

EDUCATION

- 09/2008 – 03/2012 Toulouse School of Economics (TSE)
Ph.D. in Economics (Supervisor: Professor Christian Gollier)
summa cum laude (mention très honorable avec félicitations du jury)
Title: “Essays in Environmental Economics and the Role of Risk, Inequality, and Time”
- 09/2007 – 07/2008 Toulouse School of Economics (TSE)
M.Phil. in Advanced Quantitative Methods in Economics (with honors)
Specialization: Environmental and Development Economics, Decision Theory, Finance, Microeconometrics
- 10/2006 – 06/2007 Toulouse School of Economics (TSE)
M.Sc. in Mathematical Economics and Econometrics (with honors)
Specialization: Applied Microeconomics, Microeconometrics, Economic Growth, Development and Environmental Economics
- 04/2001 – 04/2005 Free University Berlin
M.A. in Economics (‘Diplom-Volkswirt’), Grade: A (1.4)
Finance, Risk Management, Econometrics, Development Economics, Latin American Studies, Modern History
- 10/1999 – 03/2001 University of Heidelberg
B.A. in Economics (‘Vordiplom’), Grade: A-

EMPLOYMENT HISTORY

- 07/2018 – present RFF-CMCC European Institute on Economics and the Environment (EIEE)
Senior Researcher
- 01/2015 – present Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC), Milan
Scientist, ECIP/SEME division. Projects: GEMINA, CD-LINKS, COBHAM
- 01/2015 – 07/2018 Fondazione Eni Enrico Mattei (FEEM), Milan
Senior Researcher, CSI department. Working on various projects related to climate change policies and impact assessment. Co-leading the development of the integrated assessment model WITCH. Projects: LIMITS, ADVANCE, PENNY
- 04/2012 – 12/2014 Fondazione Eni Enrico Mattei (FEEM), Milan
Junior Researcher, Climate Change and Sustainable Development Department
Working on various projects related to climate change policies and impact assessment. The main tasks involved research contributing to optimal policy instruments and measuring the impact of climate change policies on the energy sector, drafting policy-oriented reports and presentations at international conferences. Writing and contributing of research proposals in the field of climate and energy economics.
- 01/2012 – 04/2012 The World Bank, Washington D.C.
Consultant, Department for Social Protection in Africa
Main tasks: developing a statistical method to target poor households in Burkina Faso and Mali. Based on the results, I drafted a policy report that was discussed in interactions with different departments at the World Bank.

- 09/2010 – 08/2011 Toulouse School of Economics (TSE), Toulouse
Junior lecturer, undergraduate and graduate level
- 07/2007 – 09/2007 European Bank for Reconstruction and Development (EBRD), London
Analyst at the Chief Economist Office
The main tasks included drafting parts for the Transition Report 2007, executing independent econometric data analysis. Moreover, I worked on a daily basis responsible for the economic analysis of current policy discussions in Albania and Macedonia.
- 07/2006 – 09/2006 Organization of American States (OAS), Washington D.C.
Consultant for a project on natural gas markets
In consultations with national agencies working on natural gas in Brazil, Mexico, Bolivia, Peru, and the International Technical Cooperation (PTB), I conducted a feasibility study for a multilateral project on the measurement of natural gas flows. Visiting all participating countries, a project outline was designed and presented.
- 09/2005 – 05/2006 German Development Institute (DIE), Bonn and New Delhi
Fellow of the postgraduate course in development cooperation
I participated at numerous professional trainings in policy advisory, economic impact assessment, report writing, conducting negotiations, project management, and presentation techniques. During a consultancy project, we designed and implemented an evaluation of companies with Social and Environmental Responsibility Standards in India and presented the results in New Delhi and Berlin to policy makers.
- 03/2005 – 07/2005 German Technical Cooperation (GTZ), Frankfurt
Internship in the administrative department for projects in Latin America
In direct interaction with the head of department, I contributed to the development of management tools to monitor the implementation of the department strategy.
- 07/2003 – 02/2005 Social Science Research Center (WZB), Berlin
Research assistant at the department of governance and market processes
The main tasks included data research and analysis, assistance at organizing conferences and meetings with policy makers, and general administrative duties.
- 04/2004 – 05/2004 German Institute for Economic Research (DIW), Berlin
Internship in the department on international finance and currencies
Topic: Political Determinants of Currency Crises – Evidence from four Countries
- 03/2003 – 04/2003 Instituto Latinoamericano de Investigaciones Sociales, Quito
Internship, main topic: The consequences of dollarization, Strategies to foster local democratic movements in Ecuador and Peru

