

Mary Ann Piette

Director, Building Technology and Urban Systems Division
Senior Scientist, Lawrence Berkeley National Laboratory

1 Cyclotron Rd. MS 90-3110 Berkeley, CA 94720-1171 Phone: 510-486-6286, email: mapiette@lbl.gov

Professional Positions

- 2022-present** **Interim Associate Lab Director, Energy Technologies Area.** Oversee three research divisions coordinating communications with the US DOE EERE and Office of Electricity. Coordinate research collaboration to other areas at LBNL. Conduct strategic planning and reviews scientific and operations staff, and laboratory facilities.
- 2015-present** **Division Director,** Building Technology and Urban Systems Division, Energy Technologies Area, LBNL. Oversee work for DOE Building Technology Office, Advance Manufacturing Office, Federal Energy Management Program and Strategic Partnership Programs. Track program performance, evaluate budgets, and develop and support science initiatives. PI for California Load Flexibility Research and Deployment Hub.
- 2015-present** **Senior Scientist,** BTUS Division. Lead and conduct research at LBNL across ETA including LDRD's related to urban science, resilience, and model predictive control.
- 2013 – 2015** **Department Head,** BTUS Department, Energy and Environmental Technology Division.
- 2010 – 2013** **Deputy Department Head,** Building Technology Department, EETD.
- Summer 2008** **Visiting Researcher,** Commonwealth Scientific and Industrial Research Organization, Division of Energy Technology, Demand Side Energy Systems, Newcastle Australia.
- 1994-2015** **Staff Scientist,** Building Technology Program, Energy and Environment Division, renamed to Environmental Energy Technologies Division.
- 1991-1994** **Scientist,** Energy Analysis Program, Energy and Environment Division, LBNL.
- 1989-1990** **Visiting Researcher,** Chalmers University of Technology, Building Services Engineering Division, Gothenburg Sweden.
- 1983-1989** **Senior Research Associate,** Building Energy Data Group, Applied Science Division, LBNL.
- 1983-1986** **Research Associate,** Building Energy Data Group, Applied Science Division, LBNL.

Leadership Positions, Programs and Projects (Selected)

- 2013-present** **Lab Manager, DOE Building Technology Office,** ETA. Oversee LBNL's \$90M/year R&D portfolio across ETA - BTUS, EAEI, and ESDR divisions. Manage over 50 scopes of work/year, track scientific achievements, milestones and deliverables.
- 2021-present** **PI, California Load Flexibility Research and Deployment Hub.** \$16M 3.5-year CEC-funded program to develop and evaluate technologies that can receive and respond to dynamic prices, and GHG signals. Partner with 16 subcontractors to accelerate decarbonization.
- 2003-present** **Director, Demand Response Research Center,** ETA. PI on Open Automated DR communication technology. OpenADR used over 200 programs, with 21 utilities in 25 states. Used in > 10 countries around world and in several states. Conduct research with DOE, CEC, CPUC, BPA, NYSEDA, PG&E, SCE and others. PI on CPUC DR potential study forecasting DR supply curves for 2025.
- 2014-present** **Lead on DOE Initiative Energy Transformation in Cities,** Co-lead DOE Big Idea Metro Energy with ANL, NREL, ORNL and PNNL. Led to over \$2M in funding including LBNL partnership with ANL for 3-year Office of Science Exascale project.
- 2012-present** **International PI and Co-PI US-India Center for Building Energy Research and Development.** PI on Model-Predictive Control in US-China Clean Energy Research Center

