

Dr. Bastiaan Johannes van Ruijven

Energy, Climate, and Environment Program

Sustainable Service Systems

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EDUCATION

2008 Ph.D. Science, Technology and Society, Utrecht University, The Netherlands

2003 M.Sc. Environmental Science, Utrecht University, The Netherlands

PROFESSIONAL APPOINTMENTS

2021 – present Research Group Leader, Sustainable Service Systems, International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria

2018 – present Senior Research Scholar, International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria

2011 – 2017 Project Scientist, National Center for Atmospheric Research (NCAR), Climate and Global Dynamics Laboratory, Boulder, CO, USA

2017 Research Scientist, Boston University, Pardee Center for the Study of the Longer-Range Future, Boston, MA, USA

2016 Visiting Research Scholar, Boston University, Pardee Center for the Study of the Longer-Range Future, Boston, MA, USA

2008 – 2011 Policy Researcher, Netherlands Environmental Assessment Agency (PBL), Climate, Air and Energy Division, Bilthoven, The Netherlands

2004 – 2008 PhD Researcher, Utrecht University, Dept of Science, Technology and Society, Utrecht, The Netherlands

2007 Visiting Researcher, Indian Institute of Science (IISc), Bangalore, India

2007 Visiting Researcher, Indira Gandhi Institute for Development Research (IGIDR), Mumbai, India

2005 Visiting Researcher, Chalmers University, Gothenburg, Sweden

2003 – 2004 Junior Researcher, National Institute for Health and the Environment (RIVM), Bilthoven, The Netherlands

RESEARCH LEADERSHIP

2020 – present Energy Demand changes Induced by Technological and Social innovations (EDITS), co-Principal Investigator and WG co-lead on Scenario Protocol

2020 – present Climate change scenarios to support the NGFS, Work Package Leader WP3 Transition risk: Downscaling of scenario output

2019 – present Exploring National and Global Actions to reduce Greenhouse gas Emissions (ENGAGE), Co-Principal Investigator

2019 – present Work Package Leader and member of Scientific Steering Committee, Next generation of AdVanced InteGrated Assessment modelling to support

- climaTE policy making (NAVIGATE), WP3 Fundamental transformations of consumer goods and services
- 2019 – present Sustainable development pathways achieving Human well-being while safeguarding the climate And Planet Earth (SHAPE), Work Package Leader WP4 Climate and Inequality and member of Scientific Steering Committee
- 2018 – present International Committee on New Integrated Climate Change Scenarios (ICONICS), Co-chair of Steering Committee
- 2018 – 2019 Scenarios Forum Conference, March 11-13, 2019, Denver, CO, Member of Scientific Steering Committee
- 2012 – 2018 International Committee on New Integrated Climate Change Scenarios (ICONICS), Co-chair of working group on IAV quantitative elements and evaluation metrics
- 2015 – 2017 Integrated Assessment Modeling Consortium (IAMC), Member Scientific Steering Committee
- 2012 – 2015 Latin America Modeling Project (LAMP), Co-chair of WG on Baseline Scenarios and Baseyear Data, Co-chair of working group on climate change impacts on buildings
- 2009 – 2011 Asia Modeling Exercise (AME), Member of Scientific Steering Committee, Co-chair of working group on urban/rural development
- 2005 – 2007 Young Energy Specialists and Development Cooperation (YES-DC), Secretary of the board

PUBLICATIONS

AREAS OF INTEREST

Energy technology, Scenarios, Energy and development, Impacts of climate change, Household heterogeneity

Refereed Journal Articles

- 2021 Pianta, S., Brutschin, E., **van Ruijven, B.J.**, & Bosetti, V.. Faster or slower decarbonization? Policymaker and stakeholder expectations on the effect of the COVID-19 pandemic on the global energy transition. *Energy Research & Social Science*, 76, 102025. [doi](#)
- 2021 Battiston, S., Monasterolo, I., Riahi, K., & **van Ruijven, B. J.**. Accounting for finance is key for climate mitigation pathways. *Science*. [doi](#)
- 2021 Harmsen, M., Kriegler, E., Vuuren, D. P. van, Wijnst, K.-I. van der, Luderer, G., Cui, R., Dessens, O., Drouet, L., Emmerling, J., Morris, J. F., Fosse, F., Fragkiadakis, D., Fragkiadakis, K., Fragkos, P., Fricko, O., Fujimori, S., Gernaat, D., Guivarch, C., Iyer, G., ... **van Ruijven, B.J.**, Zakeri, B.. Integrated assessment model diagnostics: Key indicators and model evolution. *Environmental Research Letters*, 16(5), 054046. [doi](#)
- 2021 Wilson, C., Guivarch, C., Kriegler, E., **van Ruijven, B.J.**, van Vuuren, D. P., Krey, V., Schwanitz, V. J., & Thompson, E. L.. Evaluating process-based integrated assessment models of climate change mitigation. *Climatic Change*, 166(1), 3. [doi](#)

