses.

The paper then proposes a suitable framework for the implementation of a carbon tax that would maximize CO<sub>2</sub> emissions reductions at the lowest economic and social cost. The policy recommendations of this paper will be partly drawn from the conclusions of a national conference of experts that will be held in France in June 2009, following an engagement taken by the President of the Republic during the “Grenelle de l’Environnement” (environmental roundtable).



## Javier de Cendra de Larragán

*Ph.D candidate, Metro, Maastricht University*

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### **Brief CV**

Javier de Cendra de Larragán is a Ph.D researcher at Maastricht University, the Netherlands. His doctoral thesis examines from burden sharing in European climate change policy from the perspective of legal principles. He is member of the Ius Commune Research School, the Energy Law Research Forum and of the IUCN Academy of Environmental Law.

### **Title**

**The CDM and the EU: towards a balance that promotes a Post-2012 agreement? Suggestions to increase its potential for mitigation and adaptation**

### **Abstract**

This paper analyzes the EU position regarding the future of the CDM and/or other project based mechanisms—in the light of its own interests, the structural problems of the CDM, the needs and interests of developing countries regarding mitigation and adaptation, and the ongoing international negotiations on climate change policy. It will suggest a number of strategies that the EU could consider to enhance the contribution of project based mechanisms to mitigation and adaptation in developing countries.



## Emmanuel Combet

*PhD Student EHESS, Centre Internationale de Recherche sur l'environnement et le Développement (CIRED), 45 bis, avenue de la Belle Gabrielle, 94736 Nogent-sur-Marne CEDEX, France.*

## Frédéric Gherzi

*Researcher CNRS, CIRED, France.*

## Jean Charles Hourcade

*Director CNRS, CIRED, France.*

## Daniel Théry

*Researcher CNRS, CIRED, France.*

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### **Brief CV of 1<sup>st</sup> author**

Emmanuel Combet is a French PhD Student, working on the design of domestic carbon tax reforms with a special focus on distributional analysis and equity. He is also member of the CIRED's general equilibrium modelling team (IMACLIM models) and contributes to develop micro-macro evaluation tools.

### **Title**

**Carbon Tax and Equity: The Importance of Policy Design**

### **Abstract**

This research aims at clearing up misunderstandings about the distributive impacts of carbon taxes, which proved to be a decisive obstacle to their further consideration in public debates. It highlights the gap between partial equilibrium analyses, which are close to the agents' perception of the costs of taxation, and general equilibrium analyses, which better capture its ultimate consequences. The real impact on households' income distribution is not mechanically determined by the initial energy budgets and their flexibilities but also depends upon the way tax revenues are recycled. The comparison of three tax-recycling schemes, applied to 2004 France, demonstrates the existence of trade-offs between aggregate impacts on GDP and employment, the consumption of the low-income classes, and a neutralisation of distributive impacts. Two more recycling schemes allow to outline a space for a compromise between the equity and efficiency criteria.



## Maria A. Cunha-e-Sá

*Universidade Nova de Lisboa, Faculdade de Economia, Associate Professor*

## Alexandra Leitão

*Universidade Católica Portuguesa, Faculdade de Economia e Gestão, Assistant Professor*

## Ana B. Reis

*Universidade Nova de Lisboa, Faculdade de Economia, Associate Professor*

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### **Brief CV of 1<sup>st</sup> author**

Associate Professor at Faculdade de Economia, Universidade Nova de Lisboa. Ph.D. in Economics (University of Illinois at Urbana-Champaign)

### **Title**

**Innovation and Environmental Policy: Clean vs. Dirty Technical Change**

### **Abstract**

We study a two sector endogenous growth model with environmental quality with two goods and two factors of production, one clean and one dirty. Technological change creates clean or dirty innovations. We compare the laissez-faire equilibrium and the social optimum and study first- and second-best policies. Optimal policy encourages research toward clean technologies. In a second-best world, we claim that a portfolio that includes a tax on the polluting good combined with optimal innovation subsidy policies is less costly than increasing the price of the polluting good alone. Moreover, a discriminating innovation subsidy policy is preferable to a non-discriminating one.



## Michael Curley

*Executive Director,  
International Center for Environmental Finance*

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### **Brief CV**

Michael Curley is a lawyer who has spent most of his career in finance. He is the author of *The Handbook of Water and Wastewater Project Finance*, is a Senior Lecturer at the Johns Hopkins University, and is on the USEPA's Environmental Financial Advisory Board.

### **Title**

**Voluntary Environmental Improvement Bonds: a tax-based scheme for funding household/farm related energy efficiency and pollution reduction devices**

### **Abstract**

The paper describes a new, voluntary, tax-based program to finance a multitude of energy efficiency, air pollution reduction and non-point source water pollution abatement devices for homes and farms which allows them to be paid for over very long terms and at very low rates of interest, which makes them very attractive to property owners.

# Alessio D'Amato

SEFEMEQ Department – Faculty of Economics – University of Rome “Tor Vergata”,  
Assistant Professor

## Mariangela Zoli

SEFEMEQ Department – Faculty of Economics – University of Rome “Tor Vergata”, Assistant  
Professor

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### **Brief CV of 1<sup>st</sup> author**

Alessio teaches Public Economics, Environmental Economics, Microeconomics and Economics of Uncertainty and Information at undergraduate and graduate level.

His research activity is focused on: Theory of Incentives. Environmental Regulation under Asymmetric Information. Emissions Trading. Waste Policy.

### **Title**

**Waste Policy in the Presence of Illegal Disposal and Organized Crime**

### **Abstract**

The paper extends the existing literature on optimal waste policy in two ways: it endogenize enforcement effort and it allows for the presence of a criminal organization receiving a rent in exchange of illegal disposal.

We consider both the case in which the government acts as a Stackelberg leader with respect to the criminal organization and the one where the Mafia and the State compete a la Cournot. The first conclusion we achieve is that incomplete enforcement implies a larger illegal disposal with respect to ...first best, as expected. Second, we assess the consequences of the introduction of a criminal organization and conclude that the presence of organized crime influences legal disposal, illegal disposal and social welfare in a non straightforward way, as a result of the complex interaction of environmental damages from illegal disposal, environmental damages from legal disposal and enforcement costs.



## Divya Datt

*Fellow at  
The Energy and Resources Institute, India*

## Shilpa Nischal

*Associate Fellow at The Energy and Resources Institute, India*

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### **Brief CV of 1<sup>st</sup> author**

Divya Datt is an economist at TERI since 1999. She specializes in resource and environmental economics. Her major work has been in the areas of resource valuation and accounting, indicators, growth-poverty interface, environmental fiscal reform (EFR), and aspects of federalism in environmental governance in India. She was part of the Indian team in OECD DAC deliberations on EFR.

### **Title**

**Designing EFR policies in a federal context- The case of India**

### **Abstract**

The use of economic and fiscal policy instruments in environmental policy, though limited, has gained steady appreciation in India since the 1990s. There has also been growing recognition of the fiscal and environmental implications of several non-merit subsidies that have very often, not reached intended beneficiaries. In the design of EFR for India, the federal structure of the country becomes an important consideration because legislative, administrative and fiscal powers with respect to environmental subjects are distributed across central, states (provincial) and local governments. Further, the high dependence on environment for wellbeing and livelihoods, and inequities that exist on several developmental parameters makes it necessary to understand the losers and gainers from EFR and potential tradeoffs with respect to different policy objectives and stakeholder interests. These factors underscore the importance of the process adopted in designing EFR in India. The presentation would focus on some of these issues in the water and energy sectors.



## Julien Daubanes

Researcher, CER-ETH at ETH Zürich, Swiss Federal Institute of Technology Zurich

## André Grimaud

Professor, LERNA and IDEI at TSE, Toulouse School of Economics

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### Brief CV of 1<sup>st</sup> author

Ph.D. in Economics, Toulouse School of Economics.  
Dissertation: Essays on the Taxation of Exhaustible Resources.  
Prix AFSE 2008 by the French Economic Association for the best dissertation in economics.

### Title

**Taxation of a Polluting Non-Renewable Resource in the Heterogeneous World**

### Abstract

This paper extends the literature on the taxation of polluting exhaustible resources by taking international heterogeneities and national tax-setting into account. We propose a two-country Romer model of endogenous growth in which the South is endowed with the stock of an essential polluting non-renewable resource and world economic growth is driven by a northern research sector. We consider the stock of pollution as affecting global welfare. First, we characterize the optimal environmental taxation policies. Second, we examine the impacts of national taxes. Their time profile determines the extraction path, the dynamics of pollution accumulation and that of world output. Their respective levels entail inter-country interactions by altering the efficiency of the world resource allocation, the tax revenues and the resource rents. We study isolatedly the distortional and distributional effects of local taxes. Then, we completely assess their overall impacts, shedding light on the divergent interests of heterogeneous regions regarding their national environmental taxes.



## Bart Defloor

*Researcher and teacher in University College, Ghent, Belgium. Researcher at SHERPPA, Ghent University.*

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### Brief CV

Education:

- \* Master of economics (Ghent University 2002)
- \* Master of Environmental Science (University of Antwerp 2003)
- \* Master of Advanced Studies in Economics (Catholic University of Leuven 2005)

Work

2005 until present: University College Ghent

Publications

none

### Title

**Public demerit bads and the marginal cost of indirect taxation with an application to carbon dioxide emissions**

### Abstract

There is wide disagreement in the literature on the monetary valuation of the damage of a tonne of CO<sub>2</sub>-emissions. We are interested in what would happen with (tax) policy if a social planner has a different view on the value for the emission of a tonne of CO<sub>2</sub> than its citizens. The aim of this paper is analyse these public demerit arguments formally and look at the consequences for the marginal costs of public funds of indirect taxation. In the empirical section we apply the framework to Belgian indirect taxes in the presence of CO<sub>2</sub> emissions. The impact on the MCF can be split up in two parts, the first (direct effect) is caused by the impact of commodity consumption on the public bad, the second (indirect effect) is caused by the fact that the household are evaluated at a lower level of welfare due to demerit good consumption. The indirect effect is numerically more important than the direct effect. Taking into account public demerit arguments has similar effects on each marginal cost of funds due to the fact that it is a public bad, suffered by all.



## José Marcos Domingues

*Rio de Janeiro State University, Professor*

## Paulo Sergio O. de Souza Leite

*Director of Environmental Conservation and Reclamation, Petrópolis Secretariat for the Environment; President of the Piabanha River Basin Committee.*

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### **Brief CV of 1<sup>st</sup> author**

Professor, Financial Law; Head, Public Law Dept. Rio de Janeiro St. University. Research: Environmental Tax, Tax Law and Public Policy. Fellow: Japan Foundation, Fulbright Commission, Japan Ministry of Education. Books: Tax Law and Public Policy; Tax Law and the Environment; Taxable Abilities; Solid Waste: Proposals of Environmental Economic Instruments.

### **Title**

**Water charges for the protection of water resources in Brazil. The case of Piabanha River basin (Petrópolis, Rio de Janeiro).**

### **Abstract**

The Brazilian law for water protection is based on the Constitution and on the Water Act, covering regulation and administrative agencies. The paper reviews the principles of water protection (participation, decentralization, subsidiarity, basin unity) and details the types of charges, characterizing water charges as a governance tool. State charges and connected federative benchmarks are highlighted; and it studies the legal nature of water charges in Brazil and presents the legal controversies raised in Supreme Court case law as to the respective fundaments and legal nature. The Authors evaluate the impact of case law on the legal system. The Piabanha River case study shows the overcoming of federalist political and administrative difficulties for securing funding for water protection where federal, state and municipal interests are intermingled: a sewage-treatment project at a State basin tributary to a federal river was intended to implement domestic-sewage stations in impoverished areas of a City, using an NGO-developed bio-system.



## Dong Zhanfeng

*Nanjing University/ CAEP Ph.D candidate/  
Assistant researcher fellow*

## Wang Jinnan

*Professor, Vice president of CAEP*

## Ge Chazhong,

*Director of the department of international cooperation, CAEP*

## Liu Lancui

*Assistant researcher fellow/CAEP*

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### **Brief CV of 1<sup>st</sup> author**

Mr. Dong Zhanfeng is a Ph.D candidate in Nanjing University, and also an assistant researcher fellow in CAEP, his research fields mainly focused on environmental economics and policy, he has undertaken twenty national or international cooperative research programs in the two fields, and has published 15 papers in the related academic journals.

### **Title**

**Carbon tax in China: from why to how**

### **Abstract**

Some OECD membership countries have practiced Carbon Tax since 1990's, and demonstrated that taxes on carbon emissions could be one of the most effective economic approaches to address climate change problems and facilitate the energy efficiency improving. Experience of OECD showed that carbon tax could be one of the most potential policy tools option among the various economic instruments for China to counter climate change problems and could also facilitate improvement of the energy efficiency for China. China should set up carbon tax as early as possible. In this paper, we analyzed the possibility and necessity of Carbon Tax operating in China based on the current socio-economic and environmental status, designed the Carbon Tax policy framework, proposed policy suggestions to promote the implementation of Carbon Tax in China. The results showed that China has already had the possibility to implement Carbon Tax, with reasonable tax design, Carbon Tax could be an important policy tool for China to addressing climate change problems.





## David G. Duff

*Faculty of Law, University of British Columbia*

## Shi-Ling Hsu

*Faculty of Law, University of British Columbia*

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### **Brief CV of 1<sup>st</sup> author**

David G. Duff teaches tax law and policy at the University of British Columbia BC Faculty of Law, which he joined in July 2009 after visiting at the Faculty during the 2008-09 academic year. From 1996 to 1998, Professor Duff was a member of the law faculty at the University of Toronto. Professor Duff has a B.A. from Queen's University, an LL.B. from the University of Toronto Faculty of Law, Masters degrees in Economics and Political Science from York University and the University of Toronto, and an LL.M. from Harvard Law School.

### **Title**

**Carbon Taxation: Why and How? Advantages of a Carbon Tax, and Lessons from Theory and Practice**

### **Abstract**

This paper reviews carbon taxes in various jurisdictions in which they have been introduced and sets out a comprehensive list of economic, political, and legal reasons for favouring carbon taxation over all of the other options. We do not argue that carbon taxation is the only solution to climate change, but that it should serve as the centerpiece of national governmental responses to the problem of climate change. Indeed, one reason we favour carbon taxation is precisely because it leaves room for other approaches, and also avoids some problems with federalism that plague Canada, the United States, and other democratic nations. . . Indeed, one reason we favour carbon taxation is precisely because it leaves room for other approaches, and also avoids some problems with federalism that plague Canada, the United States, and other democratic nations. At bottom, the enormous political challenges to the creation of a global trading system – exemplified by the limited success of the Kyoto Protocol and of the European Union Emissions Trading System – suggests that carbon taxation might be a more politically feasible strategy to encourage emission reductions.



