

## **ENVIRONMENTAL ECONOMICS, TRADE AND SUSTAINABLE DEVELOPMENT**

*Instructor: Inmaculada Martínez-Zarzoso*

*Tutor: Florian Johannsen*

### **Course Description**

The seminar focuses on environmental issues in a globalized context within the framework of sustainable development. For this purpose the seminar will cover different themes, starting from the sustainable development concept. The seminar will also explore from different perspectives, climate change as one of the main global environmental issues, considering scientific evidences, energy implications and policies in climate change. This pattern will enable the students to understand the complexity of sustainable development and environmental issues and to deal with them. Global environmental problems like global warming have received great publicity in recent times. Since most of them have a transboundary nature, they can only be addressed effectively through international co-operation. We will discuss the use of trade policy as an instrument for achieving significant reductions in carbon emissions and also whether trade policies can be effectively used as enforcement mechanisms to support environmental cooperation. In addition, we will discuss the ongoing negotiations on climate change and the environment that, similar to the trade case, will cover an increasing scope of environmental issues in future rounds of negotiation. The seminar is designed for students interested in the process of sustainable economic development and international economics, including students doing the Master in International Economics and in Development Economics.

### **Course Requirements**

To acquire **6 credit points** students will have to write a **research paper (60%)**, prepare a **presentation** participate in the discussions and briefly **discuss a paper of another student (which together accounts for the other 40%)**.

### **Eligible Participants**

The seminar is open to MA students in economics and MA students in business.

### **Research Papers**

The seminar papers must be written in **English**, comprising **15-20 pages** (12pt, 1 ½ spaced, excluding bibliography). In addition a short **abstract of about 150-200 words** (key question, methodology and main results) has to be included. The papers should be analytical and critical, develop a coherent argument, drawing own conclusions and should go beyond the pure summary of existing literature. Guidelines on well-written papers can be found on the webpage of Prof. Klasen.

### **Presentations**

The presentations should have a maximum (!) length of **30 min** focusing on the main insights of the research papers. The speaker can use any visual device for his presentation (e.g. power point, handouts and transparencies) and should be able to answer short questions during the presentation (Keep your audience in mind and prepare a well structured, interesting and educational presentation, and do not in any case only read out your paper!)

### **Discussions**

In addition each student will be assigned to another paper, which he should briefly (**5 min**) discuss after the presentation. The discussion should be a critical reflection of the paper and presentation (content, structure, unclear points) and come up with two or three questions to start a discussion. It is also expected that all other students have briefly gone through the papers of the other participants before the seminar, so that a good discussion after the presentations can take place. All papers will be available online a week before the seminar.

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## Important Deadlines

05.06.2013, 10am	Registration opens in stud.ip
03.07.2013, 1pm-2pm	Introductory meeting (OEC 0.211).
10.07.2013	Registration deadline in flexnow and stud.ip.
17.07.2013	Announcement of participants and hand-out of final literature.
05.08.2013	Last date to withdraw from seminar
15.10.2013, 5 pm	Students should hand in an electronic (pdf-files to <a href="mailto:fjohann@gwdg.de">fjohann@gwdg.de</a> ) as well as two printed copies of their seminar papers until. The electronic version will then be made available to all other students for reading.
16.10.2013	Send the presentations to <a href="mailto:fjohann@gwdg.de">fjohann@gwdg.de</a> .
17.10.2013, 8am-4pm	Presentations and discussions (OEC 0.211).
18.10.2013, 8am-2pm	Presentations and discussions (OEC 0.211).

## Topics

### Block I - Environment and Development

- Topic 1. Sustainable global development
- Topic 2. Carbon Footprint as a measure of sustainability
- Topic 3. Environment and economic development
- Topic 4. Emissions convergence
- Topic 5. The Economics of Climate Change
- Topic 6. Green growth

### Block II - Environment and Trade

- Topic 7. Environment and international trade
- Topic 8. Trade liberalization and pollution havens
- Topic 9. Trade agreements and environmental agreements

### Block III - Environmental Policies and Regulation

- Topic 10. How to regulate negative externalities
- Topic 11. The Kyoto Protocol and its Mechanisms
- Topic 12. Post Kyoto: The Copenhagen climate change negotiation
- Topic 13. Climate change controls and trade policy
- Topic 14. Economic impact of biofuel production in Africa
- Topic 15. Green growth in Brazil, Chile and Mexico
- Topic 16. Migration and climate change

## Literature

### Core books

- Alam, S. (2007) *Sustainable Development and Free Trade: Institutional Approaches*. Routledge Chapman & Hall.
- Baumgartner, R. J., & Korhonen, J. (2010). Strategic thinking for sustainable development. *Sustainable Development*, 18(2), 71-75.
- Copeland, B.R. and M.S. Taylor (2003), 'Trade and the Environment: Theory and Evidence',

Princeton, NJ: Princeton University Press.

