

## **YACOB MULUGETTA**

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Yacob Mulugetta is a Professor of Energy and Development Policy at the University College London and part of the management of the Climate Compatible Growth (CCG) programme. He held an academic post at the Centre for Environmental Strategy, University of Surrey, UK, and a founding member of the African Climate Policy Centre (ACPC) at the UN Economic Commission for Africa (UNECA) based in Ethiopia where he worked as Senior Climate & Energy Specialist (2010-2013). He has over 25 years of research, teaching and advisory experience specialising on the links between energy infrastructure provision and human welfare. His research is focused on three interconnected areas: energy systems and development; energy systems and climate change; and political economy of low carbon development. He served as a Coordinating Lead Author of the Energy Systems chapter of the Intergovernmental Panel on Climate Change (IPCC) 5<sup>th</sup> Assessment Report (Working Group III on Mitigation), lead author in the IPCC Special Report on Global Warming of 1.5°C, and lead author in the IPCC 6<sup>th</sup> Assessment Report (Demand, Services & Social Aspects of Mitigation). Yacob Mulugetta is a Fellow of the African Academy of Sciences (AAS) and The World Academy of Science (TWAS).

## **QUALIFICATIONS**

July 1995	PhD (Renewable Energy Systems & Development), Leeds University, UK
July 1989	MSc (Energy Technology and Development), Salford University, UK
June 1987	BA (Geology), Earlham College, USA

## **EMPLOYMENT HISTORY**

Sept 2014 - Present	Professor, Dep. of Science, Technology, Engineering and Public Policy (STeAPP), University College London, UK
Aug 2013 – Sept 2014	Reader, Centre for Environmental Strategy, University of Surrey, UK
Sept 2010 - Jan 2013	Senior Energy and Climate Specialist, African Climate Policy Centre (ACPC), UN Economic Commission for Africa, Ethiopia
Dec 2010 – Aug 2013	Senior Lecturer, Centre for Environmental Strategy, University of Surrey, UK (leave of absence to the UNECA, Sept 2010-Jan 2013)
Sept 1997 - Sept 2010	MSc Director & Lecturer, and Deputy Director ('08-'10) Centre for Environmental Strategy, University of Surrey, UK
Sept 1995 - Sept 1997	Research Coordinator, Sustainability Research Centre (SUSTRECEN), University of Central England, UK.

## **CURRENT & RECENT GRANTS**

### **Principal Investigator**

Institutionalizing energy efficiency in Uganda SMEs, Energy for Economic Growth Programme, OPML and DfID (2019-2021). The project uses a multi-stakeholder deliberative approach to identifying and addressing the barriers to the adaptation of energy efficiency technologies and practices among selected industries in Uganda.

Agro-industries and Clean Energy in Africa (AGRICEN), Funded by EPSRC, 2013-2019. This is part of an EPSRC and DFID-funded network of projects, under the Understanding Sustainable Energy

Solutions (USES) research programme. The AGRICEN project aims to explore opportunities for widening energy access, using agro-industries as platforms for rural energy systems.

Interactions of industrial policy and green economy in Ethiopia. Funded by the Climate and Development Knowledge Network (CDKN), 2015-2017. This project was conceived with the Minister of Industry (Ethiopia) and his team. The project was designed to support the Ministry and industry actors mainstream the country's climate strategy into their policy and practices.

Principal Investigator, Understanding Local Energy Governance (UNLOC), NERC, 2010-2012. The project provides a robust understanding of evolving patterns of energy governance at the local and community levels in the UK, Europe and North America.

### **Co-Investigator**

Co-Investigator (Leads partnership of project), Climate Compatible Growth, Foreign Commonwealth & Development Office (FCDO), 2021-2025. Work with developing countries to transition to low-carbon energy and transport systems whilst unlocking investment opportunities in green infrastructure and creating new markets to deliver SDGs

Co-Investigator (Co-I), Community energy and the sustainable energy transition in Ethiopia, Malawi, and Mozambique (CESET), ESRC/GCRF, 2019-2024. The project aims to facilitate the deployment of CESs for a just transition in East Africa while understanding the kind of benefits that they provide to communities and their possible unintended negative impacts.

Co-Investigator, Modern Energy Cooking Services (MECS), DfID (2019-2022). The project takes a deep dive into the cooking challenges and transitions in urban Ethiopia, and develop the evidence-base for opportunities towards electrical cooking pathways through consultation with key stakeholders.

Co-Investigator (Co-I), Greening the Recovery in Zambia and Ghana, ESRC, GCRF, 2020-2022. This project will support a clean, resilient recovery from the Covid-19 pandemic in sub-Saharan Africa. It will focus on the short- and long-term opportunities for integrating economic recovery and climate change policies in two contrasting countries: Ghana and Zambia.

