CERE

2015



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Research Directors Welcome

CERE started in November 2009 and as we now summarize 2015, we look back at a productive year, including the fact that the Centre is becoming increasingly recognized. For example, the webtraffic is increasing and new visitors from around the world enter the CERE web-page, subscribe to the newsletter and download our research papers.

As is the case with any year, there are ups and downs. In terms of being awarded new research grants, the Centre had an unusually quiet year. On the other hand, CERE got two post-docs from the Handelsbankens forskningsstiftelser, a research fund that has been instrumental for our progress. We hope to have the new post-docs in place in the autumn of 2016. They will add experimental economics, a relatively new field for us, and valuation expertise, a field in which CERE already has substantial expertise. By combining these two fields, we think we can make excellent progress on a number of issues.

Our members are productive in many dimensions and, 2015 two babies entered the CERE family, congratulations to Chandra and Kelly with families. We also welcomed two new PhD-students, Victoria Ayubu from Tanzania and Aemiro Melkamu, from Ethiopia. One of the main purposes of CERE is to create a lively intellectual environment, through the inflow (and outflow!) of researchers. The 22nd Ulvön Conference on Environmental Economics took place and, as always, we had a productive meeting in Ammarnäs for the 6th time. The seminar program has been particularly lively, and we are grateful for the financial support given by Handelsbankens research funds. Professor Christopher Böhringer has been a guest-professor at CERE and Martin Hill an associated member. Moreover, our PhDcourses have attracted a lot of foreign students and most of the courses have been overbooked. In addition, our researchers can be found debating current environmental and resource issues in newspapers and on different venues amongst policy makers, researchers and business people.

The CERE board and the CERE advisory board are instrumental in shaping our center into an even stronger research unit, and I am very grateful for their support and strong commitment.

Finally: 2016 promises to be an active year with no less than five PhD-defenses.

Bengt Kriström

photo: Mona Bonta Bergman

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About CERE

Umeå Campus has for decades been one of the national and international nodes for research and education in environmental and natural resource economics, mainly revolving around two academic departments that have worked in close cooperation with each other, the Department of Forest Economics at the Swedish University of Agricultural Sciences (SLU), and the Department of Economics, Umeå School of Business and Economics (USBE), at Umeå University (UmU). After many years of consideration, it was finally decided in 2009, to further strengthen this collaboration by joining these two separate, but interlinked, research groups in resource and environmental economics by creating a research centre.

The main objectives of CERE are to:

Link research groups from different departments and the two universities

Provide seminars and workshops within the field of environmental and resource economics and management

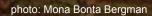
Establish a platform for a creative and strong research environment within the field

Develop higher education in environmental and resource economics

The creation of CERE, the Centre for Environmental and Resource Economics, was achieved by pooling researchers from the two above mentioned departments, along with economic historians who have focused their research on the historical aspects of resource usage and environmental impacts, from the Department of Geography and Economic History, UmU. Together, the researchers at CERE embrace research areas as diverse as non-market valuation, climate policy, forest economics, environmental and energy efficiency analysis, and historical analysis of sustainable development, to mention a few examples of recent research.

Physically located in the Social Sciences Building at UmU, CERE is headed by its two founders: research director Professor Bengt Kriström, who is also head of the Department of Forest Economics, SLU Umeå, and deputy research director Professor Runar Brännlund, USBE, Umeå University, The scientific secretary is Professor Tommy Lundgren, employed both at Department of Forest Economics, SLU Umeå, and USBE, Umeå University. At the end of 2015 CERE consisted of; 6 professors, 5 CERE associates, 2 associate professors, 10 assistant professors or post-docs. 14 graduate students, and one communication officer - in total 37 persons. About 25 % of the CERE personnel are employed by SLU, the remainder being employed at UmU.

Important external funding sources for CERE have been Elforsk - Swedish Electrical Utilities' R&D Company, the Swedish Environmental Protection Agency, the Swedish Energy Agency, Formas - The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning, the Swedish Agency for Marine and Water Management and Mistra – The Swedish Foundation for Strategic Environmental Research. Recruitment of post-doc's, PhD's and CERE's guest researcher program, has been generously funded by Handelsbanken Research Foundations.



Meetings

CERE organises two meetings each year in accordance with the CERE main objectives. That is, to link research groups, provide seminars and workshops within the field, constitute a platform for a creative and strong research environment, and develop higher education.

The Ulvön Conference

An open international conference on Environmental Economics, always held adjacent to the Swedish midsummer celebration in June. The key purpose of the yearly conference is to allow PhD students to present their work and to create a forum for research in environmental economics. The conference is always held at Ulvön, a small, old fishing hamlet located at the Swedish east-coast, about 40 km south of Örnsköldsvik. The island has about 40 around the year residents, but is a popular travel destination for tourists during the summer.

The 22nd Ulvö Conference was even more vivid then usual with close to 40 participants and four key notes. Astrid Kander, Lund University touched on developing a national greenhouse-gas accounting technique for effective climate policy on international trade. Chris Böhringer, ZEW, University of Oldenbourg talk was on the challenges, design and implications of unilateral climate policies. Rolf Färe, Oregon State University spoke about law of diminishing returns and other variations of the Weierstrass theorem Rick Van der Ploeg, Oxford University centered on optimal climate policy with gradual damages and tipping points. CERE is grateful for their participation and contribution to the conference. We are also grateful to Jesper Stage at the Mid Sweden University for arranging special sessions about the Economic and environmental aspects of hydropower.

Another conference tradition, that was upheld also this year, is the tasting of the Swedish delicacy of fermented herring, which was well appreciated by some, whilst others are not likely to try it again. We look forward to the 2016 meeting.

The Ammarnäs Winter Workshop

For the sixth consecutive year, CERE held its internal winter meeting in the alpine scenery of the small village of Ammarnäs, situated in the Swedish mountains. The 2015 meeting was a meeting where our PhD students, newly hired researchers and Postdoc's were given the opportunity to present their research along with eminent guest speakers from Oulu University, Maria Kopsakangas and Rauli Svento.

As usual, the meeting was held at Vindelfjällens Research Station. Apart from being located at a nice spot, the research station provides an opportunity for researchers from various disciplines to gather and thereby build a creative meeting place. The long term aim with our meeting here is to build a knowledge centre for people interested in the relationship among environmentally related issues and developments in society.

The weather was perfect for outdoor activities such as snowmobile and horseback riding, as well as downhill and cross-country skiing. Snowmobiling has become a fast favourite among our staff, partly due to the opportunity to get closer to the peaks.

photo: Mona Bonta Bergman

Selection of Ongoing Projects

Industrial Pollution Control through Case-by-Case Licensing (Swedish Environmental Protection Agency, project manager Patrik Söderholm, Luleå University of Technology)

This multi-disciplinary project addresses the role of case-by-case licensing of large industrial plants for achieving different environmental guality objectives. In Sweden this process is regulated in the Environmental Code, and many of the legal rules in turn emanate from European Community Law (e.g., the Industrial Emissions Directive). In practice the regulation has primarily relied on the use of individual performance standards (e.g., emission limits in kg per output). The research will increase knowledge about how effective licensing processes of industrial plants can be designed and implemented, as well as how a license-based regulation can be evaluated (ex post). Particular attention is devoted to ways in which the licensing process can provide continuous regulatory pressure over a longer period, and in this way enable a transition towards deep emission cuts in the industry. This research agenda addresses: (a) a number of gaps in the scientific literature; and (b) should also be of significant value to policy makers and government officials involved in the licensing process.

The Impact of Climate Policy on Energy Use and Energy Efficiency in Swedish Industry (Swedish Energy Agency)

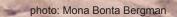
Central to sustainable growth is the EU "Triple 20 by 2020" target, which targets the climate, renewable energy, and energy use. In Sweden

the energy target is to reduce the energy to a GDP ratio by 20 percent between 2008 and 2020. Reports indicate that the target probably will not be reached without further action. It is important to seek answers on how energy and climate policies affect energy use. The project aims at empirically analyzing energy use in Swedish industry and the driving forces behind energy efficiency. Sweden has the ambition of showing the way to a sustainable society and needs to invest in economics research to better understand the impacts of energy and climate policies. Internationally speaking the project has access to unique data, and has a direct link to practical politics; the results will definitely serve as a contribution to the discussion of sustainability and energy targets beyond 2020, a discussion already ongoing in the EU and Sweden.

Welfare Effects of Different Electricity Generating Systems (Energiforsk)

The outcome of different policy guidelines on different power supply systems are studied. How do different choices affect the economy? What will the price tag be for different parts of society? Which policy instruments are most cost-efficient?

Four main scenarios for the future are studied and for each scenario, the economic effect on different parts of society for each scenario are mapped out. The four scenarios are characterised by different values for two parameters: the amount of intermittent power within the power system and to what degree the power system is integrated with the power system in neighbouring countries.



A CERE Working Paper

Preference Cloud Theory: Imprecise Preference es and Preference Reversal (CERE WP#2015-9)

This theory can explain observed anomalies in experimental literature such as preference imprecision, valuation gap, preference reversals and Allais paradox. In order to understand the intuition of the new theory, suppose that you are asked to state your subjective value for a lottery ticket which gives 10 dollars with a probability of 0.3 and zero otherwise: Can you pin down your value to a precise number or do you end up with a range? For some, especially those familiar with decision theory, it will likely be pinned down to a precise amount however for the ordinary man (the majority), it is more likely to be a range. We assert that, when individuals think that the true subjective value of the gamble is somewhere within a range but cannot state a precise amount from this range. confidently, they form beliefs about the distribution of the true subjective value within this range. Since they do not know the probability distribution of their "true" subjective value inside this range, the situation they are in can be seen as decision under ambiguity. This scheme can also explain the valuation gap. Suppose that you are assigned to be a seller and asked to state your Willingness to Accept. You will probably state a value close or equal to the upper bound of the range, conversely if you are assigned to be a buyer; you are more likely to state a value from the lower bound.

