

# Curriculum Vitae

## Peter Mulder



Senior Researcher, TNO Energy Transition Studies

Radarweg 60, 1043 NT Amsterdam, The Netherlands

T +31 (0)6 2512 0867, E [p.mulder@tno.nl](mailto:p.mulder@tno.nl)

W <http://www.petermulder.net>

ORCID 0000-0002-9578-9299, Web of Science R-5057-2017

Date of Birth 28.09.1974; Married, 2 children (2012, 2014)

Languages: Dutch (mother tongue), English (fluent), Portuguese (good), German (good)

### Education

Ph.D Economics, Vrije Universiteit Amsterdam, 2003.

Specialization: Macro- and energy economics.

Dissertation: On the Economics of Technology Diffusion and Energy Efficiency.

MSc Economics, Vrije Universiteit Amsterdam, 1998.

Specialization: Macro- and environmental economics; extracurricular subjects in Philosophy & History.

Thesis: Evolutionary Economics, the Theory of Self-Organization and Sustainable Development. An Unfinished Symphony (in Dutch).

### Employment

2020 – Senior Researcher  
Energy Transition Studies, TNO

2007 – 2020 Assistant Professor  
Department of Spatial Economics, Vrije Universiteit Amsterdam

2011 Visiting Research Fellow  
Department of Agricultural Economics, Purdue University, Indiana, USA

2005 – 2007 Consultant / policy advisor in Mozambique  
Ministry of Energy, Directorate Studies and Planning (DEP)  
Ministry of Economic Affairs (MPD), Directorate Economic Analysis and Policy (DNEAP)  
via Embassy Denmark, Maputo & Danish International Development Agency (DANIDA)

2004 – 2005 Post-Doctoral Researcher  
Department of Spatial Economics, Vrije Universiteit Amsterdam

2003 – 2004 Research Scholar  
International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria

1998 – 2003 Junior Researcher / Ph.D. student  
Institute for Environmental Studies (IVM), Vrije Universiteit Amsterdam  
CPB Netherlands Bureau for Economic Policy Analysis, The Hague, The Netherlands

### Current research @ TNO

Employment effects and equity implications of the energy transition; energy poverty and the energy transition; competitiveness as barrier to industry decarbonization; narratives as determinant of consumer behavior in the energy transition; spatial implication of the energy transition.

## Management

- 2020 – Project leader TNO, various research projects.
- 2017 – 2020 Coordinator partnership Vrije Universiteit Amsterdam / Spatial Economics & Universitas Indonesia / Faculty of Economics and Business, Jakarta.
- 2015 – 2017 Chairman Educational Committee, Earth & Economics BSc program, VU Amsterdam
- 2013 – Coordinator minor Spatial Economics, VU Amsterdam.
- 2013 – 2018 Coordinator KNAW Interdisciplinary research project ‘Local and Regional dimensions in Indonesia’s social and economic development; a governance approach’. In collaboration with KITLV Leiden University.
- 2013 – 2016 Member, Board of Examiners, University College Amsterdam.
- 2008 – 2015 Member Educational Committee, Earth & Economics BSc program, VU Amsterdam.

## Teaching

### *Qualifications:*

- 2018 Senior University Teaching Qualification (SKO)
- 2008 University Teaching Qualification (BKO)

### *Courses:*

- 2018 – 2019 Governance for Society: Economic Inequality & Political Populism in Europe VU, BSc Philosophy, Politics & Economics (PPE)
- 2017 – 2020 Urban Economics & Regional Policy Universitas Indonesia / Economics Faculty, Jakarta
- 2016 – 2019 The City UvA, BSc Beta-Gamma  
Institute for Interdisciplinary Studies (IIS)
- 2016 – 2019 Economic Ethics VU, BSc Economics
- 2016 – 2019 Micro-economics II VU, BSc Earth & Economics
- 2013 – 2019 Research Seminar Spatial Economics VU, BSc Earth & Economics
- 2011 – 2019 Urban Economics VU, BSc Economics
- 2011 – 2019 Micro-economics I VU, BSc Earth & Economics
- 2007 – 2019 Thesis supervision VU, BSc Economics / Earth & Economics  
VU, MSc Economics / Spatial Economics  
University College Amsterdam
- 2013 – 2016 The Sustainable City University College Amsterdam
- 2011 – 2012 Urban Economics University College Amsterdam
- 2011 International Economic Development Purdue University, USA
- 2007 – 2016 Regional Economics VU, BSc Earth & Economics
- 2007 Environmental Economics Catholic University Mozambique (UCM), Beira