## Elnaboulsi J. C.

Associate Professor  
CRESE-SJEPG  
Université de Franche-Comté, Besançon, France.

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### Brief CV

Associate professor in economics, Besançon, France. He worked as research economist, the French Institute of Agricultural and Environmental Engineering Research, visiting researcher, University of Colorado at Boulder, Environment and Behavior Program. Research interests: environmental and resources economics, pricing policies, modeling.

### Title

**Market Structure, Mixed Oligopoly and Efficient Environmental Taxes**

### Abstract

We consider a polluting oligopoly and examine the effects of market structure on environmental taxes in a two-stage oligopoly game. Firms have different production and abatement costs which depend on the used technology. Thus, efficient environmental taxes are not the same. In this paper, we analyze the effects of strategic behavior of firms having market power on optimal pollution taxes. Our goal is to understand the performance of environmental taxes and the influence of the market structure on the efficiency in setting environmental taxes. We will show how public authorities can optimally set environmental taxes to remedy both environmental and the industry production inefficiency problems. To do this, we assume that the regulator maximizes an un-weighted social welfare in a two-period game. In the first stage, the government sets firm-specific environmental taxes, and in the second stage, firms compete as Cournot rivals considering environmental taxes as given.



## Michael Faure

*Maastricht University and Erasmus University Rotterdam*

## Jason Scott Johnston

*University of Pennsylvania Law School*

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### **Brief CV of 1<sup>st</sup> author**

Michael Faure is professor of comparative and international environmental law at Maastricht University, academic director of the Maastricht European Institute for Transnational Legal Research and of the Ius Commune Research School at the same institution. He is equally professor of comparative private law and economics at the Erasmus School of Law of the Erasmus University Rotterdam.

### **Title**

**Optimal specificity in environmental standard setting: Europe versus the US**

### **Abstract**

Environmental economics has held that an efficient environmental policy makes use of a variety of environmental standards to achieve the goal of an optimal abatement of environmental pollution. Within the classic regulatory so-called command and control framework economic theory holds that first quality standards should be set taking into account on the one hand preferences of citizens and on the other hand the economic options to reach that particular standard. Next emission standards (also referred to as emission limit values) would identify the amount and quality of the substances that may be emitted into the environment.

In our analysis we apply both an economic as well as a legal comparative perspective. The economic approach has the advantage that this theory has paid a lot of attention to optimal ways of internalizing the externality caused by environmental pollution. Hence, the economic approach allows identifying how standards should be set if maximization of social welfare were the public interest goal. Moreover, public choice theory will allow us to identify why in some cases deviations from what is predicted by the public interest model can be observed.



## María Luisa Fernández de Soto Blass

*Associate Professor with tenure in Spanish Public Finance and Spanish and Comparative Tax Systems. University CEU San Pablo. School of Economics and Business Administration and Law. Spain.*

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### Brief CV

2 Master´s Degree in Small and Medium-Sized Company Management and in Tax Consultancy. She has been recognized “Six Year of Research” and she has been accredited as a Professor Doctor Contract, collaborator and assistant by ANECA and ACAP. She was the author of the 12 books. She edited one. She wrote 37 chapters of books. and 38 papers. She has carried 13 Research Programmes

### Title

#### The Greenhouse Gases Emission Taxes

### Abstract

This paper is intended to launch a discussion on greenhouse gas emissions trading within the European Union, and on the relationship between emissions trading and fiscal policies and measures to address climate change.

This paper presents the concept, principles and phases of the European Emissions Trading Scheme. It defines environmental tax and its elements. This paper shows the trends in environmental taxes in the European Union and the decomposition of Environmental tax revenues in the Union 1995-2006, in % of GDP, the environmental tax revenues by Member State and type of tax. 2006, in % of GDP. It studies the principal green taxes for polluting the environment by members States of the European Union. It introduces a summary of the environmental tax elements such as legal base, beneficiary, tax payable, basis of assessment, rate and economic function.

This paper is the result of the I+D research for the Ministry of Education, The fiscal system of the rights of greenhouse gas emission , SEJ 2007-61307/JURI



## Carolyn Fischer

*Senior Fellow, Resources for the Future*

## Alan K. Fox

*United States International Trade Commission*

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### **Brief CV of 1<sup>st</sup> author**

Carolyn Fischer is a Senior Fellow at Resources for the Future, an environmental policy research institute founded in 1952 in Washington, DC. She holds a Ph.D. in Economics from the University of Michigan (1997) and a B.A. in International Relations from the University of Pennsylvania (1990).

### **Title**

**Comparing Policies to Combat Emissions Leakage: Border Tax Adjustments versus Rebates**

### **Abstract**

We explore conditions determining which anti-leakage policies might be more effective complements to domestic greenhouse gas emissions regulation. We consider four policies that could be combined with unilateral emissions pricing to counter effects on international competitiveness: a border tax on imports, a border rebate for exports, full border adjustment, and a domestic production rebate (as might be implemented with output-based allocation of emissions allowances). Each option faces different potential legal hurdles in international trade law; each also has different economic impacts. While all have the potential to support domestic production, none is necessarily effective at reducing global emissions. Nor is it possible to rank order the options. In each case, the effectiveness depends on the relative emissions rates, elasticities of substitution, and consumption volumes. We illustrate these results with simulations for the energy-intensive sectors of three different economies, the United States, Canada and Europe.



## Jonathan Fisher

*Economics Policy Manager on Flood Risk management and climate change.  
Environment Agency for England & Wales*

## Daniel Johns

*Head of Outcomes & Performance, Flood & Coastal Erosion Risk Management Division,  
UK Department for Environment, Food and Rural Affairs*

## Marilena Policino

*Principal Economist on Flood Risk Management  
Environment Agency for England & Wales*

## Aidan Kerr

*Executive Manager responsible for Flood Risk Management Investment and Funding,  
Environment Agency for England and Wales*

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### Brief CV of 1<sup>st</sup> author

Jonathan Fisher has over 30 years experience of applied economic analysis on various environmental issues, including flood risk management, water, agriculture, the Water Framework Directive, climate change, and transport. He previously worked at the UK Treasury, the Department of the Environment, and the OECD.

### Title

**Future investment in flood and coastal erosion risk management**

### Abstract

This paper assesses future investment needs for flood and coastal erosion risk management (FCERM) in England. It reviews the existing funding and prioritisation system, and the implications for how future investment needs could be funded. It follows from recent analysis published by the Environment Agency.

The paper quantifies the expected benefits of FCERM investment in reducing damages to homes and possessions; to infrastructure such as roads, hospitals and utilities; and to businesses.

The authors hope that the discussion of the paper at this European Forum could elicit a substantive debate of the economic and institutional issues regarding the funding of flood and coastal erosion risk management, and to generate information and intelligence about approaches in other countries.

The paper will outline our proposed refinements to our model for the next stage of our analysis of strategies for flood risk management for the next 25 years.



## D.M.P. François

*Centre for Environmental Economics and Environmental Management (CEEM), Faculty of Economics and Business Administration, Ghent University (UGent) and Section Economics of Infrastructures, Faculty Technology, Policy and Management, Delft University of Technology (TUDelft). PhD student*

## A. Correljé

*Section Economics of Infrastructures, Faculty Technology, Policy and Management, Delft University of Technology (TUDelft). Associate Professor*

## J.P.M. Groenewegen

*Section Economics of Infrastructures, Faculty Technology, Policy and Management, Delft University of Technology (TUDelft). Full Professor*

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### Brief CV of 1<sup>st</sup> author

Delphine François works as assistant at the Faculty of Economics and Business Administration, Ghent University (UGent), Belgium and is attached to the section Economics of Infrastructures of the faculty Technology, Policy and Management, Delft University of Technology (TUDelft), The Netherlands.

### Title

**Introducing the polluter pays principle for cost recovery in the water supply and sanitation sector: a case of conflicting objectives?**

### Abstract

One of the milestones regarding the introduction of market-based instruments for environmental policies is the Water Framework Directive, according to which the costs of water services will have to be recovered taking account of the polluter pays principle by 2010. We use a framework presented by Williamson (1998) to analyze the different trade-offs that emerge when introducing this principle as a basis for cost recovery in the water supply and sanitation sector. Our analysis focuses on household consumption. The scheme depicts four levels of social analysis, and links considerations on resource allocation that stem from neo-classical economics with social theory and perspectives from new institutional economics. Applying the scheme to the introduction of the polluter pays principle for cost recovery in the water sector shows that conflicting objectives emerge at all levels of analysis.



## Belén García

*Assistant Prof. Complutense University of Madrid*

## Pablo Chico

*Prof. University Rey Juan Carlos of Madrid*

## Pedro M. Herrera

*Prof. Complutense University of Madrid*

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### **Brief CV of 1<sup>st</sup> author**

Doctor of Laws by the Complutense University of Madrid, Assistant Prof. at the Department of Tax and Financial Law. Co-editor of the Yearly Commentaries on ECJ-Case Law published by the Spanish Ministry of Finance. Author of two books on international tax residence.

### **Title**

**Water Consumption as a Sign of Solid Waste Production: a Proposal to Assess the Charge on Domestic Waste Management in Urban Areas**

### **Abstract**

Financing an environmentally friendly waste management requires a huge amount of economic resources. As local authorities are mainly responsible for providing this service in urban areas, they tend to adopt and increase charges on both domestic and business waste management. With regard to domestic waste in large urban areas it may not be feasible to assess the charge due taking into account the actual amount of waste production. Therefore some local councils tend to link the charge amount to local property taxes. In our view this tendency is counterproductive from an environmental point of view and causes an unfair distribution of the charge burden. Therefore we shall propose a better design for local charges on domestic waste based in water consumption as an indirect sign of waste production.





## Anna Rita Germani

*University of Rome "La Sapienza", Italy*

## Andrea Morone

*University of Bari, Italy*

## Piergiuseppe Morone

*University of Foggia, Italy*

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### **Brief CV of 1<sup>st</sup> author**

Anna Rita Germani is assistant professor in Economics at the University of Rome "La Sapienza" where she teaches Environmental Economics. She completed her Master in Agricultural and Resource Economics at the University of Arizona (USA) and her PhD at the University of Naples "Federico II" (Italy). She has published on national and international journals on issues relative to law and economics, environmental economics and game theory.

### **Title**

**An Experimental Study on Discretionary Environmental Enforcement**

### **Abstract**

Our experiment is grounded on the model proposed by Germani and Scaramozzino (2007) where the environmental enforcement problem is modelled as a game where the firm's behaviour is influenced by the course of actions discretionally implemented by both the Environmental Protection Agency (EPA) and the Department of Justice (DOJ). Specifically, two games are played out: first, the game between the firm and the EPA is considered, where the firm can choose whether to comply with environmental regulations or not, by assessing the costs and benefits of compliance versus pollution. Then, a more complex game is considered, where the EPA can serve a notice of violation to the firm if the latter is found to be non-compliant and the task of environmental control is subsequently taken up by the DOJ. We test the theoretical findings of G&S (2007) by means of a laboratory experiment in which we calculate the probability of compliance by letting subjects play two treatments which correspond to the two games above mentioned - i.e. the treatment without the DOJ and the treatment with the DOJ.



## Peter Gillies

*Macquarie University  
Sydney*

## Patricia Blazey

*Macquarie University  
Sydney*

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### **Brief CV of 1<sup>st</sup> author**

Professor of Business Law, Macquarie University, Sydney. Director, Business Law masters program . Solicitor, Supreme Court of New South Wales.

Areas of research interest include environmental taxation, telecommunications law, commercial law, international trade law, arbitration law, trade practices law, contracts law, and criminal law and evidence.”

### **Title**

**Feed-in tariffs in Australia - fiscal incentives and regulatory regimes – current developments – policies for the future**

### **Abstract**

Sustainable housing policies are potentially significant in minimising carbon emissions and other environmental costs. Their fundamental objectives are to reduce energy and water consumption. The technologies for reducing the environmental footprint of domestic housing are well established and are being progressively refined. This paper focuses the potential for the deployment of feed-in tariffs in Australia and elsewhere, to reduce the need for power generation from fossil fuel resources and in turn to reduce greenhouse gas emissions. The feed-in tariff strategy potentially harnesses millions of individual households, deploying a known renewable energy technology, to boost the supply of green electricity. The use of fiscal incentives and other regulatory instruments such as adoption of mandatory renewable energy targets (such as the Australian government’s Renewable Energy Target 2020), to promote such a policy, will be examined.



## Irina Glazyrina

*Institute of Natural Resources, Ecology and Cryology  
of Siberian branch of Russian Academy of Sciences,  
Chita State University, head of Dept for ecological economics*

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### **Brief CV**

Born: July, 19, 1952

Education:

Novosibirsk State University, studies in mathematics, statistics and mathematical economics 1969-1974

Novosibirsk State University, PhD studies in mathematics and mathematical economics 1974-1977.

Scientific degrees:

PhD in Mathematics (Novosibirsk State University)

PhD in Economics (Moscow State University)

### **Title**

**The polluter pays principle and environmental taxation: a critical examination under conditions of climate change**

### **Abstract**

The conventional implementation of polluter pays principle (PPP) in many countries is based on the use of an environmental tax, which is determined proportionally to the amount of emissions of the polluting substances. In this paper we show that this practice is not adequate for the real negative impact if the pollutant accumulates to a stock in the environment. Using a specific mathematical model we find, that in many cases there is a danger of an unavoidable conflict between the interests of society as a whole and the interests of private business, generated by these procedures of PPP implementation. We explore the situation where a polluting substance is accumulated to a stock in the environment, which can be considered as a “capital bad”, supplying welfare decreasing environmental disservices such as global warming and negative impact on the water ecosystems. The study gives some practical tools for strengthening governance in the environmental sector and for the evaluation of investment initiatives from a “quality of growth” point of view.



