Publications

A selection of the currently available publications and dissemination outputs from the Urban Energy Research Group are given below. They are broadly categorised by topic, with links where relevant.

Carbon emissions of domestic buildings (General)

- Jenkins D.P., The value of implementing carbon-saving measures into fuel poor social housing, Energy Policy, 38, 832-839, 2010 http://dx.doi.org/10.1016/j.enpol.2009.10.030

- Peacock A.D. , Materials for energy efficiency and thermal comfort in buildings (Edited by M. Hall), Chapter 22, Woodhead Publishing Ltd (2010)

- Kilpatrick R., Banfill P.F.G., and Jenkins D.P., Methodology for characterising domestic electrical demand by usage categories, Applied Energy, In Communication, 2010

- Ingram V, "Energy performance of traditionally constructed Scottish dwellings" as part of "Focus – Technical Conservation Group",pg 26-27, Historic Scotland, 2010 http://www.historic-scotland.gov.uk/publication-catalogue.pdf

- Peacock A.D. and Newborough M., Effect of thermal demand side measures on the CO2 savings attributable to micro-combined heat and power systems in UK dwellings, Energy, 33 (4), 2008 http://dx.doi.org/10.1016/j.energy.2007.10.016

- Jenkins D.P, Energy Modelling in Traditional Scottish Buildings (EMITSH), a report for Historic Scotland, November 2008 http://www.historic-scotland.gov.uk/heriot-watt-report-emitsh.pdf

- Jenkins D.P., Peacock A.D and Banfill P.F.G, Upgrading Buildings and Cutting Emissions – The Tarbase Project, Low Carbon Social Housing Conference, Capita, 11th July 2008, London

- Banfill P. et al, "Tarbase – Technologies for Carbon Reduction in Existing Buildings", EPSRC Sustainable Urban Environment Dissemination Event, 6th May 2008

- Peacock AD, The Green Revolution at Home, Edinburgh Science Festival, 30th March 2008

- Banfill P.F.G. and Peacock A.D., Energy efficient new housing – the UK reaches for sustainability, Building Research and Information, 35, 426-436, 2007 http://dx.doi.org/10.1080/09613210701339454

- Peacock A.D., Banfill P.F., Newborough M., Kane D., Turan S., Jenkins D., Ahadzi M., Bowles G., Eames P.C., Singh H., Jackson T., Berry A., Reducing CO2 emissions through refurbishment of UK housing, European Council for an Energy Efficient Economy (eceee) 2007 Summer Study, Côte d'Azur, France 4-9 June 2007 http://www.eceee.org/conference_proceedings/eceee/2007/Panel_5/5.201/

- Jenkins D., Peacock A.D., and Singh H., The relationship between UK demand side measures and domestic micro-biomass potential, European Council for an Energy Efficient Economy (eceee) 2007 Summer Study, Côte d'Azur, France 4-9 June 2007 http://www.eceee.org/conference_proceedings/eceee/2007/Panel_5/5.198/

- Tarbase Domestic Sector Dissemination Event – CO2 emissions reduction for domestic buildings (CIRIA Event), Inmarsat, London, 11th November 2006

- Peacock A.D., Emissions, Housing and Reducing Demand, Consensus Conference: Future Energy Choices, Scottish Council Federation, Edinburgh, 26th September 2006

- Jenkins D, "TARBASE - Technologies for Carbon Reduction in Existing Buildings", World Sustainable Energy Days (WSED), Poster Presentation, Wels, Austria, 1st-3rd March 2006

- Peacock A, Newborough M. and Banfill P, Technology assessment for radically improving the built asset base (TARBASE), WREC 2005, Aberdeen, 22-27 May 2005

Carbon emissions of non-domestic buildings (General)

- Jenkins D.P. et al, Non-domestic conclusions of the Tarbase project – Reducing CO2 emissions of existing buildings, 2010

