Curriculum Vitae

DR. CHRISTIAN BINZ

Eawag: Swiss Federal Institute of Aquatic Science and Technology

Environmental Social Sciences (ESS)

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CURRENT POSITIONS

Since Apr 2017 Eawag – Swiss Federal Institute of Aquatic Science and Technology

Tenure-track group leader in the department of environmental social sciences

(ESS)

Since Jan 2017 CIRCLE – Lund University

 Affiliate Post-Doctoral Researcher at the Center for Innovation, Research and Competence in the Learning Economy

EDUCATION AND TRAINING

Mar 2009 – Nov 2012 University of Bern, Institute of Geography

Eawag: Swiss Federal Institute of Aquatic Science and Technology

 Ph.D. in Geography (summa cum laude). Supervisors: Prof. Urs Wiesmann and Prof. Bernhard Truffer. Ph.D. thesis: Environmental innovation and industry formation in multiscalar space - The emergence of on-site wastewater treatment in China

Oct 2003 – Dec 2008 University of Bern, Institute of Geography

M.Sc. in Geography

Minors: Economics, Philosophy and Chinese

Master thesis: Leapfrogging in urban water management – the development perspectives of decentralized wastewater treatment in China (with honors)

PROFESSIONAL AND ACADEMIC EXPERIENCE

Jul 2015 – Dec 2016 Lund University, Sweden

 Post-Doctoral Researcher at the Center for Innovation, Research and Competence in the Learning Economy. SNSF-funded early Postdoc. Mobility

project

May 2016 – Jun 2016 University of the Chinese Academy of Sciences, Beijing, China

Visiting Research Fellow at the School Economics and Management

Fieldwork in China's wind power sector

Jul 2015 – Jul 2016 Harvard University - Kennedy School of Government

 Associate Fellow at the Energy Technology Innovation Policy Program at the Belfer Centre for International Affairs

Dec 2014 - Mar 2015 Tsinghua University, Beijing, China Visiting Research Fellow at the School of Public Policy and Management **Harvard University - Kennedy School of Government** Sept 2014 - Jul 2015 Giorgio Ruffolo Post-Doctoral Research Fellow in the Sustainability Science Program and the Energy Technology Innovation Policy Project at the Belfer Center for Science and International Affairs. University of California Berkeley, CA, USA Sept 2013 - Dec 2013 Visiting Scholar at the UC Berkeley Water Center and the NSF Engineering Research Center for Re-Inventing Urban Water Infrastructure (ReNUWIt) Jan 2013 - Jul 2014 **Eawag: Swiss Federal Institute of Aquatic Science and Technology** Post-Doctoral Researcher at the Department for Environmental Social Sciences Sept 2010 - Jun 2011 Chinese Academy of Sciences, Beijing, China Visiting Ph.D. student at the Research Centre for Eco-Environmental Sciences

EXTERNAL FUNDING

Received (total: CHF 827'400)

Jan 2019 SNSF Scientific Exchanges

 Funding for an international expert workshop on "Transformation of coupled social-ecological and socio-technical systems: Defining the contours of an integrative research agenda" (CHF 12'000)

Apr 2018 Eawag Discretionary Funding

 Overcoming institutional barriers to non-grid urban water systems – comparing lighthouse cities for WINGS (BARRIERS), (3 years, 1 PostDoc, CHF 340'000)

Apr 2018 Swiss National Science Foundation, project funding in the social sciences

 Global socio-technical regimes in the water sector (GLORIWA), (4 years, 1 PhD, 1 research assistant 1 year, CHF 330'000, shortlisted for excellence grant)

Mar 2015 Harvard University, Sustainability Science Program (SSP)

Collaborative Research among SSP Fellows (5'400 US\$, 1 year). Project title:
 'Spatial Dynamics in the Knowledge Base of Clean-Tech Sectors'

Jun 2014 Harvard University, Sustainability Science Program (SSP)

 Giorgio-Ruffolo Post-Doctoral Fellowship in Sustainability Science (55'000 US\$, 1 year). Project title: Low-Carbon Leapfrogging in China - An International Innovation System Perspective