Our paper focuses on imprecision argument and present a theoretical exploration of the issue by introducing a new theory for decision under risk; Preference Cloud Theory. This new theory maintains the property of modelling the decision over final wealth levels as Expected Utility Theory

and is characterized in two stages: First stage describe how individuals form the imprecision ranges whereas the second stage is the selection of a single amount from that range taken to be the criteria for the decision task. Central to the first stage of the model is the incorporation of preference imprecision which arises due to individuals' vague understanding of numerical probabilities. Individuals perceive each numerical probability in a vague manner, therefore maps them in to a range of probabilities. The size of the range depends on how sophisticated the individual is in terms of understanding the probability concept, thus an inherent characteristic of the individual. For example, an individual with a high knowledge in probability and familiarity with the concept exhibit lower imprecision, thus the range will be more narrow. Since each numerical probability is mapped to a range, this lead individuals to calculate a range of expected utilities for each risky prospect. In the second stage, the problem can be seen as a form of decision under ambiguity since the outcomes (the expected utility range from the first stage) are known, but the individual does not have any prior knowledge (probabilities are unknown) about which expected utility from the range is the true one, i.e. individuals cannot confidently determine a single expected utility from the range. Therefore, individuals form beliefs and calculate the weighted average of the range according to their own beliefs. Preference Cloud Theory uses a simple formulation for the beliefs, which is similar to the Hurwicz's alpha criterion.

Oben K. Bayrak and John D. Hey

photo: Mona Bonta Bergman

Board Members

Board of Directors

The Board of Directors oversees the Centre's activities and review the Strategic Plan. It consists of researchers from across the environmental science and economic disciplines in Umeå. The Board meets every six months to discuss the overall strategic vision and CERE's on-going activities.

Chairman: Sofia Lundberg (Rector at Umeå School of Business and Economics, Umeå University)

Ove Nilsson (Professor, Department of Forest Genetics and Plant Physiology, SLU Umeå and Researcher, SweTree Technologies)

Carina Keskitalo (Professor, Department of Social and Economic Geography, Umeå University)

Hans Lundqvist (Professor, and Head of Department of Wildlife, Fish and Environmental Studies, SLU Umeå)

Johan Fransson (Associate Professor, and Head of Department of Forest Resource Management, SLU Umeå)

Research Director of CERE: Bengt Kriström

(Professor, and Head of Department of Forest Economics, SLU Umeå) (Adjunct board member)

Deputy Research Director of CERE: Runar

Brännlund (Professor, USBE, Umeå University) (Adjunct board member)

Scientific Secretary of CERE: Tommy

Lundgren (Professor, USBE, Umeå University and Department of Forest Economics, SLU Umeå) (Adjunct board member)

Our Advisory Board for Strategic Issues

The Advisory Board provides invaluable knowledge, experience and advice from their respective industries and areas of expertise. Industries and areas very much relevant to CERE's research. They visit biannually.

Professor Lars Bergman - Former President, Stockholm School of Economics

Professor Torbjörn Fagerström - Former CEO, Swedish Foundation for Strategic Research

Yvonne Fredriksson - Former Director General, Swedish Energy Markets Inspectorate

Kjell Jansson - Former CEO, Swedenergy

Anders Kristoffersson - Former Senior Advisor, Ministry of Finance

Mårten Larsson - Head of Industrial Policy Department, Swedish Forest Industries Federation

photo: Mona Bonta Bergman

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Personnel and Visitors

Professors

Runar Brännlund Peichen Gong Bengt Kriström Magnus Lindmark Tommy Lundgren Karl-Gustaf Löfgren

Associate Professors

Ann-Kristin Bergquist Göran Bostedt

Other Researchers

Maria Arvaniti Thomas Broberg Kelly de Bruin Örjan Furtenback Jurate Jaraite Santosh Joshi Amin Karimu Andrius Kazukauskas Chandra Kiran B Krishnamurthy Per-Olov Marklund Lars Persson

Graduate Students

Golnaz Amjadi Victoria S Ayubu Philip Kofi Adom Oben Kurtulus Bayrak Erik Brockwell Alejandro Egüez Mathilda Eriksson Mattia Luigi Ratti Aemiro Melkamu Sandra Schusser Tharshini Thangavelu Anders Vesterberg Mattias Vesterberg Shanshan Zhang Katarina Östberg

Communication Mona Bonta Bergman

CERE Associates

Professor Chris Böhringer Professor Shawna Grosskopf Doctor Martin Hill Professor Per-Olov Johansson Assistant Professor Anton Paulrud

CERE Visitors

Doctor Praseniit Baneriee University of Manchester, November 2015 Professor Astrid Kander Lund University, June 2015 Professor Subal Kumbhakar Binghamton University, December 2015 Doctor Terese Lindahl Beijer Institute, December 2015 Doctor Katrin Millock Paris School of Economics, April 2015 Professor Rick Van der Ploeg University of Oxford, June 2015 Associate Senior Lecturer Anna Krook Riekkola Luleå University of Technology, February 2015 Associate Professor Eirik Romstad Norwegian University of Life Sciences, September 2015 Professor Bert Scholtens Groningen University, April 2015 Professor Brent Sohngren Ohio State University, March 2015 Associate Professor Thomas Tangerås Research Institute of Industrial Economics. March 2015

photo: Mona Bonta Bergman

Publications and Activities 2014-2015

Professors

Runar Brännlund

Journal articles

Brännlund, R., Lundgren, T. and Marklund, P-O. (2014) Carbon Intensity in Production and the Effects of Climate Policy—Evidence from Swedish Industry. *Energy Policy* 67, 844-857

Brännlund, R., Lundgren, T. and Söderholm, P. (2015) Convergence of Carbon Dioxide Performance Across Swedish Industrial Sectors: An Environmental Index Approach. *Energy Economics* 51, 227-235

Geijer, E., Andersson, J., Bostedt, G., Brännlund, R. and Hjältén, J. (2014) Safeguarding Species Richness vs. Increasing the use of Renewable Energy—The Effect of Stump Harvesting on two Environmental Goals. *Journal of Forest Economics* 20 (2), 111-125

Mahieu, P-A., Riera, P., Kriström, B., Brännlund, R. and Giergiczny, M. (2014) Exploring the Determinants of Uncertainty in Contingent Valuation Surveys. *Journal of Environmental Economics and Policy* 3 (2), 186-200

Mannberg, A., Brännlund, R., Jansson, J., Lindgren, U. and Pettersson, T. (2015) Påverkar skatteundantag hushållens benägenhet att köpa miljöbilar? En studie av Stockholms trängselskatt. *Ekonomisk Debatt* 43 (1), 32-39

Mannberg, A., Jansson, J., Pettersson, T., Brännlund, R. and Lindgren, U. (2014) Do Tax Incentives Affect Households' Adoption of 'Green' Cars?: A Panel Study of the Stockholm Congestion Tax. *Energy Policy* 74, 286-299

Book chapter

Bostedt, G., Brännlund, R. and Geijer, E. (2014) Spridningseffekter och målkonflikter. In: Kriström, B. and Bonta Bergman, M. (Eds.) *Samhällsekonomiska analyser av miljöprojekt: en vägledning* 261-270, Stockholm: Swedish Environmental Protection Agency (Report No. 6628)

Reports

Broberg, T., Brännlund, R., Kazukauskas, A., Persson, L. and Vesterberg, M. (2015) *An Electricity Market in Transition Demand Flexibility and Preference Heterogeneity.* Swedish Energy Market Inspectorate, Sweden

Broberg, T., Brännlund, R., Kazukauskas, A., Persson, L. and Vesterberg, M. (2014) *En elmarknad i förändring - Är kundernas flexibilitet till salu eller ens verklig?* Swedish Energy Market Inspectorate, Sweden

Brännlund, R. and Karimu, A. (2014) *Convergence in Global Environmental Performance: Assessing Heterogeneity*. Working Paper 2014:15, Centre for Environmental and Resource Economics, Umeå, Sweden

Brännlund, R., Karimu, A. and Söderholm, P. (2014) Convergence in Carbon Dioxide Emissions and the Role of Growth and Institutions A Parametric and Nonparametric Analysis. Working Paper 2014:12, Centre for Environmental and Resource Economics, Umeå, Sweden

Brännlund, R., Lundgren, T. and Söderholm, P. (2014) *Convergence of Carbon Dioxide Performance Across Swedish Industrial Sectors An Environmental Index Approach.* Working Paper 2014:10, Centre for Environmental and Resource Economics, Umeå, Sweden

Karimu, A. and Brännlund, R. (2015) *Energy efficient R&D investment and Aggregate Energy Demand: Evidence from OECD Countries.* Working Paper 2015:14, Centre for Environmental and Resource Economics, Umeå, Sweden