## Timo Goeschl

*Professor, Department of Economics, University of Heidelberg*

## Grischa Perino

*Lecturer, School of Economics, University of East Anglia*

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### **Brief CV of 1<sup>st</sup> author**

A Ph.D. in Economics from the University of Cambridge, Timo Goeschl has held faculty positions at the University of Wisconsin-Madison and the University of Cambridge. His research interests are in environmental and resource economics, law and economics, and the economics of innovation. As of 2005, Timo holds the Chair of Environmental Economics at Heidelberg University.

### **Title**

**Instrument Choice and Morals: Taxes vs. Standards in a Climate Change Experiment**

### **Abstract**

Are prices or quantities the best regulatory instrument to align private actions with public interests in the presence of externalities? We add another dimension to this ongoing debate by experimentally analyzing the interaction between instrument choice and intrinsic motivation of regulated agents. The response of subjects facing a trade-off between real CO<sub>2</sub> emissions and private monetary payoffs to both a price and a quantity instrument are tested. We find evidence that taxes crowd out intrinsic motivation while emission standards are neutral. Crowding is short term persistent and not well explained by established cognitive theories of motivational crowding.



## Amparo Grau

*Financial and Tax Law Professor,  
Universidad Complutense de Madrid*

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### **Brief CV**

María Amparo Grau Ruiz, born in Valencia 1971. Law Degree –Universitat de València 1993. MBA -CEU San Pablo 1994. PhD in Law –Universidad Complutense 1998. Full time Associate Professor of Financial & Tax Law, Associate Dean for Students, Faculty of Law, Universidad Complutense de Madrid.

### **Title**

**A critical legal review of tax-related financial mechanisms for climate protection in developing countries**

### **Abstract**

The work carried out under the auspices of the United Nation sheds light on the innovative mechanisms to scale up resources to address climate change. The protection of the environmental interest and the fairness in the design and application of the new tax rules must be assessed. Some Parties, including the Least Developed Countries, have proposed an International Air Travel Adaptation Levy for adaptation and mitigation purposes; together with the International Maritime Emission Reduction Scheme, for adaptation. A maritime greenhouse gas fund would be established and would derive revenue from an upstream fuel levy, whose value would depend on the long-term emission reduction goal and carbon price. Switzerland has proposed a uniform global carbon tax, for adaptation purposes, by which all fossil fuel emissions in excess of 1.5t CO<sub>2</sub> per person (as basic tax exemption) would be taxed at 2 USD per tCO<sub>2</sub>. The share of the revenue remitted to the international fund would rise with increasing gross domestic product per capita. In addition, feed-in tariffs or tax incentives may stimulate renewable energy and other technologies for mitigation and adaptation.



## Matthew Haigh

*Associate Professor, Department of Business Studies, Aarhus School of Business, Aarhus University*

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### **Brief CV**

Matthew Haigh's research interests lie in cultural studies, linguistics, discourse, aesthetics, and managed investments. He teaches in accounting.

### **Title**

**Derivatives trading, climate science, and human rights**

### **Abstract**

**Purpose**—Provides assessments of intercommunications between climate science, public policy makers, and money managers.

**Design/Methodology/Approach**—Visual and narrative data are drawn from interviews and documents used in intercommunications between these three nodal points of climate management.

**Findings**—Information silos have frustrated the hoped-for outcomes of climate policy makers. An outcome is likelihood that institutional investors' assessments of the import of carbon emissions have underestimated investment risks.

**Originality**—Policy sciences and climatology are provided assessments of communications issued to their target audiences. Identifies public interest implications brought by communicative interferences. Some thoughts are offered about how to bridge identified discursive gaps.

**Keywords:** discourse, carbon emissions trading schemes, human rights, ideology.



## Line Block Hansen

*National Environmental Research Institute, University of Aarhus, Denmark, PhD student*

## Lars Gårn Hansen

*Institute of Food and Resource Economics, University of Copenhagen, Denmark, Senior Researcher*

## Gitte Holten Rubæk

*Department of Agroecology and Environment, University of Aarhus, Denmark, Senior Scientist*

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### **Brief CV of 1<sup>st</sup> author**

Born (Block Christoffersen).

Master in Environmental and Natural Resource Economics and Bachelor degree in agricultural economics, University of Copenhagen.

Courses in e.g. Contract theory and the economics of organization, Benchmarking and Productivity analyses, Water Resources Management, Discrete Choice Experiments.

Sir Richard Stone Prize 2005.

### **Title**

**Regulating phosphorus from the agricultural sector – development of a model including stocks and flows**

### **Abstract**

Loss of phosphorus (P) from agricultural areas is one of the main contributors to eutrophication of water systems in many European countries. Regulatory systems such as ambient taxes or discharge taxes which are suitable for regulation of N are insufficient for regulating P because these systems do not take into account the importance of P already stored in the soils. Phosphorus stored in the soils is the major source of P losses to surface waters, but at the same time crucial for the soils ability to sustain a viable crop production. Even if measures on P losses from agricultural areas could be obtained, such measures may not truly reflect stocks and hence potential risks associated with eg erosion, run-off or climate change. This calls for a method which handles the continuous supply of P to the soils (the current flow effect), P accumulated in the soil (a stock effect) and the interactions between these two sources. In this paper such a model is outlined and discussed.



## Kathryn Harrison

*Professor of Political Science and Associate Dean, Faculty of Arts,  
University of British Columbia*

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### **Brief CV**

Global Commons, Domestic Decisions: The Comparative Politics of Climate Change (Cambridge: MIT Press, 2010), with L. Sundstrom.

“Canada’s Voluntary ARET Program” *Journal of Policy Analysis and Management*, 26 (2007): 755, with W. Antweiler.

“The Road Not Taken: Climate Change Policy in Canada and the United States,” *Global Environmental Politics*, 7 (2007): 92.

### **Title**

**A Tale of Two Taxes: The Fate of Environmental Tax Reform in Canada**

### **Abstract**

Despite policymakers’ recent predisposition to cap and trade, in 2008 British Columbia became the first jurisdiction in North America to adopt a revenue-neutral carbon tax. The government maintained the tax after being reelected in 2009. In contrast, when the federal Liberal party offered a similar “green shift” as the centerpiece of its 2008 election platform, they received their lowest ever share of the popular vote, and soon abandoned the idea. The emergence of both proposals reflects a triumph of “good policy” over “good politics.” Why did only one survive? Although neither tax was popular with voters, environmental issues had been eclipsed by the economy by the date of both elections. The survival of the BC carbon tax and failure of the federal Green Shift was largely unrelated to the politics of carbon taxation. That said, electoral opposition to carbon taxes offers a cautionary tale concerning politicians’ “good policy” commitments absent a majority government and fortuitous timing.





## Fredrik Hedenus

*Department of Energy and Environment, Chalmers University of Technology.  
Post-doctoral*

## Kristina Mohlin

*Department of Economics, Göteborg University  
PhD student*

## Stefan Wirsenius

*Department of Energy and Environment, Chalmers University of Technology  
Associate Professor*

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### **Brief CV of 1<sup>st</sup> author**

Fredrik Hedenus has a PhD in Energy and Environment. His research have mainly focused on greenhouse gas mitigation strategies in the energy sector. Lately he has also worked on greenhouse gas mitigation in agriculture and from land-use change.

### **Title**

**Greenhouse gas weighted consumption taxes on food as a climate policy instrument**

### **Abstract**

Agriculture is responsible for 25-30% of global anthropogenic greenhouse gas (GHG) emissions but has thus far been largely exempted from climate policies. Because of high monitoring costs and comparatively low technical potential for emission reductions in the agricultural sector, output taxes on emission-intensive agricultural goods may be an efficient policy instrument to deal with agricultural GHG emissions. In this study we assess the emission mitigation potential of GHG weighted consumption taxes on animal food products in the EU. We also estimate the decrease in agricultural land area through the related changes in food production and the additional mitigation potential in devoting this land to bioenergy production. Estimates are based on a model of food consumption and the related land use and GHG emissions in the EU. Results indicate that agricultural emissions in the EU27 can be reduced by approximately 30 million tons of CO<sub>2</sub>-eq with a GHG weighted tax on animal food products corresponding to €60 per ton CO<sub>2</sub>-eq. The effect of the tax is estimated to be seven times higher if lignocellulosic crops are grown on the land made available and used to substitute for coal in power generation.



## Mona L. Hymel

*University of Arizona James E. Rogers College of Law, Arthur W. Andrews Professor of Law*

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### **Brief CV**

Professor Hymel teaches courses on U.S. Federal Tax; Partnership Tax; Trusts and Estates; Corporate Tax; and Accounting and Finance for Lawyers. Her areas of research include U.S. taxation, environmental tax policy, and ethics writing for U.S. and international legal journals.

### **Title**

**Climate Change Management in the United States Post Bush: Focusing on Fiscal and Economic Policy**

### **Abstract**

President George W. Bush did little to bring the United States into line with other developed countries' climate change policies. With Barack Obama's election, the world holds out hope that the U. S. will become more environmentally responsible. This article discusses the Bush administration's climate change policies and compares Bush's legacy with the new Obama administration. During the 2008 campaign, candidate Obama did not talk much about climate change, but he painted a vision of a greener future for America. He promised generous tax incentives to subsidize environmentally-friendly vehicles. He promised tax credits to cover significant costs of switching petroleum pumps to E85 clean fuel. He promised tax credits to encourage increased fuel standards and cellulosic ethanol production. Finally, he vowed to reinstate the "Windfall Profits Tax" on oil company profits, distributing the tax revenue to families. In office since January 2009, this article assesses Obama's success in carrying out his campaign promises and how he compares with his predecessor.



## Mona L. Hymel

*University of Arizona James E. Rogers College of Law, Arthur W. Andrews Professor of Law*

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### **Brief CV**

Professor Hymel teaches courses on U.S. Federal Tax; Partnership Tax; Trusts and Estates; Corporate Tax; and Accounting and Finance for Lawyers. Her areas of research include U.S. taxation, environmental tax policy, and ethics writing for U.S. and international legal journals.

### **Title**

**Agua Qente: Is Water Trading the New Carbon Trading? United States and Australia**

### **Abstract**

In the U. S., carbon trading is the topic of conversation among those interested in protecting the environment. And although economists agree that a carbon tax is more efficient, a carbon trading system may be more politically viable. However, carbon is not the only element under serious consideration for a national trading scheme in the U. S. For those who understand the importance of water in protecting the earth in light of climate change, water likely stands first as the resource requiring the world's full attention and protection. As such, water trading schemes, like carbon trading schemes are hot! Agua Qente! In the United States, local water trading schemes exist, but no nation-wide program exists. Australia does have a national water trading scheme, and, although Australia does not have as strong a federal government as the U. S., Australia's efforts in facilitating water trading can serve as a model for the United States. This article considers whether a federal water trading scheme will work in the U.S. – considering the Australian model.



## José Manuel Iglesias Casais

*University of Santiago de Compostela  
Professor of Tax and Finance Law*

## Roberto Muhájir Rahnemay Rabbani

*University of Santiago de Compostela  
Doctoral Student  
and Scholar of the Ministry of Foreign Affairs and Cooperation of Spain*

## Allívia Rouse Ferreira dos Santos

*University of Santiago de Compostela  
Doctoral Student  
and Scholar of the Ministry of Foreign Affairs and Cooperation of Spain*

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### **Brief CV of 1<sup>st</sup> author**

Professor of the University of Santiago de Compostela, in Tax and Finance Law. Teaches the courses of Financial Law I, II and III. Has made researches on “taxation of social welfare operations”, “projection of the Constitution on the State’s financial activity”, and “taxation and social welfare”.

### **Title**

**Environmental Taxation of Hydraulic Power in Spain: a Model for Developing Countries?**

### **Abstract**

This paper analyses the advantages and disadvantages of this hydroelectric power tax; its implementation in the Autonomous Community of Galicia; and, finally, to what extent it provides an adequate model for developing countries. Hydroelectric installations are one of the most widespread and long used means to generate energy in the world. While on the one hand they are considered a clean form of energy and a renewable source, on the other several voices have recently pointed to their harmful environmental impacts, which include biodiversity loss and other negative impacts on wild life. As a result, developing countries face a relevant choice, one that is also influenced by social-political and economic factors: whether to select hydroelectric power as a sustainable method to generate energy or whether it should be replaced by another more suitable and environmentally friendly process.



## Deborah L. Jarvie

*University of Lethbridge (Instructor) and Monash University (PhD Candidate)*

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### **Brief CV**

Deborah L. Jarvie is currently instructing introductory and advanced taxation at the University of Lethbridge, in Lethbridge, Alberta, Canada. She is pursuing her PhD from Monash University, researching the various policy instruments necessary to protect aquifers during coalbed methane extraction.

### **Title**

**Balancing market incentives, regulations and stakeholder governance for the protection of aquifers during coalbed methane extraction**

### **Abstract**

This paper is examining the effects of coalbed methane (CBM) extraction on aquifers, and in particular, will address cases from Alberta, Montana, and New South Wales. The extraction of CBM is growing rapidly, worldwide, as both the need to capture methane and produce alternative fuel supplies increases. Concerns exist, however, regarding the process, which often results in the drawdown of aquifers, and the contamination of surrounding land, surface water, and groundwater. This study will explore the policy instruments necessary to mitigate such damages, including regulations, market incentives, and stakeholder governance; and will explore the mix of these instruments within a framework based on resiliency and complex, dynamic systems. A greater shift towards environmental taxes and stakeholder governance is proposed as necessary, due to concerns regarding global freshwater supplies.



## Steffen Kallbekken

CICERO

## Marianne Aasen

CICERO

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### **Brief CV of 1<sup>st</sup> author**

Steffen Kallbekken has a PhD in economics from the University of Oslo. His main research interests lie at the intersection of behavioural economics and climate policy instruments. In addition to this he has worked with emissions trading, CDM, long-term climate targets and the issue of optimal timing of mitigation efforts.

### **Title**

**A unison demand for earmarking: results from a focus group study in Norway**

### **Abstract**

Environmental taxes might be efficient, but plans to impose new taxes are often met with public resistance. In order to design taxes that are both efficient and acceptable – so that they can be politically feasible - it is important to understand public attitudes to environmental taxes. We conduct a focus group study in Norway to extend the current knowledge on this issue. We find less resistance to taxation, and seemingly more trust in government, than what has been reported in studies from other countries. The participants are, however, very sceptical and do not see the point of using the revenues from an environmental tax to reduce other taxes. Instead they express a strong preference for earmarking the revenues for environmental purposes. They also call for more information about environmental taxes, in particular on how the revenues are spent. Providing more information, including what the revenues are spent on, would seem to provide a relatively cheap and possibly effective way to increase the acceptability of new or increased environmental taxes.