- 2021 Eker, S., Garcia, D., Valin, H., & **van Ruijven, B.J.** (2021). Using social media audience data to analyse the drivers of low-carbon diets. *Environmental Research Letters*. [doi](#)
- 2021 Kamei, M., Mastrucci, A., & **van Ruijven, B. J.** A Future Outlook of Narratives for the Built Environment in Japan. *Sustainability*, 13(4), 1653. [doi](#)
- 2021 Kwenda, P. R., Lagerwall, G., Eker, S., & **van Ruijven, B.J.** A mini-review on household solid waste management systems in low-income developing countries: A case study of urban Harare City, Zimbabwe: *Waste Management & Research*. [doi](#)
- 2020 O'Neill, B. C., Carter, T. R., Ebi, K., Harrison, P. A., Kemp-Benedict, E., Kok, K., Kriegler, E., Preston, B. L., Riahi, K., Sillmann, J., **van Ruijven, B. J.**, van Vuuren, D., Carlisle, D., Conde, C., Fuglestvedt, J., Green, C., Hasegawa, T., Leininger, J., Monteith, S., & Pichs-Madruga, R. Achievements and needs for the climate change scenario framework. *Nature Climate Change*, 10(12), 1074–1084. [doi](#)
- 2020 Dagnachew, A. G., Poblete-Cazenave, M., Pachauri, S., Hof, A. F., **Ruijven, B. van**, & Vuuren, D. P. van. Integrating energy access, efficiency and renewable energy policies in Sub-Saharan Africa: A model-based analysis. *Environmental Research Letters*. [doi](#)
- 2020 Schweizer, V. J., Ebi, K. L., van Vuuren, D. P., Jacoby, H. D., Riahi, K., Strefler, J., Takahashi, K., **van Ruijven, B. J.**, & Weyant, J. P. Integrated Climate-Change Assessment Scenarios and Carbon Dioxide Removal. *One Earth*, 3(2), 166–172. [doi](#)
- 2020 Zhao, Z.-J., Chen, X.-T., Liu, C.-Y., Yang, F., Tan, X., Zhao, Y., Huang, H., Wei, C., Shi, X.-L., Zhai, W., Guo, F., & **van Ruijven, B. J.** Global climate damage in 2 °C and 1.5 °C scenarios based on BCC_SESM model in IAM framework. *Advances in Climate Change Research*, 11(3), 261–272. [doi](#)
- 2020 Delzeit, R., Beach, R., Bibas, R., Britz, W., Chateau, J., Freund, F., Lefevre, J., Schuenemann, F., Sulser, T., Valin, H., **Ruijven, B. van**, Weitzel, M., Willenbockel, D., & Wojtowicz, K. (2020). Linking Global CGE Models with Sectoral Models to Generate Baseline Scenarios: Approaches, Challenges, and Opportunities. *Journal of Global Economic Analysis*, 5(1), 162–195. [doi](#)
- 2019 **van Ruijven, B. J.**, De Cian, E., & Sue Wing, I. Amplification of future energy demand growth due to climate change. *Nature Communications*, 10(1), 2762. [doi](#)
- 2019 Kermeli, K., Edelenbosch, O. Y., Crijns-Graus, W., **van Ruijven, B. J.**, Mima, S., van Vuuren, D. P., & Worrell, E. The scope for better industry representation in long-term energy models: Modeling the cement industry. *Applied Energy*, 240, 964–985. [doi](#)
- 2017 Rao, N. D., **van Ruijven, B. J.**, Riahi, K., & Bosetti, V. Improving poverty and inequality modelling in climate research. *Nature Climate Change*, 7(12), 857-862. [doi](#)
- 2017 Melnikov, N. B., O'Neill, B. C., Dalton, M. G., & **van Ruijven, B. J.** Downscaling heterogeneous household outcomes in dynamic CGE models for energy-economic analysis. *Energy Economics*, 65, 87-97. [doi](#)
- 2017 Maury, O., Campling, L., Arrizabalaga, H., Aumont, O., Bopp, L., Merino, G., . . . **van Ruijven, B. J.** From shared socio-economic pathways (SSPs) to oceanic system pathways (OSPs): Building policy-relevant scenarios for global oceanic ecosystems and fisheries. *Global Environmental Change*, 45, 203-216. [doi](#)
- 2017 van Vuuren, D. P., Stehfest, E., Gernaat, D. E. H. J., Doelman, J. C., van den Berg, M., Harmsen, M., **van Ruijven, B. J.**, . . . Tabeau, A. Energy, land-use and

- greenhouse gas emissions trajectories under a green growth paradigm. *Global Environmental Change*, 42, 237-250. [doi](#)
- 2017 O'Neill, B. C., Kriegler, E., Ebi, K. L., Kemp-Benedict, E., Riahi, K., Rothman, D. S., **van Ruijven, B. J.**, . . . Solecki, W. The roads ahead: Narratives for shared socioeconomic pathways describing world futures in the 21st century. *Global Environmental Change*, 42, 169-180. [doi](#)
- 2017 **van Ruijven, B. J.**, van Vuuren, D. P., Boskaljon, W., Neelis, M., Saygin, D., & Patel, M. K. Corrigendum to “Long-term model-based projections of energy use and CO₂ emissions from the global steel and cement industries” [Resour. Conserv. Recycl. 112 (2016) 15–36]. *Resources, Conservation and Recycling*, 125, 375-380. [doi](#)
- 2016 **van Ruijven, B. J.**, van Vuuren, D. P., Boskaljon, W., Neelis, M. L., Saygin, D., & Patel, M. K. Long-term model-based projections of energy use and CO₂ emissions from the global steel and cement industries. *Resources, Conservation and Recycling*, 112, 15-36. [doi](#)
- 2016 **van Ruijven, B. J.** Mind the gap – the case for medium level emission scenarios. *Climatic Change*, 138(3-4), 361-367. [doi](#)
- 2016 Clarke, L., McFarland, J., Octaviano, C., **van Ruijven, B. J.**, Beach, R., Daenzer, K., . . . van der Zwaan, B. Long-term abatement potential and current policy trajectories in Latin American countries. *Energy Economics*, 56, 513-525. [doi](#)
- 2016 **van Ruijven, B. J.**, Daenzer, K., Fisher-Vanden, K., Kober, T., Paltsev, S., Beach, R. H., . . . van Vuuren, D. P. Baseline projections for Latin America: base-year assumptions, key drivers and greenhouse emissions. *Energy Economics*, 56, 499-512. [doi](#)
- 2015 Hu, A., Levis, S., Meehl, G. A., Han, W., Washington, W. M., Oleson, K. W., **van Ruijven, B. J.**, . . . Strand, W. G. Impact of solar panels on global climate. *Nature Climate Change*, 6(3), 290-294. [doi](#)
- 2015 **van Ruijven, B. J.**, O'Neill, B. C., & Chateau, J. Methods for including income distribution in global CGE models for long-term climate change research. *Energy Economics*, 51, 530-543. [doi](#)
- 2013 van Vuuren, D. P., Deetman, S., van Vliet, J., van den Berg, M., **van Ruijven, B. J.**, & Koelbl, B. The role of negative CO₂ emissions for reaching 2 °C—insights from integrated assessment modelling. *Climatic Change*, 118(1), 15-27. [doi](#)
- 2013 Pachauri, S., **van Ruijven, B. J.**, Nagai, Y., Riahi, K., van Vuuren, D. P., Brew-Hammond, A., & Nakicenovic, N. Pathways to achieve universal household access to modern energy by 2030. *Environmental Research Letters*, 8(2). [doi](#)
- 2013 **van Ruijven, B. J.**, Levy, M. A., Agrawal, A., Biermann, F., Birkmann, J., Carter, T. R., . . . Schweizer, V. J. Enhancing the relevance of Shared Socioeconomic Pathways for climate change impacts, adaptation and vulnerability research. *Climatic Change*, 122(3), 481-494. [doi](#)
- 2013 Birkmann, J., Cutter, S. L., Rothman, D. S., Welle, T., Garschagen, M., **van Ruijven, B. J.**, . . . Pulwarty, R. Scenarios for vulnerability: opportunities and constraints in the context of climate change and disaster risk. *Climatic Change*, 133(1), 53-68. [doi](#)
- 2013 Lucas, P. L., Shukla, P. R., Chen, W., **van Ruijven, B. J.**, Dhar, S., den Elzen, M. G. J., & van Vuuren, D. P. Implications of the international reduction pledges on long-term energy system changes and costs in China and India. *Energy Policy*, 63, 1032-1041. [doi](#)

