

Curriculum Vitae



Personal Information

First names / Surname **Michael Gregor Miess**
Address Grundlgasse 5, 1090 Wien [Environment Agency Austria (EAA) office];
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E-mail Michael.Miess@umweltbundesamt.at (EAA)
Homepages <https://www.ihs.ac.at/people/michael-miess/> (IHS)
<https://www.wu.ac.at/index.php?id=14406> (Vienna University of Economics and Business)
<https://orcid.org/0000-0003-2564-3208> (ORCID)
Nationality Austria
Date of birth September 25, 1983
Gender male

Occupational field **Ecological Macroeconomist and Macroeconomic Modeller**

Work experience

Dates 03/2021 – current
Occupation or position held **Senior Ecological Macroeconomist and Macroeconomic Modeller**
Main activities and responsibilities *Policy consulting and evaluation:* Participation in the evaluation of national environmental, climate and energy policy measures and scenarios.
Integrated economy-energy-environment modelling: Use and further development of the [macro and energy economic input-output model MIO-ES](#) of the Environment Agency Austria.
Team building: setting up and leading a energy-environment-(macro)economic modeling team.
Project leading: Acquisition, management of and participation in national and international interdisciplinary research projects.
Name and address of employer **Environment Agency Austria (Umweltbundesamt GmbH)**, Spittelauer Lände 5, 1090 Vienna, Austria
Type of business or sector Research and Policy Consulting
Dates 04/2014 – 12/2015; 10/2017 – 12/2021; guest researcher since 01/2022
Occupation or position held **Post-Doctoral Research Associate**, Institute for Ecological Economics

Main activities and responsibilities	<p>Model Development (Stock-flow Consistent Macroeconomic Modelling) and Scientific Research for the Projects:</p> <p>(1) "GreenFin -Scaling-up green finance to achieve the climate and energy targets: an assessment of macro-financial opportunities and challenges for Austria" funded by the Austrian Climate Research Program (ACRP); see https://greenfin.at/ for details.</p> <p>(2) "Smoothing the low-carbon transition" (10/2019 - 02/2021),</p> <p>(3) "Policy Options for Sustainable Growth in the Presence of Complex Financial Markets" (09/2017 – 12/2019),</p> <p>(4) "Financialization, Economic Growth and Biophysical Limits" (04/2014 – 12/2015), where projects (2) - (4) were funded by the OeNB (Austrian National Bank) Jubiläumssfonds.</p>
Name and address of employer	Vienna University of Economics and Business (WU Wien) , Institute for Ecological Economics, Welthandelsplatz 1, 1020 Vienna, Austria
Type of business or sector	Research and Education
Dates	08/2011 – 12/2021 (direct employment); Post-Doc Fellow since 01/2022
Occupation or position held	Post-Doctoral Research Fellow , Group Macroeconomics and Business Cycles
Main activities and responsibilities	<p><i>Stock Flow Consistent (SFC) Modelling:</i> (1) development and construction of a stock-flow consistent model to feature active financial markets and a nexus between finance and the real economy leading to an endogenous explanation of financial (business) cycles, (2) construction of an empirical SFC model for Austria with policy application.</p> <p><i>Computable General Equilibrium (CGE) Models:</i> Model formulation, programming, scenario development and database construction of Energy, Economy, and Environment CGE models (dynamic and static); applied economic analysis with these models, construction of data base for and data acquisition for labour market model for European Commission.</p> <p><i>Project Coordinator</i> for EU ERA-NET Transport electromobility+ project DEFINE (Development of an Evaluation Framework for the Introduction of Electromobility, with 5 Partners from 3 countries: Austria, Germany and Poland), for further information see https://www.ihs.ac.at/projects/define/; participation in other EU-projects, e.g. PROMITHEAS-4 (greenhouse gas emission reduction scenarios for emerging economies).</p> <p><i>Consultancy and economic studies</i> for Austrian government ministries and other institutions.</p>
Name and address of employer	Institute for Advanced Studies in Vienna (IHS Wien), Josefstädter Straße 39, 1080 Vienna, Austria.
Type of business or sector	Economics and Social Science Research Institute / Think tank
Type of business or sector	Scientific Research Institute
Dates	10/2016 – 02/2021
Occupation or position held	Post-Doctoral Research Assistant; Advanced Systems Analysis
Main activities and responsibilities	Agent-based big-data modeling of systemic financial risk in very large financial networks; development of a computational methodology to quantify systemic risk from financial contracts in an entire national economy (Austria) - using macroeconomic data from national accounts complemented by detailed information on financial and non-financial firms from micro-level datasets. <i>Application:</i> project <i>BIOCLIMAPATHS</i> (funded by ERANET-AXIS): Assessing climate-led social-ecological impacts and opportunities for resilience pathways in the EU bioeconomy.
Name and address of employer	International Institute for Applied Systems Analysis (IIASA) , Schlossplatz 1, 2361 Laxenburg, Austria.
Type of business or sector	Scientific Research Institute
Dates	09/2017 – 09/2018
Occupation or position held	Researcher