Newspaper articles

Aronsson, T., Brännlund, R., Carlén, B., Gren, I.-M., Kriström, B., Leck, C., Löfgren, K-G., Marklund, P-O., Sahlén Östman, L., Samakovlis, E. and Söderholm, P. Minska miljöpåverkan i stället för att gå i cirklar (June 24, 2015), *Dagens Nyheter,* Debatt, Reply

Brännlund, R., Aronsson, T., Gren, I.-M. and Leck, C. Gör inte klimatpolitiken svårare än den behöver vara. (October 28, 2014) Svenska Dagbladet, Opinion

Brännlund, R., Kriström, B. and Samakovlis, E. Att ha flera mål fördyrar klimatpolitiken. (January 13, 2014) Dagens Nyheter, Debatt

Brännlund, R., Lundgren, T. and Lundberg, S. Fyra genomtänkta steg för en effektiv klimatpolitik. (November 12, 2015) *Västerbottenskuriren*

Samakovlis, E., Aronsson, T., Brännlund, R., Gren, I.-M., Leck, C. and Söderholm, P. Miljöstödet till jordbruket ger bara små effekter. (December 10, 2014) *Dagens Nyheter*, Debatt

Samakovlis, E., Brännlund, R., Aronsson, T., Gren, I.-M., Leck, C., Mickwitz, P. and Söderholm, P. Sverige måste få ned bilarnas utsläpp. (December 10, 2015) Svenska Dagbladet, Debatt

Samakovlis, E., Brännlund, R., Aronsson, T., Gren, I.-M., Leck, C. and Söderholm, P. 10 förutsättningar för en klimatsmart politik. (October 23, 2014) *Svenska Dagbladet*, Opinion

Conferences

5th Ammarnäs Meeting on Environmental Economics, Organizer, 2014

6th Ammarnäs Meeting on Environmental Economics, Organizer, 2015

21st Ulvön Conference on Environmental Economics, Organizer, 2014

22nd Ulvön Conference on Environmental Economics, Organizer, 2015

Invited spekar at Energimarknadsinspektionens seminar Är kunden lösningen för en framtida fungerande elmarknad? Almedalen, July 2015

Invited spekar at Skogsindustrierna, Jernkontoret, SweMin, IKEM – Innovations- och kemiindustrierna, EFAs seminar Hur långt före kan vi gå? En klimatdiskussion med industriperspektiv. Almedalen, July 2015

Invited spekar at Svensk Energis seminar Hur ser morgondagens elmarknad ut? Almedalen, July 2015

External activities

Board member of the Swedish Research Council FORMAS Scientific Council, 2010-

Board member of Trafikverket (Swedish Transport Administration), 2010-

Chairman for the Scientific Council in Environmental Economics at the National Institute for Economic Research, (Konjunkturinstitutets Vetenskapliga Råd i Miljöekonomi) 2012-

Co-editor: The Encyclopedia of Environmental and Resource Economics, Elsevier. 2010-

Editor in chief: Journal of Forest Economics, Elsevier. 2011-

Elected member of the Royal Swedish Academy of Engineering, 2009-

Elected member of the The Royal Skyttean Society (Kungliga Skytteanska Samfundet), 2011-

Expert to the OECD project on Cost of Inaction and Resource Scarcity: Consequences for Long-term Economic Growth (CIRCLE), 2013-

Peichen Gong

Journal articles

Guan, Z. and Gong, P. (2015) The Impacts of International Efforts to Reduce Illegal Logging on China's Forest Products Trade Flow. *China Agricultural Economic Review* 7 (3), 467-483

Hedwall, P-O., Gong, P., Ingerslev, M. and Bergh, J. (2014) Fertilization in Northern Forests – Biological, Economic and Environmental Constraints and Possibilities. *Scandinavian Journal of Forest Research* 29, 301-311

Jiang, X., Gong, P., Bostedt, G. and Xu, J. (2014) Impacts of Policy Measures on the Development of State-owned Forests in Northeast China: Theoretical Results and Empirical Evidence. *Environment and Development Economics* 19 (1), 74–91

Skonhoft, A. and Gong, P. (2014) Wild Salmon Fishing: Harvesting the Old or Young? Resource and Energy Economics 36, 417-435

Xie, Y., Gong, P., Han, X. and Wen, Y. (2014) The Effect of Collective Forestland Tenure Reform in China: Does Land Parcelization Reduce Forest Management Intensity? *Journal of Forest Economics* 20, 126–140

Book

Roos, A., Lönnstedt, L., Nord, T. and Gong, P. (2014) *Proceedings of the Biennial Meeting of the Scandinavian Society of Forest Economics*. Uppsala: Scandinavian Forest Economics No. 45

Report

Bostedt, G., Mustonen, M. and Gong, P. (2015) *Increasing Forest Biomass Supply in Northern Europe – Countrywide Estimates and Economic Perspectives*. Working Paper 2015:5, Centre for Environmental and Resource Economics, Umeå, Sweden

Conference

Biennial Meeting of the Scandinavian Society of Forest Economics, May 21-24, 2014, Uppsala, Sweden

External activities

Editor in chief: Journal of Forest Economics, Elsevier. 2010-

Opponent: Miriam Münnich Vass's PhD thesis. Department of Economics, SLU, December 4th, 2015

Research stays' abroad

Beijing Forestry University, South China Agricultural University, April 2014

Visiting Researcher at Beijing Forestry University, South China Agricultural University, April 2015

Bengt Kriström

Journal articles

Mahieu, P-A., Riera, P., Kriström, B., Brännlund, R. and Giergiczny, M. (2014) Exploring the Determinants of Uncertainty in Contingent Valuation Surveys. *Journal of Environmental Economics and Policy* 3 (2), 186-200

Krishnamurthy, C. K. B. and Kriström, B. (2015) A Cross-country Analysis of Residential Electricity Demand in 11 OECD Countries. *Resource and Energy Economics* 39, 68-88

Krishnamurthy, C. K. B. and Kriström, B. (Published online January 4, 2015) Determinants of the Price-premium for Green Energy: Evidence from an OECD Cross-section. *Environmental and Resource Economics*

Krishnamurthy, C. K. B. and Kriström, B. (2015) How Large is the Owner Renter Divide? Evidence from an OECD Cross Section. *Energy Journal* 36 (4), 63-82

Johansson, P.-O. and Kriström, B. (Published online November 30, 2015) Economic Valuation Methods for Non-market Goods or Services. *Oxford Bibliographies*

Johansson, P.-O. and Kriström, B. (2015) On the Social Cost of Water-related Disasters. Water Economics and Policy 1 (3), 1550015-1-26

Kriström, B. (2014) Recension av Hanneson, R. Ecofundamentalism. Ekonomisk Debatt 42 (7), 75-77

Book

Johansson, P.-O. and Kriström, B. (2015) Cost-Benefit Analysis for Project Appraisal. Cambridge: Cambridge University Press

Book chapters

Heal, G. and Kriström, B. (2014) Environmental Policy and Distribution. In Dietz, S., Neumayer E. and Atkinson, G. (Eds) Handbook of Sustainable Development, 2ed. Amsterdam: North-Holland

Johansson, P.-O. and Kriström, B. (2015) Hydropower Management: Electricity versus Other Values. In: Dinar, A. and Schwabe, K. (Eds.) *Handbook of Water Economics* 162-180, Cheltenham: Edward Elgar Publishing Limited

Kriström, B. (2014) Household Behaviour and Energy Use. In *Greening Household Behavior: Overview from the 2011 Survey - Revised edition*, OECD Studies on Environmental Policy and Household Behaviour, OECD Publishing. ISBN 978-92-64-21464-4

Reports

Bayrak, O.K. and Kriström, B. (2015) *Is There a Valuation Gap? The Case of Interval Valuations*. Working Paper 2015:13, Centre for Environmental and Resource Economics, Umeå, Sweden

Kriström, B. and Bonta-Bergman, M (Eds.) (2014) Samhällsekonomiska analyser av miljöprojekt - en vägledning. Report No. 6628, Stockholm: Swedish Environmental Protection Agency

Kriström, B and Krishnamurthy, C.K.B. (2014) *Greening Household Behavior and Energy.* No. 78, OECD Environment Working Paper, Paris, France

Newspaper articles

Aronsson, T., Brännlund, R., Carlén, B., Gren, I-M., Kriström, B., Leck, C., Löfgren, K-G., Marklund, P-O., Sahlén Östman, L., Samakovlis, E. and Söderholm, P. Minska miljöpåverkan i stället för att gå i cirklar (June 24, 2015), *Dagens Nyheter*, Debatt, Reply Brännlund, R., Kriström, B. and Samakovlis, E. Att ha flera mål fördyrar klimatpolitiken. (January 13, 2014) Dagens Nyheter, Debatt

Kriström, B. Koldioxidskatt bättre än utsläppsmoratorium. (May 12, 2014) Dagens Nyheter, Debatt

Conferences

5th Ammarnäs Meeting on Environmental Economics, Organizer, 2014

6th Ammarnäs Meeting on Environmental Economics, Organizer, 2015

21st Ulvön Conference on Environmental Economics, Organizer, 2014

22nd Ulvön Conference on Environmental Economics, Organizer, 2015

Invited speaker, Skogens värden, Ministry of Enterprise, Stockholm, December 3, 2014

Keynote speaker, Modern Cost-benefit analysis, 3rd International Conference: Environment and Natural Resources Management in Developing and Transtition Economies, Clermont Ferrand, France, October 8-10, 2014