OTHER PROFESSIONAL ACTIVITIES

- **Journal refereeing:**

Climate Change Economics, Climatic Change, Ecological Economics, Economies, The Economic Journal, Energies, Energy Economics, Energy Efficiency, The Energy Journal, Environment and Development Economics, Environmental and Resource Economics, Environmental Modeling & Assessment, Environmental Research Letters, International Environmental Agreements: Politics, Law and Economics, Journal of the Association of Environmental and Resource Economists, Management Science, Journal of Economic Surveys, Journal of Environmental Economics and Management, Journal of Economic Behavior & Organization, Journal of Happiness Studies, Journal of Public Economics, Nature Climate Change, Nature Energy, Palgrave Communications, PLOS ONE, Resource and Energy Economics, Review of Environmental Economics and Policy, Sustainability, Technological Forecasting & Social Change

- **Scientific evaluation:**
European Commission within the Horizon 2020 Framework (Societal Challenges), European Research Council (ERC), Irish Research Council, Austrian Science Fund
- **Consulting:**
*Asian Development Bank (ADB), The World Bank, European Bank for Reconstruction and Development (EBRD), German International Cooperation (GIZ), German Technical Cooperation (PTB)
Contributing Author for the IPCC Special Report on Global Warming of 1.5°C*
- **Organization:**
Organizer of a contributed Session on “Population Dynamics and Climate Change” at EAERE 2018

AWARDS

- Ph.D. Scholarship for three years (French Ministry of Education)
- Scholarship for the DIE Development Policy Programme (German Ministry for Economic Cooperation)
- Second runner up M.A. in Economics from the Free University Berlin, SS 2005

TEACHING EXPERIENCE

- Environmental Economics, Tutorials (TSE, Master level, in English, 2007-2010)
- Public Economics, Tutorials (UT1, 3rd year, in French, 2010)
- Macroeconomics I&II, Tutorials, (UT1, 1st and 2nd year, in French, 2010)
- The Economics of Climate Change, Lecture (EUI Florence/Stanford, Master level, 2013)
- Integrated Assessment Modelling (Università Ca' Foscari Venezia, PhD level, 2018)

RESEARCH VISITS

- Energy and Resources Group, University of California, Berkeley (April-May 2014)
- Max Planck Institute for Tax Law and Public Finance, Munich (March-April 2010)

LANGUAGES

German (native), English (fluent), Spanish (fluent), French (fluent), Italian (fluent)

IT KNOWLEDGE

Advanced knowledge: MS Office, R, GAMS. Intermediate knowledge: Web Design, Stata, Matlab, Python

LEISURE INTERESTS

Piano/Keyboards ([link](#)), Cycling, Tennis, Tango, Biking Tours, Skiing, Soccer, Web Development ([link](#))

CONFERENCE PRESENTATIONS AND SEMINARS

- **Conferences:**
 - 2018 COACCH Kick-Off, Venice, January 2018; IEW Gothenburg, June 2018; WCERE Gothenburg, June 2018; IAMC Meeting, Sevilla, November 2018
 - 2017 1st Conference on Climate Economics, Rimini, April 2017; CTN Glasgow, May 2017; CDLINKS meeting Potsdam, May 2017; EAERE Athens, June 2017; IAMC Recife, December 2017
 - 2016 ADVANCE meeting, Sevilla; ADB Climate Change Economics Workshop, Manila; EAERE Zurich 2016; AWEEE A Toxa, June 2016; SISC 2016, Cagliari; ADVANCE Final Conference, Brussels, September 2016; CDLINKS Meeting and IAMC December 2016, Beijing;
 - 2015 ADVANCE Meeting, UCL London, September 2015; WRIEC 2015, Munich, August 2015; Our Common Future Conference, Paris, July 2015; EAERE 2015, Helsinki, June 2015; ECCA 2015 Conference, Copenhagen, May 2015; Coalition Theory Network Workshop, Venice, March 2015;
 - 2014 Workshop of the Integrated Assessment Modelling Consortium (IAMC), Washington DC, November 2014; 2nd Annual SISC Conference, Venice, September 2014; XX. Climate Change and Integrated Assessment Workshop, Snowmass, CO, July 2014; Fifth Atlantic Workshop on Energy

