

Gregory F. Nemet

La Follette School of Public Affairs and
Nelson Institute for Environmental Studies
University of Wisconsin, Madison
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ACADEMIC EMPLOYMENT AND EDUCATION

| | |
|---|---|
| University of Wisconsin, Madison | Associate Professor, 2013–present Assistant Professor, 2007–2013 |
| German Institute for Economic Research (DIW) | Research Fellow, 2016–present |
| Mercator Research Institute on GC&CC (MCC) | Visiting Fellow, 2015–16 |
| Harvard Kennedy School | Visiting Scholar, 2011 |
| University of California, Berkeley | Ph.D., Energy and Resources, 2007 M.A., Energy and Resources, 2004 |
| Dartmouth College | A.B., Geography with Economics, 1995 |

RESEARCH INTERESTS

Energy policy, science and technology policy, technological change, low-carbon energy systems, climate change, R&D, learning by doing, intellectual property, energy systems modeling.

JOURNAL ARTICLES

1. **Nemet, G. F.** LD. Anadon, and E. Verdolini (2016) “Quantifying the effects of expert selection and elicitation design on experts’ confidence in their judgments about future energy technologies.” In press, *Risk Analysis*.
2. Grubler, A., C. Wilson and **G. Nemet** (2016). “Apples, oranges, and consistent comparisons of the temporal dynamics of energy transitions.” *Energy Research & Social Science* 22: 18-25.
3. **Nemet, G. F.**, A. Grubler, and D.M.Kammen (2016) “Countercyclical energy and climate policy for the U.S.” *Wiley Interdisciplinary Reviews: Climate Change* 7(1): 5–12.
4. Gillingham, K., H. Deng, R. H. Wiser, N. Darghouth, **G.F. Nemet**, G. L. Barbose, V. Rai and C. Dong (2016). “Deconstructing Solar Photovoltaic Pricing: The Role of Market Structure, Technology, and Policy.” *The Energy Journal* 37(3): 231–250.
5. **Nemet, G.F.**, E. Baker, B.Barron, and S. Harms (2015) “Characterizing the effects of policy instruments on the future costs of carbon capture for coal power plants.” *Climatic Change* 133(2): 155–168.
6. **Nemet, G. F.** (2015) “Modeling long term energy futures after Nordhaus 1973.” *Journal of Natural Resources Policy Research* 7(2–3): 141–146..
7. Sierchula, W., and **G.F. Nemet** (2015) “Patents and prototypes as preliminary indicators for technology-forcing policies:Lessons from California’s Zero Emission Vehicle regulations.” *Technological Forecasting and Social Change* 100: 213–224.
8. Verdolini, E., L.D.Anadon, J.Lu, and **G.F. Nemet** (2015) “The effects of R&D, expert selection, and elicitation design on experts’ estimates of the future costs of photovoltaics.” *Energy Policy* 80: 233–243.
9. Plachinski, S.D., T. Holloway, P.J. Meier, **G.F. Nemet**, A. Rrushaj, J.T. Oberman, P.L. Duran and C.L. Voigt (2014). “Quantifying the emissions and air quality co-benefits of lower-carbon electricity production.” *Atmospheric Environment* 94: 180-191.