Harris, J. (2008) *Environmental and Natural Resource Economics*, 8<sup>th</sup> Edition. Addison Wesley.

Lopez, R. and M.A. Toman (2006) *Economic Development and Environmental Sustainability: New Policy Options*, Oxford: Oxford University Press.

Romero, A. and West, S. E. (2005) *Environmental Issues in Latin America and the Caribbean*. Springer.

Vasser, C.P. (2009) *The Kyoto Protocol: Economic Assessments, Implementation Mechanisms, and Policy Implications*, Nova Science Publishers, New York.

Stern (2007) *The economics of climate change : the Stern review* / Nicholas Stern

Nordhaus (1994) *Managing the global commons : the economics of climate change* / William D. Nordhaus

Lomborg (2008) *Cool it! : Warum wir trotz Klimawandels einen kühlen Kopf bewahren sollten* / Bjørn Lomborg. Aus dem Engl. von Werner Roller

### **Other Books**

Anderson, D. A. (2006) *Environmental Economics and Natural Resource Management*, 2<sup>nd</sup> Edition, Pensive Press, LLC.

Hanley, N., Shogren, N. F. and White, B. (2006) *Environmental Economics in Theory and Practice*, 2nd Revised Edition, Palgrave Macmillan.

Perman, R., May, Y., McGilvray, J. and Common, M. (2003). *Natural Resource and Environmental Economics*, 3rd edition, Harlow: Pearson Education.

Tietenberg, T. (2007) *Environmental Economics and Policy*, 5<sup>th</sup> Edition, Pearson Eds. Prentice Hall.

The Sustainable Development Commission (2010) *Sustainable development: The key to tackling health inequalities*, SDC Reports & Papers, UK. February 2010.

## **Block I - Environment and Development**

### **Topic 1. Sustainable global development:**

Anand. 2000. Human development and Economic sustainability

Ayres. 2008. Sustainability economics - Where do we stand

Bartelmus. 2010. Use and usefulness of sustainability economics

Baumgärtner and Quaas. 2010. Sustainability economics — General versus specific, and conceptual versus practical

Baumgärtner and Quas. 2010. What is sustainability economics

Dincer, I., & Rosen, M. A. 2012. *Exergy: energy, environment and sustainable development*. Elsevier Science.

Gowdy. 2005. Toward a new welfare economics for sustainability

Harris, J. 1992. "Global Institutions for Sustainable Development," in Dietz, Simons and van der Straaten eds., *Sustainability and Environmental Policy: Restraints and Advances*. Berlin, Sigma Verlag, 1992. Hezri and Dovers. 2006. Sustainability indicators, policy and governance - Issues for ecological economics

Illge and Schwarze. 2009. A matter of opinion—How ecological and neoclassical environmental economists and think about sustainability and economics

Quental, N., Lourenço, J. M., & da Silva, F. N. (2011). Sustainable development policy: goals, targets and political cycles. *Sustainable Development*, 19(1), 15-29.

Wagner, J. 2006. On the economics of sustainability. *Ecological Economics*, 57(4), 659-664.