Main activities and responsibilities *Agent-based Big-data Modelling* of an entire national economy (Austria) with applications to economic forecasting and policy analysis. The model is estimated to Austria as an example for a small open economy using macroeconomic data from national accounts and selected information from micro-level datasets. It can compete with conventional time series models in forecast comparison for the most important macroeconomic aggregates.

Name and address of employer **Complexity Science Hub Vienna (CSH)**, Josefstädter Straße 39, 1080 Vienna, Austria.
 Type of business or sector Scientific Research Institute

Education and training

Dates March 2013 – November 2019
 Title of qualification awarded Doctorate in Economics (Dr. rer. soc. oec.)
 Principal subjects/occupational skills covered Economics
 Name and type of organisation providing education and training **Vienna University of Economics and Business (WU Wien)**
 Level in national or international classification **PhD**
 Dates 2005 – May 2012
 Title of qualification awarded Diploma in Economics
 Principal subjects/occupational skills covered Economics
 Name and type of organisation providing education and training University of Vienna
 Level in national or international classification Master of Science

Personal skills and competences

Mother tongue(s) **German**

Other language(s) **English, Russian, Italian**

Self-assessment <i>European level (*)</i>	Understanding		Speaking		Writing	
	Listening	Reading	Spoken interaction	Spoken production		
English	C2	C2	C2	C2	C2	
Russian	B2	B2	B2	B2	B1	
Italian	C1	C1	C1	C1	C1	

(*) *Common European Framework of Reference for Languages*

Social skills and competences Mediation skills, group leading, networking

Organisational skills Project and Team Coordination (German/English)

Technical skills and competences Development and use of economic models and empirical methods for basic research and applied policy analysis. Database development for various macroeconomic modelling approaches (agent-based models, stock flow consistent models, CGE models). Scenario development for these different modelling paradigms for both theoretical and applied research questions.

Computer skills and competences MS-Office package, LaTeX, Python, Matlab, STATA, GAMS, R

Annexes Selected List of Publications, Presentations and Teaching

Academic publications: peer-reviewed

Poledna, S., Miess, M., and Hommes, C. (2023). Economic forecasting with an agent-based model. *European Economic Review*, Vol. 151, <https://doi.org/10.1016/j.euroecorev.2022.104306>.

Miess, M., Schmelzer, S., Kopecna, V. and Scasny, M. (2022). Abatement technologies and their social costs in a hybrid general equilibrium framework. *The Energy Journal*, Vol 43. No. 2, pp. 153-179, International Association for Energy Economics, <https://doi.org/10.5547/01956574.43.2.mmie>

Miess, M. (2023). Geld- und Finanzsystem (Monetary and Financial System). In: APCC Special Report: Strukturen für ein klimafreundliches Leben (APCC SR Klimafreundliches Leben, SR climate-friendly living) [Görg, C., V. Madner, A. Muhar, A. Novy, A. Posch, K. Steininger und E. Aigner (Hrsg.)]. *Springer Spektrum: Berlin/Heidelberg*. see <https://klimafreundlichesleben.apcc-sr.ccca.ac.at/#kap16>, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4225572.

For further peer-reviewed summary articles as part of the SR climate-friendly living (Summary for Policy Makers, Technical Summary, etc.), please see the [SR climate-friendly living homepage](#) and my [ORCID account](#).

Academic publications: Working papers, policy briefs, in pipeline

Cahen-Fourot, L., Campiglio, E., Daumas, L. Miess, M., Yardley, A. (2023). Stranding ahoy? Heterogenous transition beliefs and capital investment. Under Review. For the working paper version, see the SSRN repository: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4289644.

Schneider, C., Miess, M. (2023). Politicizing the monetary provisioning system. In Preparation.

Cahen-Fourot, L., Campiglio, E., Daumas, L. Miess, M., Yardley, A. (2023). Waiting for the transition: The role of expectations in the decarbonisation of the electricity sector. In preparation.

Poledna, S., Rovenskaya, E., Crespo Cuaresma, J., Kaniowski, S., Miess, M., (2020). Recovery of the Austrian economy following the COVID-19 crisis can take up to three years. IIASA Policy Brief #26, <https://iiasa.ac.at/web/home/resources/publications/IIASAPolicyBriefs/pb26.pdf>.