- and Environmental Economics, A Toxa, June 2014; International Energy Workshop (IEW) , Beijing, June 2014; EquiRisk Workshop at FMSH, Paris, May 2014; IAERE Conference, Milan, March 2014;
- 2013 FEEM Convention on Climate Change and Sustainable Development, Venice, October 2013; IFO Workshop "Integrated Assessment of International Climate Change Policies", Munich, July 2013; EAERE Annual Conference, Toulouse, June 2013; International Energy Workshop (IEW), Paris, June 2013; AERE Annual Conference, Banff, June 2013; Workshop on "Numerical Climate Coalition Models: A Modelling Comparison Exercise", Venice, 2013;
- 2012 Workshop on "Coupled Climate – Economic Modelling and Data Analysis", ENS Paris, November 2012; FEEM Convention on Climate Change and Sustainable Development, Venice, October 2012;
- 2011 18th Annual EAERE Conference, Rome, June 2011; Environmental Protection and Sustainability Forum, Exeter, April 2011;
- 2010 ASSET 2010 Annual Meeting, Alicante, October 2010; Workshop on Climate Change and Distribution, Oslo, June 2010; 3rd Doctoral Meeting of Montpellier, May 2010
- **Seminar Presentations:**
Beihang University, Beijing (December 2016), Paris School of Economics (February 2016), Politecnico di Milano (May 2015), University Siegen (June 2011), University Toulouse (July 2011), Brighton University (February 2012), FEEM-Bocconi University (September 2012)

PUBLICATIONS

Articles in peer-reviewed journals:

- Anthoff D., and J. Emmerling (2019): **Inequality and the Social Cost of Carbon**, *Journal of the Association of Environmental and Resource Economists*, Vol. 6, No. 2 (March 2019), 29-59. [10.1086/701900](https://doi.org/10.1086/701900)
- Emmerling J., and M. Tavoni (2018): **Exploration of the Interactions between Mitigation and Solar Radiation Management in Cooperative and Non-Cooperative International Governance Settings**, *Global Environmental Change*, Vol. 53 (November 1, 2018), 244–51. [10.1016/j.gloenvcha.2018.10.006](https://doi.org/10.1016/j.gloenvcha.2018.10.006)
- Reis, L.A., Drouet L., van Dingenen R., and J. Emmerling (2018): **Future Global Air Quality Indices under Different Socioeconomic and Climate Assumptions**, *Sustainability*, 10, 3645. [10.3390/su10103645](https://doi.org/10.3390/su10103645)
- Manoussi V., Xepapadeas A., and J. Emmerling (2018): **Climate Engineering under Deep Uncertainty**, *Journal of Economic Dynamics and Control*, Vol. 94, September 2018, 207-224. [10.1016/j.jedc.2018.06.003](https://doi.org/10.1016/j.jedc.2018.06.003)
- Emmerling J. (2018): **Sharing of Climate Risks across World Regions**, *Climate Change Economics*, Vol. 9, Issue 3, 1-19. [10.1142/S2010007818500070](https://doi.org/10.1142/S2010007818500070)
- McCollum, D., Wilson C., Bevione M., Carrara S., Edelenbosch O.Y., Emmerling J., Guivarch C., Karkatsoulis P., Keppo I., Krey V., Lin Z., Ó Broin E., Paroussos L., Pettifor H., Ramea K., Riahi K., Sano F., Rodriguez B.S., and D. van Vuuren (2018): **Interaction of consumer preferences and climate policies in the global transition to low-carbon vehicles**, *Nature Energy*, Vol. 3, August 2018, 664-473. [10.1038/s41560-018-0195-z](https://doi.org/10.1038/s41560-018-0195-z)
- Luderer G., Vrontisi Z., Bertram C., Edelenbosch O., Pietzcker R., Rogelj J., Sytze De Boer H., Drouet L., Emmerling J., Fricko O., Fujimori S., Havlík P., Iyer G., Kimon Keramidias, Alban Kitous, Pehl M., Krey V., Riahi K., Saveyn B., Tavoni M., van Vuuren D., and E. Kriegler (2018): **Residual fossil CO₂ emissions in 1.5–2 °C pathways**, *Nature Climate Change*, Vol. 8, 626–633. [10.1038/s41558-018-0198-6](https://doi.org/10.1038/s41558-018-0198-6)
- McCollum D., Zhou W., Bertram C., de Boer H.S., Bosetti V., Busch S., Despres J., Drouet L., Emmerling J., Fay M., Fricko O., Fujimori S., Gidden M., Harmsen M., Huppmann D., Iyer G., Krey V., Kriegler E., Nicolas C., Pachauri S., Parkinson S., Pobleto-Cazenave M., Rafaj P., Rao N., Rozenberg J., Schmitz A., Schoepp W., van Vuuren D., and K. Riahi (2018): **Energy investment needs for fulfilling the Paris Agreement and achieving the Sustainable Development Goals**, *Nature Energy*, Vol. 3, July 2018, 589-599. [10.1038/s41560-018-0179-z](https://doi.org/10.1038/s41560-018-0179-z)
- Vinca A., Emmerling J., and M. Tavoni (2018): **Bearing the Cost of Stored Carbon Leakage**, *Frontiers in Energy Research*, Vol. 6, Art. 40, 1-11. [10.3389/fenrg.2018.00040](https://doi.org/10.3389/fenrg.2018.00040)
- Rogelj J., Popp A., Calvin K., Luderer G., Emmerling J., Gernaat D., Fujimori S., Strefler J., Hasegawa T., Marangoni G., Krey V., Kriegler E., Riahi K., van Vuuren D., Doelman J., Drouet L., Edmonds J., Fricko O., Harmsen M., Havlík P., Humpenöder F., Stehfest E., and M. Tavoni (2018): **Scenarios towards limiting global-mean temperature increase below 1.5°C**, *Nature Climate Change*, Vol. 8(3), March 2018, 325-332. [10.1038/s41558-018-0091-3](https://doi.org/10.1038/s41558-018-0091-3)