- 2012 Daioglou, V., **van Ruijven, B. J.**, & van Vuuren, D. P. Model projections for household energy use in developing countries. *Energy*, 37(1), 601-615. [doi](#)
- 2012 **van Ruijven, B. J.**, Schers, J., & van Vuuren, D. P. Model-based scenarios for rural electrification in developing countries. *Energy*, 38(1), 386-397. [doi](#)
- 2012 **van Ruijven, B. J.**, Weitzel, M., den Elzen, M. G. J., Hof, A. F., van Vuuren, D. P., Peterson, S., & Narita, D. Emission allowances and mitigation costs of China and India resulting from different effort-sharing approaches. *Energy Policy*, 46, 116-134. [doi](#)
- 2012 Krey, V., O'Neill, B. C., **van Ruijven, B. J.**, Chaturvedi, V., Daioglou, V., Eom, J., . . . Ren, X. Urban and rural energy use and carbon dioxide emissions in Asia. *Energy Economics*, 34, S272-S283. [doi](#)
- 2012 **van Ruijven, B. J.**, van Vuuren, D.P., van Vliet, J., Mendoza Beltran, A., Deetman, S., & den Elzen, M. G. J. Implications of greenhouse gas emission mitigation scenarios for the main Asian regions. *Energy Economics*, 34, S459-S469. [doi](#)
- 2012 den Elzen, M. G. J., Beltran, A. M., Hof, A. F., **van Ruijven, B. J.**, & van Vliet, J. Reduction targets and abatement costs of developing countries resulting from global and developed countries' reduction targets by 2050. *Mitigation and Adaptation Strategies for Global Change*, 18(4), 491-512. [doi](#)
- 2011 den Elzen, M. G. J., Hof, A. F., Mendoza Beltran, A., Grassi, G., Roelfsema, M., van **Ruijven, B. J.**, . . . van Vuuren, D. P. The Copenhagen Accord: abatement costs and carbon prices resulting from the submissions. *Environmental Science & Policy*, 14(1), 28-39. [doi](#)
- 2011 **van Ruijven, B. J.**, Lamarque, J.-F., van Vuuren, D. P., Kram, T., & Eerens, H. Emission scenarios for a global hydrogen economy and the consequences for global air pollution. *Global Environmental Change*, 21(3), 983-994. [doi](#)
- 2011 **van Ruijven, B. J.**, van Vuuren, D. P., de Vries, B. J. M., Isaac, M., van der Sluijs, J. P., Lucas, P. L., & Balachandra, P. Model projections for household energy use in India. *Energy Policy*, 39(12), 7747-7761. [doi](#)
- 2011 van Vuuren, D. P., Stehfest, E., den Elzen, M. G. J., Kram, T., van Vliet, J., Deetman, S., . . . **van Ruijven, B. J.** RCP2.6: exploring the possibility to keep global mean temperature increase below 2°C. *Climatic Change*, 109(1-2), 95-116. [doi](#)
- 2010 **van Ruijven, B. J.**, de Vries, B., van Vuuren, D. P., & van der Sluijs, J. P. A global model for residential energy use: Uncertainty in calibration to regional data. *Energy*, 35(1), 269-282. [doi](#)
- 2010 van Vuuren, D. P., Edmonds, J., Smith, S. J., Calvin, K. V., Karas, J., Kainuma, M., **van Ruijven, B. J.**, . . . Thomson, A. What do near-term observations tell us about long-term developments in greenhouse gas emissions? *Climatic Change*, 103(3-4), 635-642. [doi](#)
- 2009 **van Ruijven, B. J.**, & van Vuuren, D. P. Oil and natural gas prices and greenhouse gas emission mitigation. *Energy Policy*, 37(11), 4797-4808. [doi](#)
- 2009 **van Ruijven, B. J.**, van der Sluijs, J. P., van Vuuren, D. P., Janssen, P., Heuberger, P. S. C., & de Vries, B. Uncertainty from Model Calibration: Applying a New Method to Transport Energy Demand Modelling. *Environmental Modeling & Assessment*, 15(3), 175-188. [doi](#)
- 2008 **van Ruijven, B. J.**, Hari, L., van Vuuren, D. P., & de Vries, B. The potential role of hydrogen energy in India and Western Europe. *Energy Policy*, 36(5), 1649-1665. [doi](#)

- 2008 **van Ruijven, B. J.**, Urban, F., Benders, R. M. J., Moll, H. C., van der Sluijs, J. P., de Vries, B., & van Vuuren, D. P. Modeling Energy and Development: An Evaluation of Models and Concepts. *World Development*, 36(12), 2801-2821. [doi](#)
- 2007 **van Ruijven, B. J.**, van Vuuren, D. P., & de Vries, B. The potential role of hydrogen in energy systems with and without climate policy. *International Journal of Hydrogen Energy*, 32(12), 1655-1672. [doi](#)
- 2007 van Vuuren, D. P., den Elzen, M. G. J., Lucas, P. L., Eickhout, B., Strengers, B. J., **van Ruijven, B. J.**, . . . van Houdt, R. Stabilizing greenhouse gas concentrations at low levels: an assessment of reduction strategies and costs. *Climatic Change*, 81(2), 119-159. [doi](#)