Keynote speaker, Using modern cost-benefit analysis to study environmental/energy trade-offs, *World Water Week*, Stockholm, August 31-September 5, 2014

Panel member, Valuation, economics and finance trade-offs, World Water Week, Stockholm, August 31-September 5, 2014

Panel member, Vattenåret 2015, Enveco, Stockholm, September 30, 2014

Welcome address, 3rd IASC meeting, From Generation to Generation: the use of commons in a changing society, SLU-Umeå, September 16-19, 2014

External activities

Board Member, Faculty Recruiting and Hiring Search Committee, SLU, 2013-2016

Board Member, Scientific Council Transport Analysis, Stockholm

Board Member, The Swedish National Road and Transport Research Institute

Board Member, Vindelfjällens forskningssällskap

Elected Working Member, The Royal Skyttean Society, 2013-

Elected Member, Swedish Society for Energy Economists 2013-

Head, Department of Forest Economics 2001-2009, 2010-

Director, CERE 2009-

Elected Member of The Royal Swedish Academy of Agriculture and Forestry, 2011 -

Expert, Commission on Fossilefree vehicles, 2012-2014

Expert, Scientific Council of Trafikanalys, 2011-

Research stay abroad

Universidad de Las Palmas de Gran Canaria, November 2014

Magnus Lindmark

Journal articles

Adams, M., Andersson, L F., Hartwick, P. and Lindmark, M. (2014) Firm Size and Growth in Sweden's Life Insurance Market between 1855 and 1947. A Test of Gibrat's Law. *Business History* 56 (6), 956-974

Lindmark, M. and Acar, S. (2014) The Environmental Kuznets Curve and the Pasteur Effect: Environmental Costs in Sweden 1850-2000. *European Review of Economic History* 18 (3), 306-323

Reports

Lindmark, M. and Acar, S. (2015) *Periods of Converging Carbon Dioxide Emissions from Oil Combustion 1973-2004.* Working Paper 2015:1, Centre for Environmental and Resource Economics, Umeå, Sweden

Lindmark, M. and Andersson, L F. (2014) Where was the wealth of the Nation? Measuring Swedish Capital for the 19th and 20th Centuries. Working Paper 2014:1, Centre for Environmental and Resource Economics, Umeå, Sweden

External activities

Consulting activities for Wallenbergstiftelserna, and Stockholm School of Economics, 2014

Member of book committee for Gjensidiges Historie, BI, Oslo, 2011 - 2014

Tommy Lundgren

Journal articles

Brännlund, R., Lundgren, T. and Marklund, P-O. (2014) Carbon Intensity in Production and the Effects of Climate Policy – Evidence from Swedish Industry. *Energy Policy* 67, 844-857

Brännlund, R., Lundgren, T. and Söderholm, P. (2015) Convergence of Carbon Dioxide Performance Across Swedish Industrial Sectors: An Environmental Index Approach. *Energy Economics* 51, 227-235

Färe, R., Grosskopf, S., Lundgren, T., Marklund, P-O. and Zhou, W. (2014) Pollution Generating Technologies and Environmental Efficiency. *Journal of Chinese Economics and Business Studies* 12 (3), 233-251

Jaraite, J., Kazukauskas, A. and Lundgren, T. (2014) The Effects of Climate Policy on Environmental Expenditure and Investments: Evidence from Sweden. *Journal of Environmental Economics and Policy* 3 (2), 148-166

Lundgren, T. and Marklund, P-O. (2015) Climate Policy, Environmental Performance, and Profits. *Journal of Productivity Analysis* 44 (3), 225-235

Lundgren, T., Marklund, P-O., Samakovlis, E. and Zhou, W. (2015) Carbon Prices and Incentives for Technological Development. *Journal of Environmental Management* 150, 393-403

Book chapter

Lundgren, T. (2015) A Micro-economic Model of CSR (Metroeconomica). In the collection of papers: McWilliams, A. and Elgar, E. (Eds) *Economics of CSR*, the International Library of Critical Writings in Economics 296

Reports

Bostian, M., Färe, R., Grosskopf, S. and Lundgren, T. (2015) *Environmental Investment and Firm Performance: A Network Approach*. Working Paper 2015:10, Centre for Environmental and Resource Economics, Umeå, Sweden

Brännlund, R., Lundgren, T. and Söderholm, P. (2014) *Convergence of Carbon Dioxide Performance Across Swedish Industrial Sectors An Environmental Index Approach*. Working Paper 2014:10, Centre for Environmental and Resource Economics, Umeå, Sweden

Lundgren, T., Marklund, P-O. and Zhang, S. (2014) *Energy Efficiency in Swedish Industry A Stochastic Frontier Approach*. Working Paper 2014:9, Centre for Environmental and Resource Economics, Umeå, Sweden

Lundgren, T. (2015) CSR ur ett nationalekonomiskt perspektiv. SNS Analys

Zhang, S., Lundgren, T. and Zhou, W. (2015) *Environmental Investment and Firm Performance: A Panel VAR Approach.* Working Paper 2015:12, Centre for Environmental and Resource Economics, Umeå, Sweden

Newspaper articles

Brännlund, R., Lundgren, T. and Lundberg, S. Fyra genomtänkta steg för en effektiv klimatpolitik. (November 12, 2015) *Västerbottenskuriren*

Interviewed on strategic CSR. (March 2015) Entreprenör

Lundgren, T. Sustainable Sweden - how Swedish business responds to climate policies. (December 2014) project summary in *Insight Publishing Magazine*

Conference

21st Ulvön Conference on Environmental Economics, 2014

APPC Brisbane July 2014

Assessing the Societal Impacts of Intensive Forest Management and Increased Use of Bioenergy – a Cost-benefit Analysis. The Umeå Renewable Energy Meeting (UREM) March 2015

Environmental Investments and Firm Performance: A Panel VAR approach. *The Bergen Economics of Energy and Environment Research* (*BEEER*) *Conference*, NHH, Bergen, Norway, May 2015

Environmental Investments and Firm Performance: A Network Approach. IAEE meeting Antalya, Turkey, May 2015

Environmental Investments and Firm Performance: A Network Approach. Ulvön Conference on Environmental Economics, Sweden, June 2015

IAEE meeting Beijing September 2014

External activities

Consultant/expert at National Institute of Economic Research in developing a factor demand model for Swedish industry, October-December 2015

Final seminar discussant Haishan Yu, Uppsala University, March 2014

Presentation "Factor demand modeling – a tool for policy analysis". National Institute of Economic Research, Environmental Economics Unit, Stockholm, Sweden, September 2015

"The impacts on industrial firms of a kilometer tax". Presentation at the Norwegian Institute of Transport Economics, October 4, 2014

Research stay abroad

Groningen University. Collaboration with Lammertjan Dam and Bert Scholtens on common project. January 2015

Karl-Gustaf Löfgren

Journal articles

Li. C-Z and Löfgren, K-G. (2015) A Dynamic Price Index Theory for Deflating Green Net National Product: An Illustrative Application Using Data from the United States. *Environmental Economics* 2

Li, C-Z. and Löfgren, K-G. (2014) The Water and Diamond Paradox and Green NNP. Environmental Economics 2, 48-54

Report

Löfgren, K-G. (2014) A Brief History of Envelope Theorems in Economics: Static and Dynamic. Umeå Economic Studies, nr 892

Johansson, P-O. and Löfgren, K-G. (2015) *Studentens Ultimata Guide till Cost-Benefit-Analys.* Working Paper 2015:15, Centre for Environmental and Resource Economics, Umeå, Sweden

Newspaper article

Aronsson, T., Brännlund, R., Carlén, B., Gren, I-M., Kriström, B., Leck, C., Löfgren, K-G., Marklund, P-O., Sahlén Östman, L., Samakovlis, E. and Söderholm, P. Minska miljöpåverkan i stället för att gå i cirklar (June 24, 2015), *Dagens Nyheter*, Debatt, Reply

Conferences

Macroeconomics in Honor of Lars Jonung, Arne Ryde Symposium, Lund University Autumn (2014)

22nd Ulvön conference of Environmental Economics, Ulvön Sweden, (2015)

External activities

Chairman of The Institute of Labour Market - and Human Capital Evaluations (IFAU)

Member of Energiutskottet (The Energy Committee) Kungliga Vetenskaps Akademien (KVA)

Associate Professors

Ann-Kristin Bergquist

Journal articles

Bergquist, A-K. and Söderholm, K. (2014) Industry Strategies for Energy Transition in the Wake of the Oil Crisis. *Business and Economic History On-Line* 42, 1-19

Bergquist, A-K. and Söderholm, K. (Published online December 2, 2015) Sustainable Energy Transition: The case of the Swedish Pulp and Paper Industry 1973-1990. *Energy Efficiency*, DOI 10.1007/s12053-015-9416-5

Bergquist, A-K. and Söderholm, K. (2015) Transition to Greener Pulp. Regulation, Firm Strategies and Path Dependency in Sweden in Contrast to the U.S. *Business History* 57 (6), 862-884

Reports

Bergquist, A-K., Sabo, J. and Söderholm, K. (2014) *Energiomställning och teknisk omvandling i svensk massa och pappersindustri* 1970-1990. Umeå Studies in Economic History, Nr 43/12

Bergquist, A-K. and Söderholm, K. (2015) *Transition Towards Renewable Energy Co-ordination and Technological Strategies in the Swedish Pulp and Paper Industry 1973-1990.* Working Paper 2015:4, Centre for Environmental and Resource Economics, Umeå, Sweden

Conferences

Strategies for Energy Transition. The Swedish Pulp and Paper Industry 1973-1990 (with Kristina Söderholm), *Business History Conference*, Frankfurt am Main, Tyskland April 13-15, 2014.

