



Syllabus

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Information Asymmetry, Corporate Disclosure and Climate Finance
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COURSE DESCRIPTION

The aim of the course is to explore the concept of information asymmetry and show its practical application to disclosure of non-financial risks by the companies in order to get an access to climate finance. The essence, instruments (such as emission allowances, green bonds, etc.) and methods of carbon pricing will be explored, as well as its role in blended value creation. Carbon taxation and market financial instruments for climate finance mobilization, their role in combating climate change will be also outlined. EITI Rules and Standard will be explored and compared with other initiatives (UN Global Compact, PRI, GRI, etc.) aimed at non-financial risks/information disclosure. Particular focus will be placed on recent steps toward sustainable financial system, taken by the Chinese and European authorities. Also, different applications of the Blockchain technology for energy and financial markets will be discovered with special emphasis on possible ways of bridging informational gap between the needs of companies and financial market.

ASSIGNMENTS

There is a mix of obligations the student must meet to fulfil the requirements of the course. This includes 1) in-class participation covering the assigned text/lecture materials both individually and within groups, 2) participation in online discussion board forum, 3) responding to questions contained in case studies, 4) debating in class a key issue in European Economics, 5) presenting an analysis of a European Economics issue reported in the press and 6) final exam. There is no extra credit available in this course. The range of assignments permits students to demonstrate comprehension in a variety of formats. Each is described in detail as follows:

In-class participation - Your principal reading obligation is to keep up with the assigned materials and in-class exercises within the course study outline contained in this syllabus. Class attendance is expected and in-class participation will be evaluated on its contribution to the learning process.

Policy for Cell Phones and Laptops/Tablets in the Classroom:

To avoid distractions, cell phones must be turned off and must not be on the desk or otherwise viewable during class sessions (excluding breaks). Laptop and tablet use during class is limited to taking notes related to the lecture or class discussions and/or researching material directly requested by the instructor. Internet searches will not be used to support discussions or interaction during class time unless specifically requested by the instructor. Students in violation of this policy will be considered absent for the entire class session (see Attendance policy below) and may be asked to leave the classroom.

Absences:

If a student must miss a class session, an alternative assignment covering part of the missed session's topics may be completed for partial credit counted towards class participation.

Online discussion - To encourage student reflection and interaction in this course, students will participate in an online discussion. Topic will be given for discussion periods with a forum posted on the Moodle course site. Student contributions will be assessed based on their ability to address the issues presented using concepts and evidence from the course that engages fellow students in a thoughtful progression of ideas. Each discussion forum will be available immediately after the designated class session and close at midnight on the day before the subsequent class session. During the week-long discussion, students should expect to contribute to the discussion on at least three different days including one posting of at least 200 words. Students will need to follow current European economic issues reported by the press as these will form the basis for our online discussions. All quoted materials must follow proper citation format. See the Moodle site for details of discussion topic.

Case study - To demonstrate overall comprehension of the text and lecture concepts, students will respond to assigned questions from a proposed Case Study. Answers should establish a clear understanding of the significance to European Economics of the issues raised. Do not describe the case or repeat information already given. Instead, using concepts and evidence from the course text and lectures, students should apply this understanding to analyse the wider contexts of the case example and its meaning for European economics. See the Moodle site for details of a case study. Case study must be uploaded in Word format on Moodle.

Information Asymmetry, Corporate Disclosure and Climate Finance issue debate – During the 4th session of the course, groups of students will analyze a current issue surrounding the impact of the quality of non-financial reporting on the access to climate finance (reduced interest rates, more favorable credit conditions, etc.). A “pro” and a “con” team will take opposing sides on the topic and debate the issue before the class. The conversation should demonstrate a critical analysis. By the second session,

students form groups to select a topic of interest from a list provided by the instructor. See Moodle for further details on the structure and timing of the debates.

Article Analysis Presentations - Students will individually evaluate an article from a news publication (good sources are the Economist, Wall Street Journal, Financial Times, Bloomberg, Forbes). While the choice of articles is yours, its focus must be on an economic issue and dated 2018 (attach a copy of the article). The objective is to demonstrate a critical analysis of the article's content by relating to the economics concepts introduced in the course sessions using your notes, experiences, and the course readings. Presentations will be evaluated based on the degree to which students accurately recognize problems and theoretical underpinnings of a given issue. See Moodle for further details of the presentations.