10. **Nemet, G.F.**, P. Braden, E. Cubero, and B. Rimal. (2014) “Four decades of multi-year targets in energy policy: aspirations or credible commitments?” *Wiley Interdisciplinary Reviews: Energy and Environment*, 3(5): 522-533.
11. Anadon, L.D., **G.F. Nemet**, and E. Verdolini. (2013) “The future costs of nuclear power using multiple expert elicitations: effects of RD&D and elicitation design.” *Environmental Research Letters*, 8(3): 034020.
12. **Nemet, G.F.**, E. Baker, and K. Jenni (2013) “Modeling the future costs of carbon capture using experts’ elicited probabilities under policy scenarios.” *Energy*, 56: 218–228.
13. Jenni, K., E. Baker, and **G.F. Nemet** (2013) “Expert Elicitations of Energy Penalties for Carbon Capture Technologies.” *International Journal of Greenhouse Gas Control*, 12: 136–145.
14. Altwies, J. and **G.F. Nemet** (2013) “Innovation in the U.S. building sector: an assessment of patent citations in building energy control technology.” *Energy Policy*, 52(1): 819–831.
15. **Nemet, G.F.** (2012) “Subsidies for new technologies and knowledge spillovers from learning by doing.” *Journal of Policy Analysis and Management*, 31(3): 601–622.
16. Wilson, C., A. Grubler, K.S. Gallagher, and **G.F. Nemet** (2012) “Marginalization of end-use technologies in energy innovation for climate protection.” *Nature Climate Change*, 2(11): 780–788.
17. **Nemet, G.F.** (2012) “Inter-technology knowledge spillovers for energy technologies.” *Energy Economics*, 34(5): 1259–1270.
18. Gallagher, K.S., A. Grubler, L. Kuhl, **G.F. Nemet**, and C. Wilson (2012) “The Energy Technology Innovation System.” *Annual Review of Environment and Resources*, 37(1): 137–162.
19. **Nemet, G.F.** and E. Johnson (2012) “Do important inventions benefit from knowledge originating in other technological domains?” *Research Policy*, 41(1): 190–200.
20. **Nemet, G.F.** and A.R. Brandt. (2012) “Willingness to pay for a climate backstop: liquid fuel producers and direct CO₂ air capture” *The Energy Journal*, 33(1): 53–82.
21. Rasmussen, D. J., T. Holloway, and **G. F. Nemet** (2011) “Opportunities and challenges in assessing climate change impacts on wind energy,” *Env. Research Letters*, 6(2):024008.
22. **Nemet, G. F.** (2010) “Cost containment in climate policy and incentives for technology development.” *Climatic Change*, 103: 423-443.
23. **Nemet, G.F.** (2010) “Robust incentives and the design of a climate change governance regime” *Energy Policy*, 38(11): 7216–7225.
24. **Nemet, G. F.** , T. Holloway, and P. Meier (2010) “Implications of incorporating air-quality benefits into climate change policymaking.” *Env. Research Letters* 5(1):014007.
25. **Nemet, G. F.** and E. Baker (2009). “Demand subsidies versus R&D: comparing the uncertain impacts of policy on a pre-commercial low-carbon energy technology.” *The Energy Journal* 30(4): 49–80. (Awarded best paper in *The Energy Journal* in 2009.)
26. **Nemet, G.F.** (2009) “Demand pull, technology push, and government-led incentives for non-incremental technical change.” *Research Policy* 38(5): 700–709.
27. **Nemet, G.F.** (2009) “Net radiative forcing from widespread deployment of photovoltaics.” *Environmental Science & Technology* 43(6): 2173–2178.
28. **Nemet, G.F.** (2009) “Interim monitoring of cost dynamics for publicly-supported energy technologies” *Energy Policy* 37(3): 825–835.
29. **Nemet, G.F.** and D.M. Kammen (2007) “U.S. energy R&D: declining investment, increasing need, and the feasibility of expansion” *Energy Policy* 35(1): 746-755.

30. **Nemet, G.F.** (2006) “Beyond the learning curve: factors influencing cost reductions in photovoltaics” *Energy Policy* 34(17): 3218-3232.
31. Kammen, D.M. and **G.F. Nemet** (2005) “Reversing the incredible shrinking energy R&D budget” *Issues in Science and Technology* 22(1): 84-88, Fall.
32. **Nemet, G.F.** and A.J. Bailey (2000) “Distance and health care utilization among the rural elderly” *Social Science and Medicine* 50:1197-1208.