World Development Report 1992, 2002, 2010

## **Topic 2. Carbon Footprint as a measure of sustainability:**

- Druckman and Jackson. 2009. The carbon footprint of UK households 1990-2004 - A socio-economically disaggregated, quasi-multi-regional input-output model
- Druckmann and Jackson. 2010. The bare necessities - How much household carbon do we really need
- Galli, A., Wiedmann, T., Ercin, E., Knoblauch, D., Ewing, B., & Giljum, S. (2012). Integrating ecological, carbon and water footprint into a “footprint family” of indicators: definition and role in tracking human pressure on the planet. *Ecological Indicators*, 16, 100-112.
- Hertwich, E. G., & Peters, G. P. (2009). Carbon footprint of nations: A global, trade-linked analysis. *Environmental science & technology*, 43(16), 6414-6420.
- Kenny and Gray. 2009. Comparative performance of six carbon footprint models for use in Ireland
- Matthews, H. S., Hendrickson, C. T., & Weber, C. L. (2008). The importance of carbon footprint estimation boundaries. *Environmental science & technology*, 42(16), 5839-5842.
- Peters. 2010. Carbon footprints and embodied carbon at multiple scales
- Singh. 2009. An overview of sustainability assessment methodologies
- Weber and Mattheus. 2008. Quantifying the global and distributional aspects of American household carbon footprint
- Wiedemann. 2009. Carbon Footprint And Input-Output Analysis - An Introduction
- Weidema, B. P., Thrane, M., Christensen, P., Schmidt, J., & Løkke, S. (2008). Carbon footprint. *Journal of Industrial Ecology*, 12(1), 3-6.
- Wiedmann, T., & Minx, J. (2007). A definition of ‘carbon footprint’. *Ecological economics research trends*, 2, 55-65.
- Zheng Et Al. 2009. The Greenness of China - Household Carbon Dioxide Emissions and Urban Development

## **Topic 3. Environment and economic development:**

- Abdulai, A. and L. Ramcke (2009), ‘The Impact of Trade and Economic Growth on the Environment: Revisiting the Cross-Country Evidence’, *Kiel Working Paper*, 1491, Kiel Institute for the World Economy.
- Carson, R. T. (2010). The environmental Kuznets curve: seeking empirical regularity and theoretical structure. *Review of Environmental Economics and Policy*, 4(1), 3-23.
- Clay, K., & Troesken, W. (2011). Did Frederick Brodie Discover the World’s First Environmental Kuznets Curve?. *The Economics of Climate Change: Adaptations Past and Present*, 281.
- Copeland, B.R. and M.S. Taylor (2004), ‘Trade, Growth and the Environment’, *Journal of Economic Literature*, 42(1): 7–71.
- Galeotti, M., Lanza, A., & Piccoli, M. C. L. (2011). The Demographic Transition and the Ecological Transition: Enriching the Environmental Kuznets Curve Hypothesis.
- Harris, J. 2003. “Reconciling Growth and Environment,” with Neva R. Goodwin. Global Development and Environment Institute Working Paper No. 03-03, March 2003.
- Hettige, H., M. Muthukumara and D. Wheeler (2000), ‘Industrial pollution in economic development: Kuznets revisited’, *Journal of Development Economics*, 62, 445–476.
- Kijima, M., Nishide, K., & Ohyama, A. (2010). Economic models for the environmental Kuznets curve: A survey. *Journal of Economic Dynamics and Control*, 34(7), 1187-1201.
- Martínez-Zarzoso, I., Bengochea Moranco, A. and Morales-Lage, R. 2007. “The Impact of Population on CO2 Emissions: Evidence from European Countries” *Environmental and Resource Economics* 38, 497-512. Norwich, UK.
- Martínez-Zarzoso, I. 2008. “The Impact of Urbanization on CO2 Emissions: Evidence from Developing Countries”, CESifo Working Paper Series No. 2377. Munich, Germany.

- Selden, T.M. and D. Song (1994), 'Environmental quality and development: is there a Kuznets curve for air pollution emissions?' *Journal of Environmental Economics and Management*, 27: 147–162.
- Stern (2005), 'Global Sulfur Emissions by Country 1850-2003', <http://www.sterndavidi.com/datasite.html>.
- Stern, D.I., M.S. Common and E.B. Barbier (1996), 'Economic growth and environmental degradation: The environmental Kuznets curve and sustainable development', *World Development*, 24, 1151–1160.
- Stern, D. I. (2010), "Between estimates of the EKC" CAMA Working Paper 4/2010.
- Tsurumi, T., & Managi, S. (2010). Decomposition of the environmental Kuznets curve: scale, technique, and composition effects. *Environmental Economics and Policy Studies*, 11(1-4), 19-36.