## Keith Kendall

*Senior Lecturer and Director of Honours, Research and Graduate Studies,  
School of Law, La Trobe University, Australia*

## Daniel Redmond

*LLB(Hons) candidate 2009,  
La Trobe University, Australia*

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### **Brief CV of 1<sup>st</sup> author**

Director of Honours, Research and Graduate Studies in the School of Law at La Trobe University and co-ordinator of Tax programs in the School of Law. Previously worked in the Tax Division of Deloitte in Melbourne and in the Department of Accounting and Finance at Monash University, Melbourne.

### **Title**

**Emissions Trading Schemes, Domestic Policy and the WTO**

### **Abstract**

Emissions trading schemes are currently the preferred option for pricing carbon emissions that governments are adopting around the world. Much of the domestic resistance to carbon pricing centres around any loss of international competitiveness that domestic industry may suffer from such a scheme's introduction. Experience has shown that resolving such concerns is critical for successful implementation of environmental policies. A number of measures are available to deal with these concerns, including border tax adjustments, tariffs, allocation of free permits, technology subsidies and regulation of imports from trading partners with inconsistent policies. This paper reviews measures aimed at competitiveness issues implemented as part of emissions trading schemes. These measures are then assessed for consistency with the provisions of the World Trade Organisation.



## Claudia Kettner

*Economist,  
Austrian Institute of Economic Research (WIFO) and University of Graz, Austria.*

## Angela Koeppel

*Senior Economist, Austrian Institute of Economic Research, Austria.*

## Stefan Schleicher

*Professor of Economics,  
University of Graz, Austria.*

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### **Brief CV of 1<sup>st</sup> author**

Claudia Kettner is Economist at the Austrian Institute of Economic Research (WIFO) and the University of Graz. Her main fields of research include economic instruments in climate and energy policy and the analysis of sustainable economic structures.

### **Title**

**The EU Emissions Trading Scheme - Insights from the First Trading Years with a Focus on Price Volatility**

### **Abstract**

#### Abstract

The EU Emissions Trading Scheme (EU ETS) that covers 40% of the EU's greenhouse gas emissions is the biggest implementation worldwide of a cap-and-trade scheme to curb emissions. Analyses of the pilot phase (2005 - 2007) dampened ex-ante enthusiasm: Because of substantial over-allocation of emissions allowances in most EU Member States the overall emissions cap was not stringent. Once this became obvious a sharp drop in carbon prices occurred.

For the first year of the Kyoto period, 2008, a more stringent allocation compared to the pilot phase and still high price volatility were observed.

Based on data available for 24 Member States by July 2009, this paper provides a thorough data analysis for more than 10,000 installations to investigate evidence on three issues:

- Allocation discrepancies are analysed on Member States, sectoral and installation level.
- Results of the EU ETS pilot phase and the first year of the Kyoto period are compared.
- Critical issues of the post-Kyoto phase of the ETS are discussed with a focus on the issue of price volatility.





## Jürg Klarer

*Managing Director, Æquilibrium Consulting GmbH, Switzerland*

## Anuschka Hilke

*Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH, Advisor Strategies for Sustainable Development*

## Axel Olearius

*Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH Advisor Strategies for Sustainable Development*

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### **Brief CV of 1<sup>st</sup> author**

In the past 16 years, Juerg Klarer has worked for international and national organizations, including several bilateral development agencies, UN organisations, OECD and the World Bank in the areas environmental finance, environmental investment, environmental policy, and sustainable development in companies.

### **Title**

**Strategic policy design for successful Environmental Fiscal Reform – Experiences from developing and transition countries**

### **Abstract**

More and more governments are striving for reforms that will increase the sustainability of their economies. Environmental Fiscal Reform measures often involve complex structures of stakeholders and bear a risk to be met with fierce opposition. Lessons learned from various countries concerning the strategy, the institutional setting and stakeholder cooperation will be presented. As there are no ‘one size fits all’ solutions, special emphasis is put on pointing out important aspects that should be considered in the process of policy making in order to allow for a policy development which is focused on anticipation on the one hand and learning and innovation on the other hand.



## Daniela Kletzan-Slamanig

Senior Economist, Austrian Institute for Economic Research, Austria.

## Angela Köppl

Senior Economist, Austrian Institute for Economic Research, Austria.

## Kurt Kratena

Senior Economist, Austrian Institute for Economic Research, Austria.

## Alexandra Wegscheider-Pichler

Project Manager Environment and Energy, Statistics Austria, Austria.

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### Brief CV of 1<sup>st</sup> author

Daniela Kletzan-Slamanig is Senior Economist at the Austrian Institute of Economic Research. Her main fields of research are economic instruments in environmental policy with a focus on climate change, sustainable consumption and environmental taxation.

### Title

**An ecological tax reform for Austria – evaluation of economic and emission effects**

### Abstract

The paper presents evaluation results of an approach for a revenue-neutral ecological tax reform in Austria. The quantification of economic and emission effects was carried out with a disaggregated macroeconomic model. The objective of the modeled tax reform is a doubling of eco-tax revenues by 2014 compared to 2007. Revenue neutrality requires the implementation of a compensation mechanism for households and businesses (reduction in social security contributions, subsidies for research and investment in energy efficiency and climate-friendly measures). The tax categories considered in this approach include transport taxes and charges, the electricity tax and the introduction of an explicit CO<sub>2</sub> tax on fossil fuels. The tax reform generates positive economic effects; GDP rises by 0,7% in 2014, employment rises to the same extent. The increase in energy prices leads to a reduction of total energy demand and to a substitution of fossil energy. The shift in energy use results in significant reductions of CO<sub>2</sub> emissions of 9 million tons in 2014.

- Mainstream Panel
  - Tax instruments for climate change prevention, adaptation and mitigation



## Katri Kosonen

*European Commission, DG TAXUD*

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### **Brief CV**

Katri Kosonen works as a principal administrator and economist in the Unit “Economic aspects of taxation” of DG TAXUD, European Commission. Before joining the Commission she worked in Finland in the Ministry of Environment, Labour Institute of Economic Research and the Department of Economics of the University of Helsinki

### **Title**

**Why are environmental tax revenues falling in the European Union?**

### **Abstract**

The paper examines the recent trends of environmental tax revenues in the EU in the light of Eurostat tax revenue data. It discusses different factors that could underlie the downward trend observed at the EU average level, notably from 2000 onwards. It is pointed out that the factors which affect tax rates and those which affect tax bases are of quite different nature. Diverse statistical evidence is used to analyse the impact of these different types of factors on tax revenue trends. Although the average trend of environmental tax revenues in the EU is downwards, the developments in individual countries may be different. In some countries the development has been in accordance with the idea of environmental tax reform, while in some other countries the tax systems have moved to the reverse direction. These developments are analysed in the light of tax indicators.

The second part of the paper discusses the role of revenue raising-instruments in environmental and climate policies in more theoretical terms and singles the various benefits the revenue-raising instruments can bring forth in comparison with the other types of policy instruments. In the last chapter the policy developments which could affect the future trends of environmental tax revenues in the EU are shortly discussed.



## Katri Kosonen

*European Commission, DG TAXUD*

## Gaëtan Nicodème

*European Commission, DG TAXUD, ECARES-ULB, CEB-Solvay Brussels School of Economics and CESifo*

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### **Brief CV of 1<sup>st</sup> author**

Katri Kosonen works as a principal administrator and economist in the Unit “Economic aspects of taxation” of DG TAXUD, European Commission. Before joining the Commission she worked in Finland in the Ministry of Environment, Labour Institute of Economic Research and the Department of Economics of the University of Helsinki

### **Title**

**The role of fiscal instruments in environmental policy**

### **Abstract**

Environmental protection is one of Europe’s key values. The EU has set clear policy objectives to achieve its environmental goals. The EU has favoured market-based instruments, among which fiscal instruments to tackle the climate change problem. This paper takes a policy-making perspective and provides an overview of key issues on the role of fiscal instruments in energy and environmental policies. It describes fiscal instruments as cost-effective means to promote environmental goals and highlights in which cases taxes and other types of fiscal instruments can usefully complement each other to achieve environmental target.



## Kurt Kratena

*Austrian Institute of Economic Research - WIFO*

## Ina Meyer

*Austrian Institute of Economic Research - WIFO*

## Michael Wüger

*Austrian Institute of Economic Research - WIFO*

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### **Brief CV of 1<sup>st</sup> author**

Born 1961

Education: Vienna University of Economics: M.A. 1985, Ph.D. 1988

IFF (University of Klagenfurt): Habilitation 2008

Positions:

Assistant Professor at the Vienna University of Economics: 1985/86

Economic Expert at the Chamber of Labour: 1986 - 92

Senior Economist at WIFO since 1993

### **Title**

**The Role of Technological and Lifestyle Changes vs. Carbon Taxes in Determining the Energy Demand of Households**

### **Abstract**

The paper aims to analyse the role that carbon taxes may play as a tool to mitigate greenhouse gas emissions regarding the energy demand of households. Energy-relevant consumption patterns are increasingly considered important to the design of policies fostering a transition to a low-carbon economy. Emissions from passenger car transport, household electricity and heat consumption are growing rapidly despite technological progress. But household energy demand has yet not being subject to a comprehensive climate policy. We quantify the rate of carbon taxes needed to compensate for efficiency-induced rebound effects in energy demand. We also assess 1) rebound effects and 2) socio-demographic variables as drivers of energy demand. For this purpose we developed an integrated model of total private consumption in an almost ideal demand system (AIDS) that incorporates the relevant factors.



## Larry Kreiser

*Professor Emeritus of Accounting, Cleveland State University, U.S.A.*

## Hans Sprohge

*Professor of Accountancy, Wright State University, U.S.A.*

## Bill Butcher

*Senior Lecturer of Business Law and Taxation, University of New South Wales, Australia*

## Julsuchada Sirisom

*Assistant Dean, Faculty of Accountancy and Management, Mahasarakham University, Thailand*

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### **Brief CV of 1<sup>st</sup> author**

Larry Kreiser, Ph.D., is a Professor Emeritus of Accounting and former Chairperson of the Department of Accounting at Cleveland State University, U.S.A. During his professional career, Dr. Kreiser has been an author on over sixty professional publications and has made over forty professional presentations at conferences around the world.

### **Title**

**The Environmental Impact of Property Taxes on Urban Blight in the United States**

### **Abstract**

High property taxes on real property improvements in urban areas in the United States contribute to urban blight. High property taxes in urban areas also encourage urban sprawl by discouraging new construction close to city centers and discouraging property improvements to existing buildings. Urban blight causes environmental damage. Under-used streets and roads in urban areas prevent the natural seepage of rainwater into the soil. Unused streets and buildings in urban areas also raise surface temperatures thereby contributing to urban smog and global warming. In part one of this article the authors review the environmental impact of high property taxes. In part two, the authors discuss current approaches being used to lessen the property tax burden on urban taxpayers and any unintended negative impact on the environment. Two more radical approaches to property tax relief are also reviewed with the idea that these approaches may contain workable ideas to provide property tax relief and reduce unintended negative environmental consequences.

# Yannick Kühl

*Department of Farm Management (410b), Universität Hohenheim, 70599 Stuttgart, Germany, ykuehl@uni-hohenheim.de; PhD student*

## Christian Böber

*Department of Rural Development Policy and Theory (490a), Universität Hohenheim, Germany; PhD student*

## Jürgen Zeddis

*Department of Farm Management (410b), Universität Hohenheim, 70599 Stuttgart, Germany; Professor*

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### **Brief CV of 1<sup>st</sup> author**

From 2001-2005 B.Sc. Agricultural and Horticultural Sciences at the Humboldt University and University of Mauritius. Then international M.Sc. programme 'Agricultural Economics' at the University of Hohenheim. Since 2007 PhD project in 'Sustainable Resource Use in Northern China' at the University of Hohenheim and China Agricultural University.

### **Title**

**The Water Dilemma in the North China Plain. An Analysis of Policy and Institutional Measures to Ensure the Future Use of Scarce and Polluted Water Resources.**

### **Abstract**

Water scarcity and water pollution are major threats for the sustainability of agriculture in the North China Plain (NCP), one of China's most important agricultural regions. Current demand for water in the NCP surpasses the supply significantly. The situation represents a dilemma: agriculture is the largest demander of water and thus threatens its own future existence. Furthermore, improper agricultural practices pollute the diminishing water resources. It is essential that an institutional framework will be created which aims at ensuring agricultural production with regard to water scarcity and pollution. The study analyzes institutional and policy options to reduce agriculture's pressure on water resources, such as water pricing mechanisms, water taxation, control mechanisms, polluter-pays-principle or education initiatives. Finally, based on data from a quantitative survey in the Hebei province and the review of secondary data, strategies to reduce water scarcity and pollution related to agriculture in the NCP are worked out.



## Oliwia Kurtyka

*PhD candidate*

*LERNA, Toulouse School of Economics, FRANCE*

## Philippe Mahenc

*Professor*

*LERNA, Toulouse School of Economics, FRANCE*

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### **Brief CV of 1<sup>st</sup> author**

A PhD candidate at Toulouse School of Economics; Interested in environmental regulation under imperfect competition, interplay between regulators and energy economics;

### **Title**

**Harnessing Bertrand Competition on the behalf of the environment**

### **Abstract**

We analyze regulation in a market of a polluting product competing à la Bertrand with a green substitute. To account for the cost of raising funds, Ramsey pricing is first examined and subsequently related to optimal taxation of the conventional variety. As for a competitive market, the optimal tax is shown to fall as revenue needs rise. By contrast, the regulator can influence price competition to achieve a desirable business switching between varieties. Taxing (subsidizing) the conventional variety softens (strengthens) price competition and boosts (discourages) the demand for the green variety. Taxation is more stringent with higher aversion to pollution.





## Francesco La Camera

*Italian Ministry of Environment, Land & Sea, Director General*

## Aldo Ravazzi Douvan

*Italian Ministry of Environment, Land & Sea, coordinator EA for EU SFs - U. Roma Tor Vergata Megat*

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### **Brief CV of 1<sup>st</sup> author**

In charge of Sustainable Development at MoE, 2000-02. EIA Commission 1988-99. Public investments CBA, Treasury 1980-88. Graduated at U. Messina 1977.