Co-Investigator, Governing Inclusive Green Growth in Africa (GIGGA), ESRC, 2017-2019.

Co-Investigator, Research group on Lifestyles, Values and Energy Consumption (RESOLVE), ESRC, 2006-2011.

### **Other projects**

- African Development Bank. Africa Economic Outlook 2022. Lead external expert. (2022)
- IRENA. Renewable Readiness Assessments (Gambia, Niger, Djibouti, Tanzania), principal consultant. (2013-2015).
- Member of the drafting team of the African Renewable Energy Initiative (AREI), 2015-2018.
- Member of the drafting team LDC Renewable Energy and Energy Efficiency Initiative (REEEI), 2018-2020.
- African Energy Commission, Technical team, African Energy Sector Transition Programme. 2019
- Department for International Development (DFID). The Climate Impacts Research Capacity and Leadership Enhancement in Sub-Saharan Africa (CIRCLE) programme. Aimed to develop the skills and research output of early career African researchers in the field of climate change and its local impacts on development, 2014-2018.

## **APPOINTMENTS & AFFILIATIONS**

- International Institute for Applied Systems Analysis (IIASA), Chairperson of Science Advisory Committee member.
- Centre for Research on Energy Demand Solutions, University of Oxford, Advisory Board, 2021.
- Climate Parliament. Board Member. 2021.
- Global Challenges Research Fund (GCRF), member of Strategic Advisory Group, 2018-2021.
- Climate & Clean Air Coalition (CCAC), Scientific Advisory Panel, 2017-2020.

- UN Secretary General's Climate Envoy, Climate Action Summit, Science Advisory Group, 2019.
- Intergovernmental Panel on Climate Change (IPCC), Lead Author for the 6<sup>th</sup> Assessment Report, 2018-2022
- IPCC, Lead Author, Special Report on Global Warming of 1.5°C, 2017-2018
- IPCC, Coordinating Lead Author, 2010-14
- Ministry of Water, Irrigation and Electricity (MoWIE), Energy Advisory group, 2017-2020
- UNEP Emissions Gap Report, Steering Committee Member, 2015-2017.

## EDITORIAL BOARDS OF ACADEMIC JOURNALS

- Climate Policy – Editor-in-Chief
- WIREs Energy and Environment – Associate Editor
- Climate and Development – Associate Editor
- Journal of Energy in Southern Africa – Associate Editor
- Sustainable Production and Consumption – Associate editor (until January 2023)

## SELECTED ACADEMIC PUBLICATIONS (over past 5 years)

- Ayele, S., Shen, W., Mulugetta, Y. and Kuma-Warako, T. (2024). 'Governance of renewable energy procurement via private suppliers: The Ethiopian experience' *Energy Policy*, (184).  
<https://doi.org/10.1016/j.enpol.2023.113889>
- Gebreselassie, M....Mulugetta, Y. (2024) Developing community energy systems to facilitate Ethiopia's transition to sustainable energy, *Energy Research & Social Science*, 117.  
<https://doi.org/10.1016/j.erss.2024.103713>
- Jazuli, R.M., Roll, K. and Mulugetta, Y. (2024) A review of Indonesia's JETP through the dynamics of its policy regime, *Global Policy*, 18,  
<http://dx.doi.org/10.1111/1758-5899.13452>
- Dubash, N., Mulugetta, Y. and Pauw, P. (2024) Charting a course for climate policy: blurred policy boundaries, engaging the global south, and reaching beyond incrementalism, *Climate Policy* (editorial),  
<http://doi.org/10.1080/14693062.2024.2370637>
- Foster, V., Trotter, P., Werner, S., Niedermayer, M., Mulugetta, Y. et al (2024). Development transitions for fossil fuel-producing low and lower-middle income countries in a carbon-constrained world, *Nature Energy*, <http://dx.doi.org/10.1038/s41560-023-01440-3>
- Yaguma, P., Caprotti F, Jazuli, MR, Parikh, P. and Mulugetta, Y. (2023) "Don't cook or iron with it": Heterogeneities and coping strategies for accessing and using electricity in the informal settlements of Kampala, Uganda, *Energy Research & Social Science* 108,  
<https://doi.org/10.1016/j.erss.2023.103395>
- Ambuj D. Sagar, A.D., Mathur, A., Birol, F., Mulugetta, Y., Ogunbiyi, D., Sokona, Y. and Steiner, A. (2023) Mission Energy Access for a just and sustainable future for all. *Nature Energy* comment.  
<https://doi.org/10.1038/s41560-023-01380-y>
- Rao, N. and Mulugetta, Y. (2023) 'Energy transitions for low-carbon development futures in low- and middle-income countries: Challenges and opportunities' Chapter 6 in *The Emissions Gap Report 2023*. Broken Record: Temperatures hit new heights, yet world fails to cut emissions United Nations Environment Programme (UNEP), Nairobi.
- Sokona, Y., Mulugetta, Y., Tesfamichael, M., Kaboub, F., Hällström, N., Stilwell, M., Adow, M. and Besaans, C. (2023) Just Transition: A Climate, Energy and Development Vision for Africa.  
<https://justtransitionafrica.org/>
- Chiyemura, F., Shen, W., Burgess, M., Mulugetta, Y. & Wang, Y. (2023): A dynamic institutional analysis of China's engagement with Africa's renewable energy market, *Environmental Politics*, DOI: 10.1080/09644016.2023.2194773
- Cannone, C...Mulugetta, Y. et al. (2023) Addressing Challenges in Long-Term Strategic Energy Planning in LMICs: Learning Pathways in an Energy Planning Ecosystem, *Energies* 16(21),  
<https://doi.org/10.3390/en16217267>
- Stephenson, M., Lejarraga, I., Matus, K., Mulugetta, Y., Yarime, M., & Zhan, J. (2023). AI as a SusTech Solution: Enabling AI and other 4IR technologies to drive sustainable development through value