Miess, M. (2019). Expanding the technological frontier of macroeconomic modelling. An empirical comparison of an estimated agent-based model to standard modeling techniques. Dissertation, Vienna University of Economics and Business (WU Wien), November 2019.

Poledna, S., Hochrainer-Stigler, S., Miess, M., Klimek, K., Schmelzer, S., Shchekinova, E., Rovenskaya, E., Linnerooth-Bayer, J., Dieckmann, U., Pflug, G., Thurner, S. (2018). When does a disaster become a systemic event? Estimating indirect economic losses from natural disasters. Working paper version: <https://arxiv.org/pdf/1801.09740.pdf>.

Miess, M. and Schmelzer, S. (2016b). Extension of the Empirical Stock-Flow Consistent (SFC) Model for Austria. Materialien zu Wirtschaft und Gesellschaft 163, Austrian Chamber of Labour, see <https://emedien.arbeiterkammer.at/viewer/resolver?urn=urn:nbn:at:at-akw:g-1522902>.

Miess, M., Schmelzer, S (2016a). A Stock-flow consistent model of financialisation and shadow banking: Financial fragility in a modern capitalist economy. Working Paper. See http://www.boeckler.de/pdf/v_2015_10_23_miess.pdf.

Schmelzer, S. Miess, M. (2015a). The Economic Costs of Electric Vehicles. DEFINE Working Paper, see https://www.ihs.ac.at/projects/define/files/11_1_IHS_WorkingPaper_EconomicCostsEVs.pdf.

Reports, projects, other policy-science-interface-related work

Gugele, B., Krutzler, T., **Miess, M.**, Vogel, J. (2022). Pilot project: Integration of a climate module into the long-term budget forecast by the Austrian Ministry of Finance (Pilotprojekt: Integration eines Klimamoduls in die langfristige Budgetprognose). Study by the Environment Agency Austria commissioned by the Austrian Ministry of Finance (in German), see <https://www.umweltbundesamt.at/fileadmin/site/publikationen/rep0837.pdf> (EAA publication), or the [Long-term budget report by the Austrian Ministry of Finance](#).

Miess, M., Böhmer, S., Frei, E., Glas, N., Heinfellner, H., Krutzler, T., Lichtblau, G., Schieder, W., Schindler, I., Svehla-Stix, S. (2022). Analysis of the investment potential until 2030 on the pathway to climate neutrality (Analyse des Investitionspotenzials bis 2030 auf dem Weg zur Klimaneutralität). Study by the Environment Agency Austria, commissioned by the Austrian Chamber of Commerce (in German), see [short project presentation](#) and [press material](#) for further information.

Zechmeister, A., Anderl, M., Bartel, A., Frei, E., Gugele, B. Gössl, M., Mayer, S., Heinfellner, H., Heller, C. Heuber, A., Köther, T., Krutzler, T., Kuschel, V., Lampert, C., **Miess, M.**, Neier, H., Pazdernik, K., Perl, D. Poupa, S., Prutsch, A., Purzner, M., Rigler, E., Rockenschaub, K., Schieder, W., Schmid, C., Schmidt, G., Schnirzer, S., Schodl, B., Storch, A., Stranner, G., Svehla-Stix, S., Schwarzl, B., Schwaiger, E., Vogel, J., Weiss, P., Wiesenberger, H., and Wieser, M. (2022). Klimaschutzbericht 2022 (Climate protection report 2022). Yearly report (in German) by the Environment Agency Austria, commissioned by Austrian Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology. Vienna, 2022. See <https://www.umweltbundesamt.at/fileadmin/site/publikationen/rep0816bfz.pdf>.

Schmelzer, S. and Miess, M. (2018). Update: Extension of the Empirical Stock-Flow Consistent (SFC) Model for Austria. Implementation of Endogenous Portfolio Choice and Simple Markup Pricing. Study commissioned by the Austrian Chamber of Labour, Vienna (Arbeiterkammer Wien).

Miess, M., Raza, W., Reiner, C., Schmelzer, S., Tröster, B. (2016). Auswirkungen von TTIP auf die österreichische Landwirtschaft und Nahrungsmittelproduktion - Beschäftigungs- und Struktureffekte (Effects of TTIP on the Austrian Agriculture and Food Production Sectors – Employment and Structural Effects). Study commissioned by SPAR, BioAustria, NÖM and Greenpeace. See <http://irihs.ihs.ac.at/id/eprint/3912>.