Book Chapters

- 2020 Buckle, S., Mirabile, M., Jaber, A.A., LANzi, E., Dellink, R., Symes, W., Elgouacem, A., Henderson, B., **van Ruijven, B.J.**, Dieckmann, U. et al., Integrated Policies for Climate, Air, Ecosystems, Energy and Transport. In: Systemic Thinking for Policy Making: The Potential of Systems Analysis for Addressing Global Policy Challenges in the 21st Century. pp. 57-66 Paris, France: New Approaches to Economic Challenges, OECD Publishing. ISBN 978-92-64-49456-5. [doi](#)
- 2020 Kirman, A., Dellink, R., Chateau, J., Barnes, S., Rovenskaya, E., Dieckmann, U., **van Ruijven, B.J.**, Riahi, K. & Wagner, F. Methodologies and Tools for Integrated Systems Modelling. In: Systemic Thinking for Policy Making: The Potential of Systems Analysis for Addressing Global Policy Challenges in the 21st Century. pp. 29-38 Paris, France: New Approaches to Economic Challenges, OECD Publishing. ISBN 978-92-64-49456-5. [doi](#)
- 2011 Geurts, K., H. Nijland, **van Ruijven, B. J.**, Getting into the Right Lane for Low-Carbon Transport in the EU. In Rothengatter, W., Hayashi, Y., Schade, W. (ed) *Transport Moving to Climate Intelligence - New Chances for Controlling Climate Impacts of Transport after the Economic Crisis*, Springer. [link](#)

Reports

- 2021 Wilson, C. & **van Ruijven, B.J.**, Long-term impacts of COVID-19 on energy use in transport and buildings, NAVIGATE Policy Brief, [link](#)
- 2020 **van Ruijven, B.J.** & Min, J., The MESSAGEix-GLOBIOM model and scenarios for transition risk analysis. IIASA & UNEP Finance Initiative. [link](#)
- 2020 Bertram, C., Hilaire, J., Kriegler, E., Beck, T., Bresch, D. N., Clarke, L., Cui, R., Edmonds, J., Min, J., Piontek, F., Rogelj, J., Schleussner, C.-F., **van Ruijven, B. J.**, & Yu, S. NGFS Climate Scenarios Database Technical Documentation. Network for Greening the Financial System (NGFS). [link](#)
- 2019 Battiston, S., Jakubik, P., Monasterolo, I., Riahi, K. & **van Ruijven, B.J.** Climate Risk Assessment of the sovereign bond of portfolio of European Insurers. In: EIOPA Financial Stability Report, December 2019. European Insurance and Occupational pensions Authority (EIOPA) , Publications Office of the European Union, Luxembourg. [link](#)

- 2019 GEIDCO, WMO & IIASA, 2019. Research Report on Global Energy Interconnection for Addressing Climate Change. China Electric Power Press, Beijing, China.
- 2014 van Vuuren, D. P., **B. J. van Ruijven**, B. Girod, V. Daioglou, O. Edelenbosch, and S. Deetman, 2014: Energy demand. Integrated Assessment of Global Environmental Change with IMAGE 3.0. , E. Stehfest, D. P. van Vuuren, T. Kram, and L. Bouwman, Eds., PBL Netherlands Environmental Assessment Agency.
- 2014 van Vuuren, D. P., **B. J. van Ruijven**, D. E. H. J. Gernaat, and H.-S. de Boer, 2014: Energy conversion. Integrated Assessment of Global Environmental Change with IMAGE 3.0. , E. Stehfest, D. P. van Vuuren, T. Kram, and L. Bouwman, Eds., PBL Netherlands Environmental Assessment Agency.
- 2014 van Vuuren, D. P., P. L. Lucas, and **B. J. van Ruijven**, 2014: Air pollution and energy policies. Integrated Assessment of Global Environmental Change with IMAGE 3.0. , E. Stehfest, D. P. van Vuuren, T. Kram, and L. Bouwman, Eds., PBL Netherlands Environmental Assessment Agency.
- 2012 Riahi, K., and Coauthors, Energy Pathways for Sustainable Development. In: The Global Energy Assessment: Toward a More Sustainable Future. IIASA, Laxenburg, Austria and Cambridge University Press, Cambridge, UK.
- 2012 **van Ruijven, B.J.**, O'Neill, B.C. Income Distribution in CGE Models, NCAR, Boulder, CO, 2012
- 2011 O'Neill, B. C., and Coauthors, 2011: Meeting Report of the Workshop on The Nature and Use of New Socioeconomic Pathways for Climate Change Research, Boulder, CO, November 2-4, 2011.
- 2010 **van Ruijven, B. J.**, M. Weitzel, M. G. J. den Elzen, D. P. van Vuuren, S. Peterson, and D. Narita, 2010: Assessment of the impacts of different post-Kyoto regime proposals on China and India, POEM WP2 Report, 71 pp.
- 2010 den Elzen, M. G. J., and Coauthors, 2010: Evaluation of the Copenhagen Accord: Chances and risks for the 2°C climate goal, PBL Report 500114018, 70 pp.
- 2009 **van Ruijven, B. J.**, J. P. van der Sluijs, D. P. van Vuuren, P. H. M. Janssen, P. S. C. Heuberger, and H. J. M. de Vries, 2009: Uncertainty from model calibration: applying a new method to calibrate energy demand for transport, Report NWS-E-2009-50, 33 pp.
- 2009 **van Ruijven, B.J.**, and Coauthors, Energy and Climate Change. Getting in the Right Lane for 2050 – A primer for debate, In Bakkes J. and Coauthors, Netherlands Environmental Assessment Agency (PBL), Bilthoven, the Netherlands, Report 500159001
- 2009 Bakker, S., L. Beursken, S. Grafakos, J. Jansen, **B. J. van Ruijven**, and D. P. van Vuuren, 2009: Oil price and climate mitigation, WAB report 500102020.
- 2008 **van Ruijven, B. J.**, 2008: Energy and Development - A Modelling Approach, PhD Thesis, Dept. of Science, Technology and Society, Faculty of Science, Utrecht University, 271 pp.
- 2006 van Vuuren, D. P., and Coauthors, 2006: Stabilising greenhouse gas concentrations at low levels: an assessment of options and costs, report MNP 200114002/2006
- 2006 van Vuuren, D. P., **B. J. van Ruijven**, M. M. Hoogwijk, M. Isaac, and H. J. M. de Vries, 2006: TIMER 2.0, Model description and application. Integrated modelling of global environmental change. An overview of IMAGE 2.4, A. F. Bouwman, M. P.

