Attachment C - Comparison of Achievable Potential Results from Various Electric Studies

The following table provides achievable potential results for various studies conducted over the past decade. The results are normalized to base energy consumption. For each study, we provide a reference to the report the numbers were pulled from. Due to the heterogeneous nature of these studies, a direct comparison of results is not possible, but rather these results provide a range that can be used to judge the reasonableness of Missouri potential estimates.

In addition, we have attached a copy of a recent summary study: *A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest*, (file name "Midwest studies 247-1.pdf") prepared by the Energy Center of Wisconsin and ACEEE, and published in August 2009. In addition to a comparison of studies, this report provides a discussion of various methodologies used and some qualifiers to note in comparing results.

In most cases, KEMA has copies of the studies cited in the table, and could provide them upon request.

Table 1. Achievable Potential Savings as a Percent of Base Load – Various Electric Potential Studies

Area	Study Year	Number of Years	Scenario	Achievable Savings as a percent of Base Load	% Saving / Years	Source
Ameren	2010	12	Realistic Achievable	6.5%	0.5%	AmerenUE Demand Side Management (DSM) Market Potential Study Volume 1: Executive Summary, Global Energy Partners, January 2010
Ameren	2010	12	Maximum Achievable	9.8%	0.8%	AmerenUE Demand Side Management (DSM) Market Potential Study Volume 1: Executive Summary, Global Energy Partners, January 2010
Ameren	2010	12	Business as Usual	5.4%	0.5%	AmerenUE Demand Side Management (DSM) Market Potential Study Volume 1: Executive Summary, Global Energy Partners, January 2010
Missouri	2011	10	3-Year Payback – Net	3.8%	0.4%	Missouri Statewide DSM Market Potential Study - DRAFT, KEMA, Inc. January 15, 2011
Missouri	2011	10	1-Year Payback – Net	6.8%	0.7%	Missouri Statewide DSM Market Potential Study - DRAFT, KEMA, Inc. January 15, 2011
Missouri	2011	10	75% Incentives – Net	9.5%	1.0%	Missouri Statewide DSM Market Potential Study - DRAFT, KEMA, Inc. January 15, 2011
Missouri	2011	10	3-Year Payback - Gross	7.1%	0.7%	Missouri Statewide DSM Market Potential Study - DRAFT, KEMA, Inc. January 15, 2011
Missouri	2011	10	1-Year Payback - Gross	10.1%	1.0%	Missouri Statewide DSM Market Potential Study - DRAFT, KEMA, Inc. January 15, 2011
Missouri	2011	10	75% Incentives – Gross	12.9%	1.3%	Missouri Statewide DSM Market Potential Study - DRAFT, KEMA, Inc. January 15, 2011
Wisconsin	2009	11			1.6%	A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest, Energy Center of Wisconsin and ACEEE, August 2009, includes annotated bibliography
Kansas	2008	21			1.1%	A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest, Energy Center of Wisconsin and ACEEE, August 2009, includes annotated bibliography
Florida	2007	15			1.3%	A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest, Energy Center of Wisconsin and ACEEE, August 2009, includes annotated bibliography
Texas	2007	15			1.2%	A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest, Energy Center of Wisconsin and ACEEE, August 2009, includes annotated bibliography
Utah	2007	15			1.7%	A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest, Energy Center of Wisconsin and ACEEE, August 2009, includes annotated bibliography

Area	Study Year	Number of Years	Scenario	Achievable Savings as a percent of Base Load	% Saving / Years	Source
Vermont	2007	10			1.9%	A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest, Energy Center of Wisconsin and ACEEE, August 2009, includes annotated bibliography
California	2006	13			0.6%	A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest, Energy Center of Wisconsin and ACEEE, August 2009, includes annotated bibliography
North Carolina	2006	10			1.4%	A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest, Energy Center of Wisconsin and ACEEE, August 2009, includes annotated bibliography
Georgia	2005	10			0.9%	A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest, Energy Center of Wisconsin and ACEEE, August 2009, includes annotated bibliography
New England	2005	10			2.3%	A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest, Energy Center of Wisconsin and ACEEE, August 2009, includes annotated bibliography
Northwest	2005	20			0.6%	A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest, Energy Center of Wisconsin and ACEEE, August 2009, includes annotated bibliography
Ontario	2005	20			0.7%	A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest, Energy Center of Wisconsin and ACEEE, August 2009, includes annotated bibliography
Wisconsin	2005	10			0.8%	A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest, Energy Center of Wisconsin and ACEEE, August 2009, includes annotated bibliography
New Jersey	2004	16			7.0%	A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest, Energy Center of Wisconsin and ACEEE, August 2009, includes annotated bibliography
Quebec	2004	8			4.0%	A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest, Energy Center of Wisconsin and ACEEE, August 2009, includes annotated bibliography
U.S.	2001	20			1.2%	A Review and Analysis of Existing Studies of the Energy Efficiency Resource Potential in the Midwest, Energy Center of Wisconsin and ACEEE, August 2009, includes annotated bibliography
US (EPRI)	2009	12	Realistic Achievable	4.3%	0.4%	Assessment of Achievable Potential from Energy Efficiency and Demand Response Programs in the U.S., EPRI with Global Energy Partners and The Brattle Group, January 2009

