Energy Efficiency Opportunities in the Industrial Sector

Energy for Manufacturing Roundtable October 20, 2009

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Alliance Directors: Bi-Partisan Elected Officials and Industry Leaderssave Energy

- Guided by an elected Board of Directors
- Leaders of environmental, consumer, and trade associations; state and local policy makers; corporate executives





SAVE ENERGY Creating an Energy-Efficient World

About the Alliance (cont'd)

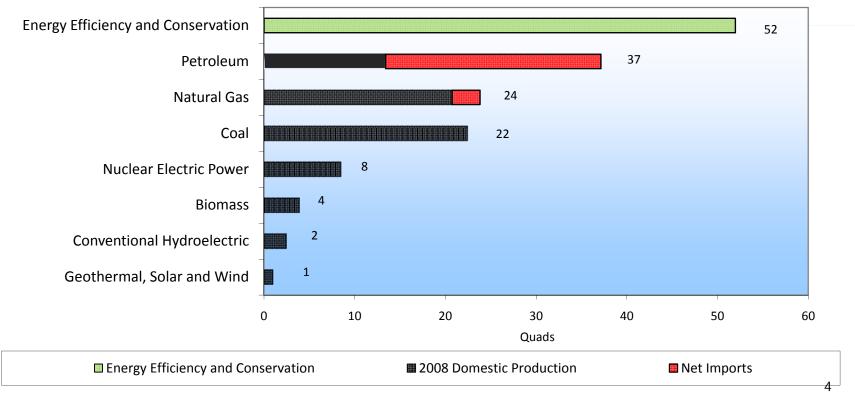
- NGO coalition of 150+ prominent business, government, environmental and consumer leaders.
- Conduct policy, education, research, technology deployment, market transformation and communication initiatives.
- Headquartered in Washington, D.C. with operations in Eastern Europe, South Africa, Mexico, India and several states in the U.S.





America's Greatest Energy Resource

Energy Efficiency and Conservation Improvements Since 1973 Have Reduced Annual Energy Consumption by 52 Quads in 2008



Alliance to Save Energy, June 2009

Huge EE Potential Remains

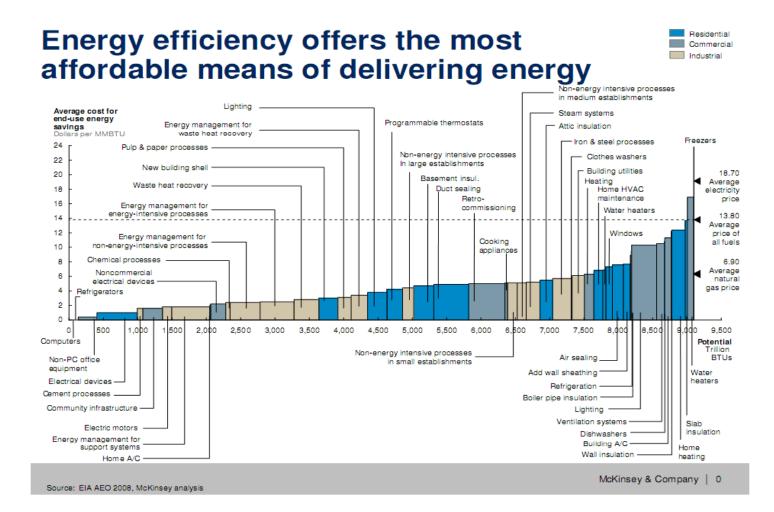
Exhibit B

U.S. MID-RANGE ABATEMENT CURVE - 2030 Abatement cost <\$50/ton Commercial Residential Cost Afforestation Real 2005 dollars per ton CO-e **Energy Efficiency Potential 40%** buildings buildings of cropland HVAC HVAC equipment equipment Coal power plants-90 efficiency efficiency CCS rebuilds with EOR Industrial Residential Coal mining process Solar CSP Fuel economy Active forest buildinas – Distributed Methane improvepackages - Light management Shell solar PV 60 ments mamt trucks retrofits Residential Commercial Commercial Nuclear electronics Residential buildings buildings newwater Combined Control build 30 heaters heat and Residential systems buildings power Lighting 0 LT. 0.8 4 1.6 2.0 2.2 2.4 2.6 2.8 3.0 1.8 3.2 Potential Onshore wind -Gigatons/year -30 Industry -Onshorc wind -Low penetration CCS new High penetration Industry builds on Combined carbonbeat and Biomass power intensive -60 power Cofiring processes Cellulosic Manufacturing biofuels Car hybridi-Existing power HFCs mgmt Coal power plants - CCS plant zation new builds with EOR -90 Residential conversion buildings efficiency Onshore wind - Medium New shell Coal-to-gas improvements penetration Commercial improvements shift - dispatch of Conservation electronics existing plants -120 Winter tillage Commercial cover crops Coal power plants buildings -CCS rebuilds Reforestation CFL lighting -230 Commercial Commercial buildings buildinas -LED lighting Afforestation of Coal power Natural gas New shell pastureland plants - CCS and petroleum Fuel economy improvements new builds systems packages - Cars management

Adapted from McKinsey Analysis

EE:Very Affordable for Industry





McKinsey & Company, "Unlocking Energy Efficiency in the U.S. Economy", 2009

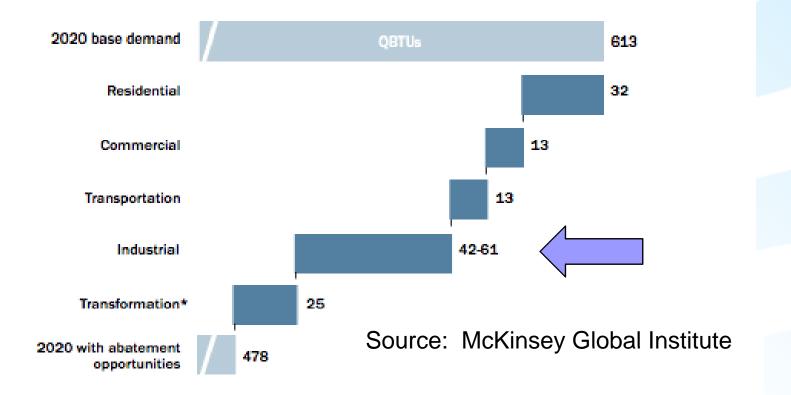
EE: Enormous Potential for Savings in ALL Sectors...



SAVE ENERGY Creating an Energy-Efficient World

LARGE OPPORTUNITIES FOR IMPROVING ENERGY PRODUCTIVITY ARE AVAILABLE

Potential demand reduction in 2020 through enhanced energy productivity





Thank You!

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