- M. Hartman, and C. G. M. Klein Goldewijk, Eds., Netherlands Environmental Assessment Agency (MNP)
- 2003 **van Ruijven, B. J.**, Hydrogen in the future global energy system. MSc Thesis, Environmental Science, Utrecht University, 102 pp.
- 2003 **van Ruijven, B.J.**, 2003: Hydrogen Energy, Technologies and Transition. Student Report NWS-I-2003-4, 47 pp.

AWARDS AND HONORS

- 2020 Top 50 Nature Communications Earth and planetary sciences articles published in 2019 (van Ruijven, B. J., De Cian, E., & Sue Wing, I. (2019). Amplification of future energy demand growth due to climate change. *Nature Communications*, 10(1), 2762. [doi](#))
- 2018 Most Cited Paper Award, *Resources, Conservation and Recycling* (van Ruijven, B. J., van Vuuren, D. P., Boskaljon, W., Neelis, M. L., Saygin, D., & Patel, M. K., 2016, Long-term model-based projections of energy use and CO2 emissions from the global steel and cement industries. *Resources, Conservation and Recycling*, 112, 15-36. [doi](#))
- 2018 Most Downloaded Paper Award, *Resources, Conservation and Recycling* (van Ruijven, B. J., van Vuuren, D. P., Boskaljon, W., Neelis, M. L., Saygin, D., & Patel, M. K., 2016, Long-term model-based projections of energy use and CO2 emissions from the global steel and cement industries. *Resources, Conservation and Recycling*, 112, 15-36. [doi](#))
- 2013 Paper featured in ERL Highlights of 2013 collection (Pachauri, S., B. J. van Ruijven, Y. Nagai, K. Riahi, D. P. van Vuuren, N. Nakicenovic, and A. Brew-Hammond, 2013: Pathways to achieve universal household access to modern energy by 2030. *Environmental Research Letters*, 8-024015)

GRANTS AND FELLOWSHIPS

- 2021 Energy Demand changes Induced by Technological and Social innovations (EDITs), PI (with Arnulf Grubler, IIASA), €270,000
- 2020 Energy Demand changes Induced by Technological and Social innovations (EDITs), PI (with Arnulf Grubler, IIASA), €260,000
- 2020 Network for Greening the Financial System (NGFS), Climate change scenarios to support the NGFS, co-PI (PI Elmar Kriegler, PIK), €800,000 consortium (€186,000 IIASA)
- 2020 UNEP-FI, Climate change scenarios to support the UNEP-FI, co-PI (PI Keywan Riahi, IIASA), €36,000
- 2020 GEIDCO, Quantitative Analysis and Evaluation Model of Global Energy Low-carbon Development Potential and Benefit Based on Energy Use Technology and Resource and Environment Constraints and Its Application Research, co-PI (PI Keywan Riahi, IIASA), €150,000
- 2019 GEIDCO, Research on Scenario Analysis of Emission Reduction Pathways and Technical Solutions to Achieving the Paris Agreement Climate Goals, co-PI (PI Keywan Riahi, IIASA), €150,000

- 2018 European Union – Horizon 2020, Exploring National and Global Actions to reduce Greenhouse gas Emissions (ENGAGE), co-PI (PI Keywan Riahi, IIASA), €7,100,000 consortium (€1,300,000 IIASA)
- 2018 European Union – Horizon 2020, Next generation of AdVanced InteGrated Assessment modelling to support climaTE policy making (NAVIGATE), co-PI (PI Elmar Kriegler, PIK), €7,000,000 consortium (€850,000 IIASA)
- 2018 JPI-AXIS, Sustainable development pathways achieving Human well-being while safeguarding the climate And Planet Earth (SHAPE), co-PI (PI Elmar Kriegler, PIK), €2,300,000 consortium (€200,000 IIASA)
- 2017 NCAR UVISIT personal travel grant for monthly visits to Boston University, Boston, MA, \$17,000
- 2016 NCAR ASP Faculty Fellowship Program, Personal travel grant for six months visit to Boston University in Boston, MA, \$24,000.
- 2012 OECD, Income Distribution of CGE Models, \$26,030. 2012. Co-PI (PI Brian O’Neill, NCAR)
- 2005 Netherlands Organization for Scientific Research (NWO), Personal travel grant for two month visit to Chalmers University in Gothenburg, €1,000.

SELECTED TALKS

- 2021 NAVIGATE WP3 overview, NAVIGATE online project review meeting, June 11th
- 2021 poster "The impact of COVID-19 and the greenness of recovery packages on climate change mitigation scenarios", UNFCCC Structured Expert Dialogue, June 3rd, virtual meeting
- 2021 poster "Balancing global sources and sinks under the Paris Agreement decreases overall feasibility concerns but requires faster mitigation early on", UNFCCC 13th Research Dialogue, June 1st, virtual meeting
- 2021 Climate Scenarios for the Financial Sector, online Vienna Energy Club meeting, May 26th
- 2021 Experience with modeling behavioral change in Integrated Assessment Models, online SFOE lunch lecture, May 26th
- 2021 Closing of the Energy Demand changes Induced by Technological and Social innovations (EDITS) quarterly meeting, online EDITS quarterly meeting, April 16th
- 2021 Initial thoughts on the scenario protocol: Toward a model complementary project, EDITS quarterly meeting, April 15th
- 2021 COVID-19 impacts on energy demand can help reduce long-term mitigation challenge, OECD Online Expert Workshop on Circular Economy, April 13th
- 2021 Opening of the Energy Demand changes Induced by Technological and Social innovations (EDITS) quarterly meeting, online EDITS quarterly meeting, March 30th
- 2021 Achievements and Needs of the Scenarios Framework, ICONICS webinar series, April 6th
- 2021 Sustainable Service Systems, online IIASA seminar series to Meet the New Research Group Leaders, March 31st
- 2021 Climate Scenarios for the Financial Sector, online IIASA ECE Seminar, March 15th