May 2014 Swiss National Science Foundation

Early Post Doc.Mobility Scholarship (85'000 CHF, 1.5 years). Project title:
 Globalization of cleantech industries – Reconstructing China's integration into the global innovation networks of wind power and solar photovoltaics

TEACHING AND SUPERVISION

Since Feb 2020 University of Zurich, Department of Geography

 Main lecturer in a Master seminar on 'The Geography of Sustainability Transitions' (3ECTS, held annually)

Sept 2018 - Dec 2019 Eawag Main supervisor of the PhD thesis of Andri Brugger Since May 2018 **Eawag, Utrecht University** Co-supervisor for the PhD thesis of Jonas Heiberg May 2018 Università degli studi Firenze Guest Lecturer in the Master course 'Environment and Development', (3 ECTS) Dec 2017 Université de Neuchâtel Guest Lecturer in the Bachelor course 'Géographie économique', (3 ECTS) since Apr 2017 **CIRLCE – Lund University** Guest Lecturer in the Master course 'Globalization and Innovation', (7.5 ECTS) Since May 2016 **CIRCLE – Lund University** Supervision of five master students Nov 2014 - Aug 2015 Harvard University, Sustainability Science Program (SSP) Supervising two research interns in projects on renewable energy policy/industrial dynamics in cleantech sectors Feb 2013 - Jul 2013 University of Bern, Institute of Geography Main lecturer in masters seminar: Eco-Innovation in Economic Geography (7 ECTS) Feb 2010 - Jul 2014 University of Bern, Institute of Geography Masters course: Innovation systems in space and time (held by Prof. B. Truffer) Teaching assistant, holding lectures, supervising and correcting exams Apr 2006 - Feb 2009 University of Bern, Institute of Geography Junior research assistant at the research group for economic geography and regional sciences. Organizing and correcting undergraduate level exams, assistant in teaching and research activities, web administrator **ACADEMIC SERVICE** Since Jun 2019 Sustainability Transitions Research Network (STRN) Elected member of the steering group Founder of a new thematic group on the Geography of Sustainability Transitions Main organizer of a webinar series on the Geography of Transitions Sept 2020 **Chalmers University, Division of Environmental Systems Analysis** Committee member of the Ph.D. defense of Johnn Anderson. Title: A conceptual foundation for efforts to analyse and shape technological innovation Since Feb 2020 University of Lausanne, Faculty of Geosciences and Environment Member of the Ph.D. committee for Andrea Ferloni. PhD title: The role of space in the transition to the electric vehicle: a co-evolutionary approach Aug 2019 IST conference, Vienna (A) Main organizer of a dialogue session on 'The politics of deep socio-technical-

ecological systems transformation'

Feb - Aug 2019

Alpen-Adria University Klagenfurt

 Member of the selection committee of a full professorship in geography and regional studies

Jun 2019

IST conference, Ottawa, CA

 Main organizer of a dialogue session on 'sectorial configurations in sustainability transitions'

May 2019

International expert workshop, Eawag, CH

 Main organizer of an international workshop on 'Transformation of coupled social-ecological and socio-technical systems: Defining the contours of an integrative research agenda'

Apr 2019

AAG conference, Washington DC, USA

 Organizer of three special sessions on 'Emerging industries: Institutions, legitimacy and system building'

Jun 2018

IST conference, Manchester, UK

 Organizer of a dialogue session on 'Transition studies and sustainability science-Interesting intersections ahead?' Invited panellist in a dialogue session on 'Recent advances in TIS research – Towards a new phase in transition studies?'

Nov 2017

BMBF, Germany

 Selection committee member for a national research program on Future climate-resilient cities.