- Kilpatrick R, Energy Consumption in Non-domestic Buildings, Improving Energy Efficiency in Commercial Buildings (IEECB 2010), Frankfurt, 13-14th April 2010 http://www.light-building.messefrankfurt.com/frankfurt/en/besucher/events/building-performance-congress/ieecb_focus.html

- Jenkins D.P., Singh H.S, Eames P.C., Interventions for large-scale carbon emission reductions in future UK offices, Energy and Buildings, 41, 1374-1380, 2009 http://dx.doi.org/10.1016/j.enbuild.2009.08.002

- Jenkins D.P., Banfill P.F.G. and Peacock A.D., Reducing CO2 emissions of UK non-domestic buildings – Conclusions of the Tarbase project, European Council for an Energy Efficient Economy (eceee) 2009 Summer Study, Côte d'Azur, France 1-6 June 2009 http://www.eceee.org/conference_proceedings/eceee/2009/Panel_7/7.046/

- Jenkins D.P., Using dynamic simulation to quantify the effect of carbon-saving measures for a UK supermarket, Journal of Building Performance Simulation 1, 275-288, 2008 http://dx.doi.org/10.1080/19401490802566891

- Tarbase Non-Domestic Technical Event – Low Carbon Futures for Existing Non-domestic Buildings (CIRIA Event), Inmarsat, London, 11th June 2008

- Peacock A.D et al, Reducing CO2 emissions through refurbishment of non-domestic UK stock, 5th International Conference, Improving Energy Efficiency in Commercial Buildings (IEECB'08), Frankfurt, 10-11th April 2008

http://sunbird.jrc.it/energyefficiency/pdf/IEECB08/IEECB08%20proceedings/028_Peacock_final.pdf

- UK Government Department for Communities and Local Government/UK Green Building Council, Report on carbon reductions in new non-domestic buildings, December 2007 (includes work carried out by Tarbase research team) http://www.communities.gov.uk/publications/planningandbuilding/carbonreductions

Building-integrated energy production and storage

- Jenkins D.P., Tucker R. and Rawlings R., Modelling the carbon-saving performance of domestic ground-source heat pumps, Energy and Buildings, 44, 587-595, 2009 http://dx.doi.org/10.1016/j.enbuild.2008.12.002

- Peacock AD and Newborough M, Micro-generation systems and electrolysers for refuelling private bi-fuel cars at home, International Journal of Hydrogen Energy, 34, 4438-4451, 2009 http://dx.doi.org/10.1016/j.ijhydene.2009.02.050

- Jenkins D, Fletcher J and Kane D, A model for evaluating the impact of battery storage on microgeneration systems in dwellings, Energy Conversion and Management 49, 2413-2424, 2008 http://dx.doi.org/10.1016/j.enconman.2008.01.011

- Jenkins D.P., Fletcher J. and Kane D., Lifetime prediction and sizing of lead-acid batteries for microgeneration and storage applications, IET Renewable Power Generation, 49, 2413-2424, 2008 http://dx.doi.org/10.1049/iet-rpg:20080021

- Peacock A.D., Jenkins D., Ahadzi M., Berry A. and Turan S., Micro Wind Turbines in the UK domestic sector, Energy and Buildings, Volume 40, Issue 7, 1324-1333, 2008 http://dx.doi.org/10.1016/j.enbuild.2007.12.004

- Jenkins D., Tucker R., Ahadzi M. and Rawlings R., The performance of air-source heat pumps in current and future offices, Energy and Buildings, 40 (10), 1901-1910, 2008 http://dx.doi.org/10.1016/j.enbuild.2008.04.015

- Peacock A.D. et al, "Microgeneration in the UK – potential effect on electricity, household and transport sectors", UKERC Meeting Place, Sustainable Energy UK: Meeting the science and engineering challenge, Oxford, 13-14th May 2008