- 2021 ENGAGE project overview – Advisory Board Briefing, online ENGAGE AB Meeting, February 25th
- 2021 Introduction to the ICONICS webinar series, ICONICS webinar, February 22nd
- 2021 Resources for learning about and working with the SSPs, ICONICS webinar, February 22nd
- 2021 Experience with modeling behavioral change in Integrated Assessment Models, online IEA CERT thematic discussion, February 16th
- 2021 Introduction to the Shared Socioeconomic Pathways (SSPs), online Workshop on SSPs for Ahmedabad, February 10th
- 2020 Climate Risks for the Financial Sector, online SENSES finance tutorial, December 15th
- 2020 Energy Demand changes Induced by Technological and Social innovations (EDITS), Recap and synthesis, EDITS Online Expert Dialogue, December 11th
- 2020 Energy Demand changes Induced by Technological and Social innovations (EDITS), Opening and Goals of Workshop, EDITS Online Expert Dialogue, December 8th
- 2020 Panelist in GEIDCO online Annual Conference, November 3rd
- 2020 "Insights from IAM Studies: COVID-19 implications, net-zero scenarios, and bringing the gap", online UNFCCC 12th Research Dialogue, November 24-25, virtual meeting
- 2020 poster "The impact of COVID-19 and the greenness of recovery packages on climate change mitigation scenarios", UNFCCC 12th Research Dialogue, November 24-25, virtual meeting
- 2020 Introduction to the ENGAGE project and "Monitoring Lifestyle Changes as a Result of the Pandemic", Joint virtual ENGAGE-NAVIGATE Stakeholder Meeting, September 28th
- 2020 Panelist in Symposium on climate research in the USA, Amsterdam, Netherlands, October 14th
- 2020 Panelist in Macro-Energy Systems workshop, Stanford, CA on September 17-18
- 2020 Climate Risks in the financial sector, Rabobank, Utrecht, Netherlands, September 10th
- 2020 Introduction to the Scenario Explorer for the Network on Greening the Financial System (NGFS), UNEP-FI Webinar, May 20
- 2020 The MESSAGE Model and Mitigation Scenarios, UNEP-FI webinar, January 27
- 2020 Scenarios for Climate Risk, UZH, Zurich, January 5
- 2019 Synergies/trade-offs of climate policy with SDGs & Short-term implications of global peak temperature scenarios, UNFCCC COP25, Madrid, Spain, December 13
- 2019 Synergies/trade-offs of climate policy with SDGs & Short-term implications of global peak temperature scenarios, UNFCCC COP25, EU pavilion, Madrid, Spain, December 11
- 2019 The role of Global Energy Interconnection in climate change mitigation, UNFCCC COP25, IPCC Pavilion, Madrid, Spain, December 10
- 2019 IAMC database updates, IAMC annual meeting, Tsukuba, Japan, December 4
- 2019 Does Global Energy Interconnection help climate change mitigation? IAMC annual meeting, Tsukuba, Japan, December 2

- 2019 The SSP-RCP scenario framework: SSPs, RCPs, and ScenarioMIP, FishMIP Scenarios Workshop, Rome, Italy, October 23
- 2019 Improving poverty and inequality modeling in Climate Change Research, workshop on Integrating impacts, mitigation and inequality, Potsdam, Germany, October 8
- 2019 What have we learned and where are we going?, Keynote at Workshop on Sustainable Development and Climate, Vienna, Austria, September 19
- 2019 Overview of NAVIGATE WP3, NAVIGATE kick-off meeting, Potsdam, Germany, September 10
- 2019 Introduction to the ENGAGE project, EU H2020 Coordinators Day, Brussels, Belgium, September 6
- 2019 Exploring National and Global Actions to reduce Greenhouse gas Emissions, EU H2020 Decarbonization Event, September 5
- 2019 Insights on investment needs for mitigation actions, UNFCCC Experts Meeting on Assessing and Determining the Needs of Developing Countries, Manila, Philippines, July 10
- 2019 Introduction to IIASA, GEIDCO, Beijing, China, June 27
- 2019 Implications of the Paris agreement for achieving the Sustainable Development Goals, 2019 workshop on co-benefits of sustainable energy transition in China, Tsinghua University, Beijing, China, June 26
- 2019 Which clean energy pathway? The power sector under different mitigation strategies. Vienna Energy Transition Forum, Vienna, Austria, June 6
- 2019 Improving Poverty and Inequality Modeling in Climate Change Research, Scenarios Forum 2019, Denver, CO, March 12
- 2019 Energy Investment Needs for Fulfilling the Paris Agreement, Scenarios Forum 2019, Denver, CO, March 11
- 2019 Resources for learning about and working with the SSPs, Tutorial at the Scenarios Forum 2019, Denver, CO, March 10
- 2019 Socioeconomic Scenarios for Climate Change - and how you can be involved -, Seminar at Wageningen University and Research, January 29
- 2018 Empirical needs for behavioral modeling, COBHAM workshop, Milan, Italy, November 22
- 2018 The price of stupidity: exploring the sensitivity of mitigation scenarios to societal choices, Poster at the Annual Meeting of the Integrated Assessment Modeling Consortium, Sevilla, Spain, November 13
- 2018 Global urban scale demand modeling, Workshop on Rethinking Energy Demand, Nara, Japan, September 25
- 2018 Activities related to building energy in the IIASA energy program, WUDAPT meeting, IIASA, Laxenburg, Austria, August 7
- 2018 Technological change, low carbon development and the SDGs, a long-term view, Expert Group Meeting on Green Economy for SDGs, Jeju, Korea, March 13
- 2018 The Role of Economics in Analyzing Impacts of Climate Change, AgMIP ECON meeting, Sevilla, Spain, March 8
- 2018 Uncertainty in climate impacts on energy use, ENE Seminar, IIASA, Laxenburg, Austria, January 15