Dilemmas of Going Green. Company Strategies in the Swedish Mining Company Boliden 1960-2000. Green Capitalism? *Hagley Museum Fall Conference*, Delaware, October 30-31, 2014

Gold, Arsenic and Corporate Responsibility. Managing Environmental Risks in the Mining Industry During the Interwar Period (with Magnus Lindmark). *European Business History Association Conference*, Utrecht, August 21-23, 2014

External activities

Presenter at the economic history seminar at the department of economic history, Lund University, October 22, 2014

Presenter at the economic history seminar at Stockholm School of economics, November 18, 2014

Göran Bostedt

Journal articles

Bostedt, G., Widmark, C., Andersson, M. and Sandström, C. (2015) Measuring Transaction Costs incurred by Pastoralist Users in Multiple Land-use Situations: The Case of Reindeer Husbandry in Northern Sweden. *Land Economics* 91 (4), 704-722

Ekvall, H., Löfgren, S. and Bostedt, G. (2014) Ash Recycling – A Method to Improve Forest Production or to Restore Acidified Surface Waters? *Forest Policy and Economics* 45, 42-50

Geijer, E., Andersson, J., Bostedt, G., Brännlund, R. and Hjältén, J. (2014) Safeguarding Species Richness vs. Increasing the use of Renewable Energy – The Effect of Stump Harvesting on Two Environmental Goals. *Journal of Forest Economics* 20 (2), 111-125

Håkansson, C., Östberg, K. and Bostedt, G. (Published online March 27, 2015) Estimating Distributional Effects of Environmental Policy in Swedish Coastal Environments – a Walk Along Different Dimensions. *Journal of Environmental Economics and Policy*, DOI: 10.1080/21606544.2015.1025856

Jiang, X, Gong, P., Bostedt, G., and Xu, J. (2014) Impacts of Policy Measures on the Development of State Owned Forests in Northeast China – Theoretical Results and Empirical Evidence. *Environment and Development Economics* 19 (1), 74-91

Zabel, A., Bostedt, G. and Engel, S. (2014) Performance Payments for Groups: The Case of Carnivore Conservation in Northern Sweden. *Environmental & Resource Economics* 59 (4), 613-631

Book chapters

Bostedt, G., Brännlund, R. and Geijer, E. (2014) Spridningseffekter och målkonflikter. In: Kriström, B. and Bonta Bergman, M. (Eds.) *Samhällsekonomiska analyser av miljöprojekt - en vägledning* 261-270, Stockholm: Swedish Environmental Protection Agency (Report No. 6628)

Bostedt, G., Innala, S., Löfgren, S. and Bishop, K. (2014) CBA av skogsmarks- och ytvattenkalkning. In: Kriström, B. and Bonta Bergman, M. (Eds.) *Samhällsekonomiska analyser av miljöprojekt - en vägledning* 60-79, Stockholm: Swedish Environmental Protection Agency (Report No. 6628)

Report

Bostedt, G., Mustonen, M. and Gong, P. (2015) *Increasing Forest Biomass Supply in Northern Europe – Countrywide Estimates and Economic Perspectives*. Working Paper 2015:5, Centre for Environmental and Resource Economics, Umeå, Sweden

Conferences

Bostedt, G. (2015) Agroforestry Extension and Dietary Diversity– An Analysis of the Importance of Fruit and Vegetable Consumption West Pokot. At the *The 3rd Triple L (Land, Livestock and Livelihood) workshop*, Kitale, Kenya, November 2015

Bostedt, G. (2014) Least-Cost Allocation of Measures to Increase the Amount of Coarse Woody Debris in Forest Estates. At the *Biennial Meeting of the Scandinavian Society of Forest Economists*, Uppsala, May 21–24, 2014

Bostedt, G. (2014) Least-Cost Allocation of Measures to Increase the Amount of Coarse Woody Debris in Forest Estates. At the 5th World Congress of Environmental and Resource Economists, Istanbul, Turkey, June 28 - July 2, 2014

Bostedt, G. (2014) Goal Conflicts and the Swedish National Environmental Objectives, At the Laboratoire d'Economie Forestière, LEF, Biennial Workshop *Economics of carbon, climate change and forest*, Nancy, France, October 23-24, 2014

External activities

Faculty opponent, Kristoffer Bäckström's licentiate thesis, Dept. of Economics, Luleå University of Technology, April 17, 2015

Scientific evaluator, Eugene Ezebilo's associate professor lecture, SLU, June 8, 2015

Faculty opponent, Marit Widman's PhD thesis, Department of Economics, SLU, Uppsala, October 16, 2015

Member of the International Committee, Faculty of Forest Sciences, SLU, 2009-

Member of the Equal Opportunities Committee, Faculty of Forest Sciences, SLU, 2014-

Member of the Committe for Susutainable Development (responsible for ISO14001 certification), Umeå School of Business and Economics, Umeå University, 2013-

Board member, Centre for Sami Research (CeSam), Umeå University, 2014-

Assistant Professors

Thomas Broberg

Journal articles

Broberg, T. and Kažukauskas, A. (2015) Inefficiencies in Residential Use of Energy - A Critical Overview of Literature and Energy Efficiency Policies in EU. International Review of Environmental and Resource Economics 8, 225-279

Broberg, T. and Persson, L. (Published online November 14, 2015) Is Our Everyday Comfort for Sale? Preferences for Demand Management on the Electricity Market. *Energy Economics,* DOI 10.1016/j.eneco.2015.11.005

Broberg, T., Berg, C. and Samakovlis, E. (2015) The Economy-wide Rebound Effect from Improved Energy Efficiency in Swedish Industries – A general Equilibrium Analysis. *Energy Policy* 83, 26-37

Reports

Broberg, T. (2014) Relative Income and the WTP for Public Goods - A Case Study of Forest Conservation in Sweden. Working Paper 2014:6, Centre for Environmental and Resource Economics, Umeå, Sweden

Broberg, T., Berg, C. and Samakovlis, E. (2014) *The Economy-wide Rebound Effect from Improved Energy Efficiency in Swedish Industries – A General Equilibrium Analysis*. Working Paper 2014:8, Centre for Environmental and Resource Economics, Umeå, Sweden

Broberg, T., Brännlund, R., Kazukauskas, A., Persson, L. and Vesterberg, M. (2015) *An Electricity Market in Transition Demand Flexibility and Preference Heterogeneity.* Swedish Energy Market Inspectorate, Sweden

Broberg, T., Brännlund, R., Kazukauskas, A., Persson, L. and Vesterberg, M. (2014) *En elmarknad i förändring - Är kundernas flexibilitet till salu eller ens verklig?* Research report to the Energy Market Inspectorate

Broberg, T. and Kazukauskas, A. (2014) Inefficiencies in Residential Use of Energy - A Critical Overview of Literature and Energy Efficiency Policies in EU and Sweden. Working Paper 2014:7, Centre for Environmental and Resource Economics, Umeå, Sweden

Broberg, T. and Persson, L. (2015) *Is our Everyday Comfort for Sale? Preferences for Demand Management on the Electricity Market.* Working Paper 2015:6, Centre for Environmental and Resource Economics, Umeå, Sweden

Newspaper article

Broberg, T. Elcertifikatsystemet framstår allt mer som en tombola. (May 6th, 2014) Second Opinion, Energi

Conference

21st Ulvön Conference on Environmental Economics, Presenter, 2014

External activities

Broberg, T. (2014) Mål för energianvändningen. Chapter 1 in memo nr 27 2014: *Energieffektivisering som del av ett 2030-ramverk*. National Institute of Economic Research

ESO: Grön tillväxt (Green growth), Expert

Invited speaker for the Swedish Minister for Energy, Ibrahim Baylan. Umeå University, November 25, 2014

Kelly de Bruin

Reports

Baarsch, F., Lissner, T., Schleussner, C.-F., Granadillos, J., de Bruin, K., Perrette, M., Schaeffer, M. and Hare, B. (2015) *Impacts of Low Aggregate INDCs Ambition: Research commissioned by Oxfam.* Climate Analytics, November 2015, Berlin

Bahn, O., de Bruin, K.C. and Fertel, C. (2015) *Will Adaptation Delay the Transition to Clean Energy Systems*? Working Paper 2015:8, Centre for Environmental and Resource Economics, Umeå, Sweden

Dellink, R., Lanzi, E., Chateau, J., Bosello, F., Parrado, R. and de Bruin, K. (2014) *Consequences of Climate Change Damages for Economic Growth: A Dynamic Quantitative Assessment*. Working Papers #1135, OECD Economics Department

OECD (2015) The Economic Consequences of Climate Change. OECD Publishing, Paris. DOI: http://dx.doi. org/10.1787/9789264235410-en

Schaeffer, M., Baarsch, F., Adams, S. and de Bruin, K. (2014) *Africa's Loss and Damages Technical Report: Climate-change Related Loss and for Africa*. United Nations Environment Programme (UNEP), Nairobi

UNEP (2014) The Adaptation Gap Report 2014. United Nations Environment Programme (UNEP), Nairobi

Conference

de Bruin, K. C. Assessing the Impacts of Adaptation on Mitigation Strategies, an Analysis with AD_MERGE, 17th Annual Conference on Global Economic Analysis (GTAP), June 18-20, 2014, Dakar, Senegal.