Teaches Environmental Economics & SD at U. Roma 3 & U. Cosenza. One of the promoters of SEA EU Directive, Espoo Convention and Aarhus Convention.

### **Title**

#### **Scale of economic activity and environmental taxation**

### **Abstract**

The quality of environment is worsening. In EU, Lisbon process is predominant in policy decision-making process and SD strategy process is marginalized. In support of environmental policies, mainly climate change, the modest and, at the same time, ambitious goal is to reduce CO<sub>2</sub> emissions by 20% (vs. 1990), ie a 50% reduction from now (2008). The financial & economic crisis is pushing governments to adopt growth as first priority; low cost oil may lead to more growth for more emissions. Environmental taxation is an important instrument for CO<sub>2</sub> reduction, but likely to not be sufficient: progress may be overcome by the economic growth rate and our production & consumption patterns. Environmental taxes can be more effective in a context where a governance for sustainable development is in place, and where markets work under a cap, eg ETS & KP. The scale of economic activity is relevant.



## Gilles Lafforgue

Toulouse School of Economics (INRA-LERNA)

## André Grimaud

Toulouse School of Economics (IDEI-LERNA)

## Bertrand Magné

International Energy Agency

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### Brief CV of 1<sup>st</sup> author

Researcher at the Toulouse School of Economics (INRA-LERNA).  
Research Topics: Environmental and natural resource economics;  
Economic growth and climate change; Economics of risk and  
uncertainty

### Title

**Climate change mitigation options and directed technical change: A decentralized equilibrium analysis**

### Abstract

The paper considers a growth model with climate change and three R&D sectors dedicated to energy, backstop and CCS (Carbon Capture and Storage) efficiency. First, we characterize the set of decentralized equilibria: to each vector of public tools, a carbon tax and a subsidy to each R&D sector, a particular equilibrium is associated. Second, we solve the first-best optimum problem and we implement it by computing the vector of optimal tools. In addition, we focus on the dynamic properties of the optimal carbon tax. Finally, we illustrate the theoretical model using some calibrated functional specifications. In particular, we investigate the effects of various combinations of public policies (including the optimal ones) by determining the deviation of each corresponding equilibrium from the “laissez-faire” benchmark.



## Lubomir Lizal

*CERGE-EI  
Assoc. Prof.  
Citigroup Endowed Chair*

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### **Brief CV**

July 2003 – December 2008 Director of CERGE-EI. Currently a Senior Researcher at EI and Associate Professor at CERGE. His research orientation includes applied econometrics and microeconomics, economics of transition, firm behaviour, and environmental issues.

### **Title**

**Auctioning CO<sup>2</sup> Permits in the Czech Republic: Expected Sectoral and Overall Economic Effects**

### **Abstract**

This paper estimates the effects of auctioning CO<sub>2</sub> permits in comparison to the previous allocation system in the Czech Republic. The EU efforts to curb greenhouse gas emissions, especially CO<sub>2</sub>, have materialized in the proposed amendment of Directive 2003/87/EC. The existing Emission Trading System (ETS) – which will be in effect till 2012 – should be gradually replaced with a more efficient auction system. We show the redistribution impact is not severe; however, this is just in case of sufficient national level of allocated permits and has a strong impact on the sectoral labour division.



## András Lukács

*Clean Air Action Group (CAAG, Levegő Munkacsoport), President*

### **Gábor Albert**

*Institute for Transport Sciences  
Non-Profit Ltd. (KTI),  
Head of Division*

### **Mihály Békefi**

*KTI, Deputy-Head of Division*

### **Zsolt Horváth**

*CAAG, Director*

### **István Kövesdi**

*KTI, Researcher*

### **János Pál**

*CAAG, Expert, Project Manager*

### **Károly Kiss**

*CAAG, Chairman of the Experts' Committee*

### **Lázár Pavics**

*CAAG, Chief Expert*

### **Zoltán Szabó**

*CAAG, Expert, Project Manager*

### **Attila Vörös**

*KTI, Research Director*

### **Brief CV of 1<sup>st</sup> author**

Head of CAAG since its foundation in 1988. (CAAG is one of the best known Hungarian NGOs, uniting 127 environmental groups.) Geophysicist. Author or co-author of more than 40 studies and several hundred articles on economic instruments for environment, transport, energy and urban development.

### **Title**

**The Social Balance of Road and Rail Transport in Hungary**

### **Abstract**

Scientifically based correct information about the social balance of transport is indispensable for national and local governments to make the right decisions about transport investments and pricing (taxation etc.) of transport. However, different experts often express greatly differing opinions on the content and size of the costs and benefits of transport. This has been the case in Hungary, too, where environmental economists on the one side and the majority of transport economists on the other side often produced results which differed from each other in some cases by several orders of magnitude.

This situation prompted the Hungarian Ministry for Economy and Transport to commission experts of the two schools of thought to commonly prepare a study bringing the two views as close as possible. The study includes the following items concerning road and rail transport:

1. State revenues and expenditures
2. Non-budgetary subsidies
3. Environmental, health and other external costs with special attention to climate change
4. Positive externalities



## Vojtech Máca

*Charles University Environment Center, researcher*

## Jan Melichar

*Charles University Environment Center, researcher*

## Milan Šcasný

*Charles University Environment Center, head of unit*

---

### **Brief CV of 1<sup>st</sup> author**

Vojtech is with environmental economics unit of the Charles University Environment Center. He has recently finished his PhD in environmental law. In his research he focuses on economic instruments and non-market valuations in environmental domain.

### **Title**

**External costs from energy generation and their internalisation in new EU member states**

### **Abstract**

In this paper we investigate external costs of electricity and heat generation and the level of internalisation of these costs using environmental levies and subsidies in a selection of new EU member states (Bulgaria, Czech Republic, Estonia, Hungary, Poland, and Slovakia).

The external costs calculated for a number of power plants and combined heat and power generators based on fossil fuels show a huge range of estimates differing nearly by two orders of magnitude and in some cases even surpassing electricity generation costs.

Having compared external costs per unit of energy produced with rates of environmental taxes and charges we find that the level of internalisation is fairly low for existing fossil-fuelled power plants in all considered countries. The picture is somehow different for renewable energy sources, still the range of external costs is relatively broad.



## Roberta Mann

*University of Oregon School of Law, Professor of Law*

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### **Brief CV**

Roberta Mann teaches at the University of Oregon School of Law. Before teaching, she worked for Congress and the IRS. Prof. Mann graduated cum laude from Arizona State University College of Law and received an LLM with distinction from Georgetown University Law Center. Her scholarship focuses on how tax policy affects the environment.

### **Title**

**Like Water for Energy: The Water-Energy Nexus Through the Lens of Tax Policy**

### **Abstract**

Water is essential for life. Climate change is likely to put more pressure on the world's supply of fresh water. As regions heat up, droughts will become more persistent. Yet in the rush to transition to a renewable energy economy, policy makers have paid little heed to the potential water consequences. Reducing CO<sub>2</sub> emissions will not help society if the alternative energy sources increase water consumption. Tax incentives for renewable energy sources should account for water consumption as well as potential for reduced CO<sub>2</sub> emissions. This article will review water usage statistics for traditional energy sources and compare water usage statistics from various renewable energy sources. Next, the article will analyze the U.S. federal tax incentives for energy sources, with particular attention to newer incentives for renewable sources. The article will examine those incentives for water impact. Finally, the article will provide some recommendations for legislative action.



## Paul Martin

*Director, Australian Centre for Agriculture and Law, School of Law, University of New England, Australia*

## James Shortle

*Distinguished Professor of Agricultural and Environmental Economics, Director, Environment and Natural Resources Institute, Penn State University, USA*

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### **Brief CV of 1<sup>st</sup> author**

Paul's centre focuses on multi-disciplinary scholarship of legal and institutional arrangements for rural sustainability. His research spans regulatory reforms, new taxation and financing arrangements, and integration of market and other instruments. This paper arises from a collaboration with Professor Shortle that focuses on going beyond received beliefs about policy, to improve the governance of water.

### **Title**

**Transaction costs, risks and policy failure**

### **Abstract**

This paper demonstrates the centrality of transaction costs in water policies. The approach uses studies in Australia and the USA on water quality and water quantity trading. These demonstrate that a significant explanation of the gap between the predicted performance of instruments of various kinds, and the experienced outcomes is transaction costs.

The paper suggests that (1) consideration of transaction costs of actual implementation needs to be more central in instrument design than has been generally recognised; that (2) modelling which does not explicitly include transaction costs should be seen as contingent on these costs; and (3) that the broad category 'transaction costs' can be subdivided for the purpose of improving natural resource management strategy.

The paper indicates that risks of policy failure are often under-considered for all types of instrument (market, regulatory or social), and that greater attention should be paid to the transactions (and the transacting contexts).



## Chiara Martini

*Researcher, Italian National Agency for New Technologies, Energy and Environment (ENEA)*

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### **Brief CV**

Born in Rome, 29 October 1981

2005-2008 PhD, University of Roma Tre – “The distributive effects of carbon taxation in Italy”

2005 degree, University of Roma Tre – “The environmental Kuznets curve: theoretical background and empirical studies

### **Title**

**The distributive effects of carbon taxation in Italy**

### **Abstract**

This paper is aimed to assess the distributive incidence of carbon taxation in Italy, estimating a linear and quadratic demand system. For the first time True Cost of Living indices are derived for the quadratic model: on this basis, both the compensating and equivalent variations are computed. Then, different taxation scenarios are simulated, modelled by referring to the Budget Law for 1999, and to estimate the revenue raised.

The carbon tax proposed by Budget Law for 1999 is not regressive, but the simulation of different taxation scenarios allows a regressive component to emerge, related to fuels taxation. Furthermore, the high price elasticity of energy products demonstrates the environmental effectiveness of introducing carbon taxation in Italy. Finally, the excess burden has been computed, in order to identify particularly affected household profiles or geographical areas.





## Bruce W. McClain

*Chairman and Professor of Accounting, Cleveland State University, USA*

## Paul J. Lee

*Assistant Professor of Accounting, Cleveland State University*

## John T. Geekie

*Assistant Professor of Accounting, Cleveland State University*

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### **Brief CV of 1<sup>st</sup> author**

CPA/Attorney. Teaches primarily taxation, in graduate tax program. Also teaches Business Law and Accounting. Graduated summa cum laude from Hillsdale College with degree in accounting. Graduate degrees from Case Western Reserve School of Law (J.D.) and from New York University School of Law (LL.M., Taxation). Lifelong Cleveland area resident. Faculty member at CSU since 1987.

### **Title**

**Recent U.S. Tax Laws Greatly Expand Use of Tax Code to Encourage Environmentalism**

### **Abstract**

Over the last 30 years, the United States tax law has increasingly included provisions designed to encourage US citizens to take steps to preserve the environment. Now however, the U.S. appears to be venturing far beyond anything previously seen in promoting environmentally friendly behavior. Recent laws address a wide spectrum of environmental concerns, including reduction of carbon dioxide emissions, soil and water conservation and cleanliness, fuel efficient vehicles, energy conservation, and environmental remediation and improvement. Some of these were previously addressed in the tax law, but never previously addressed together in a comprehensive fashion. This paper catalogs and discusses the many ways in which these recent laws are breaking new ground in terms of encouraging careful husbandry of U.S. land and waters, and reduction of harmful emissions, along with other environmentally friendly measures



## Janet E. Milne

*Environmental Tax Policy Institute, Vermont Law School*

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### **Brief CV**

Janet Milne is Professor of Law and director of the Environmental Tax Policy Institute at Vermont Law School, where she teaches environmental taxation and land use law. She is a member of the steering committee for the Global Annual Conferences on Environmental Taxation and a co-editor of Critical Issues in Environmental Taxation.

### **Title**

**A Dark Recession, Red Ink, and the Green Economy: Climate Change Tax Incentives in the U.S. Economic Stimulus Program**

### **Abstract**

After the economic crisis unfolded in September 2008, the US government enacted two major economic stimulus packages – over \$800 billion in October 2008, and \$787 billion in February 2009. These deficit-financed relief measures included about \$40 billion in tax incentives to reduce greenhouse gas emissions, as well as \$40 billion in spending programs for climate-related projects. Consistent with campaign positions, President Obama combined the need for economic stimulus with his desire to advance a green economy. This paper discusses the policies and politics of the climate change tax incentives in the stimulus packages – the types of incentives, their relationship to other climate programs in the legislation, and factors that contributed to their passage within such a short timeframe. Although an assessment of their impact is premature, it identifies issues key to the future evaluation of their relative role and effectiveness as environmental and economic-stimulus instruments, including efforts to enact a cap-and-trade program



## Milos Milosevic

*Assistant professor at the Faculty of Law, University of Belgrade*

## Monika Milosevic

*Scientific associate at the Institute of Comparative Law in Belgrade*

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### **Brief CV of 1<sup>st</sup> author**

Milos Milosevic was born in 1977. in Belgrade. He graduated from the Faculty of Law, University of Belgrade and holds an LL.M. from the University of Osnabrueck. Since 2004. he has been working at the Faculty of Law, University of Belgrade as the assistant professor for the course Tax Law. He currently writes his PhD thesis titled „VAT fraud“.

### **Title**

**Addressing environmental problems through motor vehicle taxes:  
Experiences of the Republic of Serbia**

### **Abstract**

For the last two decades, the Republic of Serbia has been in the process of transition, facing some serious economic problems. At the same time, Serbia aims at achieving (among other things) the high environmental standards set by the European Union in order to become a part of it. This is, obviously, a great challenge for Serbia. Fast economic growth, basically in collision with life in a healthy environment, requires that all disposable measures of environmental protection are taken into consideration.

Thanks to its favorable geographic position, Serbia has great potential for the development of all types of traffic. Road motor vehicles are considered to be one of the main air pollutants, especially in big towns. Moderation of traffic's negative effect on the environmental situation in Serbia requires mobilization of a number of measures, among which fiscal measures undoubtedly occupy a significant position.

This article provides an insight in the area of motor vehicle taxes that apply in the Republic of Serbia.



## Anna Mortimore

*Griffith University (Australia)*

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### **Brief CV**

Anna Mortimore is a taxation lecturer at Griffith University Business School in Queensland, Australia. Her research interests lie in the intersection of taxation policy and environmental policy. She has previously presented in the Global Conferences on Environmental Taxation and has publications in the Critical Issues in Environmental Taxation International and Comparative Perspectives.

