

# Giacomo Falchetta

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[Google Scholar](#) - [ResearchGate](#)

## Research areas:

Energy & Development, Climate Change Impacts, Inequality, WEF Nexus, GIS analysis

## Current positions

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- **Research Fellow** at the **Economic analysis of Climate Impacts and Policy** division at CMCC@Ca' Foscari / RFF-EIEE in Venice, Italy. (**October 2021 – present**).
  - **Current projects:** ERC EnergyA (Energy for Adaptation) – PI: Prof. Enrica De Cian
- **Research Scholar** at the **Energy, Climate and Environment** program at **IIASA – International Institute for Applied Systems Analysis** in Laxenburg, Austria. (**October 2021 – present**).
  - **Current projects:** H2020 - RE4AFAGRI (*Renewables for African Agriculture*)

## Previous academic experience

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- **Postdoctoral Research Fellow** at the **Department of Economics** of the **Free University of Bozen-Bolzano** in Bolzano, Italy. (**January 2021 – January 2022**).
  - **Project:** HIPSTER (High-Performance statistical methods for Spatio-Temporal Environmental and econometRic data)
- **Research Fellow** at **FEEM - Fondazione Eni Enrico Mattei** in Milan, Italy. (**November 2017 – December 2021**).
  - **Projects:** H2020 - RE4AFAGRI (*Renewables for African Agriculture*); SETISSA; NEXUS-A; HYDROCLIMA; GEOACCESS
- **Visiting Researcher** at **PBL Netherlands Environmental Assessment Agency** in The Hague, the Netherlands. (**January 2020 – March 2020**).
  - **Project:** The role of regulatory, market and governance risk for electricity access investment in sub-Saharan Africa
  - **Supervisors:** Dr. Andries Hof and Dr. Anteneh Dagnachew, within the KLE group of Prof. Detlef van Vuuren.
- **Guest Research Scholar** at the *Energy Program (ENE)* of **IIASA, International Institute for Applied Systems Analysis** in Laxenburg, Austria. (**November 2018 – February 2018**).
  - **Project:** Assessing energy access with spatial analysis and remotely sensed data; applied research on climate impact on the power supply
  - **Supervisors:** Dr. Shonali Pachauri, Dr. Simon Parkinson, Dr. Olha Danylo, and Dr. Edward Byers, within the ENE group of Prof. Keywan Riahi.

## Additional academic activities

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- **Advisory Council Member** at **EarthArXiv**. (**December 2020 – present**).

## Previous non-academic employment

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- **Trainee at Terra Institute**, in Bressanone - Brixen, Italy. (February 2016 – July 2016). Consultancy for sustainability, sustainability reporting, CSR and sustainable development, business strategy, product development and sales for organic and sustainable agriculture.
- **Intern at the European and International Affairs Office at the Comune di Venezia**, in Venice, Italy (July 2014 - September 2014). Collaboration and support activities in the management of projects funded by the European Union including PUMAS, Eurocities, Central Markets and Sustcult.

## Education

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- **PhD at the Department of International Economics, Institutions and Development of the Catholic University of Milan**, in Milan, Italy. (November 2017 – July 2021). *Grade: Cum Laude*
  - **Dissertation:** "[Essays on Energy and Development in sub-Saharan Africa: Energy Access, Climate Change, and the Nexus](#)"
  - **Supervisors:** Prof. Roberto Zoboli and Dr. Shonali Pachauri
  - **TA experience:**
    - Econometrics (Stata) for the MSc. course in Policy Evaluation and Decision Techniques (Prof. Uberti) (9 hours)
    - Spatial Statistics (GeoDa) for the BSc. course in Quantitative Methods for Social Sciences (Prof. Uberti) (16 hours).
- **Master of Science in Environmental Economics and Climate Change at the London School of Economics and Political Science (LSE)** in London, UK. (September 2016 – September 2017). *Grade: Merit*
  - **Dissertation:** "[Ecosystem Services, Land Use Change, and Economic Growth: The long-run trends in the significance and in the value of natural capital](#)". **Supervisor:** Dr. Roger Fouquet. *Grade: Distinction.*
  - Co-Head of the Renewables Subcommittee of the **LSESU Energy Society**
- **Erasmus+ student** at the Faculty of Economics and Social Sciences at the **University of Hamburg**, in Hamburg, Germany. (October 2014 – March 2015).
- **Bachelor of Science in Economics and Social Sciences at the Free University of Bolzano-Bozen**, in Bolzano-Bozen, Italy. (October 2012 – October 2015). *Grade: 107/110.*
  - **Dissertation:** "[The Sunk Cost Fallacy: A Literature Review and an Empirical Test](#)". **Supervisor:** Prof. Alessandro Fedele. *Grade: Distinction.*