- 2017 Impacts of Climate Change and Climate Policy on Households in Mexico, IAMC Annual Meeting, Recife, Brazil, December 4
- 2017 Climate Impact Analyses with Integrated Assessment Models, Climate Change Distributive Impacts – Tools and Applications, Mexico City, Mexico, November 13
- 2017 Experiments with Behavior in global Integrated Assessment Models, 21st Century Energy Transition Symposium, Colorado State University, Fort Collins, CO, October 31
- 2017 Uncertainty in climate impacts on energy use, NCAR CGD Seminar, Boulder, CO, May 3
- 2016 Climate impacts on building energy use, MIT Joint Program Lunch Meeting, Cambridge, MA, May 20
- 2016 Income Distribution in CGE models: Guidance for IAMs, CD-LINKS Expert Workshop, FEEM, Venice, Italy, May 17
- 2016 Modeling Energy and Development in Integrated Assessment Models, Stockholm Environment Institute, US Center, Somerville, MA, May 10
- 2016 Climate impacts on building energy use, Boston University, Pardee Center, Boston, MA, May 3
- 2016 Demographic heterogeneity in IAMs - implications for emissions, mitigation and vulnerability, MIT EPPA meeting, Cambridge, MA, March 15
- 2015 The ICONICS working group on non-IAM indicators, IAMC annual meeting, Potsdam, Germany, November 17
- 2015 Next steps in uncertainty analysis for the IAM community - Lessons from the IPCC scenarios database, IAMC annual meeting, Potsdam, Germany, November 17
- 2015 Urban and rural household consumption in Latin America, Poster at the IAMC annual meeting, Potsdam, Germany, November 16
- 2015 CGE diagnostics, ADVANCE project meeting, London, UK, September 14,
- 2015 Overview of priorities for further development of production sectors, IAM group annual meeting, NCAR, Boulder, CO, September 2
- 2015 Linking CLM and iPETS to estimate climate impacts on building energy use, CESM tutorial, Boulder, CO, August 12
- 2015 Linking CLM and iPETS to estimate climate impacts on building energy use, Poster at the 20th CESM annual workshop, Breckenridge, CO, June 15
- 2015 Downscaling from a representative household to urban and rural households for SSPs in Latin America, Meeting on income distribution projections for the SSPs, IIASA, Laxenburg, Austria, May 21
- 2015 Socioeconomic Heterogeneity in the SSPs, IPCC Expert Meeting on Scenarios, IIASA, Laxenburg, Austria, May 19
- 2015 iPETS modeling presentation, Latin America Modeling Project meeting, Rio de Janeiro, Brazil, May 13
- 2015 Overview of building energy results, Latin America Modeling Project meeting, Rio de Janeiro, Brazil, May 13
- 2015 Using CLM-urban to estimate climate impacts on buildings, Latin America Modeling Project meeting, Rio de Janeiro, Brazil, May 13
- 2015 Climate impacts on building energy use, visit of US Green Building Council to NCAR, Boulder, CO, April 17

- 2015 Climate impacts on building energy use, NCAR Day of Networking and Discovery, Boulder, CO, April 17
- 2015 Demographic heterogeneity in IAMs - implications for emissions, mitigation and impacts, IAM seminar at Princeton University, Princeton, NJ, February 11
- 2015 Urban links between CLM and iPETS, Joint TSS-IAM meeting, Boulder, CO, February 5
- 2015 Cement demand modeling in IMAGE, ADVANCE project meeting, Utrecht, The Netherlands, January 22
- 2014 Sensitivity of greenhouse gas mitigation costs to limitations in climate policy and technology, Poster at the AGU fall meeting, San Francisco, CA, December 18
- 2014 Using the new scenario framework for analyzing future climate change impacts, Annual meeting of the Society for Risk Analysis, Denver, CO, December 8
- 2014 Downscaling results from a representative household to urban and rural households in Latin America, Annual meeting of the Integrated Assessment Modeling Consortium, College Park, MD, November 18
- 2014 The starting points: base-year assumptions and core baseline projections for Latin America, LAMP/CLIMACAP project meeting, Cuernavaca, Mexico, October 16
- 2014 Scenarios as unifying framework for sustainability research, CSU international colloquium on global environmental sustainability, Fort Collins, CO, October 7
- 2014 Comparing societal impacts and mitigation between RCP8.5 vs 4.5: A review, BRACE project all-day meeting, Boulder, CO, September 24
- 2014 Aspects of scale in Impacts Assessment, EMF Snowmass meeting, Snowmass, CO, July 24
- 2014 Comparing energy use for space heating and cooling between Integrated Assessment Models and CLM-urban, Poster at CESM annual meeting, Breckenridge, CO, June 16
- 2014 The roads ahead - SSP narratives, Arctic Scenarios Meeting at IIASA, Laxenburg, Austria, May 19
- 2014 Integrated Assessment Modeling - Models, Applications and Cooperation with IAV research, Seminar at United Nations University, Bonn, Germany, May 12
- 2014 Overview of LAMP baseline projection, LAMP/CLIMACAP project meeting, Bogota, Colombia, April 28
- 2014 Enhancing the relevance of SSPs for IAV research, AMS annual conference 2014, Atlanta, GA, February 4
- 2014 Household Heterogeneity in iPETS, World Bank meeting with NCAR-IAM, Washington, DC, January 29
- 2013 Shared Socioeconomic Pathways – Process and Relevance for IAV research, Impacts World Conference, Potsdam, Germany, May 29
- 2013 Integrated Assessment Models – Models, Applications and the Carbon Cycle, NCAR ASP colloquium, Boulder, August 14
- 2013 Overview of LAMP baseline projection, ClimaCAP/LAMP meeting, Bariloche, Argentina, October 21
- 2013 Household heterogeneity in iPETS, ClimaCAP/LAMP meeting, Bariloche, Argentina, October 22