GRADING

Final grades will be based on the following weighted factors:

Case Study	10%
Online Discussion	10%
Class debates	15%
Project presentation	15%
Class Participation	15%
Final exam	35%
TOTAL	100%

PLAGIARISM & ACADEMIC MISCONDUCT

It is expected that all homework assignments, projects, papers, and examinations and any other work submitted for academic credit will be the student's own. Students should always take great care to distinguish their own ideas and knowledge from information derived from sources. The term "sources" includes not only primary and secondary material published in print or online, but also information and opinions gained directly from other people. Quotations must be placed properly within quotation marks and must be cited fully. In addition, all paraphrased material must be acknowledged completely. Whenever ideas or facts are derived from a student's reading and research or from a student's own writings, the sources must be indicated. It is the expectation of every course that all work submitted for a course or for any other academic purpose will have been done solely for that course or for that purpose.

Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including failure in the course and be remanded to the appropriate authorities of their home university for disciplinary action. This might lead up to a dismissal from the University.

ATTENDANCE

Because of the extent of material to be covered in this six-session course, it is important that you come well prepared. Students are responsible for all information given during the class instruction. Students missing class will need to make arrangements with the instructor and complete an alternative assignment. Students missing more than two classes will not receive credit for the course (note above policy on use of cell phones and laptops applies here).

COURSE SCHEDULE*

Table 1

Session	Topics	Readings	Activities
1	Information Asymmetry and Climate Finance	Adverse Selection "Principal-Agent Problem" Transaction Costs	Introduction to the course
2	Climate Finance and Blended Value Creation	Green Credits Non-financial risks Blended Value Creations	Critical thinking discussion
3	Disclosure of Non-Financial Risks on Corporate Level	UN Global Compact GRI PRI	Presentation topic statements due Class Debate
4	EITI as a Sector Specific Approach to Non-Financial Information Disclosure	EITI Rules EITI Standard	Online discussion due Article Analysis Presentations
5	EITI as a Sector Specific Approach to Non-Financial Information Disclosure	EITI Germany EITI Norway	Critical thinking discussion

Table 1 continued

6	Application of Carbon Pricing to Reduce Climate-related Information Asymmetry	Internal Carbon Pricing Carbon Taxation EU Emission Allowances	Presentation topic statements due Class Debate
7	Information Asymmetry and Green Bonds Market	Green Washing Green Bonds Taxonomy	Critical thinking discussion
8	Urban Climate Finance	Sustainability Bonds, Green Bonds,	Presentation topic statements due Class Debate

9	Green Financial Policy	Recommendations of the High-Level Expert Group on Sustainable Finance EU Action Plan	Online discussion due Article Analysis Presentations
10	Climate Insurance	Global Index Insurance Facilities (GIIF) Cat Bonds	Presentation topic statements due Class Debate
11	Market-based instruments to tackle greenhouse gases from international aviation and shipping	European Trading System (EU ETS) CORSA	Online discussion due Article Analysis Presentations
12	Blockchain Technology and Climate Finance Related Information Flows	State and Trends in Climate Finance Blockchain Technology	Critical thinking discussion Final exam

*The schedule may be changed at any regularly scheduled class meeting depending on class requirements.

COURSE READINGS

Sushchenko O., Schwarze R. (2016), [Carbon taxation and market financial instruments for mobilizing climate finance](#), KAS Policy Paper 27, 36 p.