BOOK CHAPTERS

1. **Nemet, G.F.** and J. Patz (2015), “Ch. 13 Energy Policy in Developed Countries.” In *Climate Change and Public Health*. Levy and Patz. Oxford, Oxford University Press.
2. **Nemet, G.F.** (2015). Economics of Renewable Energy Production. In *Emerging Trends in the Social and Behavioral Sciences*. R. Scott and S. Kosslyn, John Wiley and Sons.
3. **Nemet, G.F.** (2014). Solar Water Heater Innovation in the United States, China, and Europe. In *Energy Technology Innovation: Learning from Historical Successes and Failures*. A. Grubler and C. Wilson. Cambridge, Cambridge University Press: 105–117.
4. **Nemet, G.F.** (2014). Technological Improvements in Solar Thermal Electricity in the United States and the Role of Public Policy. In *Energy Technology Innovation: Learning from Historical Successes and Failures*. A. Grubler and C. Wilson. Cambridge, Cambridge University Press: 165–177.
5. Grubler, A. and **G. F. Nemet** (2014). Sources and Consequences of Knowledge Depreciation. In *Energy Technology Innovation: Learning from Historical Successes and Failures*. A. Grubler and C. Wilson. Cambridge, Cambridge University Press: 133–145.
6. **Nemet, G.F.** (2014). Automobile Fuel Efficiency Standards. In *Energy Technology Innovation: Learning from Historical Successes and Failures*. A. Grubler and C. Wilson. Cambridge, Cambridge University Press: 178–192.
7. **Nemet, G.F.** (2014). Solar Photovoltaics: Multiple Drivers of Technological Improvement. In *Energy Technology Innovation: Learning from Historical Successes and Failures*. A. Grubler and C. Wilson. Cambridge, Cambridge University Press: 206–219.
8. Anadon, L. D. and **G. F. Nemet** (2014). The U.S. Synthetic Fuels Corporation: Policy Consistency, Flexibility, and the Long-Term Consequences of Perceived Failures. In *Energy Technology Innovation: Learning from Historical Successes and Failures*. A. Grubler and C. Wilson. Cambridge, Cambridge University Press: 257–273.
9. **Nemet, G.F.** (2013) “Technological Change and Climate Change Policy.” In: Shogren, J.F., (ed.) *Encyclopedia of Energy, Natural Resource, and Environmental Economics*, Vol. 1, pp. 107-116 Amsterdam: Elsevier.
10. **Nemet, G.F.** and D. Husmann (2012). “PV learning curves and cost dynamics” in *Advances in Photovoltaics Part I, 1st Edition*. G. Willeke and E. Weber, Academic Press. 87.
11. GEA (2012) “Ch. 24, Policies for the Energy Technology Innovation System” in *The Global Energy Assessment (GEA)*. Cambridge University Press (Lead Author).
12. Baker, E. , **G.F. Nemet** and P. Rasmussen (2012). “Modeling the Costs of Carbon Capture” in *Handbook of CO2 in Power Systems*. Q. P. Zheng, S. Rebennack, P. M. Pardalos, M. V. F. Pereira and N. A. Iliadis. Berlin Heidelberg, Springer: 349-372.
13. **Nemet, G.F.** and D. Husmann (2012) “Historical and future cost dynamics of PV technology” in *Comprehensive Renewable Energy*. Ed. A. Sayigh et al., Oxford: Elsevier, pp 47–72.

14. IPCC (2011) “Chapter 11, Policy, Financing and Implementation” in *Intergovernmental Panel on Climate Change (IPCC) Special Report on Renewable Energy*, (Contributing Author).
15. **Nemet, G.F.** (2010) “Benefit Cost Analysis of R&D as a Solution to Climate Change” in *Smart Solutions to Climate Change: Comparing Costs and Benefits*. Ed. B. Lomborg. Cambridge University Press: 349–359.
16. van Sark, Wene, Neij, **G.F. Nemet** (2010) “Ch. 2 General aspects and caveats of experience curve analysis” in *Technological Learning in the Energy Sector: Lessons for Policy, Industry and Science*. Ed. M. Junginger. Cheltenham, UK, Edward Elgar: 18–35.
17. van Sark, Schaeffer, **G.F. Nemet**, Alsema (2010) “Ch. 7 Photovoltaic Solar Energy” In *Technological Learning in the Energy Sector: Lessons for Policy, Industry and Science*. Ed. M. Junginger. Cheltenham, UK, Edward Elgar : 93–114.
18. **Nemet, G.F.** (2008) “Evaluating the demand-pull hypothesis” In *Innovation for a Low Carbon Economy: Economic, Institutional and Management Approaches*. T. Foxon, J. Köhler, and C. Oughton. Cheltenham, UK, Edward Elgar: 87–143.
19. Kammen, D.M. and **G.F. Nemet** (2007) “Energy R&D investment” In *Energy and American Society—13 Myths*. B. Sovacool and M. Brown. Springer: 289–310.