Dec 2016

Lund University, Faculty of Engineering

Committee member of the Ph.D. defense of Jingjing Zhang. PhD title: Energy innovation and sustainability transitions in China

Mar 2016

AAG annual meeting, San Francisco CA

Organizer of 4 special sessions on 'Economic geography and Grand Challenges'

Apr 2015

AAG annual meeting, Chicago, IL

Organizer of a special session stream on "Socio-Technical (Sustainability)
 Transitions in the making: emerging geographies of eco-innovation"

Feb - Jul 2014

Harvard University, Qinghua University

 Organizing and preparing the background materials for a Harvard-Qinghua workshop on energy technology innovation policy

Jan – Jun 2013

4th International Conference on Sustainability Transitions, Zurich, CH

Co-director of the organizing committee

Since 2012

Reviewer

Science, PNAS, Research Policy, Economic Geography, Technological Forecasting & Social Change, Regional Studies, Environmental Innovation and Societal Transitions, Environment and Planning A, Journal of Cleaner Production, Water Research, Environmental Science and Policy, Industrial and Corporate Change, Cambridge Journal of Regions, Economy and Society, Energy Policy, European Planning Studies, Energy Research and Social Sciences, Science and Public Policy, Land Use Policy, Total Quality Management & Business Excellence, Technology Analysis & Strategic Management, Sustainability, Journal of Environmental Management, Business & Politics, Climate Policy, Urban Studies, International Journal on Innovation Studies, Review of Regional Research, IST conferences, GLOBELICS conferences, DRUID conferences, KLI Vienna

SELECTED INVITED LECTURES

Nov 2019	Chinese Academy of Sciences, Beijing, Expert workshop on green windows of opportunity for catching up in China. Invited lecture: "Catch-up cycles in global innovation systems – A comparison of four Chinese cleantech industries"
May 2018	University of Oldenburg , Workshop of the German Research Foundation's Emmy Noether Programme Project "Regional Energy Transition" (REENEA). Invited lecture: "Transnational innovation dynamics – Space, scale and the regional dimension of technological innovation systems"
Nov 2017	European Association for Evolutionary Political Economy , 3rd EAEPE 'Networks' Workshop, Bremen, DE. Invited keynote lecture. "Global Innovation Systems – A conceptual typology of innovation networks in cleantech industries"
Apr 2017	American Association of Geographers annual meeting, Boston, MA. Invited Panelist. "Extra-regional dynamics of territorial development - Insights from a circulation and anchoring perspective"
Apr 2017	Sustainability Science Program, Harvard University , Cambridge, MA. Invited Lecture. "Pathways towards Sustainable Development: Transforming Global Socio-Technical Regimes"
May 2016	Aalborg University , Aalborg, DK. Invited Lecture for the IKE seminar. "Transplanting cleantech paths from elsewhere – The emergence of the Chinese Solar PV industry"
Jun 2016	EU-SPRI conference , Lund, SE. Panelist. "Fostering innovation and industrial development in international innovation systems: Policy challenges of a multipolar global economy"
Dec 2015	Utrecht University, Faculty of Geosciences. Invited Seminar Speaker. "The thorny road to technology legitimation - Institutional work for potable water reuse in California"
Apr 2015	American Association of Geographers annual meeting, Chicago, IL. Invited Panelist. "Forging Green Path Creation: EEG, GPNs and Sustainability Transitions."
Apr 2015	Harvard Kennedy School Energy Policy Seminar Series. Invited Speaker, "Low-carbon leapfrogging and globalization: How China developed its solar PV industry"
Apr 2015	Tufts University Sino-US Relations Group Engagement, China – US Symposium. Invited Panelist. "Towards global governance of clean-tech innovation"
Dec 2014	Qinghua University, SPPM, Innovation Policy Seminar Series. Invited Seminar Speaker, "Low-carbon leapfrogging in China - a global innovation system perspective"
Sept 2013	UC Berkeley, Environmental Engineering Seminar Series. Invited Speaker. "Reinventing the Urban Water Sector? A socio-technical systems perspective"

HONORS AND AWARDS

Jun 2017 International Conference on Sustainability Transitions (IST), Gothenburg, SE

Best paper award (1 out of 300 papers selected)

Aug 2014 International Conference on Sustainability Transitions (IST), Utrecht, NL

Nominated for the best paper award (3 out of 150 papers nominated)

Mar 2009 Final MBR workshop, Berlin

Best Ph.D. student poster (EUR 1'000)

Dec 2008 University of Bern

Best master thesis of the Faculty of Geosciences (CHF 1'000)

INTERNATIONAL NETWORKS

Member: Sustainability Transitions Research Network (STRN), International Water Association