Jūratė Jaraitė

Journal articles

Jaraitė, J. and Kažukauskas, K. (2015) Do Transaction Costs Influence Firm Trading Behaviour in the European Emissions Trading System? *Environmental and Resource Economics* 62 (3), 583-613

Jaraitė, J., Kažukauskas, A. and Lundgren, T. (2014) The Effects of Climate Policy on Environmental Expenditure and Investment: Evidence from Sweden. *Journal of Environmental Economics and Policy* 3 (2), 148-166

Reports

Jaraitè, J. and Coria, J. (2015) Carbon Pricing: Transition Costs of Emissions Trading vs. Carbon Taxes. Working Paper 2015:2, Centre for Environmental and Resource Economics, Umeå, Sweden

Jaraitè, J. and Di Maria, C. (2014) *Did the EU ETS Make a Difference? An Empirical Assessment Using Lithuanian Firm-level Data.* Working Paper 2014:2, Centre for Environmental and Resource Economics, Umeå, Sweden

Jaraitė, J., Karimu, A., Kažukauskas, A. and Kažukauskas, P. (2015) *Renewable Energy Policy, Economic Growth and Employment in EU Countries: Gain without Pain?* Working Paper 2015:7, Centre for Environmental and Resource Economics, Umeå, Sweden

Conference

Jaraité, J. and Coria, J. (2015) Carbon Pricing: Transition Costs of Emissions Trading vs. Carbon Taxes. *The 21st Annual Conference of the European Association of Environmental and Resource Economists (EAERE)*, Helsinki, June 24-27, 2015

Research stay's abroad

Visiting Researcher, Université Grenoble Alpes and Grenoble Applied Economic Laboratory (Grenoble, FR), May 2015

Visiting Researcher, University of Gothenburg, Department of Economics (SE), August 2015

External acitivity

Invited speaker for the Swedish Minister for Energy, Ibrahim Baylan. Umeå University, November 25, 2014

Santosh Ram Joshi

Journal article

Santosh R. Joshi, Vielle M., Babonneau F., Edwards N.R., and Holden P.B. (Published online July 24, 2015) Physical and Economic Consequences of Sea-level Rise: A Coupled GIS and CGE Analysis under Uncertainties. *Environmental and Resource Economics*, DOI : 10.1007/s10640-015-9927-8

Conference

Santosh R. Joshi (2015) Capacity Remuneration Mechanism, Renewable Energy Sources and Cross Border Effect: A CGE Analysis for Nordic Region. *PECE Workshop*, NREL, Golden, Colorado, USA, 27th – 28th August

Amin Karimu

Journal articles

Karimu, A. (2015) Cooking Fuel Preferences Among Ghanaian Households: An Empirical Analysis. *Energy for Sustainable Development* 27, 10-17

Karimu, A. (2014) Impact of Economic and Non-economic Factors on Gasoline Demand: a Varying Parameter Model for Sweden and the UK. *OPEC Energy Review* 38(4), 445-468

Karimu, A. and Mensah, J.T. (2015) Climate Change and Electricity Consumption in Sub-Saharan Africa: Assessing the Dynamic Responses to Climate Variability. *OPEC Energy Review* 39 (3), 322-345

Reports

Brännlund, R. and Karimu, A. (2014) *Convergence in Global Environmental Performance: Assessing Heterogeneity*. Working Paper 2014:15, Centre for Environmental and Resource Economics, Umeå, Sweden

Karimu, A. and Brännlund, R. (2015) *Energy efficient R&D investment and Aggregate Energy Demand: Evidence from OECD Countries.* Working Paper 2015:14, Centre for Environmental and Resource Economics, Umeå, Sweden

Brännlund, R., Karimu, A., and Söderholm, P. (2014) *Convergence in Carbon Dioxide Emissions and the Role of Growth and Institutions: A Parametric and Nonparametric Analysis.* Working Paper 2014:12, Centre for Environmental and Resource Economics, Umeå, Sweden

Jaraitė, J., Karimu, A., Kažukauskas, A. and Kažukauskas, P. (2015) *Renewable Energy Policy, Economic Growth and Employment in EU Countries. Gain Without Pain?* Working Paper 2015:7, Centre for Environmental and Resource Economics, Umeå, Sweden

Conference

Karimu, A. and Brännlund, R. (2015) Energy Efficient R&D Investment and Aggregate Energy Demand: Evidence from OECD Countries. *The Economics of Energy and Climate Change*, Toulouse, September 8-9

Andrius Kazukauskas

Journal articles

Broberg, T. and Kažukauskas, A. (2015) Inefficiencies in Residential Use of Energy - A Critical Overview of Literature and Energy Efficiency Policies in EU. *International Review of Environmental and Resource Economics* 8 (2), 225-279

Jaraitė, J. and Kažukauskas, A. (2015) Do Transaction Costs Influence Firm Trading Behaviour in the European Emissions Trading System? *Environmental and Resource Economics* 62 (3), 583-613

Jaraitė, J., Kažukauskas, A. and Lundgren, T. (2014) The Effects of Climate Policy on Environmental Expenditure and Investment: Evidence from Sweden. *Journal of Environmental Economics and Policy* 3 (2), 148-166

Kažukauskas, A., Newman, C. and Sauer, J. (2014) The Impact of Decoupled Subsidies on Productivity in Agriculture: a Cross-country Analysis Using Microdata. Agricultural Economics 45 (3), 327–336

Reports

Broberg, T., Brännlund, R., Kazukauskas, A., Persson, L. and Vesterberg, M. (2015) *An Electricity Market in Transition Demand Flexibility and Preference Heterogeneity.* Swedish Energy Market Inspectorate, Sweden

Broberg, T., Brännlund, R., Kazukauskas, A., Persson, L. and Vesterberg, M. (2014) En elmarknad i förändring - Är kundernas flexibilitet till salu eller ens verklig? Swedish Energy Market Inspectorate, Sweden

Jaraitė, J., Karimu, A., Kažukauskas, A. and Kažukauskas, P. (2015) *Renewable Energy Policy, Economic Growth and Employment in EU Countries: Gain without Pain?* Working Paper 2015:7, Centre for Environmental and Resource Economics, Umeå, Sweden

Kažukauskas, A. and Broberg, T. (2014) Inefficiencies in Residential use of Energy - A Critical Overview of Literature and Energy Efficiency Policies in EU and Sweden, Working Paper 2014:7, Centre for Environmental and Resource Economics, Umeå, Sweden

Conferences

Kažukauskas, A. (2014) Matching EU ETS Accounts to Historical Parent Companies: A Technical Note, *Fifth World Congress of Environmental and Resource Economists*, Istanbul, Turkey, June 27 - July 2, 2014

Kažukauskas, A. (2014) Gain Without Pain? Renewable Energy and Economic Growth in EU Countries, *Fifth World Congress of Environmental and Resource Economists,* Istanbul, Turkey, June 28 - July 2, 2014

Kažukauskas, A. (2014) Energy Efficiency Gap in Household Electricity Use: non-Price Policy Toolkit, *Allmänna energisystemstudiers* programkonferens, Stockholm, January 15-16, 2014

Kažukauskas, A. and Broberg, T. (2015) Perceptions and Inattention in Private Electricity Consumption. The 21th Annual Conference of the European Association of Environmental and Resource Economists (EAERE), Helsinki, Finland, June 24-27, 2015

Kažukauskas, A and Broberg, T. (2015) Perceptions and Inattention in Private Electricity Consumption. *The lunch seminar series at the Swedish Energy Agency*. Eskilstuna, Sweden, November 9, 2015

External activity

Speaker, Public lectures on "Topics in Energy Economics in EU". Vaasa University, Vaasa, Finland, September 22, 2015

Research stay abroad

Visiting Researcher, Research laboratory GAEL (Grenoble Applied Economics Laboratory), Université Pierre Mendès, France, May 2015

Chandra Kiran B Krishnamurthy

Journal article

Cioffi, F., Lall, U., Rus, E. and Krishnamurthy, C.K.B. (2015) Space-time Structure of Extreme Precipitation in Europe over the last Century, International Journal of Climatology 35 (8), 1749-1760

Krishnamurthy, C. K. B. and Kriström, B. (2015) A Cross-country Analysis of Residential Electricity Demand in 11 OECD Countries. *Resource and Energy Economics* 39, 68-88

Krishnamurthy, C. K. B. and Kriström, B. (Published online January 4, 2015) Determinants of the Price-premium for Green Energy: Evidence from an OECD Cross-section. *Environmental and Resource Economics*

Krishnamurthy, C. K. B. and Kriström, B. (2015) How Large is the Owner Renter Divide? Evidence from an OECD Cross Section. *Energy Journal* 36 (4), 63-82

Reports

Kriström, B. and Krishnamurthy, C.K.B (2014) *Greening Household Behavior and Energy*. No. 78, OECD Environment Working Paper, Paris, France

Vesterberg, M. and Krishnamurthy, C.K.B. (2014) *Residential End Use Electricity Demand and the Implications for Real Time Pricing in Sweden*. No. 903, Umeå Economic Studies, Umeå, Sweden

Vesterberg, M., Krishnamurthy, C.K.B. and Bayrak, O. (2014) Determinants of Residential end-use Electricity Demand: Evidence from Sweden. No. 910, Umeå Economic Studies, Umeå, Sweden