PAPERS UNDER REVIEW

Nemet, G. F. , E. O’Shaughnessy, R. Wiser, N. Darghouth, G. Barbose, K. Gillingham and V. Rai. “Solar Subsidies and the Characteristics of Low-Priced Solar Systems.” In review at *Applied Energy*.

Nemet, G. F. , M. Jakob, J. Steckel and O. Edenhofer. “Addressing credibility problems in climate policy.” In review at *Global Environmental Change*.

Nemet, G. F. , M. Kraus and V. Zipperer. “The Valley of Death, the Technology Pork Barrel, and Public Support for Large Demonstration Projects.” In review at *Research Policy*.

Nemet, G. F. , E. O’Shaughnessy, R. Wiser, N. Darghouth, G. Barbose, K. Gillingham and V. Rai. “What Factors Affect the Prices of Low-Priced U.S. Solar PV Systems?” In review at *Environmental Research Letters*.

OTHER PUBLICATIONS

Nemet, G.F. (2014) “Can Local Motivations Help Address the Global Climate Problem?” La Follette School of Public Affairs, Policy Report, Fall.

Wiesenthal, T., D. P., et al. (2012). “Learning Curves for Energy Policy Support,” European Commission, European Commission, Joint Research Center, doi:10.2790/59345.

Muller, J.P., and **G.F. Nemet** (2009). “Implications of Climate Policy in a Carbon-Intensive Region: Estimating Abatement Costs under Deep Policy Uncertainty”, *La Follette School Working Paper No. 2009-015*.

Kammen, D. M., A. E. Farrell, et al. (2007). “Energy and Greenhouse Impacts of Biofuels: A Framework for Analysis.” *Discussion Paper 2007-02*, Paris, Organization for Economic Cooperation and Development, International Transport Forum: Joint Transportation Research Center.

Neuhoff, K., J. Lossen, **G.F. Nemet** et al. (2007). The role of the supply chain in innovation: the example of photovoltaic cells. *EPRG Working Paper 07/32*. Cambridge, U.K., University of Cambridge - Electricity Policy Research Group.

Nemet, G.F. (2006) “How well does learning-by-doing explain cost reductions in a carbon-free energy technology?” *Nota di Lavoro 143.2006*, Fondazione Eni Enrico Mattei (FEEM), Milan, Italy.

CONFERENCE PRESENTATIONS AND INVITED TALKS

2016

Economics for Energy, Madrid
ETH-Zurich
German Institute for Economic Research (DIW)
International Association for Energy Economics, Bergen
Mercator Research Institute on Global Commons and Climate Change, Berlin
Potsdam Institute for Climate Impacts Research (PIK), Potsdam
SPRU, University of Sussex, U.K.
Technical University of Berlin

2015

Carnegie Mellon University
German Institute for Economic Research, Berlin
Integrated Assessment Modeling Consortium, Postdam
Internationales Begegnungszentrum der Wissenschaft, Berlin
Mercator Research Institute on Global Commons and Climate Change, Berlin
Organization for Economic Cooperation and Development, Paris

2014

International Energy Workshop, Beijing
German Institute for Economic Research (DIW), Berlin
Lawrence Berkeley National Laboratory, Berkeley, CA
Mercator Research Institute on Global Commons and Climate Change, Berlin
Society for Benefit Cost Analysis, Washington
U.Wisconsin Founder’s Day, Columbus, OH

2013

AMPERE Technology Workshop, Seville, Spain
Association for Public Policy and Management, Washington
Massachusetts Institute of Technology
Society for Benefit Cost Analysis, Washington
University of Texas at Austin
U.S. Association for Energy Economics, Anchorage
U.Wisconsin Alumni Club, Green Bay WI
U.Wisconsin Founder’s Day, Platteville WI

