

CURRICULUM VITAE

DR. JONATHAN KÖHLER

CURRENT POSITIONS

Research Theme Manager, Integrating Frameworks, Tyndall Centre
Senior Research Associate, Faculty of Economics, University of Cambridge

Principal responsibilities:

Tyndall Centre: Development and coordination of the research theme on Integrated Assessment methodologies for climate change policy analysis, line management of research fellow, management of 12 research projects within the theme. Development of research strategy for the theme and contribution to research strategy of the Tyndall Centre.

Project manager, International Modelling Comparison Project on Energy Technology dynamics for the IPCC AR4.

Cambridge: Research into technological change in energy and environmental technologies and transport policy using macroeconomic models and dynamic economic models - Kondratiev or Long Wave theory; Project manager, EPSRC SUPERGEN project on renewables in electricity networks; Management of research proposals and grant applications.

PREVIOUS EMPLOYMENT

1982 - 1988 Ministry of Defence (Procurement Executive)
Assistant Constructor, Royal Corps of Naval Constructors

June 1988 - July 1990 Senior Naval Architect,
Vickers Shipbuilding and Engineering Ltd., Bath

Professional Member, Royal Institution of Naval Architects
Qualifications Registered as Chartered Engineer (C.Eng)

Member, The Integrated Assessment Society (TIAS)

RESEARCH EXPERIENCE

DPhil awarded July 1997 , University of York

Title Bounded Rationality in Savings Decisions
Supervisor Professor J. D. Hey

CURRENT RESEARCH

- For the Tyndall Centre, development of Integrated Assessment Models of climate change for policy analysis: coupled climate models, energy systems, economic systems and emissions modelling (with Rachel Warren, UEA).
- Macroeconometric modelling of climate change policy; development of the global E3MG model; incorporation of learning curves in energy supply technologies.
- Long term technical change; energy and macroeconomic impacts, based on theories of Kondratiev waves. Changes in Input – Output structures in the long term, modelling the dynamic structure of Kondratiev waves and technology transitions. Development of small scale models of economic dynamics, with Klaus Hasselmann, Max Planck institute hamburg and Stephane Hallegatte, CIRED, Paris.
- Project coordinator for the EU 5th framework project: TIPMAC Transport Infrastructure and Policy: a MACroeconomic analysis for Europe.
- Cambridge project manager: SUPERGEN consortium on renewables electricity energy networks; development of scenarios of institutions and technologies for renewables; market structures for decentralised generation and control.
- Tyndall Centre Microgrids project: economics of microgrid installations and decentralised power systems

CURRENT TEACHING

Lecturer, Birkbeck College, University of London. Course: MA – Environmental management, subjects – macroeconomic analysis of climate change policy, economic analysis of technological change and economic dynamics of energy technologies.

Undergraduate supervisions, Cambridge University – environmental economics.

PUBLICATIONS etc.

Terry Barker and Jonathan Köhler (eds.) (1998), *International Competitiveness and Environmental Policies*, Edward Elgar, Cheltenham.

Terry Barker and Jonathan Köhler (1998), 'Equity and Ecotax Reform in the EU: achieving a 10 % reduction in CO₂ emissions using excise duties', *Fiscal Studies*, 19(4), pp. 375-402.

Terry Barker and Jonathan Köhler (2000), '*Charging for Road Freight in the EU: Macroeconomic Implications of a Weigh-In-Motion Tax*', report for DGVII of the CEC. *Journal of Transport Economics and Policy* 34(3) pp. 311-332.

Jonathan Köhler, Hans-Jochen Luhmann and Anders Wadeskog (1999), '*Expenditure on Environmentally Sensitive Goods and Services: Household Spending in Europe*', University of Cambridge, DAE Working paper 9903.