- chains. *Philosophical Studies Series* (pp. 183-201). [https://doi.org/doi:10.1007/978-3-031-21147-8\\_11](https://doi.org/doi:10.1007/978-3-031-21147-8_11)
- Mulugetta, Y., Sokona, Y. et al (2022) Africa needs context-relevant evidence to shape its energy future. *Nature Energy*, <https://doi.org/10.1038/s41560-022-01152-0>
- Trotter, P., Mannan, I., Brophy, A., Sedzro, D., Yussuff, A., Kemausour, F. and Mulugetta, Y. (2022) How climate policies can translate to tangible change: Evidence from eleven low- and lower-middle income countries. *Journal of Cleaner Production*, 346, Art No. 131014. [doi.org/10.1016/j.jclepro.2022.131014](https://doi.org/10.1016/j.jclepro.2022.131014)
- Gebreslassie, M.G., Cuvilas, C., Zalengera, C....Mulugetta. Y. *et al.* (2022) Delivering an off-grid transition to sustainable energy in Ethiopia and Mozambique. *Energ Sustain Soc* 12, 23. [doi.org/10.1186/s13705-022-00348-2](https://doi.org/10.1186/s13705-022-00348-2)
- Tesfamichael, M., Twinomujuni, E., Ogeya, M., SSebagala, S. and Mulugetta, Y. (2022) Barriers to the institutionalization of industrial energy efficiency in Africa: The case of Uganda. *WIREs Energy and Environment*. [doi.org/10.1002/wene.427](https://doi.org/10.1002/wene.427)
- Puig, D., Moner-Girona, M., Kammen, D., Mulugetta, Y., Marzouk, A., Jarrett, M., Hailu, Y. & Nakićenović, Nebojša (2021). An action agenda for Africa's electricity sector, *Science*, 373, 616-9, [DOI: 10.1126/science.abh1975](https://doi.org/10.1126/science.abh1975).
- Creutzig, F., Niamir, L., Bai, X...Mulugetta, Y... *et al.* Demand-side solutions to climate change mitigation consistent with high levels of well-being. *Nat. Clim. Chang.* 12, 36–46 (2022). <https://doi.org/10.1038/s41558-021-01219-y>
- Jazuli, M. R., Steenmans, I., & Mulugetta, Y. (2021). [Navigating policy dilemmas in fuel-subsidy reductions: learning from Indonesia's experiences](https://doi.org/10.1080/15487733.2021.2002024). *Sustainability: Science, Practice, and Policy*, 17 (1), 391-403. doi:10.1080/15487733.2021.2002024
- Diemuodeke, R. Mulugetta, Y. and Imran, M. (2021). Techno-economic and environmental feasibility analysis of rice husks fired energy system for application in a cluster of rice mills, *Renewable and Sustainable Energy Review*, 149, 111365. [doi.org/10.1016/j.rser.2021.111365](https://doi.org/10.1016/j.rser.2021.111365)
- Schipper, E. L. F., Dubash, N. K., & Mulugetta, Y. (2021). [Climate change research and the search for solutions: rethinking interdisciplinarity](https://doi.org/10.1007/s10584-021-03237-3). *CLIMATIC CHANGE*, 168 (3-4), ARTN 18. doi:10.1007/s10584-021-03237-3
- Collett, K. A., Hirmer, S. A., Dalkmann, H., Crozier, C., Mulugetta, Y., & McCulloch, M. D. (2021). [Can electric vehicles be good for Sub-Saharan Africa?](https://doi.org/10.1016/j.esr.2021.100722). *ENERGY STRATEGY REVIEWS*, 38, ARTN 100722. doi:10.1016/j.esr.2021.100722
- Tesfamichael, M., Mulugetta, Y., Beyene, A. D., & Sebsibie, S. (2021). Counting the cost: Coping with tariff increases amidst power supply shortfalls in urban households in Ethiopia. *Energy Research & Social Science*, 71, 101860. doi:10.1016/j.erss.2020.101860
- Chen, K. C., Leach, M., Black, M. J., Tesfamichael, M., Kemausor, F., Littlewood, P., Marker, T., Mwabonje, O., Mulugetta, Y. . . Puzzolo, E. (2021). [BioLPG for Clean Cooking in Sub-Saharan Africa: Present and Future Feasibility of Technologies, Feedstocks, Enabling Conditions and Financing](https://doi.org/10.3390/en14133916). *ENERGIES*, 14 (13), ARTN 3916. doi:10.3390/en14133916
- Parikh P, Diep L, Hofmann P, Tomei J, Campos LC, Teh T-H, Mulugetta Y, Milligan B & Lakhanpaul M (2021). Synergies and trade-offs between sanitation and the sustainable development goals. *UCL Open: Environment*. 2021;(2):04. Available from: <https://dx.doi.org/10.14324/111.444/ucloe.000016>
- Szabó, S., Pinedo Pascua, I., Puig, D. Moner-Girona, M., Negre, M., Huld, T., Mulugetta., Kougias, I., Szabó, L. & Kammen (2021). Mapping of affordability levels for photovoltaic-based electricity generation in the solar belt of sub-Saharan Africa, East Asia and South Asia. *Sci Rep* 11, 3226 (2021). <https://doi.org/10.1038/s41598-021-82638-x>
- Agrawala, S., Amann, M., Binimelis de Raga, G., Borgford-Parnell, N., Brauer, M., Clark, H., Mulugetta, Y., Wongwangwatana, S. (2020). Call for comments: climate and clean air responses to covid-19. *International Journal of Public Health*. doi:10.1007/s00038-020-01394-3
- Cooper, A., Mukonza, C., Fisher, E., Mulugetta, Y., Gebreeyesus, M., Onuoha, M., . . . Okereke, C. (2020). Mapping Academic Literature on Governing Inclusive Green Growth in Africa: Geographical Biases and Topical Gaps. *Sustainability*, 12 (5), 1956. doi:10.3390/su12051956
- Mulugetta, Y., Carvajal, P., Haselip, J. and Spencer, T. (2019) 'Bridging the Gap: Global transformation of the energy system, Chapter 6 in *The Emissions Gap Report 2019*. United Nations Environment Programme (UNEP), Nairobi.