2012

Center for European Economic Research (ZEW) Mannheim, Germany
Energy Modeling Forum, Snowmass CO
Georgetown University
Harvard Kennedy School
National Science Foundation
University of Arizona

2011

Association for Public Policy and Management, Washington
Fondazione Eni Enrico Mattei (FEEM), Venice

Harvard Kennedy School
Maxwell School of Syracuse University
Swiss Federal Institute of Technology (ETH), Zurich

2010

Association for Public Policy and Management, Boston.
Fourth World Congress for Environmental and Resource Economists, Montreal.
International Energy Workshop, Stockholm.
National Academy of Sciences, Washington.
Potsdam Institute for Climate Impact Research, Germany.

2009

Association for Public Policy and Management, Washington.
BioPharmaceutical Technology Center Institute, Madison WI.
Copenhagen Consensus on Climate Change, Washington.
Fond du Lac, WI Public Library.
Madison Gas & Electric.
National Academy of Sciences.
University of Maryland, Joint Global Change Research Institute.
Wisconsin Counties Utility Tax Association.

2008

Association for Public Policy and Management, Los Angeles.
International Energy Agency, Paris.
Marian University of Wisconsin.
The Santa Fe Institute.
University of Colorado, Boulder.
U.S. Dept. of Energy, National Renewable Energy Laboratory.
Yale University, School of Forestry and Environmental Studies

2007

The International Energy Agency, Paris.
International Energy Workshop, Stanford University.
U.S. Association for Energy Economics, Houston.

TEACHING

University of Wisconsin, Madison.

Chair, Energy Analysis and Policy (EAP) certificate program.

Public Affairs 809: “*Introduction to Energy Analysis and Policy*”
Fall 2008–16, “Overall performance:” 4.8/5.0

Public Affairs 866: “*Global Environmental Governance*”
Spring 2008–15 “Overall performance:” 4.8/5.0

Public Affairs 873: “*Introduction to Policy Analysis*”
Spring 2014, 2015 “Overall performance:” 4.5/5.0

Environmental Studies 900: “*Governance of Global Energy Problems*”
Fall 2009, 2010 “Overall performance:” 4.3/5.0

University of California, Berkeley

Energy & Resources 102: “*Quantitative Aspects of Global Environmental Problems*” Spring 2006 (T.A.), “Teaching effectiveness:” 6.3/7.0

TESTIMONY

Kammen, D.M. (2007) “A Ten Year Outlook for Energy” Testimony provided to the *U.S. House of Representatives Committee on Appropriations*, Washington, D.C. 28 February (**G.F. Nemet**, primary researcher).

Kammen, D.M. (2006) “Department of Energy’s Plan for Climate Change Technology Programs” Testimony provided to the *U.S. House of Representatives Science Committee, sub-committee on Energy*, Washington, D.C. 20 September (**G.F. Nemet**, primary researcher).

Kammen, D.M. (2003) “The Future of University Nuclear Science and Engineering Programs” Testimony provided to the *U.S. House of Representatives Science Committee, sub-committee on Energy*, Washington, D.C. 10 June (**G.F. Nemet**, primary researcher).

GOVERNMENT REPORTS

Taylor, M.R., **G.F. Nemet**, C. Wadia, T. Dillavou, and M. Colvin (2007) “Government Actions and Innovation in Clean Energy Technologies: The Cases of Photovoltaic Cells, Solar Thermal Electric Power, and Solar Water Heating” CEC-500-2007-012 *CA Energy Commission*.

Taylor, M.R., E.S. Rubin, and **G.F. Nemet** (2006) “Chapter 3: The Role of Technological Innovation in Meeting California’s Greenhouse Gas Emissions Targets” in *Managing Greenhouse Gas Emissions in California* for the *California Environmental Protection Agency*.

Taylor, M.R., D. Thornton, **G.F. Nemet**, and M. Colvin (2006) “Government Actions and Innovation in Environmental Technology for Power Production: The Cases of Selective Catalytic Reduction and Wind Power in California” CEC-500-2006-053 *CA Energy Commission*.