## Research Interests

Economics of energy transitions, cities and the spatial structure of economic development, energy use and urbanization, spatial inequality, (spatial) diffusion of technology, role of institutions and governance in economic development.

## Citations (October 2021)

Web of Science: 856 (h-index: 14); Google Scholar: ~2100 (h-index: 20, i10-index: 30).

## Scholarly publications

- Mulder, P., F. Dalla Longa, K. Straver (2021). *De Feiten over Energiearmoede in Nederland; Inzicht op nationaal en lokaal niveau* [The Facts about Energy Poverty in the Netherlands. Insights at national and local level], TNO report 2021 P11678.
- Mulder, P., G. Geuskens, T. van Bree (2021). *Banen in Beeld; Werkgelegenheid gerelateerd aan investeringen in de energietransitie in Rotterdam* [Jobs at Sight; Employment effect of investment in the energy transition in Rotterdam], TNO report 2021 P11614
- Janssen, K., P. Mulder, M.H. Yudhistira (2021). Spatial Sorting of Rich versus Poor People in Jakarta. *Bulletin of Indonesian Economic Studies*, forthcoming.
- Díaz Lanchas, J., P. Mulder (2021). Does Decentralization of Governance Promote Urban Diversity? Evidence from Spain. *Regional Studies* 55, 1111-1128.
- Straver, K., L. Middlemiss, M. Hesselman, M. Feenstra, P. Mulder, S. Tirado Herrero (2020). *Energy Poverty and the Energy Transition*, TNO White Paper.
- Fevriera, S., H.L.F. de Groot, P. Mulder (2020). Does Urban Form Affect Motorcycle Use? Evidence from Yogyakarta, Indonesia. *Bulletin of Indonesian Economic Studies*, May 4.
- Dobis, E.A., M.S. Delgado, R.J.G.M. Florax, P. Mulder (2020). Spatial Contagion, Hierarchy, and Population: American cities 1990-2010. *Journal of Economic Geography* 20, 397-418.
- Berenschot, W., P. Mulder (2019). Explaining regional variation in local governance: clientelism and state-dependency in Indonesia. *World Development* 122, 233-244.
- Kurniawan, H., H.L.F. de Groot, P. Mulder (2019). Are poor provinces catching-up the rich provinces in Indonesia?, *Regional Science, Policy and Practice* 11, 89-108.
- Mahumane, G.M., P. Mulder (2019). Expanding versus greening? Long-term energy and emission transitions in Mozambique, *Energy Policy* 126, 145-156.
- Bakens, J., R.J.G.M. Florax, P. Mulder (2018). Ethnic Drift and White Flight: A Gravity Model of Neighborhood Formation, *Journal of Regional Science* 58, 921-948.
- Bakens, J., H.L.F. de Groot, R.J.G.M. Florax, P. Mulder (2018). *Living Apart Together. The Economic Value of Ethnic Diversity in Cities*. Tinbergen Discussion Paper 18-029/VIII, Amsterdam/Rotterdam: Tinbergen Institute.
- Mahumane, G.M., P. Mulder (2016). Introducing MOZLEAP: an integrated long-run scenario model of the emerging energy sector of Mozambique, *Energy Economics* 59, 275-289.
- Wan, J., K. Baylis, P. Mulder (2015). Trade-Facilitated Technology Spillovers in Energy Productivity Convergence Processes across EU Countries, *Energy Economics* 48, 253-264.
- Mulder, P. (2015). International Specialization, Sector Structure and the Evolution of Manufacturing Energy Intensity in OECD Countries, *The Energy Journal* 36(3), 111-136.
- Mulder, P., H.L.F. de Groot, B. Pfeiffer (2014). Dynamics and determinants of energy intensity in the service sector: A cross-country analysis, 1980-2005, *Ecological Economics* 100, 1-15.
- Andadari, R.K., Mulder, P., P. Rietveld (2014). Energy poverty reduction by fuel switching. Impact evaluation of the LPG conversion program in Indonesia, *Energy Policy* 66, 436-449
- Pfeiffer, B., P. Mulder (2013). Explaining the Diffusion of Renewable Energy Technology in Developing Countries, *Energy Economics* 40, 285-296
- Reprinted in: Fouquet, R. (ed.), *Economics of Renewable Energy*, vol. 347 in The International Library of Critical Writings in Economics series. Cheltenham: Edward Elgar.
- Bakens, J., P. Mulder, P. Nijkamp (2013). Economic impacts of cultural diversity in The Netherlands: productivity, utility and sorting, *Journal of Regional Science* 53, 8-36.
- Mulder, P., H.L.F. de Groot (2013). Dutch Sectoral Energy Intensity Developments in International Perspective, 1987-2005, *Energy Policy* 52, 501-512
- Mulder, P., H.L.F. de Groot (2012). Structural Change and Convergence of Energy Intensity Across OECD Countries, 1970-2005, *Energy Economics* 34, 1910-1921