## Technical skills

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- Data analysis, statistics, and econometric analysis with R (proficient), Python (intermediate) and Stata (intermediate)
- Geo-spatial analysis:(Py)QGIS, R, Google Earth Engine (proficient)
- Word, Excel, Power Point, Github, LaTeX

## Languages

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- **Italian:** native speaker

- **English:** professional working proficiency (**C1/2**) certified by the **IELTS English Language Certificate, Band 8** (released by the *British Council* on December, 15<sup>th</sup> 2015)
- **German:** professional working proficiency (**C1**) certified by the **Goethe Zertifikat C1**, score 80.5/100 (released by the *Goethe Institute* on June 10<sup>th</sup> 2015)
- **French:** basic knowledge (**B1/B2**).

### **Research grants, awards, and scholarships**

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- **Postdoctoral fellowship**, Free University of Bolzano, 2021-2022
- **PhD fellowship**, Italian Ministry of Education, 2017-2020

### **Peer-reviewed publications**

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1. **Falchetta, G.** (2021). Energy access investment, agricultural profitability, and rural development: time for an integrated approach. *Environmental Research: Infrastructure and Sustainability*
2. Moner-Girona, M., Kakoulaki, G., **Falchetta, G.**, Taylor, N. and Weiss, D. (2021). Achieving universal electrification of rural healthcare facilities in sub-Saharan Africa with decentralised renewable energy technologies. *Joule*
3. Hunt et al. (2021). Hydropower and seasonal pumped hydropower storage in the Indus basin: pros and cons. *Journal of Energy Storage*.
4. **Falchetta, G.**, Hammad, H., Noussan, M. (2021). Comparing paratransit in seven major African cities: an accessibility and network analysis. *Journal of Transport Geography*.
5. **Falchetta, G.**, Stevanato, N., Moner Girona, M, Mazzoni, D., Colombo, E., Hafner, M. (2021). The M-LED platform: advancing electricity demand assessment for communities living in energy poverty. *Environmental Research Letters*.
6. **Falchetta, G.**, Golinucci, N., Noussan, M., and Rocco, M.V. (2021). Environmental and energy implications of meat consumption pathways in sub-Saharan Africa. *Sustainability*.
7. Hammed, A. T., **Falchetta, G.**, Wirawan, I. B. M. (2021). Back to the fields? Increased agricultural land greenness after a COVID-19 lockdown. *Environmental Research Communications*.
8. **Falchetta, G.** and Mistry M. (2021). The role of residential air circulation and cooling demand for electrification planning: implications of climate change in sub-Saharan Africa. *Energy Economics*.
9. **Falchetta, G.**, Dagnachew. A, Hof, A. and Milne D. (2021). The role of regulatory, market and governance risk for electricity access investment in sub-Saharan Africa. *Energy for Sustainable Development*.
10. **Falchetta, G.** and Noussan M. (2021) Electric vehicle charging network in Europe: an accessibility and deployment trends analysis. *Transportation Research Part D*.
11. **Falchetta, G.**, Hammad, A.T., Shayegh S. (2020). Planning universal accessibility to public healthcare in sub-Saharan Africa. *Proceedings of the National Academy of Sciences (PNAS)*.
12. Hunt, J., **Falchetta, G.**, Zakeri B. et al. (2020). Hydropower impact on the river flow of a humid regional climate. *Climatic Change*
13. **Falchetta, G.**, Pachauri, S., Byers, E., Danylo, O. & Parkinson, S. C. (2020). Satellite Observations Reveal Inequalities in the Progress and Effectiveness of Recent Electrification in Sub-Saharan Africa. *One Earth*.

