

Webber Publications and Activities Related to the Energy-Water Nexus

Michael E. Webber

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Peer-Reviewed Journal Articles:

1. A.S. Stillwell, D.C. Hoppock and M.E. Webber, "Energy Recovery from Wastewater Treatment Plants in the United States: A Case Study of the Energy-Water Nexus," *Sustainability (in review)*.
2. A.S. Stillwell, C.W. King, M.E. Webber, I.J. Duncan and A. Hardberger, "The Energy-Water Nexus in Texas," *Ecology & Society (in review)*.
3. A.S. Stillwell, C.W. King and M.E. Webber, "Desalination And Long-Haul Water Transfer A Case Study Of The Energy-Water Nexus In Texas," *Texas Water Journal (in review)*.
4. C.H. Smith, D.M. Leahey, L.E. Miller, J.L. Ellzey and M.E. Webber, "Conversion of Wet Ethanol to Syngas and Hydrogen," *ASME Journal of Energy Resources Technology (in review)*.
5. C. W. King, M. E. Webber and I. J. Duncan, "The Water Needs for LDV Transportation in the United States," *Energy Policy*, Vol. 38 (2), pp 1157-1167 (2010).
6. K.M. Twomey, A.S. Stillwell and M.E. Webber, "Nitrate Contamination as a Result of Biofuels Production and Its Unintended Energy Impacts for Treating Drinking Water," *Journal of Environmental Monitoring (2010)*.
<http://www.rsc.org/publishing/journals/EM/article.asp?doi=B913137J>
7. C.W. King and M.E. Webber, "The Water Intensity of Transportation," *Journal of Environmental Science and Technology*, November 2008.
<http://pubs.acs.org/doi/abs/10.1021/es800367m>
8. C.W. King and M.E. Webber, "The Water Intensity of the Plugged-in Automotive Economy," *Journal of Environmental Science and Technology*, February 2008.
<http://pubs.acs.org/doi/abs/10.1021/es0716195>
9. M.E. Webber, "The Water Intensity of the Transitional Hydrogen Economy," *Environmental Research Letters*, August 2007.
<http://www.iop.org/EJ/abstract/1748-9326/2/3/034007/>

Books and Book Chapters:

1. C.W. King and M.E. Webber, "Energy From Water," in Texas Renewable Energy Resource Assessment, for the Texas State Energy Conservation office, December 2008.
<http://www.seco.cpa.state.tx.us/publications/renewenergy/>

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Page 1

2. A.S. Stillwell, C.W. King, and M.E. Webber, *The Energy Water nexus in Texas*, University of Texas Press (*in preparation, estimated publication date 2011*).

Peer-Reviewed Conference Articles:

1. D.M. Wogan, A.K. da Silva, and M.E. Webber, "Assessing the Potential for Algal Biofuels Production in Texas," *Proceedings of the ASME 3rd International Conference on Energy Sustainability*, San Francisco, CA, 2009.
2. A.S. Stillwell, C.W. King and M.E. Webber, "Desalination And Long-Haul Water Transfer A Case Study Of The Energy-Water Nexus In Texas," *Proceedings of the ASME 3rd International Conference on Energy Sustainability*, San Francisco, CA, 2009.
3. K.M. Twomey, A.S. Stillwell, and M.E. Webber, "The Water Quality and Energy Impacts of Biofuels," *Proceedings of the ASME 3rd International Conference on Energy Sustainability*, San Francisco, CA, 2009.
4. M.C. Lott, C.W. King and M.E. Webber, "Analyzing Tradeoffs in Electricity Choices Using the Texas Interactive Power Simulator (TIPS)," *Proceedings of the ASME 3rd International Conference on Energy Sustainability*, San Francisco, CA, 2009.
5. D. Hoppock and M.E. Webber, "Energy Use and Production in the Wastewater Treatment Sector," *Proceedings of the ASME 2nd International Conference on Energy Sustainability*, 2008.
6. C.H. Smith, D.M. Leahey, L.E. Miller, J.L. Ellzey and M.E. Webber, "Conversion of Wet Ethanol to Syngas and Hydrogen," *Proceedings of the ASME 2nd International Conference on Energy Sustainability*, Jacksonville, FL, 2008. **[Winner of the Best Paper Award]**

Popular Articles and Technical Commentary:

1. M.E. Webber, "Water vs. Energy," *Scientific American*, October 2008, <http://www.scientificamerican.com/article.cfm?id=the-future-of-fuel>.
2. C. W. King, A. S. Holman and M. E. Webber, "Thirst for Energy," *Nature Geoscience*, 2008, **1**, <http://www.nature.com/ngeo/journal/v1/n5/abs/ngeo195.html>.
3. C.W. King and M.E. Webber, "Solar Power and Water," *Solar Today*, (*in press*).