- Mulder, P., P. Nijkamp, R. Stough (2012), *Spatial Economic Analysis* 7 (3), 2012. Guest editor Special Issue: Modelling Innovation, Entrepreneurship and Regional Development.
- Florax, R.J.G.M., H.L.F. de Groot, P. Mulder (2011). *Improving Energy Efficiency through Technology: Trends, Investment Behaviour and Policy Design*, Cheltenham: Edward Elgar.
- Mulder, P., H.L.F. de Groot (2011), *Energy Intensity across Sectors and Countries: Empirical Evidence 1980–2005*, CPB Discussion Paper 171, The Hague: CPB Netherlands Bureau for Economic Policy Analysis.
- Bucuane, A.J., P. Mulder (2009), 'Prospects for an Electricity Tax', in: Arndt, C. and F. Tarp (eds.), *Taxation in a Low-Income Economy – The case of Mozambique*, 302-327. London/NewYork: Routledge.
- Bucuane, A.J., P. Mulder (2009), 'Expanding exploitation of natural resources in Mozambique: Will it be a blessing or a curse?', in: Brito, L. de, C. Castel-Branco, S. Chichava, A. Fransisco (eds.), *Reflecting on Economic Questions*, 104-153. Maputo: IESE.
- Mulder, P., J. Tembe (2008), Rural Electrification in an Imperfect World: A case study from Mozambique, *Energy Policy*, 36, 2785-2794.
- Mulder, P., H.L.F. de Groot (2007), Sectoral Energy- and Labour-Productivity Convergence, *Environmental and Resource Economics*, 36, 85–112.  
Reprinted in: L. Bretschger and S. Smulders (2007, eds), *Sustainable Resource Use and Economic Dynamics*, 165–190, Springer, Dordrecht.
- Miketa, A., P. Mulder (2005), Energy-Productivity Across Developed and Developing Countries in 10 Manufacturing Sectors: Patterns of Growth and Convergence, *Energy Economics* 27, 429-453.
- Mulder, P. (2005). *The Economics of Technology Diffusion and Energy Efficiency*. Cheltenham: Edward Elgar.
- De Groot, H.L.F., M.W. Hofkes, P. Mulder (2004), 'A Vintage Model of Technology Diffusion: The effects of learning-by-doing and returns to diversity', in: S. Brakman, B. Heijdra (eds), *The Monopolistic Competition Revolution in Retrospect*, 356-372. Cambridge: Cambridge University Press.
- Mulder, P., H.L.F. de Groot (2004), *Decoupling Economic Growth and Energy Use. An Empirical Cross-Country Analysis for 10 Manufacturing Sectors*, Tinbergen Discussion Paper 04-005/3, Amsterdam/Rotterdam: Tinbergen Institute.
- Mulder, P. (2004), NEMO: CPB's energievraagmodel tussen top-down en bottom-up, *Kwartaalschrift Economie* 1, 131-153
- Mulder, P. H.L.F. de Groot, F.A.G. den Butter (2004). 'De Energie- en Arbeidsproductiviteit van Nederland in Internationaal Perspectief', in: H.R.J. Vollebergh, W. van Groenendaal, M.W. Hofkes and R. Kemp (eds), *Milieubeleid, Technologische Ontwikkeling en de Nederlandse Economie*, Den Haag, SDU, 101-125.
- De Groot, H.L.F., M.W. Hofkes, P. Mulder, J.A. Smulders (2004). 'Dynamiek van Technologie-ontwikkeling: Innovatie, Adoptie en Diffusie', in: H.R.J. Vollebergh, W. van Groenendaal, M.W. Hofkes, R. Kemp (eds), *Milieubeleid en Technologische Ontwikkeling in de Nederlandse Economie*, Den Haag, SDU, 45-63.
- Den Butter, F.A.G., H.L.F. de Groot, P. Mulder (2003), Energie en Arbeid: Vrienden of Vijanden?, *Economisch Statistische Berichten* 88, no.4407, 295-297
- Mulder, P., H.L.F. de Groot, M.W. Hofkes (2003), Explaining Slow Diffusion of Energy-Saving Technologies. A vintage model with returns to diversity and learning-by-using, *Resource and Energy Economics* 25, pp.105-126.
- De Groot, H.L.F., P. Mulder, D.P. van Soest (2002). *Subsidising the Adoption of Energy-Saving Technologies: Analyzing the Impact of Uncertainty, Learning and Maturation*, OCFEB Research Memorandum, no. 0201, Rotterdam: OCFEB.
- Mulder, P., J.C.J.M. van den Bergh (2001), Evolutionary Economic Theories of Sustainable Development, *Growth and Change* 32, pp.110-134.  
Reprinted in: Witt, U. (ed.), *Recent Developments In Evolutionary Economics*, vol. 228 in The International Library of Critical Writings in Economics series. Cheltenham: Edward Elgar.
- Mulder, P., H.L.F. de Groot, M.W. Hofkes (2001). Economic Growth and Technological Change. A comparison of insights from a neo-classical and evolutionary perspective, *Technological Forecasting and Social Change* 68, 151-171