- project Control. Collaborate with US-China and US-India partners, academic and industry stakeholders. Ensure coordination with DOE BTO R&D portfolio.
- 2013-present** **Co-PI, with NSF Building Efficiency for a Sustainable Tomorrow Center**, Oversee annual institute at LBNL for community college teachers.
- 2012-2017** **PI, Optimizing Operational Efficiency: Integrating Energy Information Systems and Model-Based Diagnostics at the US Naval Academy**. DOD Environmental Security Technology Certification Program (ESTCP).
- 2009-2013** **Group Leader, Commercial Building Systems Group**, Building Technology Department, EETD.
- 2010** **PI, Institute for Building Energy Efficiency and Emerging Markets**, with UCB, UCD, Stanford, ORNL, NREL > 140 industry partners. DOE Buildings Hub Proposal.
- 1997-2003** **Co-PI**, High Performance Commercial Buildings Systems Program, CEC Public Interest Energy Research Program. California Energy Commission.
- 1993-2013** **PI, Commissioning and Energy Information Systems research** – initiated LBNL’s continuous monitoring for performance analysis and persistence of savings. Over \$60M spent in California on implementing retrofit programs. CIEE, DOD, and CEC funding.
- 1989-1990** **Technology Transfer Specialist**, Center for Analysis and Dissemination of Demonstrated Energy Technologies, IEA and NOVEM, Netherlands.

Education and Training

L, Licentiate in Building Services Engineering, Chalmers University of Technology, Gothenburg Sweden. Degree conferred 1992.

M.Sc. in Mechanical Engineering, College of Engineering, University of California, Berkeley, USA. Degree conferred 1988.

B.A. in Physical Science, University of California, College of Letters and Science, Berkeley, USA. Degree conferred 1983.

Emerging Leaders Program, UC Berkeley Haas School of Business, 2010.

Research Funding

PI and Co-PI on over \$65 million in research work, representing over 15 major projects for 10 clients. Collaborative activities span BTUS, EAEL and ESDR in ETA.

Publications

203 publications: 111 peer reviewed publications, 43 journal articles, 11 book chapters or books, 68 refereed conference proceedings. 63 additional LBNL reports and conference papers.

Service in Research Journals

Editorial Board, Journal of Informatics. Journal reviewer for Energy and Buildings, IEEE, ASHRAE, Building and Environment, Energy the International Journal and others.

Service in Staff Development

Active member of ETA’s mentoring program. Worked with over 7 ETA women in last five years. Former member of Berkeley Lab’s Senior Leadership Council fostering DEI activities.

Service, Academic Research Advisor

- **Nari Yoon**, Ph.D. post-doc, Harvard University, 2018-2020
- **Carmen Bas**, Visiting Research, Polytechnic University of Valencia, Spain 2018 – present
- **Hiroshi Irie**, Visiting Researcher, Mitsubishi Research Institute, Japan, 2017-present

- **Rebecca Zarin Pass**, Ph.D. post-doc, Stanford University, 2015-2017
- **Peter Alstone**, Ph.D. post-doc ITRI Rosenfeld Fellow, UC Berkeley, 2014-2016
- **Sofia Stensson**, Ph.D. Visiting Researcher, Research Institute of Sweden 2014-2016
- **Juan Pon Salva**, Visiting Researcher, Polytechnic University of Valencia, Spain, 2015-2016
- **Peter Palensky**, Ph.D. Visiting Researcher, Austrian Institute of Technology, 2005-2007
- **Juozas Abaravicius**, Ph.D., Visiting Researcher, Lund University Sweden, 2006-2007

Service, Institutional, Advisory and Committee Work (Recent and Selected)

- **Board Member**, American Council for an Energy Efficient Economy, 2019-present.
- **Chair**. Research Advisory Board, American Council for an Energy Efficient Economy, 2017-present.
- **Member**. External Review Committee for National Research Council of Canada's High Performance Buildings Program, 2018.
- **Board Member and Founding Member**. Open Automated Demand Response Alliance, 2010-2011 and 2014 to present.
- **Member**. California Technical Forum to formulate California's demand side management programs and strategies, 2014-present.
- **Member**. California Emerging Technologies Coordinating Committee Advisory Council. 2014-present.
- **Member**. UCLA Smart Grid Technology Leadership Council, 2011-present.
- **Member**. LBNL Indirect Advisory Committee.
- **Former Member**. Intelligent Energy Management Initiative Advisory Council - Energy Foundation, 2013-2016.
- **Former Corresponding Member**. ASHRAE Special Project Committee 201, Facility Smart Grid Information Model. 2014-2016.
- **Former Member**. EPRI Energy Efficiency/Grid Modernization Public Advisory Group, 2012-2015.
- **Former Member**. California Institute for Energy Efficiency Enabling Technologies Advisory Committee. 2009-2015.
- **Former Member**. Northwest Commercial Building Technical Advisory Committee, 2014-2016.
- **Former Program Committee**. Conference Paper Reviewer. International Workshop on Energy Efficient Data Centers. 2012 and 2014.
- **Former Member**, LBNL First Sustainability Standards Committee, helped draft Berkeley Lab Sustainability Standard for New Construction. 2012-2013.
- **Former Elected Member** of the National Institute of Standards and Technology's Smart Grid Architecture Council. 2007-2010.
- **Founding Member** of California Commissioning Collaborative 1999-2000.
- **Co-Chair**, 1992 ACEEE Summer Study on Energy Efficiency in Buildings, First women co-chair.
- **Member**, American Society of Heating, Refrigeration, and Air Conditioning Engineers, since 1990.