#### **Topic 4. Emissions convergence:**

- Aldy. 2006. Per capita carbon dioxide emissions - Convergence or divergence
- Barassi et al. 2008. Stochastic Divergence or Convergence of per capita Carbon Dioxide Emissions - Re-examining the evidence
- Bimonte. 2009. Growth and environmental quality - Testing the double convergence hypothesis
- Camarero et al. 2008. Is the environmental performance of industrialized countries converging
- Ezcurra 2007. Is there cross-country convergence in carbon dioxide emissions
- Jobert, T., Karanfil, F., & Tykhonenko, A. (2010). Convergence of per capita carbon dioxide emissions in the EU: Legend or reality?. *Energy Economics*, 32(6), 1364-1373.
- List. 1999. Have air pollutant emissions converged among US regions - Evidence from unit root tests
- Mazzanti and Montini. 2010. Embedding the drivers of emission efficiency at regional level — Analyses of NAMEA data
- Meyer. 2010. Contraction and convergence
- Ordás Criado, C., & Grether, J. M. (2011). Convergence in per capita CO<sub>2</sub> emissions: A robust distributional approach. *Resource and energy economics*, 33(3), 637-665.
- Panopoulou, E., & Pantelidis, T. (2009). Club convergence in carbon dioxide emissions. *Environmental and Resource Economics*, 44(1), 47-70.
- Romero-Avila. 2008. Convergence in carbon dioxide emissions among industrialised countries revisited
- Strazicich and List. 2003. Are CO<sub>2</sub> Emission Levels Converging Among Industrial Countries
- Westerlund and Basher. 2008. Testing for convergence in carbon dioxide emissions using a century of panel data.

#### **Topic 5: The Economics of Climate Change**

- Bosch, R. Dave, L.A. Meyer (eds) Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- available at: [http://www.ipcc.ch/publications\\_and\\_data/publications\\_ipcc\\_fourth](http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth).
- Cline. 1991. Scientific basis for the greenhouse effect
- Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007 B. Metz, O.R. Davidson, P.R. assessment. report. wg3. report. mitigation. of. climate. change.htm
- Dasgupta. 2007. The Stern Review's economics of climate change
- Goulder, L. H., & Pizer, W. A. (2006). *The economics of climate change* (No. w11923). National Bureau of Economic Research.
- Norhaus. 2008. A Question of Balance
- Lomborg: Global Crises, Global Solutions (First and Second Edition). Has to be ordered.

Schelling. 1992. Some economics of global warming  
Stern, N. (2006), “*Stern Review on the Economics of Climate Change*”.  
available at: [http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/stern\\_review\\_report.htm](http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/stern_review_report.htm)  
Stern. 2009. The Economics of Climate Change  
Stern, N. (2008). The economics of climate change. *The American Economic Review*, 98(2), 1-37.

Weitzman. 2007. A review of the Stern Review on the economics of climate change

Weitzman. 2009. On modeling and interpreting the economics of catastrophic climate change.

UNFCCC (United Nations Framework Convention on Climate Change) (2011), The Cancun Agreements: Outcome of the work of the ad hoc working group on long-term cooperative action under the convention (Decision 1/CP.16).

### **Topic 6: Green growth**

Capozza. 2011. Green growth in Japan. OECD working papers 28. [http://www.oecd-ilibrary.org/environment/greening-growth-in-japan\\_5kggc0rpw55l-en](http://www.oecd-ilibrary.org/environment/greening-growth-in-japan_5kggc0rpw55l-en)

Ellis, K., Baker, B. and Lemma, A. Policies for Low Carbon Growth (2009). Overseas Development Institute, London, UK. Available at [www.odi.org.uk](http://www.odi.org.uk).

Greening Jobs and Skills: Labour Market Implications of Addressing Climate Change, LEED Working Paper Series (2010)

Jamet, S. 2012. Towards Green growth in Denmark: Improving energy and climate change policies. OECD Economics department working papers 974. [http://www.oecd-ilibrary.org/economics/towards-green-growth-in-denmark\\_5k962hjpwwvj-en](http://www.oecd-ilibrary.org/economics/towards-green-growth-in-denmark_5k962hjpwwvj-en).

OECD. 2011a. Towards Green Growth, OECD, Paris.

OECD. 2011b. Towards Green Growth: Monitoring Progress, OECD, Paris.

OECD. 2012. Greening Development. Enhancing capacity for environmental capacity and governance. [http://www.oecd-ilibrary.org/development/greening-development\\_9789264167896-en](http://www.oecd-ilibrary.org/development/greening-development_9789264167896-en).

OECD. 2012. “Agenda Issues Paper. Making Green Growth Deliver”, meeting of the Environment Policy Committee (EPOC) at Ministerial Level, Paris, 29-30 March, [www.oecd.org/dataoecd/43/8/49998342.pdf](http://www.oecd.org/dataoecd/43/8/49998342.pdf).