Stagl, S., Rezai, A., Miess, M., Schmelzer, S., Zwickl, K. (2014 - 2015) Financialization, economic growth and biophysical limits. Project Funded by the Jubiläumsfonds of the Austrian National Bank.

Hofer, H., Davoine, T., Hye, R., Miess, M., Müllbacher, S. and Poyntner, P. (2015). Ex Ante Evaluation der Steuerreform 2015/2016 (Ex Ante Evaluation of the Austrian Tax Reform 2015/2016). Study commissioned by the Austrian Ministry of Finance.

Schmelzer, S. and Miess, M. (2015b) Report Work Package 6 - Report on the Calibrated and Validated CGE Model with Implemented Scenarios Ready for Use; A Set of Simulation Results and Case Studies. DEFINE Project report. See http://www.ihs.ac.at/projects/define/files/Deliverable_6_1_and_6_2.pdf

Janke, J., Grussmann, S., Miess, M., Schmelzer, S. (2015). Volkswirtschaftliche Kosten des Klimawandels in Österreich durch Klimawandeleffekte in Landwirtschaft, Wintertourismus und der Energiewirtschaft (Economic Costs of Climate Change caused by Climate Change Effects in Agriculture, Winter Tourism and the Energy Economy). Study commissioned by the Austrian Ministry of Finance, see <https://irihs.ihs.ac.at/id/eprint/3417>.

Ščasný, M., Máca, V., Weinzettl, J., Miess, M., Schmelzer, S. (2015). Report Work Package 9: Quantification of Environmental Benefits. DEFINE Project Report. See http://www.ihs.ac.at/projects/define/files/CASE_WP9_Benefits.pdf

Miess, M. and Schmelzer, S. (coordinators). ERA NET Transport electromobility+ project DEFINE (Development of an Evaluation Framework for the Introduction of Electromobility, 2012 - 2014). Project Co-funded by the European Commission. See <https://www.ihs.ac.at/projects/define/>

Miess, M., Schmelzer, S., Janke, J. (2014). Report on Improvements in the Hybrid General Equilibrium Core Model. DEFINE Project Report. See http://www.ihs.ac.at/projects/define/files/Deliverable_1_1_CGEcoremodel_report_DEFINE_v02_w0d17f7t.pdf.

Bliem, M., Aigner-Walder, B., Brandl, B., Grussman, S., Klinglmair, A., Miess, M., Paterson, I., Rodiga-Laßnig, P., Schmelzer, S. (2014). Das Potenzial von Öko-Innovationen für den Standort Österreich (The Potential of Eco-Innovations for Austria). Study commissioned by the Austrian Ministry of Economy, Family and Youth. See <https://irihs.ihs.ac.at/id/eprint/3011/>

Friedl, B., Bliem, M., Miess, M., Schmelzer, S., Aigner, M., Haber, A., Schmutzger, E. (2013). Wertschöpfungs- und Beschäftigungseffekte von Smart-Grids-Lösungen (Value added and employment effects of smart grid solutions). Presented at: International Energy Economics Conference at Vienna University of Technology (IEWT), 2013.

Schuster, P., Davoine, T., Miess, M. (2013). Mittel- bis langfristige Effekte der Einführung einer Flat Tax (Medium- to Long-term effects of the Introduction of a Flat Tax). Study commissioned by the Austrian Ministry of Finance.

Bliem, M., Friedl, B., Miess, M., Rauter, B. und Schmelzer, S. (2012). Erneuerbare Energie in Oberösterreich: Förderung, Beschäftigung, Wertschöpfung (Renewable Energy in Upper Austria: Subsidies, Employment, Value Added). Klagenfurt, November 2012.

Miess, M. (2012). Computable General Equilibrium Models: Hybrid Top-Down Bottom-Up Energy Policy Modelling. Theory and Application. Diploma thesis, University of Vienna. See <http://othes.univie.ac.at/20019/>

Miess, M., Schmelzer, S. und Schnabl, A. (2011). Evaluierung der regionalen Beschäftigungs- und Wachstumsinitiative 2005/2006 (Evaluation of the Regional Employment and Growth Initiative). Study commissioned by the Austrian Ministry of Economy, Family and Youth.

Berger, J., Gstrein, M., Keuschnigg, C., Miess, M., Müllbacher, S., Strohner, L., Winter-Ebmer, R. (2011). Development/Maintenance of the Labour Market Model. Project on behalf of DG EMPL of the European Commission, Contract No. VC/2010/0068.