Awards

- **2019 R&D 100** for the Commercial Building Energy Saver Software.
- **Women @ Berkeley Lab** recognition. 2015.
- **Verge 25 Award**. Leader in Next-Gen buildings for "Setting research agenda for smart, efficient and connected buildings." Awarded by Greenbiz. November 2012.
- **Peak Load Management Association** - Innovative Application of Commercial and Industrial Technology Award for Automated Demand Response. 2007.

- **Buidly Award, Connectivity Week** – Winner for Application of Automated Control Technology, Automated Demand Response. 2008.
- **Flex Your Power Honorable Mention** – Automated Demand Response. Contra Costa County 13 Buildings with average reduction of 20%. 2008.
- **Benner Award**. National Conference on Building Commissioning for outstanding achievement in making building commissioning "business as usual". May 2006.
- **GSA award**. Federal Energy and Water Management Award, Innovative/New Technology Awards to Small Groups for GSA Energy and Maintenance Network. 2002.
- **Association of Energy Engineers**: Energy Technology Promoter of the Year. November 2002.

Software

| Invention Number | Invention Title | Inventors |
|------------------|---|--|
| 2014-165 | Open Smart Energy Gateway | S. Czarnecki, C. McParland, J. Page, M.A. Piette |
| 2015-065 | Benchmarks for Electric Loadshape | M.A. Piette, P. Price |
| 2015-069 | Commercial Building Energy Saver | Y. Chen, T. Hong, S.H. Lee, M.A. Piette, K. Sun |
| 2015-070 | Database of Energy Efficiency Performance | Y. Chen, T. Hong, S.H. Lee, M.A. Piette |
| 2015-071 | Commercial Building Energy Saver, Web App | Y Chen, S.H. Lee, M.A. Piette, K. Sun, R. Zhang |
| 2015-075 | Building Loadshape Analysis Package | M.A. Piette, P. Price |
| 2015-090 | Open Smart Energy Gateway Tools | S. Czarnecki, C. McParland, J. Page, M.A. Piette |
| 2015-127 | Method for Load Shape Benchmarking | M.A. Piette, P. Price |
| 2015-146 | Commercial Building Energy Saver, Pro | Y. Chen, T. Hong, S. H. Lee M.A Piette, C. Regnier, K. Sun, S. Taylor-Lange, R. Zhang P. Alstone, M. Berger, L. Dunn, M.A. Piette, |
| 2016-158 | Demand Response Potential Estimation Package | J. Potter, P. Schwartz; S. Smith, M. Sohn |

Teaching, Workshops & Guest-Lecturing (Selected)