Dennis Anderson, Michael Grubb, Jonathan Köhler (2000), *Induced technical change: Evidence and implications for energy-environmental modelling and policy: Report to the Deputy Secretary-General, Organisation for Economic Cooperation and Development, Paris.*

Jonathan Köhler (2001), *Detergent phosphates and detergent ecotaxes : a policy assessment*, a report prepared for the Centre Européen d'Etudes des Polyphosphates – a European Chemical Industry Council (CEFIC) sector group.

Grubb M, Köhler J, Anderson D (2002) Induced Technical Change in Energy and Environmental modeling: Analytic Approaches and Policy Implications, *Ann. Rev. Energy Environ.* Vol. 27: 271-308

Jonathan Köhler (2002), Long run technical change in an energy-environment-economy (E3) model for an IA system, *iEMSS proceedings: Integrated Assessment and Decision Support*, Lugano, vol 3 p. 139-144.

Terry Barker, Jonathan Köhler and Marcelo Villena (2002), The Costs of Greenhouse Gas Abatement: A Meta-Analysis of Post-SRES Mitigation Scenarios, *Environmental Economics and Policy Studies*, 5(2), pp135-166.

Jonathan Köhler (2003), Long run technical change in an energy-environment-economy (E3) model for an IA system: A model of Kondratiev Waves, *Integrated Assessment*, 4(2), pp. 126-133.

Jonathan Köhler (2004), Phosphate recycling: regulation and economic analysis. In *Phosphorus in Environmental Technologies: principles and applications pp.529-546* ed. E. Valsami-Brown, IWA, London.

Köhler Jonathan (2005), Making (Kondratiev) waves: simulating long run technical change in: Paul Dewick, Marcela Miozzo and Ken Green (eds.) "*Technology, Knowledge and the Firm: Implications for Strategy and Industrial Change*", Edward Elgar, pp.404-426.

Köhler J. (2003), Climate policy in a globalizing world by Springer K. (Book review) *World Economy* 26 (6): 935-935 JUN 2003

Dessai S., W. Neil Adger, Mike Hulme, John Turnpenny, Jonathan Köhler, Rachel Warren (2004) Defining and Experiencing Dangerous Climate Change, *Climatic Change* - May 2004, 64(1-2), pp.11-26

Barker T., Köhler J., Pan H., Warren R., Winne S., (2005) Avoiding dangerous climate change by inducing technological progress: scenarios using a large-scale econometric model: Tyndall Working paper 77.

Abu-Sharkh S., R.J. Arnold, J. Kohler, R. Li, T. Markvart, J.N. Ross, K. Steemers, P. Wilson and R. Yao (2006), "Can Migrogrids make a major contribution to UK Energy Supply?", *Renewable and Sustainable Energy Reviews*, 10, 78-127.

Barker, T., Pan, H., Köhler, J., Warren, R. and Winne, S. (2005). Avoiding dangerous climate change by inducing technological progress: scenarios using a large-scale econometric model', chapter 38 in Schellnhuber, H.J., Cramer, W., Nakicenovic, N., Wigley, T. and Yohe G. (Eds.) *Avoiding Dangerous Climate Change*, Cambridge University Press.

Köhler, J., M. Grubb, D. Popp, and O. Edenhofer (2006). "The Transition to Endogenous Technical Change in Climate-Economy Models: a Technical overview to the Innovation Modeling Comparison

Project.” *The Energy Journal Special Issue, Endogenous Technological Change and the Economics of Atmospheric Stabilization*, 17-55.

Edenhofer O., K. Lessmann C. Kemfert, M. Grubb and J. Köhler (2006). “Induced Technological Change: Exploring its Implications for the Economics of Atmospheric Stabilization Synthesis Report from the Innovation Modeling Comparison Project Models.” *The Energy Journal Special Issue, Endogenous Technological Change and the Economics of Atmospheric Stabilization*, 57-107.

Barker, T., Pan, H., Köhler, J., Warren, R. and Winne, S. (2006). Decarbonizing the Global Economy with Induced Technological Change: Scenarios to 2100 using E3MG. *The Energy Journal Special Issue, Endogenous Technological Change and the Economics of Atmospheric Stabilization*, 241-258.

