

Dr. Gabriel Bachner

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Date of birth: 01.10.1985

Nationality: Austria

MAIN AREAS OF RESEARCH

- Economics of climate change impacts and adaptation
- Economics of climate change mitigation, especially transport and energy
- Computable general equilibrium modelling

ACADEMIC EDUCATION

- 2011 - 2016 **PhD program in Economics**, University of Graz, Austria
Doctoral dissertation: *A Macroeconomic Assessment of Climate Change Impacts and Adaptation in a Computable General Equilibrium Framework*
(Supervisor: Prof. Birgit Bednar-Friedl)
- 2009 - 2011 **Master program in “Environmental System Sciences”** with major in Economics, University of Graz, Austria (with honors)
Master's thesis: *A comparative lifecycle assessment of greenhouse gas emissions of electric cars and conventional fuel combustion cars with an application in transport policy*
(Supervisor: Prof. Karl Steininger)
- 2009 **ERASMUS** exchange student at University of Utrecht
- 2005 - 2009 **Bachelor program in “Environmental System Sciences”** with major in Economics, University of Graz, Austria

PROFESSIONAL EXPERIENCE

- Since 03/2019 Post-Doc Researcher at Wegener Center for Climate and Global Change, University of Graz, Austria
- 01-03/2019 International Institute for Applied Systems Analysis (IIASA), RISK, Laxenburg, Austria
- 10-12/2018 Researcher at Euro-Mediterranean Center on Climate Change (CMCC), Venice, Italy
- 2016 - 2018 Post-Doc Researcher at Wegener Center for Climate and Global Change, University of Graz, Austria
- 2011 - 2016 Researcher at Wegener Center for Climate and Global Change, University of Graz, Austria
- 2010 Research assistant at Wegener Center for Climate and Global Change, University of Graz, Austria
- 2009 Junior researcher at Wegener Center for Climate and Global Change, University of Graz, Austria (Research scholarship for junior researchers)

ACADEMIC PRIZES/AWARDS

- 2012 Award for best Master's Thesis (School of Business, Economics and Social Sciences, University of Graz, Austria)

INVITED PRESENTATIONS

- Bachner, G.**, and Steininger, K.W., The economy-wide effects of deep decarbonization and its uncertainties - The case of the European iron and steel industry. International Institute for Applied Systems Analysis (IIASA), Laxenburg, Vienna. 11/2017.
- Bachner, G.**, Bednar-Friedl, B., Nabernegg, S., Steininger, K.W., Ein Rahmenwerk zur Bewertung makroökonomischer Kosten des Klimawandels und aktuelle Ergebnisse für Österreich. Ökonomie der Anpassung an den Klimawandel in Deutschland. Institut für Ökologische Wirtschaftsforschung (IÖW). Berlin. 17.03.2015.
- Bachner, G.**, Bednar-Friedl, B., Counterbalancing the Effects of Climate Change on Public Budgets – The Case of Austria. Zentrum für Europäische Wirtschaftsforschung (ZEW). Mannheim. 26.11.2015.

**OTHER
ACTIVITIES**

Peer review in international journals: *Energy Policy*, *Climatic Change*, *Mitigation and Adaptation Strategies for Global Change*, *Renewable Energy*, *Environmental Modeling and Assessment*, *Environmental Innovations and Societal Transitions*

Member of the European Association of Environmental and Resource Economists (EAERE)

Publication List**PEER REVIEWED
PUBLICATIONS**

- Bachner, G.**, Mayer, J., Steininger, K.W. (2019). Costs or benefits? Assessing the economy-wide effects of the electricity sector's low carbon transition – The role of capital costs, divergent risk perceptions and premiums. *Energy Strategy Reviews* 26, 100373. <https://doi.org/10.1016/j.esr.2019.100373>
- Bachner, G.**, Bednar-Friedl, B., Knittel, N. (2019). How does climate change adaptation affect public budgets? Development of an assessment framework and a demonstration for Austria. *Mitigation and Adaptation Strategies for Global Change*. In press.
<https://doi.org/10.1007/s11027-019-9842-3>
- Bachner, G.**, Wolkinger, B., Mayer, J., Tuerk, A., Steininger, K.W. (2019). Risk assessment of the low-carbon transition of Austria's steel and electricity sectors. *Environmental Innovation and Societal Transitions*. In press.
<https://doi.org/10.1016/j.eist.2018.12.005>
- Mayer, J., **Bachner, G.**, Steininger, K.W. (2019). Macroeconomic implications of switching to process-emission-free iron and steel production in Europe. *Journal of Cleaner Production*, 210, 1517-1533.
<https://doi.org/10.1016/j.jclepro.2018.11.118>
- Bachner, G.**, Steininger, K.W., Williges, K., Tuerk, A. (2019). The economy-wide effects of large-scale renewable electricity expansion in Europe: The role of integration costs. *Renewable Energy*, 134(219), 1369-1380.
<https://doi.org/10.1016/j.renene.2018.09.052>
- Bachner, G.** and Bednar-Friedl, B. (2019) The effects of climate change impacts on public budgets and implications of fiscal counterbalancing instruments. *Environmental Modelling and Assessment*, 24(2), 121–142.
<https://doi.org/10.1007/s10666-018-9617-3>