Useful links for material and data:

Environmental Finance – News, Data, Analysis. URL: <https://www.environmental-finance.com>

UNFCCC Newsroom – News, Analysis, Reports. URL: <http://newsroom.unfccc.int/about/>

Luxembourg Stock Exchange – Data, News, Reports, Analysis. URL: <https://www.bourse.lu/home>

Climate Bonds Initiative – News, Reports, Analysis, Data. URL: <https://www.climatebonds.net>

Financial Times – News, Analysis. URL: <http://ft.com>

Session 1. Information Asymmetry and Climate Finance

- Akerlof G. (1970), [The Market for Lemons: Quality Uncertainty and the Market Mechanism](#), *Quarterly Journal of Economics* 84, 488-500.
- Spence M. (1973), [Job Market Signaling](#), *Quarterly Journal of Economics* 87, 355-374.
- Rothschild M. och J. Stiglitz (1976), [Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information](#), *Quarterly Journal of Economics* 90, 629-649.
- Falconer A., Stadelmann M. (2014), [What is climate finance? Definitions to improve tracking and scale up climate finance](#), Climate Policy Initiative, July 2014, 9 p.
- [Joint Report on Multilateral Development Bank`s](#) (2015), The World Bank Group, 53 p.
- [Global Landscape of Climate Finance 2017](#), Climate Policy Initiative, October 2017, 18 p.
- R.H. Coase (1960). [The Problem of Social Costs](#). *Journal of Law and Economics*, Vol. 3, October, p. 1-44.
- [The Global Risks Report 2018, 13th Edition, The World Bank Group](#), 67 p.
- [Stechemesser, K. and Guenther, E. \(2012\). Carbon accounting: A systematic literature review. Journal of Cleaner Production, Vol. 36, p. 17–38.](#)
- Pattberg, P. (2017). [The emergence of carbon disclosure: Exploring the role of governance entrepreneurs](#). *Environment and Planning C: Politics and Space*, Vol. 35(8), p. 1437–1455.
- [Frankfurter Erklärung: Freiwilliges Bekenntnis zur Umsetzung einer gemeinsamen Nachhaltigkeitsinitiative am Finanzplatz Frankfurt am Main](#). Deutsche Börse.

Session 2. Climate Finance and Blended Value Creation

- Sushchenko O., Schwarze R. (2016), [Carbon taxation and market financial instruments for mobilizing climate finance](#), KAS Policy Paper 27, 36 p.
- Falconer A., Stadelmann M. (2014), [What is climate finance? Definitions to improve tracking and scale up climate finance](#), Climate Policy Initiative, July 2014, 9 p.

- [Global Landscape of Climate Finance 2017](#), Climate Policy Initiative, October 2017, 18 p.
- Bowen, Howard B. [Social Responsibilities of the Businessman](#), Harper, 1953, p. 276.
- Auserwald, F. [Creating Social Value](#). Stanford Social Innovation Review, Spring 2009, - 51-55 p. URL:
- Elkington John (1999). Cannibals with forks. The Triple bottom line of the 21st century business // John Elkington. - Oxford: Capstone Publ., - 410 p. **(324/QP 150 E43)**
- Elkington, John. The power of unreasonable people. How social entrepreneurs create markets that change the world // John Elkington. - Boston, Mass.: Harvard Business Press, 2008, - 242 p. **(40/QP 230 E43)**
- Jed Emerson (2005). [Maximizing Blended Value – Building Beyond the Blended Value Map to Sustainable Investing, Philanthropy and Organizations](#), January 2005, 47 p.
- Porter, M. E., and Mark R. Kramer (2006). [Strategy and Society: The Link between Competitive Advantage and Corporate Social Responsibility](#). Harvard Business Review 84, no. 12. – 78-93 p.
Porter, M. E., and Mark R. Kramer (2011). [Creating Shared Value: How to Reinvent Capitalism – and Unleash a Wave of Innovation and Growth](#). Harvard Business Review, January-February. – 78-93 p.

Session 3. Disclosure of Non-Financial Risks on Corporate Level

- Sushchenko O., Schwarze R. (2016), [Carbon taxation and market financial instruments for mobilizing climate finance](#), KAS Policy Paper 27, 36 p.
- [Guide to Corporate Sustainability. Shaping a Sustainable Future](#) (2014), The UN Global Compact, 48 p.
- [The UN Principles for Responsible Investment and the OECD Guidelines for Multinational Enterprises: Complementary and Distinctive Contributions](#) (2007), OECD, 12 p.
- [GRI Standards](#) (2017). Global Reporting Initiative.
- [KPI for ESG. A Guideline for the Integration of ESG into Financial Analysis and Corporate Valuation. Version 3.0](#) (2010), Society of Investment Professional in Germany, 169 p.
- [Measuring Intangibles. Robecosam`s Corporate Sustainability Methodology](#) (2015). RobecoSAM AG, 15 p.