Sustainable development, green growth and quality employment, OECD/ILO report to the G20 (2012).

World Bank (2008), Global Monitoring Report: MDGs and the Environment – Agenda for Inclusive and Sustainable Development, World Bank, Washington, DC.

## **Block II - Environment and Trade**

### **Topic 7. Environment and international trade:**

Abdulai, A. and L. Ramcke (2009), ‘The Impact of Trade and Economic Growth on the Environment: Revisiting the Cross-Country Evidence’, *Kiel Working Paper*, 1491, Kiel Institute for the World Economy.

Anríquez, G. (2002), ‘Trade and the Environment: An Economic Literature Survey’, *WP 02-16*, University of Maryland at College Park.

Antweiler, Werner & Copeland, Brian R. & Taylor, M. Scott, (2001), “Is Free Trade Good for the Environment?,” *American Economic Review*, American Economic Association, vol. 91(4), pages 877-908, September.

Broner, F. and P. Bustos (2012), “Sources of Comparative Advantage in Polluting Industries”, NBER Working Paper No. 18337.

Cole, M.A. (2006), ‘Does trade liberalization increase national energy use?’ *Economics Letters*, 92: 108-112.

Cave and Blomquist\_2008\_Environmental policy in the European Union - Fostering the development of pollution havens

- Cole et al. 2010. Trade, environmental regulations and industrial mobility - An industry-level study of Japan
- Cole. 1994. Trade, the pollution haven hypothesis and the environmental Kuznets curve - examining the linkages
- Forslid, R., Okubo, T., & Sanctuary, M. (2013). DP9412 Trade, Transboundary Pollution and Market Size.
- Grossman, G.M. and A.B. Krueger (1991), 'Environmental impacts of the North American Free Trade Agreement', NBER working paper 3914.
- Harris, M.N., L. Kónya, and L. Mátyás (2002), 'Modelling the Impact of Environmental Regulations on Bilateral Trade Flows: OECD, 1990–1996', *The World Economy*, 25(3), 387-405.
- Kearsley and Riddle\_2010\_A further inquiry into the Pollution Haven Hypothesis and the Environmental Kuznets Curve
- López, R. and A. Islam (2008), 'Trade and the Environment', *Working Papers 45982*, University of Maryland, Department of Agricultural and Resource Economics.
- Naughton, H.T. (2006), 'The Impact of Trade on the Environment', *Working Paper*, University of Oregon, in <http://www.etsg.org/ETSG2006/papers/Naughton.pdf>.
- Managi, Shunsuke & Hibiki, Akira & Tsurumi, Tetsuya, (2009) "Does trade openness improve environmental quality?" *Journal of Environmental Economics and Management*, Elsevier, vol. 58(3), pages 346-363, November.
- Millimet, D.L. and J.Roy. (2012,) "Three New Tests of the Pollution Haven Hypothesis When Environmental Regulation is Endogenous," SMU Working Paper.
- Peters, G. P., Marland, G., Hertwich, E. G., Saikku, L., Rautiainen, A., & Kauppi, P. E. (2009). Trade, transport, and sinks extend the carbon dioxide responsibility of countries: An editorial essay. *Climatic Change*, 97(3-4), 379-388.
- Porter, M.E. and C. van der Linde (1995), 'Toward a New Conception of the Environment-Competitiveness Relationship', *Journal of Economic Perspectives*, 9:97-118.
- Rezza, A. A. (2013). FDI and pollution havens: Evidence from the Norwegian manufacturing sector. *Ecological Economics*, 90, 140-149.