### Scholarly publications under review

- Mahumane, G.M., P. Mulder (2021). *Urbanization of Energy Poverty? The case of Mozambique*. Under review for Renewable and Sustainable Energy Reviews (Revise & Resubmit).
- Mahumane, G.M., P. Mulder (2021). *On the link between residential energy consumption and population density in Africa. Evidence from Mozambique*. Under review for Energy for Sustainable Development (Revise & Resubmit).
- Bakens, J., H.L.F. de Groot, R.J.G.M. Florax, P. Mulder (2021). *Living Apart Together. The Economic Value of Ethnic Diversity in Cities*. Under review for Environment and Planning B: Urban Analytics and City Science (Revise & Resubmit)

### Scholarly publications in progress

- What Drives Electrification Inequality Across Time and Space in Indonesia? (with I.S. Rosidin)
- Power Density and Urbanization, 1800-2000. (with F. van de Poll)
- Transport Policies and Urban Air Pollution in Developing Countries. (with R. Borek)
- City Size Distribution and Inequality in Indonesia. (with I.S. Rosidin and H.L.F. de Groot)

### Other publications

- Mulder, P., F. Dalla Longa and K. Straver (2021). Hogere gasprijzen leiden tot energiearmoede bij duizenden extra huishoudens, *ESB*, 21-05-2021, Blog. [On the impact of the gas price hike on energy poverty]
- Mulder, P. and K. Straver (2021). Woningaanpak cruciaal tegen energiearmoede. *Telegraaf* 05-10-2021, Opinion. [On home renovation as remedy against energy poverty]
- Van der Werf, G.R., G.C. van der Meijden, P. Mulder, (2019). *Klimaatverandering in je moerstaal*. VU Reader.
- De Groot, H.L.F. de, P. Mulder (2015), We moeten ons niet richten op de armen, maar op de middenklasse, *Parool* 27-08-2015, Opinion. [On the housing market in Amsterdam]
- Bakens, J., H.L.F. de Groot, P. Mulder, C.J. Pen (2014). *Soort zoekt soort. Clustering en sociaal-economische scheidslijnen in Nederland*. Platform 31.
- Mulder, P. (2013), Book review D. Acemoglu en J. Robinson - Waarom sommige landen rijk zijn en andere arm, *Nederlands Dagblad* 22-03-2013
- Mulder, P. (2010), Leve de markt, maar wel in de economie. *Nederlands Dagblad* 14-05-2010
- Mulder, P. (2010), *Co-referaat Groen van Prinstererlezing 2010 door Bob Goudzwaard*, in: Crisistijd, Wetenschappelijk Bureau ChristenUnie.
- Van de Kamp, L.J., P. Mulder (2009), Van de prins geen kwaad, *Volkskrant* 03-10-2009, Opinie. [On the purchase of a villa in Mozambique by the Dutch Crown Prince.]
- Mulder, P. (2008), Samaritanendom, *Radix* 34, 146-176. [On (dis)benefits of development aid]
- Mulder, P. (2002), Globalisering, of hoe meer mensen meer met elkaar te maken hebben, *Radix* 28, 159-168.
- Mulder, P., H.L.F. de Groot (2002). Leren Vereist Investeren, *ESB*, 85, no.4284, 980-982.