- [TCFD Final report FAQs](#) (2017). The Task Force on Climate-Related Financial Disclosures, 5 p.
- [Financing a Sustainable European Economy. Final Report 2018 by the High-Level Expert Group on Sustainable Finance](#). Secretariat provided by the European Commission, 99 p.
- COM (2018) 97 final. [Communication from the Commission. Action Plan: Financing Sustainable Growth](#), Brussels, 8.3.2018.
- [Thinking allowed. Climate-related disclosure. Integrating climate-related information in the annual report](#) (2017), Deloitte, 2017, 17 p.
- [Limited Visibility. The Current State of Corporate Disclosure on Long-Term Risks](#) (2017), Tragedy of the Horizon Program, Research Report, September 2017, 75 p.
- [Aviva Investors. Investment Research: Time for a Brave New World?](#) (2017), Aviva Investors, 38 p.
- [How Stock Exchanges Can Growth Green Finance](#) (2017), Sustainable Stock Exchange Initiative, 49 p.

Session 4. EITI as a Sector Specific Approach to Non-Financial Information Disclosure (Part 1).

- [EITI Principles, 2011 Edition. Including the Validation guide](#) (2011), EITI International Secretariat, 86 p.
- [The EITI Standard 2016](#) (2017), EITI International Secretariat, 61 p. Sushchenko O., Schwarze R. (2016), [Carbon taxation and market financial instruments for mobilizing climate finance](#), KAS Policy Paper 27, 36 p.
- [GRI Standards](#) (2017). Global Reporting Initiative.
- [KPI for ESG. A Guidline for the Integration of ESG into Financial Analysis and Corporate Valuation. Version 3.0](#) (2010), Society of Investment Professional in Germany, 169 p.
- Cristina Landis (2017): Korruption als Bestandteil der Nachhaltigkeitsberichterstattung in ausgewählten EU-Ländern, Zeitschrift für Umweltpolitik und Umweltrecht 4/2017, p. 350-376
- Siri Aas Rustad, Philippe Le Billon and Päivi Lujala (2017): [Has the Extractive Industries Transparency Initiative been a success? Identifying and evaluating EITI goals](#). Resources Policy Vol. 51, p. 151-162.

Schmaljohann, M. (2013): [Enhancing Foreign Direct Investment via Transparency? Evaluating the Effects of the EITI on FDI](#). Discussion Paper Series 538 (University of Heidelberg).

Session 5. EITI as a Sector Specific Approach to Non-Financial Information Disclosure (Part 2).

- [Progress Report 2018](#) (2018), EITI International Secretariat, 40 p.
- [Implementation of the EITI in G7, EU and OECD countries. Facts&Figures](#) (2016), EITI International Secretariat, 35 p.
- [The D-EITI – and why it is worth participating](#) (2017), EITI Secretariat in Germany, 4 p.
- [Towards Mainstreaming Action Plan](#) (2016), EITI International Secretariat, 10 p.
- [EITI and Opportunities for Increasing Local Content Transparency](#) (2018), EITI International Secretariat, 24 p.
- [Board decision on the Validation of Norway](#) (2017), EITI International Secretariat, 5 p.

Session 6. Application of Carbon Pricing to Reduce Climate-related Information Asymmetry (Germany/EU/World)

- OECD (2013), [Effective Carbon Prices](#), OECD Publishing, 96 p.
- OECD (2016), [Effective Carbon Rates: Pricing CO2 through Taxes and Emission Trading System](#), OECD Publishing, Paris, 168 p.
- Productivity Commission 2011, [Carbon Emission Policies in Key Economies](#), Research Report, Canberra, 100 p.
- Vivid Economics, [The implicit price of carbon in the electricity sector of six major economies](#), report prepared for The Climate Institute, October 2010, 100 p.
- OECD (2015), [The Faster Principles for Successful Carbon Pricing: An approach based on initial experience](#). OECD, September 2015, 38 p.
- World Bank Group (2016), [State and Trends of Carbon Pricing](#), Washington, 136 p.
- [EU ETS Handbook. – European Komission, 2015. – 138 p.](#)