- **CalBEM Working Group 3: Building Grid Integration Webinar**. Building-to-grid integration. July 2021.
- Sacramento Municipal Utility District. Strategic Development Board Committee meeting: **Load Flexibility advancements for 2030 decarbonization commitment**. August 2021.
- **Smart Buildings Exchange / SBX 2021**: Grid-interactive Efficient Buildings Panel. August, 2021.
- UC Irvine. **CalPlug Workshop**. Overview of the California Load Flexibility Research and Deployment Hub. October 2021.
- Workshop Presentation. *District Energy and Predictive Modeling*. **Building the Energy-Efficient Neighborhoods of Tomorrow**. Alphabet's (Google) Sidewalk Labs Idea Tour. New York, New York. December 2017.
- Visiting Lecture. *Automating Demand Response and DR Value in California's Energy Future*, **UC Davis Energy Graduate Group Seminar**. October 2017.
- Visiting Lecture. *Future of Demand Response*. **Workshop at Green Tech Center**, Vejle Denmark. September 2016.
- Visiting Lecture. *Energy and Resource Efficient Building Technology and Urban Systems*. Center for Energy Informatics, **Southern Denmark University**. Odense, Denmark. September 2016.
- Visiting Lecture. *Demand Response Automation and Forecasting*. **SP Technical Research Institute of Sweden**, Gothenburg Sweden. October 2016.

- Visiting Lecture. *Commercial Building Control Systems and Energy Management: Current Challenges and Future Directions*. **Sustainable Future Speaker Series, Humboldt State University** April 2017.
- Workshop. *The Future of Demand Response and Customer Load Flexibility*. **Energy Innovation Forum. New Brunswick Canada**. April 2017.
- Visiting Lectures. Demand Response and Sustainable Electricity. **Chemical Engineering 90. Science and Engineering of Sustainable Energy**. UC Berkeley. April 2016.
- Visiting Lecture. *Automated Demand Response to Enable the Integration of Renewable Resources*. **International Seminar on Smart Cities and Smart Grid**. Cuenca, Ecuador. June 2015.
- Workshop Presentation. Emerging Research in Urban Systems Science, **International Symposium on Radiological Resilience and Beyond**. LBNL, April 2015.
- Lecture. *Commercial Building Energy Saver Tool Kit*. **International Building Performance Simulation Association San Francisco Chapter Meeting**. San Francisco. February 2015.
- Visiting Lecture. University Enterprise Training Partnership. Demand Response in Deregulated Electricity Markets: Trends and Opportunities. **Polytechnic University of Valencia, Spain**. November 2014.
- Visiting Lecture. Building Energy Efficiency Research at LBNL— Progress and a Vision for Low Energy and Grid Integrated Buildings. **Building Energy Research Center, Tsinghua University, Beijing China**. October 2014.
- Visiting Lecture. Building energy efficiency for class on *Sustainability*. **Merritt College**. March 2013, 2014, 2015.
- Workshop Presentation. National Science Foundation. Building Efficiency for a Sustainable Tomorrow Center. **Laney College, Community College Program**, Oakland, CA. April 2013.
- Visiting Lecture. What Will Drive the Transformation of Energy Systems? A Focus on Smart Buildings and Grid Services. Berkeley. **UCB Center for Research in Energy Systems Transformation**. June 2013.
- Visiting Lecture. Automating Demand Response with OpenADR: Communications, End-Use Loads, and an Advanced Integrated Grid. **Nelson Institute Center for Sustainability and the Global Environment**, and Dept of Civil and Environmental Engineering, University of Wisconsin, Madison. January 2012.
- Workshop Presentation. **National Science Foundation. Laney College**, collaboration for Community College Program. Oakland CA. June 2012.
- Visiting Lecture. Demand Response. **UCLA Anderson School of Business**. Advanced Technology Management. Institute Livermore California. September 2012.
- Lecture. DR and DR automation. **Pacific Energy Center Class**. Pacific Gas and Electric Company. San Francisco. February 2011.
- Visiting Lecture. Energy Information Systems. University of California Berkeley. **Center for the Built Environment, Architecture 241 – Research Methods**, 2010.
- Visiting Lecture. Automated Demand Response. **University of New Mexico**. April 2009.
- Visiting Lecture. Demand Response. **University of California Berkeley: Energy & Resources**. 2009.
- Workshop Presentation to Teachers. **Updating Science Knowledge for Instruction, A Seminar Series for Educators and Students**. LBNL. May 2001.