- Turan S., Peacock A.D. and Newborough M., Micro and small wind turbine applications in the built environment, The Official Journal of ISESCO Centre for Promotion of Scientific Research (ICPSR), Volume 3, Issue 3, May 2007

- Peacock A.D. and Newborough M., Controlling micro-CHP systems to modulate electrical load profiles, Energy 2006, Volume 32, 7, 2007, pp1093-1103 http://dx.doi.org/10.1016/j.energy.2006.07.018

- Peacock A.D. and Newborough M., Impact of micro-combined heat-and-power systems on energy flows in the UK electricity supply industry, Energy, Volume 31, Issue 12, September 2006, Pages 1804-1818 http://dx.doi.org/10.1016/j.energy.2005.10.012

- Peacock A.D. and Newborough M., Controlling micro-CHP systems to modulate electrical load profiles, WREC IX, Florence, August 2006

- Kane D. and Newborough M., Estimating carbon savings for domestic base-load micro-CHP systems, WREC IX, Florence, August 2006

- Kane D & Newborough M, Scenarios for Carbon Abatement in Dwellings by Implementation of Stirling Engine Micro-CHP Systems; The Fourth International Conference on Energy Efficiency in Domestic Appliances and Lighting (EEDAL); London; June 2006

- Newborough M and Peacock A D, Effects of micro-CHP on network power flows, 12th International Stirling Engine Conference, Durham, September 7-9 2005

- Peacock A.D. and Newborough M., Impact of micro-CHP on domestic CO2 emissions, Applied Thermal Engineering, Volume 25, Issues 17-18, pp2653-2676, 2005 http://dx.doi.org/10.1016/j.applthermaleng.2005.03.015

- Peacock A.D. and Newborough M., Micro-generation opportunities in the UK residential sector. World Renewable Energy Congress, Denver, August 9-13 2004

End-use equipment in buildings

- Jenkins D.P., The importance of office internal heat gains in reducing cooling loads in a changing climate, International Journal of Low-Carbon Technologies, 4, 134-140, 2009 http://dx.doi.org/10.1093/ijlct/ctp019

- Jenkins D.P., The importance of office internal heat gains in reducing cooling loads in a changing climate, UK-India-Sri Lanka Young Scientists Networking Conference Towards sustainable energy technologies and low carbon buildings for climate change mitigation, New Delhi, India 6-8th February 2008

- Jenkins D. and Newborough M., An approach for estimating the CO2 emissions associated with office lighting with daylight contribution, Applied Energy, Volume 84, 608-622, 2007 http://dx.doi.org/10.1016/j.apenergy.2007.02.002

- Jenkins D., Peacock A. and Newborough M., Assessing the potential for reducing carbon emissions in offices, WREC IX, Florence, August 2006

Building fabric and Heating, Ventilation and Air-Conditioning (HVAC)

- Jenkins D., Liu Y and Peacock AD, Climatic and internal factors affecting future UK office heating and cooling energy consumptions, Energy and Buildings 40, 874-881, 2008 http://dx.doi.org/10.1016/j.enbuild.2007.06.006

- Jenkins D., Peacock A.D., and Liu Y., Assessing the risks and likelihood of eliminating cooling loads in UK offices, 5th International Conference, Improving Energy Efficiency in Commercial Buildings (IEECB'08), Frankfurt, 10-11th April 2008
  http://sunbird.jrc.it/energyefficiency/pdf/IEECB08/IEECB08%20proceedings/012_Jenkins_final.pdf

- Singh H., Eames P.C., Peacock A.D. and Jenkins D., Prediction of the effectiveness of a chilled ceiling coupled bore hole heat exchanger system for cooling existing office buildings and reducing CO2 emissions, 5th International Conference, Improving Energy Efficiency in Commercial Buildings (IEECB'08), Frankfurt, 10-11th April 2008 http://sunbird.jrc.it/energyefficiency/pdf/IEECB08/IEECB08%20proceedings/023_Singh_final.pdf