Conferences

Vesterberg, M., Krishnamurthy, C.K.B. and Bayrak, O. (2014) Residential End use electricity demand and the implications for real time pricing in Sweden. 37th IAEE Conference, New York, June 15-18, 2014

Research stay abroad

Research Visit, Purdue University, Department of Agricultural Economics, January 14 - February 7, 2014

Per-Olov Marklund

Journal articles

Brännlund, R., Lundgren, T. and Marklund, P-O. (2014) Carbon Intensity in Production and the Effects of Climate Policy - Evidence from Swedish Industry. *Energy Policy* 67, 844-857

Färe, R., Grosskopf, S., Lundgren, T., Marklund, P-O. and Zhou, W. (2014) Pollution Generating Technologies and Environmental Efficiency. *Journal of Chinese Economic and Business Studies* 12 (3), 233-251

Lundberg, S., Marklund, P-O. and Strömbäck, E. (Published online June 5 2015) Is Environmental Policy by Public Procurement Effective? *Public Finance Review*. DOI: 10.1177/1091142115588977

Lundberg, S., Marklund, P-O., Strömbäck, E. and Sundström, D. (2015) Using Public Procurement to Implement Environmental Policy: An Empirical Analysis. *Environmental Economics and Policy Studies* 17(4), 487-520

Lundgren, T. and Marklund, P-O. (2015) Climate Policy, Environmental Performance, and Profits. *Journal of Productivity Analysis* 44 (3), 225-235

Lundgren, T., Marklund, P-O., Samakovlis, E. and Zhou, W. (2015) Carbon Prices and Incentives for Technological Development. *Journal of Environmental Management* 150, 393-403

Reports

Lundgren, T., Marklund, P-O. and Zhang, S. (2014) *Energy Efficiency in Swedish Industry - A Stochastic Frontier Approach*. Working Paper 2014:9, Centre for Environmental and Resource Economics, Umeå, Sweden

Lundberg, S. and Marklund, P-O. (2015) Offentlig upphandling som miljöpolitiskt styrmedel. Centre for Business and Policy Studies (SNS), SNS-Analys, No 30, June 2015

Newspaper articles

Aronsson, T., Brännlund, R., Carlén, B., Gren, I-M., Kriström, B., Leck, C., Löfgren, K-G., Marklund, P-O., Sahlén Östman, L., Samakovlis, E. and Söderholm, P. Minska miljöpåverkan i stället för att gå i cirklar (June 24, 2015), *Dagens Nyheter*, Debatt, Reply

Lundberg, S. and Marklund, P-O. Utsläppstopp = Inköpsstopp? (May 14, 2014), Dagens Nyheter, Debatt, Reply

Conference

Lundgren, T., Marklund, P-O., Samakovlis, E. and Zhou, W. (2014) Carbon Prices and Incentives for Technological Development. At the *4th International Association for Energy Economics (IAEE) Asian Conference*, Beijing, September 19-21, 2014

Lars Persson

Journal articles

Aronsson, T., Persson, L. and Sjögren, T. (2014) Mixed Taxation, Public Goods, and Transboundary Exteranalities: A Model with Large Jurisdictions. *Public Finance Review* 42 (2), 254-282

Broberg, T. and Persson, L. (Published online November 14, 2015) Is Our Everyday Comfort for Sale? Preferences for Demand Management on the Electricity Market. *Energy Economics*, DOI 10.1016/j.eneco.2015.11.005

Ek, K. and Persson, L. (2014) Wind farms - Where and How to Place Them? A Choice Experiment Approach to Measure Consumer Preferences for Characteristics of Wind Farm Establishment in Sweden. *Ecological Economics* 105, 193-203

Persson, L. (2015) Incentives Underlying Tax Policies in a Decentralized Federation with Horizontal Leadership and Transboundary Environmental Damage. *Letters in Spatial and Resource Sciences* 8, 77-88

Reports

Broberg, T., Brännlund, R., Kazukauskas, A., Persson, L. and Vesterberg, M. (2014) *En elmarknad i förändring - Är kundernas flexibilitet till salu eller ens verklig?* Swedish Energy Markets Inspectorate, Sweden

Broberg, T., Brännlund, R., Kazukauskas, A., Persson, L. and Vesterberg, M. (2015) An Electricity Market in Transition Demand Flexibility and Preference Heterogeneity. Swedish Energy Market Inspectorate, Sweden

Broberg, T. and Persson, L. (2015) *Is our Everyday Comfort for Sale? Preferences for Demand Management on the Electricity Market.* Working Paper 2015:6, Centre for Environmental and Resource Economics, Umeå, Sweden

Conferences

Broberg, T. and Persson, L. (2014) Is Our Everyday Comfort for Sale? A Choice Experiment Approach to Measure Peoples Willingness to Accept Restrictions in Household Energy Consumption. *The 21st Ulvön Conference*, Ulvön, Sweden, June 2014

Broberg, T. and Persson, L. (2015) Is Our Everyday Comfort for Sale - Preferences for Demand Management on the Electricity Market. 38th IAEE International Conference, Antalya, Turkey, May 2015

Broberg, T. and Persson, L. (2015) Is Our Everyday Comfort for Sale - Preferences for Demand Management on the Electricity Market. 33rd USAEE/IAEE North American Conference. Pittsburgh, USA, October 2015

External activities

Invited speaker to the Royal Swedish Academy of Engineering Sciences (IVA) El på beställning – kunden i focus? Stockholm, Sweden, 2015

Invited speaker for the Swedish Minister for Energy, Ibrahim Baylan. Umeå University, November 25, 2014

Graduate Students

Oben Bayrak

Reports

Bayrak, O. K. and Hey, J. D. (2015) *Preference Cloud Theory: Imprecise Preferences and Preference Reversals*. Working Paper 2015:9, Centre for Environmental and Resource Economics, Umeå, Sweden

Bayrak, O.K. and Kriström, B. (2015) *Is There a Valuation Gap? The Case of Interval Valuations*. Working Paper 2015:13, Centre for Environmental and Resource Economics, Umeå, Sweden

Vesterberg, M., Krishnamurthy, C.K.B. and Bayrak, O. (2014) *Determinants of Residential end-use Electricity Demand: Evidence from Sweden*. No. 910, Umeå Economic Studies, Umeå, Sweden

Erik Brockwell

Book

Brockwell, E. (2014) State and Industrial Actions to Influence Consumer Behavior, PhD thesis, Umeå: Umeå University

Mathilda Eriksson

Journal article

Eriksson, M. (2015) The Role of the Forest in an Integrated Assessment Model. *Climate Change Economics* 6 (3), 1550011-1-1550011-29

Research stay abroad

Visiting Student Researcher, Paris School of Economics, Fall 2014 - Spring 2015

Philip Kofi Adom

Journal articles

Adom, P.K. (2015) Asymmetric Impacts of the Determinants of Energy Intensity in Nigeria. Energy Economics 49, 570-580

Adom, P.K. (2015) Business Cycle and Economic-wide Energy Intensity: the Implications for Energy Conservation Policy in Algeria. *Energy* 88, 334-350

Adom, P.K. (2015) Determinants of Energy Intensity in South Africa: Testing for Structural Effects in Parameters. Energy 89, 334-346

Adom, P.K. (Published online December 14, 2015) The Transition Between Energy Efficient and Energy Inefficient States in Cameroon. Energy Economics 54, 248-262

Mattias Vesterberg

Reports

Broberg, T., Brännlund, R., Kazukauskas, A., Persson, L. and Vesterberg, M. (2015) *An Electricity Market in Transition Demand Flexibility and Preference Heterogeneity.* Swedish Energy Market Inspectorate, Sweden

Broberg, T., Brännlund, R., Kazukauskas, A., Persson, L. and Vesterberg, M. (2014) En elmarknad i förändring - Är kundernas flexibilitet till salu eller ens verklig? Swedish Energy Market Inspectorate, Sweden

Vesterberg, M. and Krishnamurthy, C.K.B. (2014) Residential End Use Electricity Demand and the Implications for Real Time Pricing in Sweden. No. 903, Umeå Economic Studies, Umeå, Sweden

Vesterberg, M., Krishnamurthy, C.K.B. and Bayrak, O. (2014) Determinants of Residential end-use Electricity Demand: Evidence from Sweden. No. 910, Umeå Economic Studies, Umeå, Sweden

Conferences

6th Ammarnäs Meeting on Environmental Economics, 2015

22nd Ulvön Conference on Environmental Economics, 2015

Research stay abroad

Visiting scholar, University of California, Berkely, Fall 2015

Shanshan Zhang

Reports

Lundgren, T., Marklund, P-O. and Zhang, S. (2014) *Energy Efficiency in Swedish Industry A Stochastic Frontier Approach*. Working Paper 2014:9, Centre for Environmental and Resource Economics, Umeå, Sweden

Zhang, S., Lundgren, T. and Zhou, W. (2015) *Environmental Investment and Firm Performance: A Panel VAR Approach*. Working Paper 2015:12, Centre for Environmental and Resource Economics, Umeå, Sweden

Katarina Östberg

Journal article

Håkansson, C., Östberg, K. and Bostedt, G. (Published online March 27, 2015) Estimating Distributional Effects of Environmental Policy in Swedish Coastal Environments – a Walk Along Different Dimensions. *Journal of Environmental Economics and Policy*, DOI: 10.1080/21606544.2015.1025856