Recent Invited Presentations - Keynotes

- Keynote. USGBC Smart Buildings Summit. Smart Integrated Efficient Buildings. May 11, 2022.
- Keynote. UC Santa Barbara, Institute for Energy Efficiency. Workshop on Energy Efficiency in Buildings in the Post-COVID-19 Era. Grid Interactive Efficient Buildings. Jan 20, 2022.

- Keynote. King Abdullah University of Science and Technology. KAUST Conference on Sustainable Urban-Environmental Future. Opportunities and Challenges in Smart Buildings, Cities and Data Science. Thuwal, Saudi Arabia. April 2019.
- Keynote. ASHRAE Golden Gate Chapter. *Update on Demand Response in California- From Hot Summer to Any Time DR*. Oakland California. January 2015.
- Keynote. *International Workshop on Energy Efficient Data Centers. Automation and Communication Systems for Demand Response*. UC Berkeley. May 2013.
- Keynote. *Peak Load Management Conference*. Emerging Technologies: Low Energy and Demand Response Technologies. San Francisco. November 2012.
- Keynote. *OpenADR Alliance*. History of OpenADR. Santa Clara CA. 2011.
- Keynote. *IEEE Conference on Sustainable Alternative Energy, Linking Energy Efficiency and Price Responsive Demand*. Valencia Spain. September 2009.
- Keynote. *National Conference on Building Commissioning*. Linking Commissioning, Energy Efficiency, Demand Response and Smart Grid. Portland OR. June 2009.

Public Hearings and Policy

- California Energy Commission. Integrated Energy Policy Report Workshop. Grid-Interactive Efficient Buildings. October, 2021.
- California Energy Commission. Presentation on Demand Response. Integrated Energy Policy Report workshop. Sacramento CA. August 2017.
- California Public Utilities Commission. 2025 California Demand Response Potential Study, Phase 2 Final Report. Stakeholder Policy workshop. San Francisco. November 2016.
- Testimony to the California State Legislature. Doubling Energy Efficiency in California Buildings. Hearing on energy efficiency in existing buildings. Sacramento. February 2016.
- California Public Utilities Commission, 2025 California Demand Response Potential Study, Phase 1 Report, Stakeholder Policy workshop. San Francisco. May 2015.
- Minnesota Public Utilities Commission, Smart Grid Workshop on Demand Response. Next Generation Demand Response. August 2014.
- California Energy Commission. Presentation at Integrated Energy Policy report CEC workshop on Demand Response. Sacramento. June 2013.

M.A. Piette Publications

Updated May 2022

Publications are organized into 6 sections:

1. ARCHIVAL JOURNALS AND SPECIAL ISSUES (43)
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4. NON-REFEREED CONFERENCE PROCEEDINGS (28)
5. LBNL AND RELATED REPORTS (53)
6. OTHER

1. ARCHIVAL JOURNALS AND SPECIAL ISSUE

Gerke, Brian F., Cong Zhang, Samanvitha Murthy, Andrew Satchwell, Elaina Present, Henry Horsey, Eric Wilson, Andrew Parker, Andrew Speake, Rajendra Adhikari and Mary Ann Piette. 2022. "Load-