14. **Falchetta G.**, Kasamba C., and Parkinson S. (2020). Monitoring hydropower reliability in Malawi with satellite data and machine learning. *Environmental Research Letters*.
15. **Falchetta, G.**, Hafner M., Tagliapietra S (2020). Least-Cost Pathways to 100% Electrification in East Africa by 2030. *The Energy Journal*.
16. Hunt, J., Zakeri B., **Falchetta G.**, Nascimento A., Wada Y. and Riahi K. (2019) Mountain Gravity Energy Storage: A new solution for closing the gap between existing short- and long-term storage technologies. *Energy*.
17. Johnson N., Burek P., Byers E., **Falchetta G.** et al. (2019) Integrated solutions for the water-energy-land nexus: Are global models rising to the challenge? *Water*.
18. **Falchetta, G.**, Pachauri, S., Parkinson, S., Byers, E. (2019) A high-resolution gridded dataset to assess electrification in sub-Saharan Africa. *Nature Scientific Data*.
19. **Falchetta, G.**, Gernaat, D., Hunt, D., Sterl, S. (2019) Hydropower dependency and climate change in sub-Saharan Africa: a nexus framework and evidence-based review. *Journal of Cleaner Production*.
20. **Falchetta, G.**, Noussan, M. (2019) Interannual Variation in Night-Time Light Radiance Predicts Changes in National Electricity Consumption Conditional on Income-Level and Region. *Energies*.

#### **Book contributions**

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- **Falchetta, G.** and Tagliapietra, S. (2021) Economics of access to energy. In: Hafner, M. & Luciani, G. *Handbook of International Energy Economics*. Palgrave Macmillan.
- Hafner, M.; Tagliapietra, S.; Occhiali, G.; **Falchetta, G.** (2019). Renewables for Energy Access and Sustainable Development in East Africa. SpringerBriefs in Energy.

#### **Main conference presentations**

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- **AMENET: Africa, the Mediterranean and Europe in the era of global integration 2021.** Private investment in decentralised energy access: towards new financing strategies? October 2021, online.
- **Night lights workshop 2021.** Satellite observations reveal inequalities in the progress and effectiveness of recent electrification in sub-Saharan Africa. February 2021, online.
- **AGU Fall Meeting 2020: M-LED: a Multi-sectoral Latent Electricity Demand Assessment Platform for Energy Access Planning and Nexus Implications Evaluation.** Online. December 2020. Poster
- **European Geoscience Union 2020: [Energy and environmental implications of meat consumption pathways in sub-Saharan Africa.](#)** Online. 7th May 2020. Oral presentation.
- **Lecturer at the FEEM & POLIBA Summer School on Energy Management e Digital Innovation for Sustainable Development, Bari, June 2019**
- **International Energy Workshop 2019: [A high-resolution gridded dataset to assess electrification in sub-Saharan Africa.](#)** Paris, 4th June 2019. Oral presentation.
- **European Geoscience Union 2019: [Monitoring Climate Impact on Hydropower and Electricity Consumption with Satellite Data: Preliminary Evidence from Malawi.](#)** Vienna, 8th April 2019. Oral presentation.

#### **Reviewer for scholarly journals**

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Expert Reviewer of the Second Order Draft of the IPCC's WGII and WGIII contribution to the Sixth Assessment Report (AR6) Nature Climate Change Scientific Data (Nature)

Energy Economics (Elsevier) Energy Policy (Elsevier) The Energy Journal (IAEE) Energy Research and Social Science (Elsevier) Energy Strategy Reviews (Elsevier) Sustainability: Science, Practice and Policy (Taylor & Francis) African Geographical Review (Taylor & Francis) Advances in Geosciences (Copernicus) Resources, Environment and Sustainability (Elsevier) F1000Research

### **Theses co-supervision**

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Su-Min Choi (MSc. Sustainable Energy Systems, Utrecht University), Developing a Bottom-Up Methodology to Project Electricity Demand for Productive Uses in sub-Saharan Africa in 2030 in IMAGE. October 2020

Paolo Cornali (MSc. Energy Engineering, Politecnico di Milano), Integrating agricultural uses of water in geospatial electrification planning. The case study of Kenya. April 2020

### **References**

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- Dr. Shonali Pachauri – International Institute for Applied Systems Analysis, pachauri@iiasa.ac.at
- Prof. Roberto Zoboli – Catholic University of Milan, roberto.zoboli@unicatt.it
- Prof. Manfred Hafner – FEEM – Fondazione Eni Enrico Mattei, manfred.hafner@feem.it

### **Besides work**

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I'm into guitar jams, cooking, and water-related activities.