White Papers & Reports:

1. A.S. Stillwell, C.W. King, I.J. Duncan, M.E. Webber and A. Hardberger, "The Energy Water nexus in Texas," Environmental Defense Fund and the University of Texas at Austin,

April 2009.

http://www.edf.org/documents/9479_Energy-WaterNexusinTexasApr2009.pdf

2. C. W. King, M. E. Webber and I. J. Duncan, "Water Demand Projections for Power Generation in Texas," prepared for the Texas Water Development Board, September 2008.
http://www.twdb.state.tx.us/wrpi/data/socio/est/Final_pwr.pdf
3. C.W. King, A.S. Holman, and M.E. Webber, "CleanTX Analysis on Water: Thirst for Power," Primer, May 14, 2008.

Web-Based Interactive Analytical Tools:

1. The Texas Interactive Power Simulator (TIPS)—BASIC:
<http://tips.engr.utexas.edu/>
2. The Texas Interactive Power Simulator (TIPS)—ADVANCED:
<http://ficp.engr.utexas.edu/tipsv2/index.html>

National Workshops and Symposia Organized:

1. "Thirst for Power: The Global Nexus of Energy & Water," Symposium, AAAS Annual Meeting, Boston, Massachusetts, February 15, 2008.
2. "The Energy-Water Nexus," CleanTX Forum, Austin, TX, May 14, 2008.
3. "Energy-Water Workshop," Energy Foundation and the University of Texas, Austin, TX, April 7-9, 2009.

Videos:

1. "The Energy-Water Nexus in Texas: 1 of 3," Ashlynn Stillwell, Webber Energy Group Podcast #2009_2, April 21, 2009, <http://www.youtube.com/watch?v=mfiW14ex1Q>
2. "The Energy-Water Nexus in Texas: 2 of 3," Ashlynn Stillwell, Webber Energy Group Podcast #2009_3, April 27, 2009, <http://www.youtube.com/watch?v=zfQYXUZrGXc>
3. "The Energy-Water Nexus in Texas: 3 of 3," Ashlynn Stillwell, Webber Energy Group Podcast #2009_4, April 27, 2009, <http://www.youtube.com/watch?v=Q4hsSebKYsQ>

4. "The Unintended Energy and Water Consequences of Increased Biofuel Production," Kelly Twomey, Webber Energy Group Podcast #2010_11, January 20, 2010, <http://www.youtube.com/user/webberenergygroup#p/u/0/j3zGpRxWEq8>
5. "The Texas Interactive Power Simulator," Melissa Lott, Webber Energy Group Podcast #2009_7, June 29, 2009, <http://www.youtube.com/watch?v=1HTdyqOHOx4>
6. "The Texas Interactive Power Simulator: Demonstration," Melissa Lott, Webber Energy Group Podcast #2009_8, July 30, 2009, <http://www.youtube.com/watch?v=1HTdyqOHOx4>

Testimony:

1. "Trends and Policy Issues For The Nexus of Energy and Water," Michael Webber, Senate Energy & Natural Resources Committee Hearing, U.S. Congress, March 10, 2009, <http://tinyurl.com/webbertestimony>.
2. "The Energy-Water Nexus," Ashlynn Stilwell Senate Natural Resources Committee Hearing, Texas Legislature, September 30, 2008.
3. "Water and Nuclear Power," Ashlynn Stillwell, Brazos River Authority Public Meeting, June 04, 2008.
4. "The nexus of energy and water in Texas", Michael Webber, Joint Interim Hearing Senate Committee on Business and Commerce and Senate Committee on Natural Resources, Texas Legislature, April 15, 2008.

Keynotes and Invited Talks:

1. "The Nexus of Energy and Water," New Mexico Law Symposium, Albuquerque, NM, 2/12/10
2. "The Global Nexus of Energy & Water," Columbus Council on World Affairs, Columbus, OH, February 8, 2010. **[Keynote]**
3. "The Nexus of Energy & Water," LCRA Board of Directors, Austin, TX, 1/19/10
4. "The Nexus of Energy & Water," Sierra Club Lone Star Chapter, Living Waters Project, Houston, TX 1/16/10
5. "The Nexus of Energy and Water," Congressional Briefing, House Science and Technology Committee, Washington, DC, 12/16/09