Taylor, M.R., **G.F. Nemet**, C. Wadia, T. Dillavou, and M. Colvin (2005) “Government Actions and Innovation in Environmental Technology for Power Production: The Cases of PV Cells, Solar Thermal Electric Power, and Solar Water Heating” *CA Energy Commission*.

Lipman, T.E., **G.F. Nemet**, and D.M. Kammen (2004) “A review of advanced power technology programs in the United States and abroad including linked transportation and stationary sector developments” ARB-R-04-813 *California Air Resources Board*.

AWARDS AND GRANTS

Higher Education Energy Educator of the Year, Wisc. Center for Environmental Education, 2016.

U. Wisconsin Romnes Faculty Fellowship (\$50k) 2015–16

U.S. Dept of Energy, “Deep Dive Solar Cost Analysis: Phase II ” (\$95k) 2013–15.

National Science Foundation, PI: “Choosing a Portfolio of Technology Policies in an Uncertain World.” (\$183k) 2010–14.

Campbell Watkins Award for best paper published in *The Energy Journal* in 2009.

American Family Insurance, “American Family Energy Study” PI (\$25k) 2009.

Madison Gas & Electric, “Policy analysis of greenhouse gas reductions” PI (\$40k) 2008.

Wisconsin Alumni Research Foundation Grant PI (\$24k) 2008.

Wisconsin Focus on Energy, “Coordinated Strategies for Climate and Air Quality” Co-PI (\$100k)

2008.

U. Wisconsin Center for World Affairs and the Global Economy, “Governing New Conflicts in Global Energy Futures,” Co-PI (\$100k) 2008.

Fulbright Seminar, Germany, “Science and Society: The Impact of Science on Policy Formation,” (\$4k) 2008.

Wisconsin Alumni Research Foundation Grant PI (\$12k) 2007.

U.S. Association for Energy Economics, *Student Paper Award*, 2006.

U.S. National Academies, *IIASA-YSSP Fellow*, 2004.

American Council on Germany, *Delegate*, Young Leaders Conference, 2000.

George Perkins Marsh Award for outstanding thesis work, 1995.

Dartmouth College, graduated *cum laude* and *with High Honors*, 1995.

PREVIOUS POSITIONS

| | |
|---|---|
| U. California–Berkeley | Graduate Student Instructor and Researcher, 2002–2007 |
| Intl. Institute for Applied Systems Analysis (IIASA) | Summer program, 2004 |
| California Public Utilities Commission | Self-Gen Program, 2002 |
| The Institute for the Future | Research Manager, 2000–2002 |
| The Planning Technologies Group | Associate Consultant, 1995–1999 |

JOURNAL REFEREEING

| | |
|---|---|
| Biomass and Bioenergy | Journal of Environmental Economics and Management |
| Climatic Change | Journal of Environmental Management |
| Energy Economics | Journal of Policy Analysis and Management |
| Environmental Economics & Policy Studies | Nature Climate Change |
| The Energy Journal | Policy Studies Journal |
| Energy Policy | Proceedings of the National Academy of Sciences |
| Energy Research & Social Science | Public Finance and Management |
| Environmental Innovation and Societal Transitions | Research Policy |
| Environmental Modeling and Assessment | Resource and Energy Economics |
| Environmental Research Letters | Review of Economics and Statistics |
| Environmental and Resource Economics | Science |
| Environmental Science & Policy | Technological Forecasting & Social Change |
| Environmental Science & Technology | Wiley Interdisciplinary Reviews: Climate Change. |
| Interfaces | |
| Journal of Comparative Policy Analysis | |

OTHER REFEREEING

| | |
|-----------------------------------|--------------------------------------|
| International Energy Agency | U.S. Environmental Protection Agency |
| National Science Foundation | U.S. Department of Energy |
| Swiss National Science Foundation | U.S. National Academies |

PROFESSIONAL ASSOCIATIONS

American Council on Germany
 Association of Environmental and Resource Economists
 Association for Public Policy Analysis and Management
 United States Association for Energy Economics

LANGUAGES

French (intermediate), German (intermediate), Hungarian (basic)