- driven interactions between energy efficiency and demand response on regional grid scales." *Advances in Applied Energy* 6 (2022). DOI: 10.1016/j.adapen.2022.100092.
- Wang, Zhe, Tianzhen Hong, Han Li and Mary Ann Piette. 2021. "Predicting city-scale daily electricity consumption using data-driven models." *Advances in Applied Energy* 2 (2021). DOI: 10.1016/j.adapen.2021.100025.
- Yoon, Nari, Leslie K. Norford, Ali Malkawi, Holly Samuelson and Mary Ann Piette. 2020. "Dynamic metrics of natural ventilation cooling effectiveness for interactive modeling." *Building and Environment* 180. (2020). DOI: 10.1016/j.buildenv.2020.106994.
- Malik, Jeetika, Ronita Bardhan, Tianzhen Hong, and Mary Ann Piette. 2020. "Contextualising adaptive comfort behaviour within low-income housing of Mumbai, India." *Building and Environment* 177 (2020). DOI: 10.1016/j.buildenv.2020.106877.
- Yoon, Nari, Mary Ann Piette, Jung Min Han, Wentao Wu, and Ali Malkawi. 2020. "Optimization of Window Positions for Wind-Driven Natural Ventilation Performance." *Energies* 13.10 (2020). DOI: 10.3390/en10102464.
- Wang, Zhe, Tianzhen Hong, and Mary Ann Piette. 2020. "Building thermal load prediction through shallow machine learning and deep learning." *Applied Energy* 263 (2020). DOI: 10.1016/j.apenergy.2020.114683.
- Wang, Zhe, Tianzhen Hong, Mary Ann Piette, and Marco Pritoni. 2019. "Inferring occupant counts from Wi-Fi data in buildings through machine learning." *Building and Environment* 158 (2019) 281 - 294.
- Wang, Zhe, Tianzhen Hong, and Mary Ann Piette. 2019. "Predicting plug loads with occupant count data through a deep learning approach." *Energy* 181 (2019) 29 - 42.
- Wang, Zhe, Tianzhen Hong, and Mary Ann Piette. 2019. "Data fusion in predicting internal heat gains for office buildings through a deep learning approach." *Applied Energy* 240 (2019) 386 - 398. PDF
- Blum, David, K. Arendt, Lisa Rivalin, Mary Ann Piette, Michael Wetter, and C.T. Veje. 2019. "Practical factors of envelope model setup and their effects on the performance of model predictive control for building heating, ventilating, and air conditioning systems." *Applied Energy* 236 (2019) 410 - 425.
- Granderson, Jessica, Guanqing Lin, David Blum, Janie Page, Michael Spears, and Mary Ann Piette. 2019. "Integrating diagnostics and model-based optimization." *Energy and Buildings* 182 (2019) 187 - 195.
- Zarin Pass, R., M. Wetter and M.A. Piette. 2017. A thermodynamic analysis of a novel bidirectional district heating and cooling network. *Energy*. (2018). EGY_EGY-D-17-02767 DOI:10.1016/j.energy.2017.11.122.
- Regnier, C. K. Sun, T. Hong and M.A., Piette. 2018. Quantifying the benefits of a building retrofit using an integrated system approach: A case study. *Energy and Buildings*. Volume 159, 15 January 2018, Pages 332-345. DOI:10.1016/j.enbuild.2017.10.090.
- Luo, X., T. Hong, Y. Chen, and M.A. Piette. 2017. Electric Load Shape Benchmarking for Small and Medium Commercial Buildings. *Applied Energy*, 204C (2017) pp. 715-725. DOI: 10.1016/j.apenergy.2017.07.108.
- Pang, X., Piette, M. A., and Zhou, N. 2017. Characterizing variations in variable air volume system controls. *Energy and Buildings*, 135, 166-175. DOI:10.1016/j.enbuild.2016.11.031.