- De Groot, H.L.F., P. Mulder (2000). Leren, Weten en Vergeten, *ESB* 85, no.4270, 687.

### **Contributions to International Conferences**

- 2019 – Elsevier Conference on Energy Research and Social Science, Phoenix, USA  
2018 – Sustainability and Development Conference, University of Michigan, Ann Arbor, USA  
2018 – World Congress Regional Science International, Goa, India  
2017 – Urban Economics Association / North American Regional Science Council, Vancouver, Canada  
2016 – Urban Economics Association / North American Regional Science Council, Minneapolis, USA  
2015 – Urban Economics Association / European Regional Science Association, Lissabon, Portugal  
2014 – European Regional Science Association, St. Petersburg, Rusland  
2013 – North American Regional Science Council, Atlanta, USA  
2012 – International Energy Workshop, Kaapstad, Zuid-Afrika  
2011 – North American Regional Science Council, Miami, USA  
2011 – European Regional Science Association, Barcelona, Spanje  
2010 – International Energy Workshop, Stockholm, Zweden  
2010 – WIOD Conference ‘Industry-Level Analyses of Globalization and its Consequences’, Wenen, Oostenrijk  
2009 – North American Regional Science Council, San Fransisco, USA  
2008 – Stanford Energy Modeling Forum, Working Group 25, Washington DC, USA  
2006 – International Energy Workshop, Kaapstad, Zuid-Afrika  
2004 – Annual Congress of the European Regional Science Association, Porto, Portugal  
2004 – Monte Verità Conference on Sustainable Resource Use and Economic Dynamics, Ascona, Zwitserland,  
2003 – International Energy Workshop, IIASA, Laxenburg, Oostenrijk  
2002 – 2nd World Congress of Environmental and Resource Economists, Monterey, USA  
2002 – International Energy Workshop, Stanford University, USA  
2001 – Congress of the European Association of Environmental and Resource Economists, Southampton, UK  
2000 – KNAW Workshop ‘Economic Modelling of Environmental Policy and Endogenous Technological Change’, Amsterdam  
2000 – International Energy Workshop, Stanford University, USA  
1999 – Workshop ‘Endogenous Growth Policy and Regional Development’, Tinbergen Instituut Amsterdam

### **Referee academic journals**

Amongst others: Applied Energy, Ecological Economics, Economics Bulletin, Energy Journal, Energy Economics, Energy Research and Social Science, Energy Policy, Environmental Research Letters, Journal of Economic Growth, Journal of Economic Geography, Journal of Environmental Economics and Management, Journal of Regional Science, Papers in Regional Science, Journal of Regional Science and Urban Economics, Resource and Energy Economics, Spatial Economic Analysis, World Development