(IWA), Association of American Geographers (AAG), Great Transition Network, Regional Studies Association (RSA), Swiss Research Society for urban planning and

regional policy (ROREP)

Conferences

(presentations & posters):

International Conference on Sustainability Transitions (8x), Association of American Geographers annual meeting (5x), GLOBELICS (3x), Geography of Innovation conference (3x), DIME workshops (2x), Harvard-Qinghua workshop on energy innovation policy (2x), DRUID annual conference (2x), Leverage Points Conference 2019, Sustainability Science Symposium 2016, Global Conference on Economic Geography 2018, RSA annual meeting 2017, Annual Water Reuse & Desalination Research Conference 2014, International conference on Sustainability Science 2010,

Final MBR workshop 2009

OTHER PROFESSIONAL ACTIVITIES

Since 2019 Member of the selection committee for EPP fellowhsips at Eawag

Since 2018 Member of the organization committee for the Eawag seminar series

Since 2017 Webmaster of the webpage of the ESS research department

LANGUAGES

German Mother Tongue

English Full professional proficiency

Chinese Professional working proficiency (passed new HSK level 4)

ItalianProfessional working proficiencyFrenchLimited working proficiency

LEADERSHIP AND EXTRA-CURRICULAR EXPERIENCE

Since 2016 Father of two kids

Mar 2019 Laebigi Stadt (Environmental association)

Elected member of the managing board

June 2018 Fachhochschule Nordwestschweiz

Passed CAS course on 'leadership in science'

Founder, president and head of the PR division

Since Apr 2011 von waldkirch PR& NEW MEDIA GmbH, CameraBern

Freelance video journalist, producing video reports on international policy symposia

Since Aug 2002 Blues Brothers Bern, Haettrick music, Hinz & Binz, Swedish chef & the köttbullar

Founding member, playing blues harp and piano, producing music videos

PEER-REVIEWED PUBLICATIONS

Under preparation/review

- Yap, X., Binz, C., Truffer, B., under preparation. Catching-up meets sustainability: contemplating latecomer strategic trade-offs when facing emerging windows of opportunity in clean technologies. Paper presented at the 2018 Global Conference on Economic Geography.
- Osman, K., Faust, K., Binz, C., Hacker, M., under preparation. Implicit and Explicit Implications for Equity in Water and Wastewater Infrastructure: A Case Study of Alternative Water Sources in San Francisco.
- Binz, C., Fuenfschilling, L., Miorner, J., under preparation. The transformative capacity of socio-technical systems:

 A framework for analysis. Research Policy
- Hassink, R., Binz, C., Gong, H., Trippl, M., under preparation. Theorizing the economic geography of emerging industries from an institutional perspective. Regional Studies (intro to a Special Issue).
- Binz, C., under preparation. Emerging interfaces of transition studies and sustainability science A literature review and outlines of a future research agenda. Paper presented at the 2018 IST conference and 2019 Leverage Points Conference.
- Binz, C., Harley, A., Clark, William C., to be submitted. Transition pathways toward Sustainable Development An Analytical Framework and a Case Study. Paper submitted to the independent group of experts writing the UN's 2018 sustainable development goals report.
- Hacker, M., Binz, C., under review. Navigating institutional complexity in socio-technical transitions: An analytical framework and a case study of San Francisco's on-site non-potable water reuse program.
- Miorner, J., Binz, C., to under review. Toward a multi-scalar perspective of transition trajectories An analytical framework and case study in the sanitation sector. Environmental Innovation and Societal Transitions.
- Heiberg, J., Binz, C., Truffer, B., under review. Assessing transitions through socio-technical network analysis a methodological framework and a case study from the water sector. Research Policy.

Accepted

- Castaldi, C., Binz, C., accepted. The places and spaces of innovation: Evolving geographical perspectives on innovation, institutions and prosperity. In: van Rijnsoever, Frank J et al. (Ed.), Institutions, Innovation and Prosperity.
- Hacker, M., Binz, C., accepted. Institutional barriers to on-site urban water reuse An analytical framework and systematic literature review. Environmental Science and Technology.