- Yin, R., Kiliccote, S., and Piette, M. A. 2016. Linking measurements and models in commercial buildings: A case study for model calibration and demand response strategy evaluation. *Energy and Buildings*, 124, 222-235. DOI:10.1016/j.enbuild.2015.10.042.
- Sun, K., Hong, T., Taylor-Lange, S. C., and Piette, M. A. 2016. A pattern-based automated approach to building energy model calibration. *Applied Energy*, 165, 214-224. DOI:10.1016/j.apenergy.2015.12.026
- Hong, T., Piette, M. A., Chen, Y., Lee, S. H., Taylor-Lange, S. C., Zhang, R., K. Sun and, Price, P. 2015. Commercial Building Energy Saver: An energy retrofit analysis toolkit. *Applied Energy*, 159, 298-309. DOI:10.1016/j.apenergy.2015.09.002. _LBNL-1004502.
- Lee, S.H., T. Hong, M.A Piette, S.C. Taylor-Lange. 2015. Energy retrofit analysis toolkits for commercial buildings: A review. *Energy*. Vol. 89.1087 – 1100.
- Lee, S.H., T. Hong, M.A. Piette, , G. Sawayab, Y. Chen, S. C. Sarah Taylor-Lange. 2015. Accelerating the energy retrofit of commercial buildings using a database of energy efficiency performance. *Energy*. In Press. Available online 22 August 2015. DOI:10.1016/j.energy.2015.07.107
- Kiliccote, S., Olsen, D., Sohn, M. D., & Piette, M. A. 2016. Characterization of demand response in the commercial, industrial, and residential sectors in the United States. *Wiley Interdisciplinary Reviews: Energy and Environment*, 5(3), 288-304. DOI:10.1002/wene.176.
- Bonvini, M., Michael D. Sohn, J. Granderson, M. Wetter, M.A. Piette. 2012. Robust on-line fault detection diagnosis for HVAC components based on nonlinear state estimation techniques, *Applied Energy*, Volume 124. 2014, Pages 156-166, ISSN 0306-2619.
- Piette, M.A., S. Kiliccote, and J. H. Dudley. 2013. Field Demonstration of Automated Demand Response for Both Winter and Summer Events in Large Buildings in the Pacific Northwest. LBNL-6216E. *Energy Efficiency*, Vol 6, Issue 2.
- Piette, M.A., Jessica Granderson, M. Wetter, and S. Kiliccote. 2012. Intelligent Building Energy Information and Control Systems for Low-Energy Operations and Optimal Demand Response. *IEEE Design and Test of Computers*. 29 (4) 8-16. LBNL-5894E.
- Mathieu, J., P. N. Price, S. Kiliccote, and M. A. Piette. 2011.. Quantifying Changes in Building Electricity Use with Application to Demand Response. *IEEE Transactions on Smart Grid*. Vol 2. Issue 3. Page 507 DOI: 10.1109/TSG.2011.2145010.
- Granderson, J., M.A. Piette, and G. Ghatikar. 2010. Building Energy Information Systems: User Case Studies, *Energy Efficiency* (2011) 4:17–30.
- Yin, R., P. Xu, M.A. Piette, and S. Kiliccote. 2010. Study on Auto-DR and Pre-cooling of Commercial Buildings with Thermal Mass in California. *Energy and Buildings* 42, no. 7: pp. 967-975. LBNL-3541E.
- Coughlin, K., M.A. Piette, C. Goldman, and S. Kiliccote. 2009. Statistical Analysis of Baseline Load Models for Non-Residential Buildings. *Energy and Buildings* 41, p 374–381
- Piette, M.A., G. Ghatikar, S. Kiliccote, D. Watson, E. Koch, and D. Hennage. 2010. Design and Operation of an Open, Interoperable Automated Demand Response Infrastructure for Commercial Buildings. *Journal of Computing Science and Information Engineering*. Vol 9 no 2, Transactions of the ASME. LBNL-2340E.

Han, J. and M.A. Piette. 2008. Solutions for Summer Electric Power Shortages: Demand Response and its Applications in Air Conditioning and Refrigerating Systems. *Refrigeration, Air Conditioning, & Electric Power Machinery*, vol. 29, issue 1, pp. 1-4. LBNL-63806.

Mills, E., P. Mathew, N. Bourassa, M. Brook, and M.A. Piette. 2008. Action-Oriented Benchmarking: Concepts and Tools. *Energy Engineering*, 105(4):21-40. LBNL-358E.

Mills, E., N. Bourassa, M.A. Piette, H. Friedman, T. Haasl, T. Powell, D. Claridge. 2005. The Cost-Effectiveness of Commissioning. *HPAC Engineering*. June. LBNL/PUB-943.

Kawamoto, K., J. G. Koomey, B. Nordman, R. E. Brown, M.A. Piette, M. Tin, and A. K. Meier. 2002. Electricity Use of Office Equipment and Network Equipment in the US. *Energy--The International Journal* 27. pp 255-269. LBNL-45917.

Piette, M.A., S. Kinney, and P. Haves. 2001. Analysis of an Information Monitoring and Diagnostic System to Improve Building Operations, *Energy and Buildings* 33 (8) pp. 783-791.

Piette, M.A., and Friedman, H. 2002. Data Mining: Using HVAC Diagnostics Tools and EMCS Data. *Supplement to Heating, Piping, and Air Conditioning Engineering, Special Issue: Networked Controls*. 2002. pp 30-32,34, 36-37.