### **Title**

**Managing Transport Emissions through Taxes and Tradable Permits – a comparative analysis evaluating the mechanisms in Australia’s Carbon Pollution Reduction Scheme.**

### **Abstract**

The Carbon Pollution Reduction Scheme (CPRS) will be Australia’s primary mechanism of reducing greenhouse gas emissions for all sectors, expected to commence on 1 July 2011. In terms of road transport, Australia’s CPRS will be applied to fuel producers, on the basis of their fuel sales, increasing fuel prices. While the European Union (EU) model excludes emissions from road transport and captures emissions from car manufacturers. Except the impact of the CPRS on fuel prices will not be felt by the transport sector for the first three years, through a ‘cent for cent’ reduction in fuel excise taxes, because of the uncertainty of its consequential impact on business and will allow motorists to plan for higher fuel prices in the future, and change their existing vehicle to a fuel efficient vehicle. The paper examines if this is the best instrument to reduce greenhouse gas emissions from road transport compared to the EU model and the likelihood of motorists voluntarily changing to fuel efficient vehicles or whether other taxation instruments are required to compliment the CPRS.



## Shailendra Mudgal

*BIO Intelligence Service, Senior Vice-President*

## Benoît Tinetti

*BIO Intelligence Service, Project manager*

## Anil Markandya

*BC3-Basque Centre for Climate Change, Scientific director*

## Ramon Ortiz

*BC3-Basque Centre for Climate Change, Research professor*

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### **Brief CV of 1<sup>st</sup> author**

Shailendra Mudgal, Senior Vice-President at BIO, is an environmental engineer-economist with 16 years of experience in environmental consulting. He has led a wide range of projects, including policy and techno-economic assessments, covering all major EU environmental and energy policies.

### **Title**

**Tax incentive options to promote environmentally friendly products – the case of energy efficient domestic appliances**

### **Abstract**

Climate change is one of the greatest environmental challenges of our time and has been the subject of increasing political attention worldwide. Achieving a 20% savings of energy consumption by 2020 through energy efficiency measures is underlined as one of the key ways in which CO<sub>2</sub> emission savings can be realised. To accelerate the take up of energy efficient appliances, which would allow achieving the EU's targets, tax incentives options have already been used in various Member States, and were also analysed in a recent study conducted by the authors of this paper. A wide range of tax incentives could be applied to foster energy efficient products such as subsidies for consumers, tax credits for manufacturers and/or consumers, increase of the energy taxation, etc.

The paper further discusses the tradeoffs between different policy options and potential barriers in their implementation as well as their integration in the overall EU environmental policy.



## Carol Ní Ghiollarnáth

*Tax Law Department, Maastricht University, The Netherlands.  
PhD Researcher.*

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### **Brief CV**

Carol Ní Ghiollarnáth graduated with a Bachelor of Corporate Law from the National University of Galway, Ireland in 2003 and in 2004 achieved the LL.M title from Maastricht University. Carol is a PhD Researcher in Maastricht University. Her thesis working title is: 'Energy Efficiency, Tax and Trade: Irreconcilably Incompatible?'

### **Title**

**WTO Law on Subsidies: a hindrance to the international competitiveness of renewable electricity generators?**

### **Abstract**

Tax incentives promoting green electricity not only have a positive impact on combating climate change but also have an important impact on international competitive relationships in the electricity market. International trade law, in particular for the purposes of this paper the Subsidies and Countervailing Measures Agreement, provides for strict rules with which these tax incentives should comply in order for the objectives of international free trade to be protected. By virtue of an international trade law analysis of selected national tax incentives for the development of renewable energy electricity, it is to be shown whether these measures are consistent with WTO rules on subsidies, and thus internationally acceptable measures which enhance the international competitiveness of national green electricity. This paper will answer the following question: in how far do WTO rules on subsidies hinder the national sovereign right to enhance international competitiveness of national green electricity generators by providing tax incentives?



## Frans Oosterhuis

*Institute for Environmental Studies,  
Free University Amsterdam*

## Marije Schaafsma

*Institute for Environmental Studies, Free University Amsterdam*

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### **Brief CV of 1<sup>st</sup> author**

Frans Oosterhuis is an environmental economist, mainly working on policy related studies. His areas of expertise and interest include a.o. economic instruments, innovation and the effectiveness of EU environmental policy.

### **Title**

**Value Added Tax as an environmental policy instrument?**

### **Abstract**

Applying reduced VAT rates to stimulate the demand for 'green' products and services has become a popular policy proposition. Experience with this instrument in the EU is limited. In principle, it might convey effective price incentives causing a shift in demand towards 'greener' products. The main advantage is administrative simplicity. However, the scope for application is limited. The product categories with the largest environmental impact are already covered by a reduced VAT rate (food) or by other taxes that allow for a more targeted differentiation (motor vehicles). Moreover, side effects such as 'free riding' and the rebound effect will limit cost-effectiveness. A more promising role for environmental VAT reform may be to do away with reduced VAT rates for food and energy. The original rationale for these reduced rates (protecting the poor) has largely disappeared and the environmental impact of their removal is probably more substantial than when reducing VAT for 'greener' products.



## Giorgio Panella

*University of Pavia*

## Andrea Zatti

*University of Pavia*

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### **Brief CV of 1<sup>st</sup> author**

Giorgio Panella is full professor of Public economics at the University of Pavia where is the director of the Department of Public economics.

### **Title**

**Water pricing: economic and social issues**

### **Abstract**

The paper focus on the evolution of the Italian water regulation, devoting particular attention to the allocation system adopted in Italy and the way water production costs are shared among the consumers. The first part of the paper deals with the allocation system used in Italy both at institutional level and economic level. Then a description of the prevalent pricing methods in the irrigation sector is given, whereas the next section provides an overview of the households water pricing. The last part of the paper treats the affordability problem of the water services.





## Gemma Paton Garcia

*University of Castilla-La Mancha & Assistant Professor of Tax Law*

## Gracia Maria Luchena Mozo

*University of Castilla-La Mancha & Assistant Professor of Tax Law*

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### **Brief CV of 1<sup>st</sup> author**

Assistant Professor at the University of Castilla-La Mancha. Member of the International Center of Fiscal Studies. She obtained the National Prize “Narciso Amorós” of taxation (2005) and Prize “Castilla-La Mancha, Region of Europe” (2007) due to scientific publications. Among others, two books: Environmental Taxation: El principio de autonomía en el ámbito tributario. En especial, el impuesto medioambiental castellano-manchego, 2005 and Fiscalidad de los residuos (coauthor), 2008.

### **Title**

## **Compatibility of Tax Measures for Environmental Protection in Companies with Community State Aid Regulations**

### **Abstract**

This communication seeks to clarify the influence of Community law in the adoption of fiscal measures to promote environmental protection. We analyse aids that stimulate businesses while seeking to mitigate their adverse effects on the environment. It is concluded that some environmental provisions in the tax might affect the principle of free trade in the EU, and thus a manifestation of such principle, as it is the prohibition of state aids can influence the way companies adapt towards energy savings in industrial processes. First, we elaborate on the fiscal measures that are part of the Spanish Corporation Tax Code. Secondly, it is analysed the position taken by the European Commission in the adoption of the Community guidelines on State aid in environmental matters. And thirdly, it is discussed the aid for environmental protection vis-a-vis the legal structure of the Spanish Corporation Tax Code and in the light of the jurisprudence of the European Court of Justice.



## Jan Pavel

*University of Economics in Prague  
Public Economics  
Associate Professor*

## Leoš Vítek

*University of Economics in Prague  
Public Economics  
Associate Professor*

## Jirí Pribil

*University of Economics in Prague  
IT  
Young Lecturer*

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### **Brief CV of 1<sup>st</sup> author**

Jan Pavel (born 1978) completed his Master degree at University of Economics in Prague. He commenced his Ph.D. study at the same University and graduated in September 2004. Currently, he is associate professor in the public finance department, the University of Economics in Prague.

### **Title**

**Environmental Tax Reform: Administrative and Compliance Cost of Energy Taxes in the Czech Republic**

### **Abstract**

The Czech Republic has introduced new environmental taxes in 2008. The paper analyses their administrative and compliance costs. Although one could expect high administrative costs due to small revenues of these taxes, up to date data from the government bodies shows rather effective administration of these taxes; administrative costs are reaching the 1.0 - 1.3 % of the tax revenues. This corresponds to average administrative costs of the whole Czech tax system; however is higher than administrative costs of other selective consumption taxes. The third part of the text shows new data from the taxpayers' survey that is concentrated on compliance cost and administrative burdens of the new taxes. Results show that new energy taxes are pretty effective and compliance cost to revenues vary (according choose assumptions on revenues) from 0.2 to 0.5 % of the tax revenues. This findings rank energy taxes among the most effective taxes in the Czech Republic from the compliance costs point of view.



## Marjan Peeters

*Professor of Environmental Policy and Law*

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### **Brief CV**

Marjan is Professor of Environmental Policy and Law, in particular Climate Change Issues, at the Faculty of Law, Maastricht University. She publishes regularly on various topics of environmental law, with a special interest in legal aspects of climate change, and market-based regulatory instruments.

### **Title**

**Fossil Fuel Fired Power Plants in the EU: An assessment of the regulatory approaches in view of liability**

### **Abstract**

In the course of developing a European climate change policy package, a variety of regulatory approaches has been established by the EU-legislature. The central focus of this paper is to identify how the regulatory package affects the fossil fuel fired power installations, being a major source of greenhouse gas emissions. It aims to identify which emission reduction duties are already prescribed by regulation, including the possible additional regulatory approaches by Member States in view of art. 176 EC Treaty. A related question is how the regulatory package addresses the building of new coal fired power plants. On behalf of this survey, the paper will identify the stringency of the obligations for the fossil fuel power installations, and, more precisely, will show to what extent these obligations aim to prevent damage resulting from climate change. The paper will conclude with observations in view of liability concerns, and will present further research questions.



## Radmilo Pesic

*University of Belgrade, Serbia  
Professor*

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### **Brief CV**

February 18, 1957 Belgrade

Current Position: Professor of Economics, Department of Agricultural Economics, Faculty of Agriculture, University of Belgrade.

Fields of interest: Environmental and Natural Resource Economics, Energy and Climate Change Economics.

### **Title**

**A model of temperature sensitive water pricing**

### **Abstract**

The aim of the paper is to put forward a proposal for a new type of seasonal water pricing, tailored to serve the Belgrade Water and Wastewater Company. A simple price-setting mechanism is made in a form of a model, based upon temperature variations above the normal. The model is easy to explain, water rates depend on an exogenous parameter (air temperature deviations from the normal) that is officially monitored by the National Hydro-Meteorological Institute. Although based on an ex-post price determination (prices are calculated for the previous months) the model is expected to convey a signal to water users on resource scarcity. Not knowing ex ante how high their monthly bill is going to be, but aware of the simple price-setting rule, consumers will be in a situation to change their pattern of behaviour towards a more sustainable water use. The model offers a potential not only to push consumers towards rationality, but to enable the Belgrade Water Company to cover peak-season costs.



## Ignasi Puig-Ventosa

*ENT Environment and Management. Head of projects.*

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### **Brief CV**

Ignasi Puig-Ventosa is industrial engineer and PhD in Environmental Sciences. He holds an MSc in Monitoring, Modelling and Management of Environmental Change. His main research area is environmental taxation, particularly related to waste management. He is Head of projects at ENT Environment and Management.

### **Title**

**R&D and environmental tax deductions in Spain**

### **Abstract**

This paper focuses on the environmental effects of the R&D&I deduction and on the effects on innovation of the environmental investments deduction within the Spanish Corporate Income Tax. The application of the R&D&I deduction induces additional environmental investments in subsequent years. For 2005, environmental investments eligible for the deduction were classified between “end-of-pipe” (EOP) (67.8% of the entire amount) and “cleaner production” solutions (32.2%). This is higher than in average Spanish environmental investments. Since environmental innovations are more often identified with cleaner production, the weight of EOP technologies in the investments taking benefit of the environmental investments deduction suggests a limited incidence of this deduction in terms of innovation. Finally, several proposals are presented to overcome some of the limitations of these deductions.



## Roberto Muhájr Rahnemay Rabbani

*University of Santiago de Compostela.  
Doctoral Student and Scholar of the Ministry of Foreign Affairs and Cooperation  
of Spain*

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### **Brief CV**

Substitute Professor of the Federal University of Sergipe – Brasil (2006/2007). Has taught the courses of Financial Law, Administrative Law, Civil Procedural Law, Monograph and Notarial Law. Has legal practice in more than 745 lawsuits before the Federal Court and the State of Sergipe's Courts.

### **Title**

**Taxes on Land-Based Emissions in Marine Coastal Waters: the viability of the Spanish model for the sustainability in developing countries**

### **Abstract**

Urgent measures thus need to be articulated and a great political effort is required to reduce the social impact of pollution caused by the rapid growth of contaminating sources in coastal areas. As a result, this study analyzes the existing taxes on the emissions of wastes in the marine coastal waters from land-based sources in the Spanish Autonomous Communities of Andalusia, Canary Islands and Murcia, and chooses the most efficient and beneficial model in terms of ensuring sustainable development. In this regard, it is proposed the viability of a model that could best fit the environmental needs in developing countries and that could generate the double dividend intended by the environmental taxes, especially in social cost terms and according to the “cost recovery principle” for services related to water administration.



## Roberto Muhájr Rahnemay Rabbani

*University of Santiago de Compostela.  
Doctoral Student and Scholar of the Ministry of Foreign Affairs and Cooperation  
of Spain*

## José Manuel Iglesias Casais

*University of Santiago de Compostela.  
Doctor of Law and Professor of Finance and Tax Law*

---

### **Brief CV of 1<sup>st</sup> author**

Substitute Professor of the Federal University of Sergipe – Brasil (2006/2007). Has taught the courses of Financial Law, Administrative Law, Civil Procedural Law, Monograph and Notarial Law. Has legal practice in more than 745 lawsuits before the Federal Court and the State of Sergipe's Courts.

### **Title**

**Implementation of Tradable Carbon Permits in Developing Countries**

### **Abstract**

The institution of a carbon dioxide market could benefit developing countries from the initial distribution of permits, by being assigned more permits than their current level of emission and less than developed countries. This would incentive developed countries to buy permits from underdeveloped countries, enhancing their economy, which could then be invested in energy efficiency and the purchase of technology from developed countries. An international market of CO<sub>2</sub> will boost international economic relations, creating incentives for both, and even reducing deforestation in the Amazon by creating a tangible benefit from the prevention of forest loss. There is no doubt that these permits are a highly effective complementary tool, that allow each country to regulate its domestic market trading as it finds most convenient, while improving international equality.