- Wolkinger, B., Haas, W., **Bachner, G.**, Weisz, U., Steininger, K., Hutter, H.-P., Delcour, J., Griebler, R., Mittelbach, B., Maier, P., Reifeltshammer, R. (2018). Evaluating Health Co-Benefits of Climate Change Mitigation in Urban Mobility. *International Journal of Environmental Research and Public Health* 15(5), 880. <https://doi.org/10.3390/ijerph15050880>
- Bachner, G.** (2017). Assessing the economy-wide effects of climate change adaptation options of land transport systems in Austria. *Regional Environmental Change* 17(3), 929-940. <https://doi.org/10.1007/s10113-016-1089-x>
- Schinko, T., **Bachner, G.**, Schleicher, S.P., Steininger, K.W. (2017). Modeling for insights not numbers: The long-term low-carbon transformation. *Atmósfera* 30, 137–161. <https://doi.org/10.20937/ATM.2017.30.02.05>
- Bachner, G.**, Seebauer, S., Pfurtscheller, C., Brucker, A. (2016). Assessing the benefits of voluntary emergency services – concepts and evidence from flood protection in Austria. *Disaster Prevention and Management: An International Journal* 25(3), 298-313. <https://doi.org/10.1108/DPM-09-2015-0203>
- Bachner, G.**, Bednar-Friedl, B., Nabernegg, S., Steininger, K. (2015). Economic Evaluation Framework and Macroeconomic Modelling. In: Steininger, K., König, M., Bednar-Friedl, B., Kranzl, L., Loibl, W., Prettenthaler, F. (ed.). *Economic Evaluation of Climate Change Impacts: Development of a Cross-Sectoral Framework and Results for Austria*. Springer Climate. Springer, Cham, 101-122. https://doi.org/10.1007/978-3-319-12457-5_7
- Bachner, G.**, Bednar-Friedl, B., Nabernegg, S., Steininger, K.W. (2015). Macroeconomic Evaluation of Climate Change in Austria: Comparison Across Impact Fields and Total Effects. In: Steininger, K., König, M., Bednar-Friedl, B., Kranzl, L., Loibl, W., Prettenthaler, F. (ed.). *Economic Evaluation of Climate Change Impacts: Development of a Cross-Sectoral Framework and Results for Austria*. Springer Climate. Springer, Cham, 415-440. https://doi.org/10.1007/978-3-319-12457-5_21
- Mitter, H., Schönhart, M., Meyer, I., Mechtler, K., Schmid, E., Sinabell, F., **Bachner, G.**, Bednar-Friedl, B. (2015). Agriculture. In: Steininger, K., König, M., Bednar-Friedl, B., Kranzl, L., Loibl, W., Prettenthaler, F. (ed.). *Economic Evaluation of Climate Change Impacts: Development of a Cross-Sectoral Framework and Results for Austria*. Springer Climate. Springer, Cham, 123-146. https://doi.org/10.1007/978-3-319-12457-5_8