Published or in press

- Larsen, T., Gründl, H., Binz, C., 2021. The potential contribution of urine source separation to the SDG agenda—A review of the progress so far and future development options. Environmental Science: Water Research & Technology. DOI: 10.1039/D0EW01064B
- Binz, C., Gong, H., 2021. Legitimation dynamics in industrial path development: new-to the-region versus new-to-the-world industries. Regional Studies. https://doi.org/10.1080/00343404.2020.1861238

- Heiberg, J., Truffer, B., Binz, C., 2021. The Geography of Technology Legitimation. How multi-scalar legitimation processes matter for path creation in emerging industries. Economic Geography 96 (5), 470-498.
- Binz, C., Truffer, B., in press. The Governance of Global innovation Systems Putting knowledge in context. In: Gluckler, J. (Ed.), Knowledge for Governance. Springer, Heidelberg.
- Binz, C., Gosens, J., Yap, X., Yu, Z., 2020. Catch-up dynamics in early industry lifecycle stages—a typology and comparative case studies in four clean-tech industries. Industrial and Corporate Change https://doi.org/10.1093/icc/dtaa020.
- Gosens, J., Binz, C., Lema, R., 2020. China's role in the next phase of the energy transition: the case of Concentrated Solar Power. Environmental Innovation and Societal Transitions 34, 61-75.
- Binz, C., Coenen, L., Murphy, J., Truffer, B., 2020. Geographies of transition—From topical concerns to theoretical engagement: A commentary on the transitions research agenda. Environmental Innovation and Societal Transitions 34, 1-3.
- Hipp, A., Binz, C., 2020. Firm survival in complex value chains and global innovation systems: Evidence from solar photovoltaics. Research Policy 49 (1), 103876.
- Hoffmann, S., Feldmann, U., Bach, P.M., Binz, C., Farrelly, M., Frantzeskaki, N., Hiessl, H., Inauen, J., Larsen, T.A., Lienert, J., 2020. A research agenda for the future of urban water management: Exploring the potential of non-grid, small-grid, and hybrid solutions. Environmental science & technology 54 (9), 5312-5322.
- Gebauer, H., Binz, C., 2019. Regional benefits of servitization processes: evidence from the wind-to-energy industry. Regional Studies 53 (3), 366-375.
- Binz, C., Diaz Anadon, L., 2018. Unrelated diversification in latecomer contexts—The emergence of the Chinese solar photovoltaics industry. *Environmental Innovation & Societal Transitions* (in press).
- Fuenfschilling, L., Binz, C., 2018. Global socio-technical regimes. Research Policy 47 (4), 735-749.
- Binz, C., Kiparsky, M., Bronte Razavian, N., 2018. Of Dreamliners and Drinking Water: Developing Risk Regulation and a Safety Culture for Direct Potable Reuse. *Water Resources Management* 32 (2), 511-525.
- Binz, C., Truffer, B., 2017. Global Innovation Systems towards a conceptual framework for systemic innovation conditions in transnational contexts. *Research Policy* 64 (7), 1284-1298.
- Binz, C., Gosens, J., Hansen, T., Hansen, U.E., 2017. Towards technology-sensitive catching-up policies: Insights from renewable energy in China. *World Development 96*, 418-437.
- Binz, C., Tang, T., Huenteler, J., 2017. Spatial Lifecycles of Cleantech Industries the Global Development History of Solar Photovoltaics. *Energy Policy* 101, 386-402
- Binz, Christian; Truffer, Bernhard, 2017. Cities as Mediators between Local Niches and Global Networks, the Transition to Onsite Water Recycling in Three Chinese Cities. In: Urban Sustainability Transitions, edited by Frantzeskaki, Niki, Lars Coenen, Vanessa Castan Broto and Derk Loorbach. London: Routledge
- Kiparsky, M., C. Binz, B. Thompson, B. Truffer, D. Sedlak, A. Simmons, and L. Tummers (2016). Barriers to Innovation in Urban Wastewater Utilities: Attitudes of Managers in California. *Environmental Management* 57 (6), 1204-1216.
- Binz, Christian; David Sedlak; Sasha Harris-Lovett; Michael Kiparsky, and Bernhard Truffer (2016). The thorny road to technology legitimation Institutional work for potable water reuse in California. *Technological Forecasting & Social Change (103), 249-263.*
- Binz, Christian; Truffer, Bernhard; Coenen, Lars (2016): Path creation as a process of resource alignment and anchoring Industry formation for on-site water recycling in Beijing. *Economic Geography*, 92 (2), 172-200.
- Harris-Lovett, Sasha; Christian Binz; David Sedlak; Michael Kiparsky; and Bernhard Truffer (2015). Beyond User Acceptance: A Legitimacy Framework for Potable Water Reuse. *Environmental Science & Technology*, 49, 7552-7561.