Area	Study Year	Number of Years	Scenario	Achievable Savings as a percent of Base Load	% Saving / Years	Source
US (EPRI)	2009	12	Maximum Achievable	10.1%	0.8%	Assessment of Achievable Potential from Energy Efficiency and Demand Response Programs in the U.S., EPRI with Global Energy Partners and The Brattle Group, January 2009
Northwest	2007	20		9.2%	0.5%	Assessment of Long-Term, System-Wide Potential for Demand-Side and Other Supplemental Resources, Quantec with Summit Blue and Nexant, July 11, 2007
British Columbia	2007	10	Upper	11.7%	1.2%	BC Hydro 2007 Conservation Potential Review: the Potential for Electricity Savings, 2006-2016, Marbek Resource Consultants, Ltd., November 20, 2007
British Columbia	2007	10	Lower	6.0%	0.6%	BC Hydro 2007 Conservation Potential Review: the Potential for Electricity Savings, 2006-2016, Marbek Resource Consultants, Ltd., November 20, 2007
Colorado	2010	11	100% Incentives	14.9%	1.4%	Colorado DSM Market Potential Assessment, KEMA, March 12, 2010
Colorado	2010	11	75% Incentives	8.6%	0.8%	Colorado DSM Market Potential Assessment, KEMA, March 12, 2010
Colorado	2010	11	50% Incentives	5.5%	0.5%	Colorado DSM Market Potential Assessment, KEMA, March 12, 2010
Iowa	2009	9	Moderate	11.0%	1.2%	Energy Efficiency and Demand Response Potential for Iowa Municipal Utilities, Energy Center of Wisconsin, June 2009
ConEd - New York	2010	9	Maximum Achievable	15.0%	1.7%	Energy Efficiency Potential Study for Consolidated Edison Company of New York, Inc. Volume 1: Executive Summary; Global Energy Partners, June 2010
ConEd - New York	2010	9	Realistic Achievable – High	10.0%	1.1%	Energy Efficiency Potential Study for Consolidated Edison Company of New York, Inc. Volume 1: Executive Summary; Global Energy Partners, June 2010
ConEd - New York	2010	9	Realistic Achievable - Mid	9.0%	1.0%	Energy Efficiency Potential Study for Consolidated Edison Company of New York, Inc. Volume 1: Executive Summary; Global Energy Partners, June 2010
ConEd - New York	2010	9	Realistic Achievable – Low	8.0%	0.9%	Energy Efficiency Potential Study for Consolidated Edison Company of New York, Inc. Volume 1: Executive Summary; Global Energy Partners, June 2010
Minnesota	2010	20	Base	12.3%	0.6%	Minnesota Statewide Electricity Efficiency Potential Study DSM Potentials Report, Summit Blue Consulting, April 30, 2010
Minnesota	2010	20	High	13.9%	0.7%	Minnesota Statewide Electricity Efficiency Potential Study DSM Potentials Report, Summit Blue Consulting, April 30, 2010
Minnesota	2010	20	Low	11.7%	0.6%	Minnesota Statewide Electricity Efficiency Potential Study DSM Potentials Report, Summit Blue Consulting, April 30, 2010
California	2003	10	Most aggressive scenario	10.0%	1.0%	Nadel, Steve, Shipley, A., and Elliott, R. N., Technical, Economic, and Achievable Potential for Energy-Efficiency in the U.S. - A Meta-Analysis of Recent Studies, 2004 ACEEE Summer Study, Includes references to specific studies
Puget Power	2003	20	Most aggressive scenario	11.0%	0.6%	Nadel, Steve, Shipley, A., and Elliott, R. N., Technical, Economic, and Achievable Potential for Energy-Efficiency in the U.S. - A Meta-Analysis of Recent Studies, 2004 ACEEE Summer Study, Includes references to specific studies

Area	Study Year	Number of Years	Scenario	Achievable Savings as a percent of Base Load	% Saving / Years	Source
U.S.	2003	20	Most aggressive scenario	24.0%	1.2%	Nadel, Steve, Shipley, A., and Elliott, R. N., Technical, Economic, and Achievable Potential for Energy-Efficiency in the U.S. - A Meta-Analysis of Recent Studies, 2004 ACEEE Summer Study, Includes references to specific studies
Vermont	2003	10	Most aggressive scenario	31.0%	3.1%	Nadel, Steve, Shipley, A., and Elliott, R. N., Technical, Economic, and Achievable Potential for Energy-Efficiency in the U.S. - A Meta-Analysis of Recent Studies, 2004 ACEEE Summer Study, Includes references to specific studies
Southwest	2002	17	Most aggressive scenario	33.0%	1.9%	Nadel, Steve, Shipley, A., and Elliott, R. N., Technical, Economic, and Achievable Potential for Energy-Efficiency in the U.S. - A Meta-Analysis of Recent Studies, 2004 ACEEE Summer Study, Includes references to specific studies
Connecticut	2009	10	Base	10.0%	1.0%	Potential for Energy Efficiency in Connecticut, KEMA, May 1, 2009
Connecticut	2009	10	Current	11.0%	1.1%	Potential for Energy Efficiency in Connecticut, KEMA, May 1, 2009
Connecticut	2009	10	Accelerated	20.0%	2.0%	Potential for Energy Efficiency in Connecticut, KEMA, May 1, 2009
New Mexico	2006	10	Base	3.4%	0.3%	Public Service New Mexico Electric Energy Efficiency Potential Study, Itron, Inc. with assistance from KEMA, Inc., September 20, 2006
New Mexico	2006	10	Advanced	6.1%	0.6%	Public Service New Mexico Electric Energy Efficiency Potential Study, Itron, Inc. with assistance from KEMA, Inc., September 20, 2006
New Mexico	2006	10	Maximum Achievable	8.2%	0.8%	Public Service New Mexico Electric Energy Efficiency Potential Study, Itron, Inc. with assistance from KEMA, Inc., September 20, 2006