- Neunteufel, R., Perfler, R., Schwarz, D., **Bachner, G.**, Bednar-Friedl, B. (2015). Water Supply and Sanitation. In: Steininger, K., König, M., Bednar-Friedl, B., Kranzl, L., Loibl, W., Prettenthaler, F. (ed.). Economic Evaluation of Climate Change Impacts: Development of a Cross-Sectoral Framework and Results for Austria. Springer Climate. Springer, Cham, 215-234.
https://doi.org/10.1007/978-3-319-12457-5_12
- Kranzl, L., Hummel, M., Loibl, W., Müller, A., Schicker, I., Toleikyte, A., **Bachner, G.**, Bednar-Friedl, B. (2015). Buildings: Heating and Cooling. In: Steininger, K., König, M., Bednar-Friedl, B., Kranzl, L., Prettenthaler, F. (ed.). Economic Evaluation of Climate Change Impacts: Development of a Cross-Sectoral Framework and Results for Austria. Springer Climate. Springer, Cham, 235-256.
https://doi.org/10.1007/978-3-319-12457-5_13
- Kranzl, L., Totschnig, G., Müller, A., **Bachner, G.**, Bednar-Friedl, B. (2015). Electricity. In: Steininger, K., König, M., Bednar-Friedl, B., Kranzl, L., Loibl, W., Prettenthaler, F. (ed.). Economic Evaluation of Climate Change Impacts: Development of a Cross-Sectoral Framework and Results for Austria. Springer Climate. Springer, Cham, 257-278. https://doi.org/10.1007/978-3-319-12457-5_14
- Bednar-Friedl, B., Wolking, B., König, M., **Bachner, G.**, Formayer, H., Offenthaler, I., Leitner, M. (2015). Transport. In: Steininger, K., König, M., Bednar-Friedl, B., Kranzl, L., Loibl, W., Prettenthaler, F. (ed.). Economic Evaluation of Climate Change Impacts: Development of a Cross-Sectoral Framework and Results for Austria. Springer Climate. Springer, Cham, 279-300.
https://doi.org/10.1007/978-3-319-12457-5_15
- Steininger, K.W. and **Bachner, G.** (2014). Extending car-sharing to serve commuters: An implementation in Austria. *Ecological Economics* 101, 64-66.
<https://doi.org/10.1016/j.ecolecon.2014.03.001>
- Documentation of peer review process of listed contributions in edited volume (Springer): <https://www.springer.com/gp/authors-editors/book-authors-editors>

- Mitter, H., Schönhart, M., Schmid, E., Meyer, I., Sinabell, F., Mechtler, K., **Bachner, G.**, Bednar-Friedl, B., Zulka, K.P., Götzl, M., Themeßl, M., Wolf, A., Kriechbaum, M., Pech, M. (2014). The Impact of Climate Change on Crop Production in Austria. CCCA Factsheet #2e. Österreichischer Klima- und Energiefonds.
- Bednar-Friedl B., Wolking, B., König, M. **Bachner, G.**, Formayer, H. Offenthaler, I., Leitner, M., Themeßl, M., Wolf, A., Kriechbaum, M., Pech, M. (2014). The Impact of Climate Change on the Road Infrastructure in Austria. CCCA Factsheet #3e. Österreichischer Klima- und Energiefonds.
- Neunteufel, R., Perfler, R., Schwarz, D., **Bachner, G.**, Bednar-Friedl, B., Steininger, K.W., Themeßl, M., Wolf, A., Kriechbaum, M., Pech, M. (2014). The Impact of Climate Change on the Austrian Water Supply and Sanitation Sector. CCCA Factsheet #7e. Österreichischer Klima- und Energiefonds.
- Kranzl, L., Totschnig, G., Müller, A., Hummel, M., Loibl, W., Schicker, I., Toleikyte, A., **Bachner, G.**, Bednar-Friedl, B., Themeßl, M., Wolf, A., Kriechbaum, M., Pech, M. (2014). The Impact of Climate Change on Energy and Electricity Supply in Austria. CCCA Factsheet #10e. Österreichischer Klima- und Energiefonds.
- Bachner, G.**, Bednar-Friedl, B., Birk, S., Feichtinger, G., Gobiet, A., Gutschi, C., Heinrich, G., Kulmer, V., Leuprecht, A., Prettenthaler, F., Rogler, N., Schinko, T., Schüppel, A., Stigler, H., Themessl, M., Töglhofer, C., Wagner, T. (2013). Impacts of Climate Change and Adaptation in the Electricity Sector - The Case of Austria in a Continental European Context (EL.ADAPT). Wegener Center Scientific Report 51-2013, Wegener Center Verlag, Graz.
- Bachner, G.**, B. Bednar-Friedl, O. Koland, K. Steininger, B. Wolking, M. Balas, A. Felderer, M. König (2011). Strategien zur Anpassung an den Klimawandel der österreichischen Wirtschaft: Beitrag zur nationalen Klimawandel-Anpassungsstrategie. [Strategies for Adaptation to Climate Change in the Austrian Economy: Contributions to Austria's Adaptation Strategy], Report commissioned by the Austrian Climate and Energy Fund.