- Sandor R., Joseph B. Cole and M. Eileen Kelly. Combating global warming. Possible rules, regulations and administrative arrangement for a global market in CO2 emission entitlements // Richard L. Sandor, Joseph B. Cole and M. Eileen Kelly. Part II. - New York: UN, 1994. - 105 p. (**40/QT 800 C729**)
- World Business Council for Sustainable Development (2016), [Emerging Practices in Internal Carbon Pricing: A Practical Guide](#), WBCSD Leadership Program 2015, 28 p.
- I4CE (2016), [Internal Carbon Pricing. A Growing Corporate Practice](#), Institute for Climate Economics, September 2016, 43 p.
- CDP (2016), [Embedding a Carbon Price into business strategy](#), CDP, September 2016, 47 p.
- CDP (2015), [Putting a Price on Risk: Carbon Pricing in the Corporate World](#), CDP Report 2015 v.1.2., September 2015, 66 p.
- CDP (2014), [Global Corporate Use of Carbon Pricing. Disclosure to Investors](#), CDP, September 2014, 59 p.
- Elkington John (1999). Cannibals with forks. The Triple bottom line of the 21st century business // John Elkington. - Oxford: Capstone Publ., - 410 p. (**324/QP 150 E43**)
- Jed Emerson (2005). [Maximizing Blended Value – Building Beyond the Blended Value Map to Sustainable Investing, Philanthropy and Organizations](#), January 2005, 47 p.
- Steven Feit (2016). [Trillion Dollar Transformation. Fiduciary Duty, Divestment, and Fossil Fuels in an Era of Climate Risk](#). Center for International Environmental Law, September 2016, 33 p.
- Carbon Pricing Unlocked (2016). [Impact of a Global Carbon Price of Consumption and Value Creation. Implication for carbon pricing design](#). November 2016, P. 9 .
- CPLC (2016). [What is the Impact of Carbon Pricing on Competitiveness? Executive Briefing](#), June 2016, P. 4.

Session 7. Information Asymmetry and Green Bonds Market

- The World Bank (2015): [What are Green Bonds?](#) Washington DC, 58 p.

- [The Green Bonds Principles](#) (2017), The International Capital Market Association, June 2017, 6 p.
- [Climate Bonds Standards](#) (2017), The Climate Bonds Initiative, 16 p.
- T. Ehlers and F. Packer (2016), [Green Bonds – certification, shades of green and environmental risks](#), Bank for International Settlements, August 2016, 11 p.
- [The Climate Finance Accelerator completes the range of green finance actions in Luxembourg](#) (2017), The official portal of the Grand Duchy of Luxembourg.
- KPMG International (2015): [Sustainable Insight. Gearing up for green bonds. Key considerations for bond issuers](#), KPMG, 12 p. OECD (2015). [Green bonds. Mobilizing the debt capital markets for a low-carbon transition. Policy Perspectives](#), December 2015, 24 p.
- S. Kidnay, B. Sonerund, P. Oliver. (2015): [Growing a green bonds market in China. Key recommendations for policymakers in the context of China's changing financial landscape](#). IISD/Climate Bonds Initiative, 2015, 40 p.
- Green Bond Principles, 2015. [Voluntary Process Guidelines for Issuing Green Bonds](#), International Capital Market Association, 2015, – 6 p.
- Bonds and Climate Change. The State of the Market (2017), Climate Bonds Initiative, September 2017, 23 p.
- Institute for Climate Economics. (2016). [Beyond Transparency: Unlocking the Full Potential of Green Bonds](#). Paris, June 2016, 6 p.