Berger, J., Hofer, H., Miess, M., Schuh, U., Strohner, L., Biffl, G. (2011). Auswirkungen der Arbeitsmarktöffnung am 1. Mai auf den Wirtschafts- und Arbeitsstandort Österreich (Effects of Opening the Austrian Labour Market on the 1st of May on business and employment location Austria). IHS, DUK. Study commissioned by the Austrian Ministry of Economy, Family and Youth.

Balabanov, T., Friedl, B., Miess, M., and Schmelzer, S. (2010). Mehr und qualitativere Green Jobs (Green Jobs for a Sustainable, Low-carbon Austrian Economy). Study for the Ministry for Labour, Social Affairs and Consumer Protection, <https://irihs.ihs.ac.at/id/eprint/2027/>

Berger, J., Keuschnigg, C., Keuschnigg, M., Miess, M., Strohner, L., Winter-Ebmer, R. (2009). Modelling of Labour Markets in the European Union. Final Report. Project Report for the European Commission as part of the European Community Programme for Employment and Social Solidarity (2007 - 2013), DG for Employment, Social Affairs and Equal Opportunities, Ref. No. VC/2007/0344.

Bock-Schappelwein, J., Bremberger, C., Hierländer, R., Huber, P., Knittler, K., Berger, J., Hofer, H., Miess, M., Strohner, L. (2009). Die ökonomischen Wirkungen der Immigration in Österreich 1989 – 2007 (The Economic Effects of Immigration in Austria 1989 - 2007). WIFO, IHS. Study Commissioned by Austrian Federal Ministry of Economics and Labour.

Prizes and Awards:

1st Prize for “Economic Forecasting with an Agent-Based Model” at the Research Paper Competition “[Complexity in Macroeconomics](#)”.

Selected List of Presentations and Conference Contributions

Waiting for the transition: The role of expectations in the decarbonisation of the electricity sector. Presentation at Momentum Conference 2020: Republik, October 2020.

Expanding the Technological Frontier of Macroeconomic Modeling. Presentation at Workshop “Agent-based economics” at Graz Schumpeter Centre, October 2019

An Empirical SFC Model of Real-Financial Cycles and Balance Sheet Dynamics for the Euro Area. Presentation at annual FMM conference in Berlin, October 2019.

An Empirical SFC Model of Real-Financial Cycles and Balance Sheet Dynamics for the Euro Area. Presentation at annual EAEPE conference in Warsaw, September 2019.

When does a disaster become a systemic event? Estimating indirect economic losses from natural disasters. Presentation at annual CEF Conference in Milan, June 2018.

Economic Forecasting with an Agent-based Model. Presentation at annual FMM conference in Berlin, November 2017.

Economic Forecasting with an Agent-based Model. Presentation at annual EAEPE conference in Budapest, October 2017.

An SFC Model of Real-Financial Cycles and Financial Market Regulation. Presentation at Momentum Conference, October 2016, Hallstatt, Austria.

An Empirical Stock-Flow Consistent Modelling Framework for Real-Financial Cycles and Balance Sheet Dynamics. Presentation at EUROFRAME conference, June 2016, Utrecht.

A Stock-flow Consistent Model of Financialisation and Shadow Banking: Financial Fragility in a Modern Capitalist Economy. Presentation at annual FMM conference in Berlin, October 2015. See http://www.boeckler.de/pdf/v_2015_10_23_miess.pdf.

A Stock-flow Consistent Model of Financialisation and Shadow Banking: Financial Fragility in a Modern Capitalist Economy. Presentation at annual EAEPE (European Association for Evolutionary Political Economy) conference in Genova, September 2015. See http://eaepe.org/content/uploads/Submitted_Papers_2015/EAEPE2015_PAPER_%5BJ%5D_Michael-Miess_872863_1441384794.pdf.

DEFINE - Evaluating Costs and Benefits of Electromobility. Presentation at "EEVC (European Electric Vehicle Congress) 2014". Brussels, December 2nd 2014. In: Proceedings EEVC 2014, ISSN - 0774-5036.

Erdgas, erneuerbare Energien und Energieeffizienz: Industriepolitische Herausforderungen im Spannungsfeld der Energiewende (Natural gas, renewable energies and energy efficiency: challenges in industrial policy for the area of tension in the German ,Energiewende'). Presentation at EONGAS Konferenz "Was war – was kommt: 10 Jahre Erdgasmarktliberalisierung" (What has been, what will be: 10 years of liberalising the market for natural gas in Austria), Vienna, November 6th 2012.

Recent Teaching

Green Economics. Master's course at the IMC University of Applied Sciences, Krems. Yearly since WS 2019/2020.