### **PhD students**

- Advisor: Isfandiarni S. Rosidin; Inequality, Regional Economic Development and Access to Public Services in Decentralizing Indonesia (26-10-2021)  
Gilberto Mahumane; Promises and Perils of Energy Transitions in Mozambique (13-01-2021)  
Sotya Fevreira; Environmental Challenges of Economic Development in Indonesia (15-09-2020)  
Jessie Bakens; Economic Impacts of Immigrants and Ethnic Diversity on Cities (09-09-2016)
- Committee: Elizabeth Dobis; The Evolution of the American Urban System: History, Hierarchy and Contagion (2017, Purdue University, USA)  
Haroon Sheikh; Embedding Technopolis (2012, VU Amsterdam)

## Grants

### *Awarded*

- 2020 TNO  
Energy Transition Ideation Challenge
- 2016 NWO / ERA-NET Cofund Smart Cities and Communities (ENSCC)  
Urban form, location choice and transport solutions for low-carbon cities.
- 2013 KNAW – SPIN  
Local and Regional dimensions in Indonesia’s social and economic development; a governance approach.
- 2003 NWO Grant Research Fellowship IIASA (6 months)

### *Rejected*

- 2016 NWO-ORA:  
Energy use and the spatial structure of the economic system in developing countries.
- 2015 ERC Consolidator Grant 2015 (final round)  
Energy use, urbanization and the spatial structure of economic development in Africa.
- 2008 NWO-VIDI  
Economic Interaction in a Globalizing World. The role of institutions, culture, and transnational networks.

## Policy Advice / Consultancy

- 2009 – 2012
- Training LEAP Energy Planning System, Ministry of Energy Mozambique
  - Update National Energy Statistics Mozambique, in collaboration with Ministry of Energy and Eduardo Mondlane Universiteit Mozambique
- 2005 – 2007
- Advising Minister of Energy and National Directors of DEP and DNEAP about current affairs, investment projects; pricing policy fuels and electricity.
  - Capacity building staff Ministries of Energy and Economic Affairs (MPD).
  - National Strategy Energy sector Mozambique 2007-2012  
Substantive guidance through regional consultation workshops with provincial governing bodies and energy companies; writing of draft strategy.
  - *Energy Outlook Mozambique*, DNEAP Discussion Paper No.53E.
  - Development and calibration 1<sup>th</sup> planning- and scenario model energy sector in Mozambique
  - *Exploring Natural Resources in Mozambique. Will it be a blessing or a curse?*  
DNEAP Discussion Paper No.54E. (with A. Bucuane)
  - Development and communication of National Energy Statistics 2006, Mozambique
  - Development and communication of 1<sup>th</sup> National Energy Statistics 2000-2005, Mozambique
  - *Exploring an Electricity Tax on Mega Projects in Mozambique*  
DNEAP Discussion Paper No.37E. ( with A. Bucuane)
  - *Rural Electrification in Mozambique (a Cost-Benefit Analysis)*  
DNEAP Discussion Paper No.36E. ( with J. Tembe)
  - *Impact of the Oil Price Increase on the Mozambican Economy* (in Portuguese)  
DNEAP Discussion Papers No.19P. (with C. Arndt, L. Matsinhe, E. Paulo and J.E. Van Dunem)
- 2000 *Effectiveness Energy Subsidies*, Report for Workinggroup IBO EnergySubsidies, Utrecht: Ecofys (with J. de Beer, M. Kerssemeeckers, R. Aalbers, H.R.J. Vollebergh, I. Ossokina, K. Blok)

**Volunteering**

Co-founder and chairman of the board of 'Present Amsterdam' (2005, 2008-2013) and co-founder of 'Burennetwerk' (2012). Both are charitable organizations in Amsterdam that connect people who want to help with people who could use some extra help.

Volunteer at community center room Bloemenbuurt, Amsterdam Noord.

Co-founder and chairman of the board of 'Hart voor Noord' (since 2019), a non-profit organization that supports people in Amsterdam Noord to rise out of poverty and loneliness - by listening, helping and building together resilient communities ([www.hartvoornoord.nl](http://www.hartvoornoord.nl)).