6. "Energy and Water Supplies," Texas Water Law Institute, Austin, TX, 12/11/09
7. "The Nexus of Energy & Water," UCS Meeting, Racine, WI, 11/18/09
8. "The Energy Water Nexus in Texas," H2O4Texas: The Water Event, Ft. Worth, TX, 11/16/09
9. "The nexus of energy & water," Dallas Water Association, Dallas, TX, 11/10/09
[Keynote]
10. "Energy and Water," Texas Renewable Industries Association, Austin, TX, 11/9/09
11. "The Nexus of Energy and Water", ASPO-USA, Denver, CO, October 13, 2009
12. "The nexus of energy & water," Great Lakes Commission, Erie, PA, 9/30/09
13. "The nexus of energy & water," Penn State University, Pennsylvania, 9/29/09
14. "Energy for Water," Moderator, Water/Energy Sustainability Symposium, Groundwater Protection Council, Salt Lake City, UT, 9/15/09
15. "The global nexus of energy & water: trends and challenges," Water Management in Power Generation, Los Angeles, CA, 9/14/09
16. "Energy & water," World Energy Forum, United Nations, New York City, 8/31/09
17. "The nexus of energy & water," Texas Environmental Superconference, Austin, TX, 8/6/09
18. "The nexus of energy & water," Hewlett Packard Labs, Palo Alto, CA, 7/24/09
19. "The nexus of energy & water," Energy Foundation, San Francisco, CA, 7/21/09
20. "Electrified Transportation," EU Climate Policy Group, City Hall, Austin, Texas, 7/16/09
21. "The Nexus of Energy & Water," National Association of EHS management (NAEM), June 25, 2009, Columbus, OH. **[Keynote]**
22. "The Nexus of Energy & Water," CLEE Management Seminar, Austin, TX, June 12, 2009.
23. "The Nexus of Energy & Water," Dresser-Wayne Seminar, Austin, TX, 5/21/09.
24. "The Nexus of Energy & Water," American Solar Energy Society, Buffalo, NY, 5/15/09.
25. Deloitte Energy Conference, "Energy & Water", 4/20/2009, Washington, DC.
26. "The Global Nexus of Energy & Water," Tennessee American Water Resources Association, Nashville, TN, April 15, 2009. **[Keynote]**
27. "The Nexus of energy and water," University of California Santa Barbara, 4/10/09.
28. "Thirst for power—the nexus of energy & water", ExxonMobil Corporate Strategic Research, New Jersey, March 13, 2009.
29. "The Nexus of Energy & Water," briefing for Senate Energy and Natural Resource Committee staffers, Washington, DC, 3/6/09

30. "The Nexus of Energy & Water," AEP Executive Stakeholder Meeting, Columbus, OH, 1/21/09.
31. "Thirst for power—the nexus of energy & water", Learning Activities for Mature People, University of Texas, 2/4/09.
32. "Thirst for power—the nexus of energy & water," University of Michigan, Ann Arbor, MI, 2/2/09
33. "Energy & Water," UT Continuing Legal Education, Austin, TX, December 5, 2008.
34. "TIPS: Texas Interactive Power Simulator", Energy Thursday, Texas Legislature, Austin, TX, November 13, 2008.
35. "Energy & water," World Affairs Council Houston Educator's Forum, Houston, TX, 11/11/08
36. "Energy & water," Great Plains Energy Expo with Senator Dorgan, Bismarck, ND, 11/10/08
37. "Coal-to-liquids: the good, the bad and the ugly," ASPO-USA, Sacramento, CA, September 23, 2008.
38. "The nexus of energy & water," Water Dialog, Aspen Institute, September 11, 2008.
39. C.W. King, M.E. Webber, and A.S. Holman, "Water-Energy Nexus: Fuels, Electricity, and Bureaucracy," Gordon Research Conference: Industrial Ecology, August 2008
40. "Sustainable Biofuels", 1er Congreso Internacional de Biocombustibles, Guadalajara, Jalisco, Mexico, May 08, 2008.
41. "Energy and Water," External Advisory Committee, Mechanical Engineering, UT Austin, April 3, 2008.
42. "A thirst for power: The nexus of energy & water," Massachusetts Institute of Technology, March 7, 2008.
43. "A Critical Look at Green Transportation," Department of Mechanical Engineering's Spring Seminar Series, Johns Hopkins University, March 6, 2008
44. "Thirsty Transportation," AAAS Symposium "Thirst for Power: The Global Nexus of Energy and Water," AAAS Annual Meeting, Boston, MA, February 15, 1008
45. "Energy and Water: Kissing Cousins," Austin Energy, February 8, 2008
46. "A Critical Look at Green Vehicles," Honda R&D Americas, Detroit, MI, August 2, 2007
47. "Water, Power and Transportation: Our Next Great Heat Transfer Challenge," National Science Foundation Workshop on Frontiers in Transport Phenomena Research and Education, University of Connecticut, May 17, 2007
48. "A Critical Look at Green Vehicles," Environmental Trade Fair and Conference, Texas Committee on Environmental Quality, Austin, Texas, May 1, 2007