Piette, M.A. 2001. Prototype System Demonstrates Advanced Building Monitoring, *Heating Piping and Air Conditioning, Special Issue: Networked Control.*, short version of previous paper: LBNL-45567.

Friedman H. and M.A. Piette. 2003. Comparison of Emerging Diagnostic tools for Large Commercial HVAC Systems, LBNL-47698, *Monthly Journal of the Air-Conditioning and Sanitary Engineers of Japan*. ID: 9000009697876. 77(2), 129-13, 2003-02.

Koomey, J., M.A. Piette, M. Cramer, and J. Eto. 1996. Efficiency Improvements in U.S. Office Equipment: Expected Policy Impacts and Uncertainties. *Energy Policy*. vol. 24, no. 12. pp. 1101-1110.

Piette, M.A., B. Nordman, O. deBuen, R. Diamond. 1995. Findings from a Low-Energy New Commercial Buildings Research and Demonstration Project. *Energy - The International Journal*, Vol. 20, No. 6, pp. 471-482. LBNL-36506.

Mills, E. and M.A. Piette. 1993. Advance Energy-Efficient Lighting Systems: Progress and Potential. *Energy*, Vol. 18, No. 2, pp. 75-97.

Piette, M.A. 1990. Analysis of a Commercial Ice-Storage System: Design Principles and Measured Performance. *Energy and Buildings*, pp. 337-350, Vol. 14, No. 4.

Piette M.A. and B. Andersson. 1988. Performance Evaluation of Energy Saving Measures: Amoco Corporation Headquarters Building," *ASHRAE Journal*. Vol. 30, No. 6. LBNL-25702.

Piette, M.A., L Wall, B.L. Gardiner. 1986. Measured Energy Performance of Energy-Efficient New Commercial Buildings: Results from the BECA-CN Data Compilation. *ASHRAE Journal*, Vol 28, No. 1, January. LBNL-19413.

2. BOOKS AND BOOK CHAPTERS

Authors: Piette, Mary Ann; Richard C. Diamond; Stephen E. Selkowitz; Stephane de la Rue du Can; Tianzhen Hong; Kaiyu Sun; Paul A. Mathew; Iain S. Walker; Alan K. Meier; Erik Page; Jessica Granderson; Nan Zhou, and Peter Alstone. Chapter 2: Global Opportunities and Challenges in Energy and Environmental Issues in the Buildings Sector. *Energy Efficiency: Innovations: Driving Prosperity, Slashing Emissions (World Scientific Series In Current Energy Issues)*. ISBN-13: 978-9811217852

Ghatikar G, M.A. Piette, and V. Ganti. ; Grid Responsive Data Centers. Chapter in *Data Center Handbook*. 2014. Edited by Wiley Press. ISBN: 978-1-118-43663-9 pp 577-592.

Granderson, J, M.A. Piette, B. Rosenblum and L. Hu. Chapter 20. 2015. *Advanced Methods for Whole Building Energy Analysis*. Chapter in *Automated Diagnostics and Analytics for Buildings*. Edited by B. L. Capehart and M. Brambley. pp 227-240. ISBN 0-88173-732-1. Fairmont Press.

Kiliccote, S. J. H. Dudley, M. A. Piette, E. Koch, and D. Hennage. 2010. *Open Automated DR for Small Commercial Buildings*. Lawrence Berkeley National Laboratory, Berkeley, California. Fraden, J. *Handbook of Modern Sensors: Physics, Designs, and Applications*, 4th Edition, Springer. LBNL 2195E.

Piette, M.A., D.S. Watson, N.A. Motegi, S. Kiliccote. 2007. *Participation through Automation: Fully Automated Critical Peak Pricing in Commercial Buildings*. Chapter in *Web Based Enterprise Energy and Building Automation Systems*. Edited by Barney L Capehart and Lynne C Capehart, Fairmont Press, Atlanta, GA, 2007. ISBN 0-88173-536-1. Lilburn, GA: Fairmont Press.

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