Communcation Officer

Mona Bonta Bergman

Report

Kriström, B. and Bonta-Bergman, M (Eds.) (2014) Samhällsekonomiska analyser av miljöprojekt - en vägledning. Report No. 6628, Stockholm: Swedish Environmental Protection Agency

Associates of CERE

Professor Chris Böhringer

Journal articles

Böhringer, C. (2014) Two Decades of European Climate Policy: A Critical Appraisal. *Review Of Environmental Economics And Policy* 8 (1), 1-17

Böhringer, C., Anger, N., Asane-Otoo E., and Oberndorfer, U. (2015) Public Interest versus Interest Groups: A Political Economy Analysis of Allowance Allocation under the EU Emissions Trading Scheme. *International Environmental Agreements: Politics, Law and Economics*, 1-18

Böhringer, C., Anger, N. and Lange, A. (2015) The Political Economy of Energy Tax Differentiation across Industries: Theory and Empirical Evidence. *Journal of Regulatory Economics* 47 (1), 78-98

Böhringer, C. and Behrens, M. (2015) Interactions of Emission Caps and Renewable Electricity Support Schemes. *Journal of Regulatory Economics* 48 (1), 74-96

Böhringer, C. and Bortolamedi, M. (2015) Sense and No(n)-Sense of Energy Security Indicators. Ecological Economics 119, 359–371

Böhringer, C., Dijkstra, B. and Rosendahl, K.E. (2014) Sectoral and Regional Expansion of Emissions Trading. *Resource and Energy Economics* 37, 201-225

Böhringer, C., Fischer, C. and Rosendahl, K.E. (2014) Cost-Effective Climate Policy Design: Size Matters. *Journal of Economic and Environmental Management* 67 (3), 318-339

Böhringer, C., Lange, A. and Rutherford, T. F. (2014) Optimal Emission Pricing in the Presence of International Spillovers: Decomposing Leakage and Terms-of-Trade Motives. *Journal of Public Economics* 110, 101–111

Böhringer, C. and Müller, A. (2014) Environmental Tax Reforms in Switzerland A Computable General Equilibrium Impact Analysis. *Swiss Journal of Economics and Statistics* 150 (1), 1-21

Böhringer, C., Müller, A. and Schneider, J. (2015) Carbon Tariffs Revisited. *Journal of the Association of Environmental and Resource Economists* 2 (4), 629-672

Böhringer C., Rosendahl, K.E. and Schneider, J. (2014) Unilateral Climate Policy: Can OPEC resolve the Leakage Problem? *The Energy Journal* 35 (4), 79-100

Böhringer, C., Rutherford, T. F. and Springmann, M. (2014) Clean-Development Investments: An Incentive-Compatible CGE Modelling Framework. *Environmental and Resource Economics*, 1-19

Böhringer, C., Rutherford, T.F., Tarr, D.G. and Turdyeva, N. (2015) Market Structure and the Environmental Implications of Trade Liberalization: Russia's Accession to the World Trade Organization. *Review of International Economics* 23 (5), 897-923

Professor Shawna Grosskopf

Journal articles

Ball, E., Färe, R., Grosskopf, S. and Margaritis, D. (2015) The Role of Energy Productivity in U.S. Agriculture. *Energy Economics*, 460-471

Chambers, R., Färe, R. and Grosskopf, S. (2014) The Lerner Index and Economic Efficiency. *Theoretical Economics Letters* 4, 2152-2812

Färe, R., Fukuyama, H., Grosskopf, S. and Zelenyuk, V. (Published online September 2015) Cost Decompositions and the Efficient Subset. *Omega*, DOI:10.1016/j.omega.2015.09.004

Färe, R., Fukuyama, H., Grosskopf, S. and Zelenyuk, V. (2015) Decomposing Profit Efficiency using a Slack-Based Directional Distance Function. *European Journal of Operational Research* 247 (1), 335-337

Färe, R., Grosskopf, S., Karagiannis, G. and Margaritis, D. (Published online November 3 2015) Data Envelopment Analysis and Its Related Linear Programming Models. *Annals of Operations Research*, 1-7, DOI: 10.1007/s10479-015-2042-y

Färe, R., Grosskopf, S., Lundgren, T., Marklund, P-O. and Zhou, W. (2014) Pollution Generating Technologies and Environmental Efficiency. *Journal of Chinese Economics and Business Studies* 12 (3), 233-251

Färe, R., Grosskopf, S. and Margaritis, D. (2015) Directional Distance Functions and Their Estimation for Applied Work. *Data Envelopment Analysis Journal* 1 (2), 57-79

Färe, R., Grosskopf, S., Maudos, J. and Tortosa-Ausina, E. (2015) Revisiting the Quiet Life Hypothesis in Banking using Nonparametric Techniques. *Journal of Business Economics*, 159-187

Färe, R., Grosskopf, S. and Pasurka, C. (2014) Potential Gains from Trading Bad Outputs: The Case of U.S. Electric Power Plants. *Resource and Energy Economics* 36 (1), 99-112

Färe, R., Grosskopf, S. and Walden, J. (2015) Productivity Change and Fleet Restructuring after Transition to Individual Transferable Quota. *Marine Policy* 62, 318-325

Grosskopf, S., Hayes, K. and Taylor, L. (2014) Applied Efficiency Analysis in Education. Economics and Business Letters 3 (1), 19-26

Grosskopf, S., Hayes, K. and Taylor, L. (2014) Efficiency in Education: Research and Implications. *Applied Economic Perspectives and Policy* 36 (2), 175 – 210

Grosskopf, S., Hayes, K., Taylor, L.L. and Weber, W.L. (2015) Centralized or Decentralized Control of Resources? A Network Model. *Journal of Productivity Analysis*, 43 (2), 139-150 Grosskopf, S., Hayes, K., Taylor, L. and Weber, W. (Published online November 11, 2015) Would Weighted-Student Funding enhance Intra District Equity in Texas? A Simulation using DEA. *Journal of the Operational Research Society*, DOI:10.1057/jors.2015.93

Whittaker, B.W., Barnhard, B.L., Färe, R. and Grosskopf, S. (2015) Application of Index Number Theory to the Construction of a Water Quality Index; Aggregated Nutrient Loadings related to the Areal Extent of Hypoxia in the Northern Gulf of Mexico. *Ecological Indicators* 49, 162-168

Book

Färe, R., Grosskopf, S. and Margaritis, D. (2015) Advances in Data Envelopment Analysis. Singapore: World Scientific - Now Publishers Series in Business, Volume 8

Book chapters

Färe, R. Grosskopf, S. and Whittaker, G. (2014) Network DEA II In W. Cook and J. Zhu DEA: A Handbook on the Modeling of Internal Structures and Networks, 307-327

Report

Bostian, M., Färe, R., Grosskopf, S. and Lundgren, T. (2015) *Environmental Investment and Firm Performance: A Network Approach.* Working Paper 2015:10, Centre for Environmental and Resource Economics, Umeå, Sweden

Conference

Grosskopf, S., Hayes, K., Taylor, L. and Weber, W. (2014) A Tale of Three Cities: Efficiency and Equity in Public School Districts, Asia Pacific Productivity Conference, Brisbane, Australia, July 2014

Research stays' abroad

Visiting Scholar, Auckland, New Zealand, Feb-March 2014

Visiting Scholar, CERE, June 2014

Professor Per-Olov Johansson

Journal article

Johansson, P.-O. and Kriström, B. (Published online November 30, 2015) Economic Valuation Methods for Non-market Goods or Services. *Oxford Bibliographies*

Johansson, P.-O. and Kriström, B. (2015) On the Social Cost of Water-related Disasters. Water Economics and Policy 1 (3), 1550015-1-26

Book

Johansson, P.-O. and Kriström, B. (2015) Cost-Benefit Analysis for Project Appraisal. Cambridge: Cambridge University Press

Book chapter

Johansson, P.-O. and Kriström, B. (2015) Hydropower Management: Electricity versus Other Values. In: Dinar, A. and Schwabe, K. (Eds.) *Handbook of Water Economics* 162-180, Cheltenham: Edward Elgar Publishing Limited

Reports

Johansson, P.-O. (2015) Tradable Permits in Cost-benefit Analysis. Working Paper 2015:11, Centre for Environmental and Resource Economics, Umeå, Sweden

Johansson, P.-O. (2015) *Tradable Permits in Cost-benefit Analysis*. SSE Working Paper Series in Economics, Stockholm School of Economics, No. 2015:3

Johansson, P-O. and Löfgren, K-G. (2015) *Studentens Ultimata Guide till Cost-Benefit-Analys.* Working Paper 2015:15, Centre for Environmental and Resource Economics, Umeå, Sweden

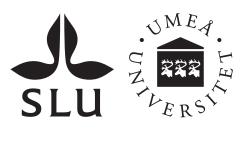
Johansson, P.-O. and de Rus, G. (2015) On the Treatment of Foreigners and Foreign-Owned Firms in Cost–Benefit Analysis. Fundación de Estudios de Economia Aplicada (fedea), Madrid, Documento de Trabajo 2015-13

External activities

Consultant for European Investment Bank, Luxembourg, on the how to handle tradable permits in economic evaluations, September-November, 2015

Member of Academic Panel, Review of EU:s Guide to Cost-Benefit Analysis, 2014

Member of Scientific Committee for a project on R&D at Università degli Studi di Milano financed by the European Investment Bank, 2013-



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