## Aldo Ravazzi Douvan

*Italian Ministry of Environment, Land & Sea, coordinator EA for EU SFs - U. Roma Tor Vergata Megat*

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### **Brief CV**

Graduated in economics U.Roma1 (1983), specialised U.York (1988). Economist at IRI holding (1984-00), Head of the Research Dept. Since 2001 MoE. Chair of the OECD committees on Taxation & Environment and National Environmental Policies (2005-08). G8-3R Italian NFP. Co-promoter of EU-ENEA, GRDP, GBE.

### **Title**

**Velib Economics: giving a price to Urban Bicycle Public Transport Services**

### **Abstract**

Among measures for mitigating climate change and reducing transport congestion costs, several European cities are adopting UBPTS. The most known and advanced is the Velib system in Paris, 980 stations and 20.600 bikes, introduced in 2007 and still in expansion.

Many cities follow, eg Velo'V Lyon (2005), Bicing Barcelona (2007), BikeMi Milan (2008), Roma'nBike Rome (2008), Bruxelles (2009). Other cities have advanced bike policies (eg Amsterdam, Bordeaux, Ferrara) but no Velib system.

The paper discusses major features of different bike services: tariff structure, capacity to cover investment costs; impact in terms of climate change emissions; capacity to distract part of traditional traffic flows (e.g. car, buses and underground) towards bike; health benefits. From first data and evaluations available, UBPTS seem to have a limited but clear positive impact on climate change emissions.





## Catarina Roseta Palma

Lisbon University Institute - ISCTE Dep. Economics and UNIDE

## Henrique Monteiro

Lisbon University Institute - ISCTE Dep. Economics and UNIDE

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### **Brief CV of 1<sup>st</sup> author**

Assistant Professor at ISCTE-Lisbon University Institute. Her main research interests are in environmental and natural resource economics, especially in the areas of water management and sustainable development. She has several publications, as well as consulting work, in these areas.

### **Title**

**Pricing for Scarcity? An analysis of Increasing Block Tariffs**

### **Abstract**

Water pricing schedules often contain significant nonlinearities, such as the increasing block tariffs (IBT) that are abundantly applied on residential users. IBT are frequently supported as a good tool for achieving the goals of equity, water conservation and revenue neutrality but seldom have they been grounded on efficiency justifications. In particular, existing literature on water pricing establishes that although efficient schedules will depend on demand and supply characteristics, IBT can hardly ever be recommended. In this paper, we consider whether the explicit inclusion of scarcity considerations can strengthen the appeal of IBT. Results show that when both demand and costs respond to climate factors, increasing marginal prices may come about as a combined result of scarcity and customer heterogeneity under specific conditions. To illustrate how such conditions can be tested, we estimate Portuguese residential water demand and show that the resulting recommended tariff schedule hinges crucially on the choice of functional form.



## Sven Rudolph

*Dr., Assistant Professor, Faculty of Economics, University of Kassel, Germany*

## Seung-Joon Park

*Dr., Associate Professor, Faculty of Economics, Kyoto Sangyo University, Japan*

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### **Brief CV of 1<sup>st</sup> author**

Sven Rudolph, Dr., is Assistant Professor for the Political Economy of Environmental Policy at the University of Kassel in Germany. He holds Ph.D. in economics and is a member of the Scientific Council to Friends of the Earth Germany and of the Emission Trading Working Group of the German Environmental Ministry. He presented at the last two GCETs as well as on other venues and published several books and journal articles.

### **Title**

**Lost in translation? A political-economy analysis of market-based climate policy instruments in Japan**

### **Abstract**

In the 2003 movie “Lost in Translation”, two successful, even though vulnerable Americans immersed into Japanese society and were changed by their “exotic” experiences. Likewise, since the new millennium, the basically successful but in their efficient and effective real-life application endangered concepts of environmental taxes and emissions trading have arrived at Japan. While eco taxes are still under considerations, emission trading has found its way into actual policy. However, the original concepts have been significantly transformed. Thus, the question arises, what are the reasons for this transformation and what will be the effects? In order to answer this question, traditional welfare economics and Public Choice arguments are used, while also expanding the perspective to external restrictions of political actors’ behavior. Building on this approach, the paper analyzes most recent qualitative expert interview data from Japan. This approach advances a better understanding of country-specific policy designs and provides recommendations for improving market-based climate policy in Japan.



## Ye Ruqiu

*Chinese Co-Chair of the Task Force on Economic Instruments for Energy Efficiency and the Environment*

## Wang Guijuan

*Research Institute for Fiscal Science at the Ministry of Finance of the P. R. China, Associate Research Fellow*

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### **Brief CV of 1<sup>st</sup> author**

Prof. Ye Ruqiu is Counsellor of the State Council and Advisor to the Ministry of Environmental Protection. His research areas include e.g. environmental protection, global environment, trade and environment, environmental management, environmental science and technology and environmental chemistry.

### **Title**

**Preparing informed decision making: the high-level Task Force on Economic Instruments for Energy Efficiency and the Environment in China**

### **Abstract**

In the future China's energy supply will encounter severe pressure in coping with highly energy intensive growth. The challenge for China is to overcome the bottleneck caused by energy and resource shortages and environmental pollution reducing economic growth and welfare. The Chinese Government has taken very extensive and intensive actions to tackle these issues.

One of the advisory bodies engaged in the elaboration of policy recommendations to the State Council is the China Council for International Cooperation on Environment and Development (CCICED). Within the framework of the CCICED a high-level Task Force of Chinese and International experts on Economic Instruments for Energy Efficiency and the Environment has been established who is analyzing the application of economic instruments in China's environmental protection system, especially in regard to their effectiveness and efficiency.



## Kai Schlegelmilch

*Green Budget Germany/Europe, Vice-President, Berlin*

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### **Brief CV**

Political economist, advisor on energy/climate issues, particularly on fiscal instruments at the German Federal Ministry for the Environment since 1999; vice-president of Green Budget Germany/Europe; studies e.g. for UNDP, UNEP, UNECE, UN-ECLAC, OECD, COM and the European Environment Agency.

### **Title**

**Tigers and other countries looking for Environmental Tax Reforms**

### **Abstract**

Will East Asia be the tiger again? Now it would be regarding environmental tax reforms (ETR). East Asia is getting ready for action on climate change and environmental protection. Several countries such as China, Vietnam, Thailand and Indonesia are considering first steps to systematically apply environmental taxes for environmental protection. It could well be that some competition between them is starting about which country is taking the lead, like it occurred in Europe mainly in the 1990ies.

Vietnam is the most advanced for the time being. The Prime Minister has set the objective of introducing an ETR by 2011. China would though have the largest impact if it introduced such an ETR.

The paper will describe the current states of art of discussions regarding ETR and future prospects.



## Kai Schlegelmilch

*Green Budget Germany/Europe, Vice-President, Berlin*

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### **Brief CV**

Political economist, advisor on energy/climate issues, particularly on fiscal instruments at the German Federal Ministry for the Environment since 1999; vice-president of Green Budget Germany/Europe; studies e.g. for UNDP, UNEP, UNECE, UN-ECLAC, OECD, COM and the European Environment Agency.

### **Title**

**Positive Impacts on Climate Change: How the waters for economic instruments between America and Europe are getting warmer**

### **Abstract**

Recently the waters for economic instruments between America and Europe have become substantially warmer. Climate target setting and intended climate action contributed to this. The most prominent proposal is the one for a very comprehensive emission trading scheme. However, there are also increasingly more voices calling for taxes instead.

On the other side, the EU has now revised the EU emissions trading scheme for the next period between 2013 and 2020. Yet the EU energy taxation is on the political agenda again, too. It prescribes minimum rates for all energy products. Though not very ambitious, the EU is the only region in the world requiring all its Member States to apply energy taxes.

The paper will describe the possible roadmap of achieving a consensus in the EU on energy and CO<sub>2</sub>-taxation while analyzing the proposal currently discussed in the USA and comparing them systematically.



## Kai Schlegelmilch

*Green Budget Germany/Europe, Vice-President, Berlin*

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### **Brief CV**

Political economist, advisor on energy/climate issues, particularly on fiscal instruments at the German Federal Ministry for the Environment since 1999; vice-president of Green Budget Germany/Europe; studies e.g. for UNDP, UNEP, UNECE, UN-ECLAC, OECD, COM and the European Environment Agency.

### **Title**

**How can EFR contribute to reducing the financial crisis?**

### **Abstract**

In 2008/2009 hundreds of billions Euros were spent by governments within a short time in order to safeguard the economy. However, the transition towards a low-carbon economy has often not been facilitated, but in fact many of those economic stimulus packages have high shares of expenditures which run counter environmental protection. But there are also positive examples which demonstrate how a new “Green Keynesianism” can stimulate green investment. Furthermore some countries also finance these programmes by elements of an Environmental Fiscal Reform (EFR). These unique opportunities could be used much more in many more countries. The paper will describe the current states of the economic recovery programmes and their evaluations as far as available. Furthermore new windows of opportunities will be sketched out in case another programme will be launched.



## Ronaldo Seroa da Motta

*Institutional affiliation & position of the 1st author*  
Senior Researcher, IPEA

## Juliana Strobel

*Senior Researcher, CSF*

## Wilson C. Souza

*Senior Researcher, ITA*

## Marcos Amend

*Executive Director, CSF*

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### **Brief CV of 1<sup>st</sup> author**

Ph.D. at University College London, 1981-1985, on Economics Senior Researcher at the Research Institute for Applied Economics (IPEA) with several articles and books on environmental and economic regulation.

### **Title**

**Economic Criteria for Applying the Protector-Receiver Principle: Case Study of Três Picos State Park, Rio de Janeiro, Brazil**

### **Abstract**

Apart from river basin water charges, another payment is due for water uses in Brazil within the regulatory framework of the National System of Conservation Units. This charge has been called an application of the “protector-receiver principle” (PRP). Based on these criteria, we propose a method to determine the application of the PRP. Then we carry out some exploratory exercises with this methodology in the case of Três Picos State Park. We conclude by discussing the procedures necessary to apply the proposed model in other parks.



## Yang Shu

*PhD Candidate,  
Catholic University of Milan*

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### **Brief CV**

PhD Candidate in Public Economics (Expected Feb, 2010), DEFAP,  
Catholic University of Milan, Italy

Bachelor Degree in Information and Computational Science,  
Mathematics Department, Nanjing University, Nanjing, China

Research Interests:

Game Theory, Environmental Regulation, Numerical Modeling &  
Simulation

### **Title**

**An adverse selection model applied to environmental regulation**

### **Abstract**

When asymmetric information on marginal benefit of pollution abatement is presented, we have analysed how to regulate a monopoly firm to maintain efficiency. The adverse selection model applied to this topic not only generates intuitive solutions which coincides with known theories in previous literatures, but also contributes two unique findings in particular situations. First, asymmetric information on marginal benefit may not distort the first-best efficient level of production and pollution abatement. Secondly, Pigouvian Tax may improve social welfare over Control for Quantity, because of the different effects over participation of consumers under perfect information. These findings are important, because the first one enables the regulator to replicate the first-best solutions under asymmetric information, while the second one indicates a potentially better regulatory instrument under perfect information.





## Tracy Snoddon

*Department of Economics,  
Wilfrid Laurier University*

## Randall Wigle

*Department of Economics,  
Wilfrid Laurier University*

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### **Brief CV of 1<sup>st</sup> author**

Dr. Snoddon is an Associate Professor of Economics at Wilfrid Laurier University. From 2006 to 2008, Dr. Snoddon served as Director of Laurier's Master's in International Public Policy Program. Her research focuses on fiscal federalism issues and on federal-provincial dimensions of climate policy

### **Title**

**Carbon Pricing in Canada: Options and Specifics**

### **Abstract**

There have been a number of policies proposed to reduce greenhouse gas emissions (GHG) hereby mitigating climate change. An important class of climate policies involves putting a “price” on carbon, either by implementing a carbon tax or some form of tradeable permit scheme. There are however some unique challenges when it comes to the implementation of carbon pricing in a federal country. This paper identifies and assesses four federal-provincial dimensions to the carbon pricing challenge in Canada: revenue recycling, revenue sharing, intergovernmental coordination, and the North American context.



## Stefan Speck

*Kommunalkredit Public Consulting GmbH*

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### **Brief CV**

Stefan Speck is an environmental economist and holds a PhD in economics. Currently he is working as a senior consultant at the International Consulting Department of Kommunalkredit Public Consulting in Vienna (Austria). His main research area is the application of market based instrument for environmental policy, environmental fiscal reform and environmental financing.

### **Title**

**Environmental Tax Reform in Retrospective and its Future Role in the context of Emission Trading Schemes**

### **Abstract**

The concept and underlying principle of an environmental tax reform (ETR) is widely endorsed and implemented in EU member states. The implications of a large-scale ETR has been analysed in the recently completed PETRE project. The modelling results are revealing the scope of revenues raised by carbon taxes and allowances auctioned in the emission trading scheme at the EU level aiming to reach the 2020 EU greenhouse gas emission (GHG) reduction target of 20%. The results are revealing that a rather high carbon price is necessary to achieve the reduction target implying increases in energy prices caused by the carbon price.

The revenue recycling mechanism adopted in the modelling framework, which is implemented via the reduction of personal income taxes and employers' social security contributions, are highlighted and the scope of these measures are discussed.



## Amanda Spisto

*PhD student in environmental economics and law at Tor Vergata University in Rome - Italy*

## Alessio D'Amato

*Assistant professor at the university of Rome Tor Vergata*

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### **Brief CV of 1<sup>st</sup> author**

Amanda Spisto is PhD student in Environmental Economics and Law at Tor Vergata University in Rome. She is currently studying as Visiting Research Student at the University of Nottingham (supervisor B. Dijkstra). Her research interests are: Effectiveness of Market Instruments in Environmental Policy.