### **Topic 8. Trade liberalization and pollution havens:**

- Birdsall, N. and D. Wheeler (1993), 'Trade policy and industrial pollution in Latin America: Where are the pollution havens?' *Journal of Environment & Development*, 2(1), 137-149.
- Brunel, C., & Levinson, A. (2013). Measuring Environmental Regulatory Stringency.
- Brunnermeier, S.B. and A. Levinson (2004), 'Examining the Evidence on Environmental Regulations and Industry Location', *Journal of the Environment and Development*, 13 2004, 6–41.
- Charnovitz, Steve. 1993. "The Environment vs. Trade Rules: Defogging the Debate." *Environmental Law* 23 (2): 475-517.
- Cave, L. A., & Blomquist, G. C. (2008). Environmental policy in the European Union: Fostering the development of pollution havens?. *Ecological Economics*, 65(2), 253-261.
- Cole, M.A. (2004), 'Trade, the pollution haven hypothesis and the environmental Kuznets curve: Examining the linkages', *Ecological Economics*, 48:71–81.
- Cole, M.A. and R.J.R. Elliott (2003), 'Determining the Trade-Environment Composition Effect: The Role of Capital, Labor and Environmental Regulations', *Journal of Environmental Economics and Management*, Vol. 46, no. 3, pp. 363-83.
- Cole, M.A. and R.J.R. Elliott (2005), 'FDI and the Capital Intensity of 'Dirty' Sectors: A Missing Piece of the Pollution Haven Puzzle', *Review of Development Economics*, 9(4):530-48.
- Cole, M.A., R.J.R. Elliott and P.G. Fredriksson (2006), 'Endogenous pollution havens: Does FDI influence environmental regulations?' *Scandinavian Journal of Economics*, 108:157-178.
- Ederington, J., A. Levinson and J. Minier (2005), 'Footloose and Pollution-free', *Review of Economics and Statistics*, 87(1): 92-99.

- Ederington, J., Levinson, A. and Minier, J. (2004). "Trade Liberalization and Pollution Haven" *Advances in Economic Analysis & Policy* 4 (2): 1-24.
- Grether, J. M., Mathys, N. A., & De Melo, J. (2011). Unravelling the worldwide pollution haven effect.
- Kellenberg, D. K. (2009). An empirical investigation of the pollution haven effect with strategic environment and trade policy. *Journal of International Economics*, 78(2), 242-255.
- Keller, W. and A. Levinson (2002), 'Pollution abatement costs and foreign direct investment inflows to US states', *Review of Economics and Statistics*, 84(4):691–703.
- Lee, K. D., Lee, W., & Kang, K. (2013). Pollution Haven with Technological Externalities Arising from Foreign Direct Investment. *Environmental and Resource Economics*, 1-18.
- Levinson, A. and M.S. Taylor (2008), 'Unmasking the Pollution Haven Effect', *International Economic Review*, 49(1), 223-254.
- López, L. A., Arce, G., & Zafrilla, J. E. (2013). Parcelling virtual carbon in the pollution haven hypothesis. *Energy Economics*.
- Lucas, R., D. Wheeler and H. Hettige (1992), 'Economic development, environmental regulation, and international migration of toxic industrial pollution: 1960-1988', in P. Low (Ed.), *International trade and the environment* (World Bank Discussion Paper #159) (pp. 67-88). Washington, DC: World Bank.
- Mani, M. and D. Wheeler (1998), 'In search of pollution havens? Dirty industries in the world economy, 1960 to 1995', *Journal of Environment & Development*, 7(3), 215-247.
- Marconi, D. (2012). Environmental regulation and revealed comparative advantages in Europe: is China a pollution haven?. *Review of International Economics*, 20(3), 616-635.
- Marin, G., & Mazzanti, M. (2013). The evolution of environmental and labor productivity dynamics: Sector based evidence from Italy (Regular Article). *Journal of evolutionary economics*, 23(2), 357-399.
- Mathys, N. (2002), '*In Search of Evidence for the Pollution Haven Hypothesis*', Mémoire de Licence, Université de Neuchâtel.
- Mulatu, A., Gerlagh, R., Rigby, D., & Wossink, A. (2010). Environmental regulation and industry location in Europe. *Environmental and Resource Economics*, 45(4), 459-479.
- Shapiro, M. A. (2013). Challenge to the Pollution Haven Hypothesis: A Study of Northeast Asia and China.
- Taylor, S.M. (2004), 'Unbundling the Pollution Haven Hypothesis', *Advances in Economic Analysis and Policy*, 4(2).
- Tobey, J.A. (1990), 'The Effects of Domestic Environmental Policies on Patterns of World Trade: An Empirical Test', *Kyklos*, 43(2), pp. 191–209.
- Wagner, U.J. and C.D. Timmins (2008), 'Agglomeration Effects in Foreign Direct Investment and the Pollution Haven Hypothesis', *Environmental and Resource Economics*, Springer Netherlands, 43(2), 231-256.
- Xing, Y. and C.D. Kolstad (2002), 'Do lax environmental regulations attract foreign investment?' *Environmental & Resource Economics*, 21(1), 1-22.