- Singh H., Eames P.C., Peacock A.D. and Jenkins D., Predictions of indoor CO2 concentration levels in four UK school buildings with three selected ventilation scenarios, 5th International Conference, Improving Energy Efficiency in Commercial Buildings (IEECB'08), Frankfurt, 10-11th April 2008 http://sunbird.jrc.it/energyefficiency/pdf/IEECB08/IEECB08%20proceedings/022_Singh_final.pdf

- Jenkins D.P., Peacock A.D. and Banfill P.F.G., Will future low-carbon schools in the UK have an overheating problem?, Building and Environment 44, 490-501, 2008 http://dx.doi.org/10.1016/j.buildenv.2008.04.012

Socio-economic analyses

- Pellegrini-Masini G. and Leishman C, The role of corporate reputation and employees' values in the uptake of energy efficiency in office buildings, Energy Policy, In Communication (2010)

- Pellegrini-Masini G, Bowles G, Peacock A.D., Banfill P.F.G. and Ahadzi M, Whole life costing of domestic energy demand reduction technologies: householder perspectives, Construction Management and Economics, 28, 217-229, 2010 http://dx.doi.org/10.1080/01446190903480027

- Pellegrini-Masini G., Jenkins D.P., Buchan R, McLaren G and Bowles G, Economic barriers to low-carbon office refurbishments, Improving Energy Efficiency in Commercial Buildings (IEECB 2010), Frankfurt, 13-14th April 2010 http://www.light-building.messefrankfurt.com/frankfurt/en/besucher/events/building-performance-congress/ieecb_focus.html

- Peacock AD, Jackson T, Berry A, Ahadzi M and Pellegrini-Masini G, Market Development Potential of Residential Refurbishment Packages, European Council for an Energy Efficient Economy (eceee) 2009 Summer Study, Côte d'Azur, France 1-6 June 2009 http://www.eceee.org/conference_proceedings/eceee/2009/Panel_4/4.093/

- Pellegrini-Masini G, The carbon-saving behaviour of residential households. In: Futures of Cities 51st IFHP World Congress. Copenhagen, 23-26 September 2007. Available at: http://eprints.gla.ac.uk/4577/1/4577.pdf

- Pellegrini Masini G. (2008) Book Review: Spaces of Sustainability: geographical perspectives on the sustainable society, Mark Whitehead, 2007; Green Cities: Urban Growth and the Environment, Matthew E. Kahn, 2006. Urban Studies, 45, 997-998 http://dx.doi.org/10.1177/00420980080450041105

Adaptation to a future climate

- Jenkins D.P, Patidar S, Banfill P, and Gibson G, Probabilistic climate projections with dynamic building simulation: predicting overheating in dwellings, Energy and Building (In Communication), 2011

- Patidar S, Jenkins D.P, Gibson G, and Banfill P, Statistical techniques to emulate dynamic building simulations for overheating analyses in future probabilistic climates, Journal of Building Performance Simulation, 1-14, iFirst article, 2011

- Peacock A.D., Jenkins D.P. and Kane D., Investigating the potential of overheating in UK dwellings as a consequence of extant climate change, Energy Policy, 38, 832-839, 2010 http://dx.doi.org/10.1016/j.enpol.2010.01.021

- Jenkins D.P., Patidar S., Gibson G. and Banfill P., Translating probabilistic climate predictions for use in building simulation, Proceedings of Conference: Adapting to Change: New Thinking on Comfort Cumberland Lodge, Windsor, UK, 9-11 April 2010. London: Network for Comfort and Energy Use in Buildings http://nceub.commoncense.info/index.php?n=OpenAccess.Windsor2010ConferencePres

- Patidar S and Jenkins D.P., Decision support for building adaptation in a low carbon climate change future, Network for Comfort and Energy Use in Buildings, Autumn Meeting, Edinburgh, September 2009 http://nceub.commoncense.info/uploads//P09Patidar.pdf