Session 8. Urban Climate Finance

- Schwarze, R.; Meyer, P.B. and Markandya, A. (forthcoming), Economics, Finance and the Role of the Private Sector; Chap. 7. of the 2nd Assessment Report “Climate Change in Cities” (ARC3-2) of the Urban Climate Change Research Network, Columbia Univ. / New York, Paris and Rio de Janeiro (*available from the lecturers*).
- Colenbrander, S, Lindfield, M, Lufkin, J and Quijano, N (2018). [Financing low- carbon, climate-resilient cities](#). *Coalition for Urban Transitions*. London and Washington, DC, 44 p.
- [Financing climate action: opportunities and challenges for local and regional authorities](#) (2017), European Committee of the Regions, Brussels, 63 p.

- [The State of City Climate Finance](#) (2015), Cities Climate Finance Leadership Alliance, 65 p.
- S. Ohshita, L. Price, N. Zhou, N. Khanna, D. Fridley, X. Liu (2015). [The role of Chinese cities in greenhouse gas emission reduction. Briefing on urban energy use and greenhouse gas emissions](#), Stockholm Environment Institute, September, 19 p.
- [The state of city climate finance](#). Climate Finance Leadership Alliance, 2015, 65 p.
- S. Barnard. Climate finance for cities (2015). [How can international funds best support low carbon and climate resilient urban development?](#) *Working Paper 419*, Overseas Development Institute, 27 p.
- [Cities and Climate Change. National governments enabling local action](#) (2014). OCDS Publishing, Paris, September, 19 p.
- A. Gouldson, S. Colenbrander, A. Sudmant, N. Godfrey, J. Millward-Hopkins, W. Fang and X. Zhao (2015). [Accelerating Low-Carbon Development in the World's Cities](#). *Working Paper*, The New Climate Economy, 38 p.
- [Localizing Climate Finance, Mapping Gaps and Opportunities, Designing Solutions](#) (2017), Climate Finance Leadership Alliance, 64 p.
- Ilmi Granoff, Darius Nassiry, Neil Bird, Christopher Humphrey, Paddy Carter, Alberto Lemma and Annalisa Prizzon (2017), [Six development finance proposals to expand climate investment](#), *Overseas Development Institute*, 17 p.

Session 9. Green Financial Policy

- Panofer T., Druce L., Dere F., Gupta S., Sterner L. (2014). [Delivering the green economy through financial policy](#). Technocal Paper, March 2014, Frankfurt School of Finance & Management – UNEP Centre for Climate & Sustainable Energy Finance, 85 p.
- [Roadmap for a Sustainable Financial System](#) (2017), UN Environment and The World Bank Group, 102 p.
- [Financing a Sustainable European Economy. Final Report 2018 by the High-Level Expert Group on Sustainable Finance](#). Secretariat provided by the European Commission, 99 p.
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- HU An-Gang (2016), [The Fiva-Year Plan: A new tool for energy saving and emissions reduction in China](#), Advances in Climate Change Research 7 (2016), P. 222-228.
- [Guidelines for establishing the green financial system](#). ChinaDaily.
- People`s Bank of China, United Nations Environemnet Programme (2015). [Establishing China`s Green Financial System](#). Report of the Green Finance Task Force, 38 p.
- CCICED (2016). [China`s Green Finance Reform](#), 26 p.
- MATTM & United Nations Environment Programme (2017). [Financing the Future](#). Report of the Italian Dialogue on Sustainable Finance, 10 p.
- UNEP (Simon Zadek and Nick Robins): [MOVING FROM MOMENTUM TO TRANSFORMATION IN A TIME OF TURMOIL](#), 2016, 18 p.