Jewell J., McCollum D., Emmerling J., Bertram C., Gernaat D., Krey V., Paroussos L., Berger L., Fragkiadakis K., Keppo I., Failali N., Tavoni M., van Vuuren D., Vinichenko V., and K. Riahi (2018): **Limited climate benefits from fuel subsidy removal except in energy exporting regions**, *Nature*, 554, No. 7691 (February 2018), 229-233. [10.1038/nature25467](https://doi.org/10.1038/nature25467)

Emmerling J. (2018): **Discounting and intragenerational equity**, *Environment and Development Economics*, Vol. 23, Issue 1 (February 2018), 19-36. [10.1017/S1355770X17000365](https://doi.org/10.1017/S1355770X17000365)

Emmerling J. and M. Tavoni (2018): **Climate Engineering and Abatement: A 'flat' Relationship Under Uncertainty**, *Environmental and Resource Economics*, Vol. 69, No. 2 (February 2018), 395-415. [10.1007/s10640-016-0104-5](https://doi.org/10.1007/s10640-016-0104-5)

Emmerling J., Groom B., and T. Wettingfeld (2017): **Discounting and the representative median agent**, *Economics Letters*, Vol. 161, December 2017, 78-81. [10.1016/j.econlet.2017.09.031](https://doi.org/10.1016/j.econlet.2017.09.031)

Emmerling J. and S. Qari (2017): **Car ownership and hedonic adaptation**, *Journal of Economic Psychology*, Vol. 61, August 2017, 29-38. [10.1016/j.joep.2017.02.014](https://doi.org/10.1016/j.joep.2017.02.014)

Edelenbosch O., van Vuuren D., Bertram C., Carrara S., Emmerling J., Daly H., Kitous, A. McCollum, D., and N. Saadi Failali (2017): **Transport fuel demand responses to fuel price and income projections: Comparison of integrated assessment models**, *Transportation Research Part D: Transport and Environment*, Vol. 55, August 2017, 310-321. [10.1016/j.trd.2017.03.005](https://doi.org/10.1016/j.trd.2017.03.005)

van Vuuren D., Riahi K., Calvin K., Dellink R., Emmerling J., Fujimori, S., KC S., Kriegler E., and B. O'Neill (2017): **The Shared Socio-economic Pathways: Trajectories for human development and global environmental change**, *Global Environmental Change*, Vol. 42, January 2017, 148-152. [10.1016/j.gloenvcha.2016.10.009](https://doi.org/10.1016/j.gloenvcha.2016.10.009)