### **Title**

**Financing public expenditures via emissions taxation under international emissions trading**

### **Abstract**

We model two representative firms located in two countries. Both firms are assumed to be subject, at the same time, to an international emissions trading system and to domestic emissions taxation. The latter generates revenue to finance public spending. Our main results so far show that the equilibrium level of emissions is affected by the social benefits of public expenditure in a nonstraightforward way, depending, in particular, on the sensitivity of emission themselves to changes in the tax rate. Also, both the net buying and selling behaviour of the two countries, as well as the tax rates, are affected by marginal benefits from public expenditures. The permits market equilibrium depends, therefore, on the willingness of governments to use environmental taxation as a source of revenue.



## Natalie Stoianoff

*Director, Master of Industrial Property Program, Faculty of Law, University of Technology, Sydney.*

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### **Brief CV**

Natalie is a Professor of Law at the University of Technology, Sydney, and Director of the Master of Industrial Property Program. She is Chair of the Intellectual Property, Media and Communications Research Network, Convenor of the China Law Research Group and Fellow of the Taxation Institute of Australia. Her research focuses on environmental tax incentives. She is a founding member of the Journal of the Australasian Tax Teachers' Association Editorial Board.

### **Title**

**Tax instruments for climate change prevention and mitigation: The Australian experience.**

### **Abstract**

Australia has employed a variety of tax instruments dealing with both prevention and mitigation of climate change. These instruments address past practices that have led to environmental degradation and human-induced climate change. Livestock emissions from enteric fermentation (cattle and sheep) account for 66% of the carbon emissions from Australia's agricultural sector. This is significant when one realises that 59% of Australian land is used for agriculture. Carbon sequestration is therefore crucial to alleviating agricultural emissions. Tax incentives promoting biodiversity conservation and revegetation of cleared lands can assist with sequestration. In late 2008 the Australian government announced the Carbon Pollution Reduction Scheme (CPRS) as the primary regime for reducing GGE, including forestry from 2010 but excluding the agricultural sector. The interaction between the CPRS and the tax instruments utilised in climate change prevention and mitigation in Australia will be explored.



## Rahmat O. Tavallali

Walsh University  
School of Business  
Professor

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### Brief CV

Rahmat Tavallali, Ed.D. Dr. Rahmat Tavallali is professor of Business and former Director of the MBA Program at Walsh University, U.S.A. Prior to Walsh University, he taught courses at Cleveland State University, USA and St. Petersburg State University, Russia. He has contributed to volumes of Critical Issues in Environmental Taxation publications and is one of the co-founders of the Global Conference on Environmental Taxation. He has edited and reviewed several business articles and books and has made many professional presentations at national and international conferences.

### Title

**Investment in a Market-Based Cap-and-Trade Program as a new U.S. Clean Climate Policy**

### Abstract

For many years, United States government has failed to face with global warming and energy problems. Many economists believe that now it is the time that to alter the American addiction to the oil and encouraging using alternative fuels.

The new U.S. Government now has committed to tackle climate change in a serious, sustainable manner. The Obama administration is now planning to implement a market-based cap-and trade system to reduce carbon emission by 80 percent below 1990 levels by 2050. Under this program, an overall national cap on carbon emissions will be established. This cap-and-trade system will also require all pollution credits to be auctioned. A 100 percent auction ensures that all large corporate polluters pay for every ton of emissions they release. This paper provides a review of the key principles for cap-and-trade program and examines the effectiveness and efficiency of this program.



## Callist Tindimugaya

*Head of the Department for Water Resources Planning and Regulation, Ministry of Water and Environment, Uganda*

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### **Brief CV**

Dr Callist Tindimugaya is a water resources specialist with a phd in water resources management and over 17-years experience in water resources development and management. Dr Tindimugaya is working with the Ministry of Water and Environment in Uganda since 1990.

### **Title**

**Enhancing the potential of environmental charges for the financing of effective regulation: capacity building strategies in Uganda**

### **Abstract**

The Ugandan water & sanitation sector is challenged to effectively regulate water resources and delivery of water supply services. Gov. has undertaken several reform studies aimed at strategies for regulation. From these studies and following several stakeholders' consultations, it emerged that a staged approach be adopted whereby in the short term, a separate regulation unit would be established within the ministry and in the long term, the option of establishing an independent regulatory entity would be explored. Proposals of a study on the application of economic instruments for env. mngt. and pro-poor economic growth (UNDP – UNEP) were seriously analyzed and considered for action. The findings of the study on waste water discharge charges offer a great opportunity for government to address the current challenges of effective regulation of the water and sanitation sector.



## Aviel Verbruggen

*University of Antwerp  
Full professor*

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### **Brief CV**

Full professor in environmental and energy economics, technology and policy. Main topics: climate policies, renewable energy, cogeneration, electricity markets.

Member IPCC: Third and Fourth Assessment Reports, Working Group III (1998-2007). Lead Author, Special Report on Renewable Energy (2009-10).

### **Title**

**Cap & Trade and Tax Reform for Global Climate Policy Architecture**

### **Abstract**

The core of climate change policy proposals boils down to “setting the right – energy and CO<sub>2</sub>-eq. emissions – prices” (Stern, 2006). Mainstream thinking searches for applying “the” global uniform carbon price by means of either global cap and trade systems (Kyoto flexible mechanisms; flagship of EU climate policy), or the harmonized global carbon tax (Cooper, Nordhaus).

First is shown that the belief in the superiority of global uniform instruments is partly rooted in the characteristics of the climate change process itself, partly in the neoclassical economics paradigm of cost-effectiveness. Second, some pitfalls of the uniformity rule are documented for the two uniform instruments. Third is argued why ecological tax/budget reform is a valid and necessary component of workable and comprehensive climate policy architecture. The bottom-up and diverse character of ecological tax reforms by sovereign nations make this approach the fundamental driver of the required change.



## Mateja Vranicar

*Head of Department,  
Ministry of Finance, Department for tax and customs policy and legislation*

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### **Brief CV**

MPA 1997, J.F. Kennedy School of Government, Harvard University. The Department headed by Mateja Vranicar is responsible for drafting legislation, for expert support for policy decisions and for international matters, as well as negotiations on EU legislation in areas of taxation and customs. Before taking this post in 2006 she was a head of Division on indirect taxation. She was responsible for transposition of EU legislation on VAT and excise duties into the Slovenian legislation. In this framework she took part in the development of specific environmental charges.

### **Title**

**Experiences of CO<sub>2</sub> taxation in Slovenia and possible ways forward**

### **Abstract**

There are three issues to be addressed: (1) energy taxation; (2) specific CO<sub>2</sub> environmental charge and (3) introduction of environmental elements into other taxes. Responsibilities for the design of measures in these areas are divided among Ministry for Finance and Ministry for Spatial Planning and Environment. Slovenia introduced specific CO<sub>2</sub> charge already in 1997 and amend it considerably in 2005. For the moment CO<sub>2</sub> charge does not apply to motor fuels as this charge is included in excise duties. Until this year Slovenian policy was to keep taxation of motor fuels on very low levels, but this year the policy changed. This year we started to introduce CO<sub>2</sub> element in other tax structures, first into the tax on personal motor vehicles (cars and motorcycles) whereby the tax level depends on the level of CO<sub>2</sub> emissions. It is questionable if the tax system is always the most efficient tool for achieving environmental policy goals. Measures must be complemented by measures in other areas. We should not rely on tax measures only.





## Jinnan Wang

*CAEP, Vice president, Professor*

## Chazhong Ge

*CAEP, Director of the department of international cooperation, CAEP*

## Shuting Gao

*CAEP, research fellow*

## Yue Zhao

*CAEP, Assistant research fellow*

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### **Brief CV of 1<sup>st</sup> author**

Dr. Jinnan WANG is the chairman of Chinese Society for Environmental Economics (CSFEE), chairman of Professional Association of China's Environment (PACE). He took a leading expert in projects supported by the WB, UNEP, UNDP, OECD, EU, ADB, GEF, CCICED, RFF, WRI and USEPA. His research programs have won eight awards presented by the Chinese Government.

### **Title**

**Design on the Framework of China Environmental Taxation Policy and Its Implementation Strategy**

### **Abstract**

In this paper, we proposed the reform framework of China environmental tax system including four categories as independent environmental tax scheme, integrated environmental tax scheme, environmental taxation and charge scheme, and environmental tax expenditure scheme. Among these, independent environmental tax scheme consisted of general environmental taxation, direct pollution tax, polluting product tax; integrated environmental tax scheme put forward reform measures of the environmentally related tax like resource tax, consumption tax. the paper proposed that the key piloting projects presently should focus on the polluting product tax, coal consumption tax, changing water resource charge to water resource tax, and subsidy policy and taxation preferential policy should be given overall considerations on to accommodate the environmental protection. The paper also suggested that complementary measures such as propagating, research and capacities building of taxation levy and management should be well enhanced and in place.



## Jinnan Wang

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### Title

**The Design on China's Carbon Tax to Mitigate Climate Change**

### Abstract

With the developed IPAC-SGM model based on CGE model, the influence of different carbon tax rate on China's macro-economy, energy saving and CO<sub>2</sub> emission reduction is simulated. The results indicate that low rate carbon tax is a feasible option in China's near future. Lower carbon tax rate of RMB yuans 20/t C has smaller influence on the economic development of China, but can lead to obvious CO<sub>2</sub> emission reduction. With the results, considering the targets of energy-saving and emission reduction and CO<sub>2</sub> emission reduction, a carbon tax implementation scheme was designed including the tax base, tax rate, initial levying time, levying objects and the use of the revenue of carbon tax. The designed scheme proposes that the initial time to levy carbon tax for China will be proper in 2012, that the carbon tax rate should increase step by step from 20 RMB yuans/tC in 2012 to 50 RMB yuans/tC in 2020 and to 100 RMB yuans/tC in 2030, and the revenue of the carbon tax should be specialized in improving energy utilization efficiency, developing cleaner energy projects.



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### Title

**A Separate Environmental Tax for China: A Scheme Design and Its Implement**

### Abstract

China has already had the foundation to reform the current tax system to construct a separate environmental tax (SET). Based on rich experiences in OECD countries, the challenges of environmental protection and socioeconomic conditions of China, a SET for China was designed, mainly including the systematic framework, function setting, four tax items, tax bases and rates, pollution charge reform, tax collecting model, potential tax income and influences of SET. Under the SET four tax items and bases are designed as emission tax item, polluting product tax item, ecological conservation tax item and carbon tax item. It is expected that the revenue of SET amount to 233 billion RMB yuan and is about 6% of national fiscal income and 1.1% of GDP based on the tax base in 2006. The key affected industries will be that with high energy consumption intensities, such as electricity, material and transportation.



## Xin Wang

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Xin Wang is Ph.D student on economics at University of Lille 1 and he works at full time at Institute for Sustainable Development and International Relations (IDDRI), a French think tank based in Paris. He works on the relation between international trade and climate change and is now focusing on the Chinese export policies and EU-China bilateral trade of products under EU-ETS constraint.

### **Title**

**China's Export tax and export VAT refund rebating on energy-intensive goods and their consequence to climate change**

### **Abstract**

This paper studies China's unilateral use of export restrictive policies on energy-intensive goods and their relevance to issues of carbon leakage and competitiveness. Focusing on steel, aluminium and cement where risks of leakage are deemed plausible and export restricting measures have been raised in China during the last couples of years, we assess the comparability of China and EU "commitment" through a proxy given by the EU-ETS quota price equivalent of China's export restrictions set on energy intensive products. We demonstrated that such policies are administratively stable for China's own development concerns and our estimates of the EU-ETS quota price equivalent of Chinese exports restrictions provide figures of similar magnitude as the envisaged range of EU-ETS CO<sub>2</sub> price, except for cement.



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Andrea Zatti is Researcher of Public finance in the University of Pavia and author of several publications, with special regard to the European budget and to environmental issues.

### **Title**

**Market based instrument for energy sustainability**

### **Abstract**

Italy presents a quite long-lasting and differentiated use of market based instruments to foster energy efficiency improvements and to prompt the diffusion of renewable sources. In Italy, in fact, taxes, subsidies and tradable certificates are implemented at the same time in a multifaceted and quite complex framework. Aim of our paper is to investigate how these market based instruments are working and what have been their main implications on energy demand, prices and investments. Attention will be paid to pitfalls and problems encountered in the national experience, in order to infer relevant indications on the possibility/opportunity to extend their application at the European scale and, meanwhile, on the need to find out a better internal functioning and coherence.



## Jarmila Zimmermannova

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### **Brief CV**

Jarmila Zimmermannova, Ph.D. student in environmental economics at the University of Economics in Prague. At the ministry, as deputy director of Department of Sustainable Energy and Transport, she is responsible for environmental tax reform, energy and transport taxation and the other instruments in the area of sustainable energy and transport.

### **Title**

**Cutting emissions from transport sector in the Czech Republic**

### **Abstract**

The transport sector represents a hot problem in the area of air and climate protection. The amount of emissions from mobile sources has been increasing in recent years. Public administration is aware of harmful impacts of transport; therefore ministries prepare new instruments, which should stimulate people to change their behavior. This article will focus on economic tools, which should support purchase of environmentally friendly cars with lower fuel consumption and lower emissions, expansion of environmentally friendly fuels and biofuels and fulfillment of targets of National program of cutting emissions in the Czech Republic. The article is going to present both new and prepared economic instruments in the Czech Republic, for example new environmental aspects of road taxation, excise taxation, car registration fee, entrance fee and charging of traffic ways. The article will focus especially on car registration fee, which came into force on 1st January 2009 and where the impacts on behavior of people are the most significant.



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Christos Zoumides is a PhD candidate at the Environmental Management Department, Cyprus University of Technology. He holds a BSc in Economics & Env. Science (Stirling Uni., 2007) and an MSc in Ecol. Economics (with Distinction, Edinburgh Uni., 2008). His interests focus on environmental economics and sustainability indicators.

### **Title**

**Challenges in implementing new water management policies in a semi-arid island state: An overview and proposed policy reforms in Cyprus**

### **Abstract**

Water scarcity is a major development challenge for Mediterranean islands. This paper takes Cyprus as a case study and provides a concise overview of water management policies and institutional framework on the island. Emphasis is given on water pricing, especially in agriculture as well as on the challenges Cyprus faces towards implementing the European Water Framework Directive. Furthermore the paper briefly examines (a) the theory and applicability of a groundwater abstraction tax and (b) virtual water trade as alternative water management policies. The paper concludes that water management in Cyprus could improve significantly by implementing a decisive institutional reform, a constructive pricing system and appropriate agricultural policies according to its climatic conditions and resource endowments

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