- Mulugetta, Y. and Agbemabiese, L. (2019) Sustainable energy systems in Africa, Chapter 3, in Mebratu. D. abd Swilling (eds.) *Transformational Infrastructure for development of a Wellbeing Economy in Africa*, African Sun Media. [www.africansunmedia.co.za](http://www.africansunmedia.co.za)
- Coke, A., Okereke, C., Geebreyesus, M., Ginbo, T., Wakeford, J. J. and Mulugetta, Y. (2019). Governing green industrialisation in Africa: Assessing key parameters for a sustainable socio-technical transition in the context of Ethiopia. *World Development*, 115, 279-290. [doi.org/10.1016/j.worlddev.2018.11.019](https://doi.org/10.1016/j.worlddev.2018.11.019)
- Carvajal, P.E., Li, F.G.N., Soria, R., Cronin, J., Anandarajah, G. and Mulugetta, Y. (2019). Large hydropower, decarbonisation and climate change uncertainty: Modelling power sector pathways for Ecuador. *Energy Strategy Reviews*, 23, 86-99. [doi:10.1016/j.esr.2018.12.008](https://doi.org/10.1016/j.esr.2018.12.008)
- Mulugetta, Y., Ben Hagan, E. and Kammen, D. (2018). Energy access for sustainable development. *Environmental Research Letters* (in press) <https://doi.org/10.1088/1748-9326/aaf449>
- Mulugetta, Y. and Castan-Broto, V. (2018) 'Deep Mitigation Opportunities and Urbanization Patterns in LDCs' *Current Opinion in Environmental Sustainability*. 30, 82-88. [doi:10.1016/j.cosust.2018.03.007](https://doi.org/10.1016/j.cosust.2018.03.007)
- Nerini, F.F., Tomesi, J. To, L.S., Bisaga, I., Parikh, P., Black, M., Borrion, A., Spataru, C., Castan-Broto, V., Anandarajah, G., Milligan, B. and Mulugetta, Y. (2018) Mapping synergies and trade-offs between energy and the Sustainable Development Goals, *Nature Energy*, 3, 10-15. Doi:10.1038/s41560-017-0035-5