- 2013 Comparing energy use for space heating and cooling across IAMs and Earth System Models, IAMC annual meeting, Tsukuba, Japan, October 27
- 2013 The new scenario process – relevance for global fisheries scenarios, CLIOTOP workshop on Building 21st century scenarios for global oceanic ecosystems and fisheries Paris, France, November 25
- 2013 Integrated Assessment Modeling at NCAR, Seminar at CIRED, Paris, France, November 28
- 2013 Enhancing the relevance of SSPs for IAV research, AGU poster session, San Francisco, CA, December 12
- 2012 Introduction to the CESM Societal Dimensions Working Group for LAMP, Latin America Modeling Project Meeting, San Jose, Costa Rica, October 3
- 2012 Introduction to the SSPs for LAMP, Latin America Modeling Project Meeting, San Jose, Costa Rica, October 3
- 2012 Quantification of IAM drivers for the SSPs, GCAM/GTSP Meeting, Joint Global Change Research Institute, College Park, MD, USA, September 18
- 2012 Income Distribution in Large-Scale Models, Energy Modeling Forum Workshop on Climate Change Impacts and Integrated Assessment, Snowmass, CO, USA, July 25
- 2012 Global Development Pathways for Adaptation to Climate Change and their Role for Local Approaches, Scientific Workshop on development pathways for urban and rural coastal zones, UNU-EHS and LIPI-ICIAR, Bogor, Indonesia, July 12
- 2012 Income Distribution in CGE Model, OECD, Paris, June 13, 2012
- 2012 National Renewable Energy Laboratory (NREL) Energy in iPETS, NREL seminar, May 8
- 2012 Integrated assessment modeling at NCAR, presentation for GAO delegation visit, Feb. 8, 2012

TEACHING EXPERIENCE

- 2021 Faculty Lecture “Climate-change: theory and practice in a bird’s-eye view”, European University Institute / Florence School of Banking and Finance, Climate Risks Online Academy, 30 April – 21 May 2021
- 2021 Faculty Workshop “Working with the NGFS Scenario Explorer & the IIASA database infrastructure”, European University Institute / Florence School of Banking and Finance, Climate Risks Online Academy, 30 April – 21 May 2021
- 2019 Guest Lecture “Scenarios for Climate Risk”, European University Institute / Florence School of Banking and Finance, Climate Change Risks Hidden within Financial Institution’s Balance Sheets, October 29
- 2019 Guest Lecture “Energy Perspectives and the Environment”, TU Vienna, MSc Program Renewable Energy Systems, March 23
- 2019 Remote Guest Lecture “CGE Modeling – A Peek under the Hood”, Utrecht University, Copernicus Institute for Sustainable Development, Utrecht, The Netherlands, February 22

- 2018 Guest teacher at the 2nd CIRED Summer School in Economic modelling of Environment, Energy and Climate on “The role of demand and lifestyles in low carbon pathways”. Paris, July 2-6
- 2018 Remote Guest Lecture “CGE Modeling – A Peek under the Hood”, Utrecht University, Copernicus Institute for Sustainable Development, Utrecht, The Netherlands, March 2
- 2010 Electronic Guest Lecture “The Climate Challenge – Developing countries: Energy development, GHG emissions and their role in abatement efforts” in course Global Energy Economics, Chalmers University, Gothenburg, Sweden, October
- 2010 Guest Lecture “Linking economic history and future energy projections” at Lund University, School of Economics and Management, Lund, Sweden, December 7
- 2006 – 2011 Energy Modeling and Economics, Utrecht University, MSc Energy Science
- 2005 Global Change and Sustainability, Utrecht University, MSc Energy Science
- 2004 – 2006 Sustainable Development – An Integrated Systems Approach, Utrecht University, MSc Sustainable Development

SUPERVISED STUDENTS

- 2016 Hiroshi Nasu (Undergraduate), Boston University
- 2011 Willem Boskaljon (MSc), “Modeling the steel and cement industry - A bottom-up addition to the TIMER model”, Utrecht University
- 2010 Vassilis Daioglou (MSc), “Residential Energy Use Scenarios”, Utrecht University
- 2009 Jules Schers (MSc), “Modelling Rural Electrification for Developing Countries: Benefits, Drivers and Investments”, Utrecht University
- 2009 Chris Roorda (MSc), “The SUSCLIME model: Exploring adjustment of behaviour to climate change and resource depletion”, Utrecht University
- 2008 Li Shen (MSc), “2030: Energy Demand Scenarios and Biomass CHP options for Rural Households in Beijing”, Utrecht University

INTERNATIONAL SCIENTIFIC ASSESSMENT BODIES

- 2015 Invited speaker, IPCC Expert Meeting on Scenarios, Laxenburg, Austria, May 18-20
- 2012 Lead Author, Energy Pathways for Sustainable Development, Chapter 17, Global Energy Assessment, 2012
- 2010 Invited speaker, IPCC Expert Meeting on Renewable Energy Modeling, Oxford, UK, March 1
- 2009 Invited speaker, IPCC Expert Meeting on Renewable Energy Modeling, Oslo, Norway, August 31
- 2007 Lead Author, The Future Today, Chapter 9, Global Environment Outlook 4 – Environment for Development

REVIEW ACTIVITIES

Reviewing for Journals

Applied Energy, Climate Policy, Climatic Change, Climate Change Economics, Climate and Development, Ecological Economics, Energy Economics, Energy Policy, Environmental Research Letters, Environmental Science and Policy, Environmental and Resource Economics, Environmental Science & Technology, GCB Bioenergy, International Journal of Environmental Research and Public Health, Journal of Cleaner Production, Natural Resources Forum, Nature Climate Change, Nature Energy, Nature Sustainability, Nature Communications, PLOS ONE, Sustainability, Science, Technological Forecasting & Social Change, WIREs Energy, World Development

Reviews of Grant Proposals

Swiss National Science Foundation, Nazarbayev University Research Council in Astana (Kazakhstan), Oak Ridge Associated Universities

Reviews of Models

2017 Member of the review panel for the ENERGY 2020 North-American energy system model of Environment and Climate Change Canada (ECCC).

INSTITUTIONAL SERVICE

2002 – 2003	Member education committee Environmental Sciences, Utrecht University, Utrecht, The Netherlands
2001 – 2003	Member introduction committee Environmental Sciences, Utrecht University, Utrecht, The Netherlands
1998 – 1999	Secretary education committee music in education, Utrecht School of the Arts, Utrecht, The Netherlands

MEDIA COVERAGE

Quoted in “The Blood-Dimmed Tide - Climate change is poised to alter the face of global conflict.”, The New Republic, September 16, 2019. [link](#)

Quoted in “Climate Change just got a Little Less Terrible”, Bloomberg, February 9, 2018. [link](#)

Interview about “IAMs and emission scenarios” on The Energy Transition Show with Chris Nelder, September 6, 2017. [link](#)

Comments on “Nuclear Power Prevents More Deaths Than It Causes”, Chemical & Engineering News, April 2, 2013. [link](#)