### **Topic 9. Trade agreements and environmental agreements:**

- Ederington, J. and J. Minier (2003), 'Is Environmental Policy a Secondary Trade Barrier? An Empirical Analysis', *Canadian Journal of Economics*, 36 February 2003, 137–154.
- Ederington, J., A. Levinson and J. Minier (2005), 'Footloose and Pollution-free', *Review of Economics and Statistics*, 87(1): 92-99.
- Panitchpakdi, H.E. Dr. Supachai. 2001. "Keynote Address: The Evolving Multilateral Trade System in the New Millenium." *George Washington International Law Review* 33 (3): 419-449.
- Runge, C. Ford. 2001. "A Global Environment Organization (GEO) and the World Trading System." *Journal of World Trade* 35 (4): 399- 426.



- UNEP. 2008. Register of International Treaties and Other Agreements in the Field of the Environment. United Nations Environmental Programme.
- van Beers, C. and J.C.J.M. van den Bergh (1997), 'An empirical multi-country analysis of the impact of environmental regulations on foreign trade flows', *Kyklos*, 50, 29-46.
- Copeland and Taylor\_2005\_Free trade and global warming - a trade theory view of the Kyoto Protocol

### **Block III - Environmental Policies and Intervention**

#### **Topic 10. How to regulate negative externalities:**

- Åström, S., Tohka, A., Bak, J., Lindblad, M., & Arnell, J. (2013). Potential impact on air pollution from ambitious national CO2 emission abatement strategies in the Nordic countries—environmental links between the UNFCCC and the UNECE–CLRTAP. *Energy Policy*, 53(C), 114-124.
- Cooper. 2007. Alternatives to Kyoto - The case for a carbon tax
- Dudek, C. M. (2013). Transmitting Environmentalism? The Unintended Global Consequences of European Union Environmental Policies. *Global Environmental Politics*, 13(2), 109-127.
- Hovi and Holtmark. 2006. Cap-and-trade or carbon taxes - The feasibility of enforcement and the effects of non-compliance
- Kahn. 2006. Beyond Kyoto - A tax-based system for the global reduction of greenhouse gas emissions
- Marschinski and Edenhofer. 2010. Revisiting the case for intensity targets - Better incentives and less uncertainty for developing countries
- Metcalf and Weisbach. 2009. The design of a carbon tax
- Metcalf. 2009. Instrument Choice is Instrument Design
- Nordhaus. 2007. To Tax or Not to Tax - Alternative Approaches to Slowing Global Warming
- Parry. 2003. Fiscal Interactions and the Case for Carbon Taxes over Grandfathered Carbon Permits
- Pearce. 1991. The Role of Carbon Taxes in Adjusting to Global Warming
- Pezzey. 2003. Emission Taxes and Tradeable Permits A Comparison of Views on Long-Run Efficiency
- Sheshinski and Stiglitz. 1978. EFFICIENCY IN THE OPTIMUM SUPPLY OF PUBLIC GOODS
- Sheshinski. 2004. On atmosphere externality and corrective taxes

#### **Topic 11. The Kyoto Protocol and its Mechanisms:**

- Bengochea Moranco, A. and Martínez-Zarzoso, I. 2009. "A Descriptive Analysis of the Projects Related to CDM and JI Mechanisms" *International Journal of Energy, Environment and Economics* 17(1), New York, USA.
- Bréchet, T. and Lussis, B. (2006): The Contribution of the Clean Development Mechanism to National Climate Policies. *Journal of Policy Modeling* 28, 981-994.
- Dechezleprête, A.; Glachan, M.; Ménière, Y. (2007): The Clean Development Mechanism and the International Diffusion of Technologies: An Empirical Study. Nota di Lavoro 105.2007, FEEM. Energy Research Center of the Netherlands. ECN-E-07-009.
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#### **Useful web links**

<http://www.wto.org> The World Trade Organization's web site devoted to the relationship between international trade issues and environmental quality. The site includes links to many research reports and other information.

<http://www.oecd.org/ech> The web site for the trade division of the Organisation for Economic Co-operation and Development. The site includes many publications on trade issues, including trade and the environment.

<http://www.cec.org> Home page for the Commission for Environmental Cooperation, created under the North American Free Trade Agreement "to address regional environmental concerns, help prevent potential trade and environmental conflicts, and to promote the effective enforcement of environmental law." The site includes numerous publications on issues of trade and the environment.

<http://unfccc.int> United Nations Framework Convention on Climate Change.