- Binz, Christian; Truffer, Bernhard; Coenen, Lars (2014): Why space matters in technological innovation systems Mapping global knowledge dynamics of membrane bioreactor technology. *Research Policy* 43, 138-155.
- UNEP (2013): City-level decoupling: Urban resource flows and governance of infrastructure transitions. A report of the working Group on Cities of the International Resource Panel. Eds: Swilling M., Robinson B., Marvin S., Hodson M. (contributing author).
- Li, Li; Binz, Christian; Lu, Yonglong; Truffer, Bernhard; Shi, Yajuan (2013): Institutional trajectory for diffusing onsite wastewater treatment in urban China. *Water Science and Technology* 68 (5), 1180-1187.
- Binz, Christian (2012): Environmental innovation and industry formation in multiscalar space The emergence of onsite wastewater treatment in China. Dissertation at the Geographic Institute of the University of Bern.
- Binz, Christian and Truffer, Bernhard (2012): Technological innovation systems in multi-scalar space Analyzing an emerging water recycling industry with social network analysis. *Geographica Helvetica* 66 (4): 254-260.
- Binz, Christian; Truffer, Bernhard; Li, Li; Shi, Yajuan; Lu, Yonglong (2012): Conceptualizing leapfrogging with spatially coupled innovation systems: The case of onsite wastewater treatment in China. *Technological Forecasting and Social Change* 79 (1), 155-171.
- Truffer, Bernhard; Binz, Christian; Gebauer Heiko; Stoermer, Eckhard (2012): Market success of on-site treatment: a systemic innovation problem. In Larsen, T.A. Udert, K.M., Lienert, J. (eds.) Wastewater Treatment: Source Separation and Decentralisation. IWA Publishing 2012 pp. 209 223.
- Gebauer, Heiko; Truffer, Bernhard; Stoermer, Eckhard; Binz, Christian (2012): Capability perspective on business network formation: Empirical evidences from wastewater treatment industry. *European Business Review*, 24 (2), 169–190.

NON PEER-REVIEWED PUBLICATIONS

- Binz, Christian; Chan, Gabriel; Doblinger, Claudia; Huenteler, Joern; Shi, Dongbo; Tang, Tian; Xu, Lei; Diaz Anadon, Laura, 2015. Energy Technology Innovation Policy in the backdrop of the U.S.-China Emissions Deal. Background Materials for a joint Harvard-Qinghua Workshop on Energy Technology Innovation Policy, Belfer Center for Science and International Affairs, Harvard University, Cambridge MA.
- Störmer, E., Binz, C., Truffer, B. 2010: Globale Herausforderung für die Siedlungswasserwirtschaft. Ein Roadmapping für dezentrale Wassertechnologien im Jahr 2020. Technikfolgenabschätzung Theorie und Praxis 19. Jg., Heft 1, April 2010, pp 40-48.
- Binz, C. 2012. Kommt die Grauwassertechnologie der Zukunft aus China? Fbr-Wasserspiegel 4/12, p.12-13
- Binz, C. 2012. Kommt das WC der Zukunft aus China? SwissEngineering STZ, 9, 2012. P. 24-25
- Various blog-reports from my 1-year visiting PhD position at the Chinese Academy of Sciences in Beijing on swissinfo.ch; e.g. http://www.swissinfo.ch/ger/wohnen-in-der-chinesischen-immobilienblase/29800648
- 3 Eawag-News articles in cooperation with A. Jordi, e.g. 'Innovationen zum Fliegen bringen'