Ian Elders, Graham Ault, Stuart Galloway, Jim McDonald, Jonathan Köhler, Matthew Leach and Efterpi Lampaditou: (2006) Electricity Network Scenarios for the UK in 2050 in Future Technologies for a Sustainable Electricity System CUP forthcoming

Köhler Jonathan (2006) Detergent phosphates: an EU policy assessment, *Journal of Business Chemistry*, 3(2), 15-30.

Review of Helm book (forthcoming in Global Environmental Change)

Köhler Jonathan (2006) Foresight **Transport and the environment: the need for policy for long term radical change**: A literature review for the DTI FORESIGHT project on Intelligent Infrastructure Systems, Forthcoming in *IEE transactions: Intelligent Infrastructure Systems*

Chapters in Books

Jonathan Köhler (2004), Phosphate recycling: regulation and economic analysis. In *Phosphorus in Environmental Technologies: principles and applications pp.529-546* ed. E. Valsami-Brown, IWA, London.

Köhler Jonathan (2005), Making (Kondratiev) waves: simulating long run technical change in: Paul Dewick, Marcela Miozzo and Ken Green (eds.) "*Technology, Knowledge and the Firm: Implications for Strategy and Industrial Change*", Edward Elgar, pp.404-426.

Research Reports

Jonathan Köhler (2001), *Detergent phosphates and detergent ecotaxes : a policy assessment*, a report prepared for the Centre Européen d’Etudes des Polyphosphates – a European Chemical Industry Council (CEFIC) sector group.

Can microgrids make a major Contribution to UK energy supply?, Suleiman Abu-Sharkh, Rachel Li, Tom Markvart, Neil Ross, Peter Wilson, Runming Yao, Koen Steemers, Jonathan Kohler, and Ray Arnold, March 2005 Tyndall Centre Working Paper 70

Barker T., Köhler J., Pan H., Warren R., Winne S., (2005)

Avoiding dangerous climate change by inducing technological progress: scenarios using a large-scale econometric model: Tyndall Working paper 77

**Wittneben B, Haxeltine A., Kjellen B, Turnpenny J., Köhler J., , Warren R., (2005)
A framework for assessing the political economy of post-2012 global climate regime:
Tyndall Working Paper 80;**

Jonathan Köhler, Terry Barker, Haoran Pan, Paolo Agnolucci, Paul Ekins, Tim Foxon, Dennis Anderson, Sarah Winne, Paul Dewick, Marcela Miozzo, Ken Green
New Lessons for Technology Policy and Climate Change: Investment for Innovation: a briefing document for policymakers: Tyndall Centre Briefing paper 2005

Under Review

Jonathan Köhler*^{1,5}, Terry Barker⁵, Haoran Pan⁵, Paolo Agnolucci², Paul Ekins², Tim Foxon³, Dennis Anderson³, Sarah Winne¹, Paul Dewick⁴, Marcela Miozzo⁴, Ken Green⁴
New Lessons for Technology Policy and Climate Change: Investment for Innovation: a briefing document for policymakers In review for Climate Policy

Jonathan Köhler and Wolfgang Schade Integrated models for EU transport Policy; Social Marginal Cost Pricing and the TEN-T infrastructure programme : to be resubmitted to Transport Policy

Pan and Koehler Learning Curves Versus Technical coefficients for Technological change Submitted to Environmental and Resource Economics

J.Köhler, Ying Jin, Terry Barker Integrated macroeconomic and transport modelling of EU transport policy: economic growth from Social Marginal Cost Pricing and the TEN-T programmes submitted to JTEP

Köhler Barker Anderson EJ TD BU

Warren et al env software

Publications in progress

DEFRA scoping paper with Nick Brooks

Köhler foresight transport and environment review submit to??????

Köhler A Paradigm Shift in Economics: Endogenous Technological Change in Economic Models of Climate Change Policy IN Book on Environmental technology Modelling