Session 10. Climate Insurance

- *The Global Risks Report 2018*, 13th [Edition](#), [The World Bank Gourp](#), 67 p.
- D. Porrini, R. Schwarye (2011), [Defining insurance models within climate change European policies](#), *Centro Euro-Mediterraneo per I Cambiamenti Climatici*, Research Paper Issue RP0116, 20 p.
- M. Golnaraghi (2018), [Climate Change and the Insurance Industry: Taking Action as Risk Managers and Investors. Perspectives from C-level executives in the insurance industry](#), *The Geneva Association*, 44 p.
- [Synthesis Report on Disaster Risk Reduction and Climate Change Adaptation in Germany](#) (2016), DKKV-Schriftreihe 56, 75 p.
- [Climate change threatens ability of insurers to manage risk](#), *The Guardian*, 7 December 2016.
- Kahn M.E., Casey B., Jones N. (2017). [How the Insurance Industry Can Push Us to Prepare for Climate Change](#), *Harvard Business Review*.
- Miller A., Swann S. (2016). [Innovative Insurance to Manage Climate Risks](#), *EMCompass*.
- Medland D. (2017). [Banks And Insurers Support Task Force Recommendations On Climate-related Financial Disclosure](#), *Forbes*.
- Harting R.H. (2015). [Insurance and Reinsurance Markets](#), *Insurance Information Institute*, March 2015.

- Birgit Müller, Leigh Johnson, David Kreuer: [Maladaptive outcomes of climate insurance in agriculture: *Global Environmental Change*](https://doi.org/10.1016/j.gloenvcha.2017.06.010), <https://doi.org/10.1016/j.gloenvcha.2017.06.010>
- Hufe, S. (2017): [Klimaversicherungen. In der Landwirtschaft häufig nicht zu Ende gedacht](#). UFZ-Forscher zeigen Fehlentwicklungen und geben Empfehlungen für Verbesserungen. Pressemitteilung vom 25. September 2017.

• Session 11. Market-based instruments to tackle greenhouse gases from international aviation and shipping

- Naya Olmer, Bryan Comer, Biswajoy Roy, Xiaoli Mao, and Dan Rutherford (2017), [Greenhouse Gas Emissions from Global Shipping, 2013-2015](#), *The International Council on Clean Transportation*, 27 p.
- Gençsü, I. and Hino, M., 2015, [Raising Ambition to Reduce International Aviation and Maritime Emissions](#). *Contributing paper for Seizing the Global Opportunity: Partnerships for Better Growth and a Better Climate*. New Climate Economy, London and Washington, DC, 24 p.
- [Maritime Carbon Compliance](#). Are you ready for mandatory CO2 emissions reporting? (2015), PwC, 4 p.
- [Emission Reduction Targets for International Aviation and Shipping](#) (2015), Study for the ENVU Committee, European Parliament, 48 p.
- [Shipping and Climate Change: Where we are and which way forward?](#) *Policy Brief*, International Transportation Forum, October 2015, - 5 p.
- Niven Winchester (2017), [A Win-Win Solution to Abate Aviation CO2 Emissions](#), *MIT Joint Program on the Science and Policy*, 10 p.
- ICAO (2013): [Report on Geographic Scope of MBMs, Analysis of proposed approaches for the coverage of international aviation emissions under a market-based measure](#), July 2013, 9 p.
- Keen, Michael; Parry, Ian; Strand, Jon (2012): [Market-Based Instruments for International Aviation and Shipping as a Source of Climate Finance](#). World Bank-Policy Research Working Paper WPS5950, 69 p.
- [Schwarze, R. \(2017\): CORSIA. Augenwischerei. Wirtschaftsdienst 97. Jg. \(Heft 7\), p. 456-457.](#)

Session 12. Blockchain Technology and Climate Finance Related Information Flows

- Five ways banks are using blockchain. *Financial Times*. URL: <https://www.ft.com/content/615b3bd8-97a9-11e7-a652-cde3f882dd7b>
- Garrick Hileman & Michel Rauchs (2017), [Global Blockchain Benchmarking Study](#), Cambridge Centre for Alternative Finance, 119 p.
- [Blockchain in the financial services industry](#) (2016), Business white paper, Hewlett Packard Enterprise, 10 p.
- R. Lewis, J. McPartland, and R. Ranjan (2017), [Blockchain and financial market innovation](#), *Economic Perspectives* / 7/2017, Federal Reserve Bank of Chicago, 13 p.
- Nouriel Roubini, Preston Byrne (2018), [The Blockchain Pipe Dream](#), *Project Syndicate*.
- [Blockchain – an opportunity for energy producers and consumers?](#) (2016), PwC, 45 p.
- [Use Cases for Blockchain Technology in Energy & Commodity Trading](#) (2017), PwC, 19 p.