Riahi K., van Vuuren D., Kriegler E., Edmonds J., O'Neill B., Fujimori S., Bauer N., Calvin K., Dellink R., Fricko O., Lutz W., Popp A., Crespo Cuaresma J., KC S., Leimbach M., Jiang L., Kram T., Rao S., Emmerling J., Ebi K., Hasegawa T., Havlik P., Humpenöder F., Aleluia Da Silva L., Smith S., Stehfest E., Bosetti V., Eom J., Gernaat D., Masui T., Rogelj J., Strefler S., Drouet L., Krey V., Luderer G., Harmsen M., Takahashi K., Baumstark L., Doelman J., Kainuma M., Klimont Z., Marangoni G., Lotze-Campen H., Obersteiner M., Tabeau A., and M. Tavoni (2017), **The Shared Socioeconomic Pathways and their Energy, Land Use, and Greenhouse Gas Emissions Implications: An Overview**, *Global Environmental Change*, Vol. 42, January 2017, 153-168. [10.1016/j.gloenvcha.2016.05.009](https://doi.org/10.1016/j.gloenvcha.2016.05.009)

Bauer N., Calvin K., Emmerling J., Fricko O., Fujimori S., Hilaire J., Eom J., Krey V., Kriegler E., Mouratiadou I., Sytze de Boer H., van den Berg M., Carrara S., Daioglou V., Drouet L., Edmonds J., Gernaat D., Havlik P., Johnson N., Klein D., Kyle P., Marangoni G., Masui T., Pietzcker R., Strubegger M., Wise M., Riahi K., van Vuuren D. (2017): **Shared Socio-Economic Pathways of the Energy Sector – Quantifying the Narratives**, *Global Environmental Change*, Vol. 42, January 2017, 316-330. [10.1016/j.gloenvcha.2016.07.006](https://doi.org/10.1016/j.gloenvcha.2016.07.006)

Kriegler E., Bauer B., Popp A., Humpenöder F., Leimbach M., Strefler J., Baumstark L., Bodirsky B.-L., Hilaire J., Klein D., Mouratiadou I., Weindl I., Bertram C., Dietrich J.-P., Luderer G., Pehl M., Pietzcker R., Piontek F., Lotze-Campen H., Biewald A., Bonsch M., Giannousakis A., Kreidenweis U., Müller C., Rolinski S., Schultes A., Schwanitz J., Stevanovic M., Calvin K., Emmerling J., Fujimori S., and O. Edenhofer (2017): **Fossil-fueled development (SSP5): an energy and resource intensive scenario for the 21st century**, *Global Environmental Change*, Vol. 42, January 2017, 297-315. [10.1016/j.gloenvcha.2016.05.015](https://doi.org/10.1016/j.gloenvcha.2016.05.015)

Berger L., Emmerling J., and M. Tavoni (2017): **Managing Catastrophic Climate Risks Under Model Uncertainty Aversion**, *Management Science*, Vol. 63, No. 3, 749-765. [10.1287/mnsc.2015.2365](https://doi.org/10.1287/mnsc.2015.2365)

Drouet L. and J. Emmerling (2016): **Climate policy under socio-economic scenario uncertainty**, *Environmental Modelling & Software*, Vol. 79, May 2016, 334-342. [10.1016/j.envsoft.2016.02.010](https://doi.org/10.1016/j.envsoft.2016.02.010)

Lessmann, K., Kornek U., Bosetti V., Dellink R., Emmerling J., Eyckmans J., Nagashima M., Weikard H.-P., and Z. Yang (2015): **The Stability and Effectiveness of Climate Coalitions: A Comparative Analysis of Multiple Integrated Assessment Models**, *Environmental and Resource Economics*, Vol. 62, No. 4, 811-36. [10.1007/s10640-015-9886-0](https://doi.org/10.1007/s10640-015-9886-0)

Other publications:

- Tavoni M., Bosetti V., Shayegh S., Drouet L., Emmerling J., Fuss S., Goeschl T., Guivarch C., Lontzek T., Manoussi V., Moreno-Cruz J., Muri H., Quaas M., and W. Rickels (2017): **Challenges and opportunities for integrated modeling of climate engineering**, FEEM Nota di lavoro 038.2017, [link](#).
- Dennig F., and J. Emmerling (2017): **A Note on Optima With Negishi Weights** CFI Working Paper. Princeton University, April 9, 2017. <http://scholar.princeton.edu/sites/default/files/cfi/files/dennigemmerling.pdf>
- Berger L., and J. Emmerling (2017): **Welfare as Simple(x) Equity Equivalent**s, 2017, FEEM Nota di lavoro 014.2017, <http://www.feem.it/getpage.aspx?id=9013>.
- Reis L.A., Emmerling J., Tavoni M., and D. Raitzer (2016): **The Economics of Greenhouse Gas Mitigation in Developing Asia**, ADB Economics Working Paper Series No. 504, December 2016, Asian Development Bank, Mandaluyong City, Philippines. www.adb.org/publications/economics-greenhouse-gas-mitigation-developing-asia
- Emmerling J. and M. Tavoni (2016): **Geoengineering and Climate Change Mitigation: Trade-offs and Synergies as Foreseen by Integrated Assessment Models**, in: "Climate Justice and Geoengineering" (edited by Christopher J. Preston), Rowman and Littlefield International (RLI), London, September 2016, www.rowmaninternational.com/books/climate-justice-and-geoengineering, ISBN: 978-1-78348-636-6
- Emmerling J., Drouet L., Aleluia Reis L., Bevione M., Berger L., Bosetti V., Carrara S., De Cian E., De Maere D'Aertrycke G., Longden T., Malpede M., Marangoni G., Sferra F., Tavoni M., Witajewski-Baltvilks J., Havlik P. (2016): **The WITCH 2016 Model - Documentation and Implementation of the Shared Socioeconomic Pathways**, FEEM Nota di Lavoro 42.2016. Fondazione Eni Enrico Mattei, 2016. <http://www.feem.it/getpage.aspx?id=8521>
- Emmerling J. (2015): **What keeps you from acting rationally?**, blog article on COBHAM, www.cobham-erc.eu/acting-rationally, September 2015.
- Emmerling J. (2015): **Uncertainty and Natural Resources - Prudence facing Domsday**, 2015, FEEM Nota di Lavoro 049.2015, <http://www.feem.it/getpage.aspx?id=7503>
- Emmerling J. (2015): **Climate Policy Negotiations – Insights from Game Theory**, in: CTN - From theory to application, 8, September 2015, available at: www.coalitiontheory.net/content/climate-policy-negotiations-%E2%80%93-insights-game-theory
- Emmerling J. and M. Tavoni (2013): **Is Geoengineering a Viable Option for Dealing with Climate Change?**, April 17, 2013, Review of Environment, Energy and Economics ([link](#)) and VoxEU.org
- Emmerling J. (2012): **Targeting cash transfers in Mali – A proxy means test approach**, The World Bank, 2012, Washington, D.C., www.researchgate.net/publication/326368912.
- Emmerling, J. (2011): **Essays in Environmental Economics and the Role of Risk, Inequality, and Time**, Ph.D. thesis, Toulouse School of Economics. <http://www.theses.fr/2011TOU10042>.
- Country reports on Albania and FYR Macedonia (with P. Sanfey), in: Transition Report 2007: People in transition, European Bank for Reconstruction and Development, 2007, pp.94-97 & 130-133, [link](#).
- Chahoud T., Emmerling J., Kolb D., Kubina I., Repinski G., and C. Schlaeger (2007): **Corporate Social and Environmental Responsibility in India – Assessing the Global Compact's Role**, DIE Study No. 26, Bonn, ISBN: 978-3-88985-336-3. www.die-gdi.de/uploads/media/Studies_26.pdf
- Emmerling J. (2006): Metrology for the Natural Gas Sector – Triangular approaches for Latin America, Washington D.C., [link](#).
- Emmerling J. (2005): The natural resource curse – an economic policy and political economic analysis, Free University Berlin, Master's Thesis (in German), [link](#).
- Emmerling J. (2004): Political Determinants of Currency Crises – Evidence from four Countries, DIW, Berlin, [link](#).
- Emmerling J. (2003): Die Auswirkungen der Dollarisierung auf den produktiven Sektor, ILDIS Report, Quito, [link1/link2](#).