



ALLIANCE TO
SAVE ENERGY
Creating an Energy-Efficient World

TRIP REPORT

Alliance to Save Energy European Fact-Finding Trip August 29-September 2, 2005

Introduction

The Alliance to Save Energy organized and conducted a fact-finding trip to Europe from August 29-September 2, 2005. During the five-day trip through Germany, Belgium, and the Netherlands, congressional staff, Administration officials, and state policy advisors toured energy efficiency applications, and engaged in discussions with European policy makers from all levels – the European Union, individual countries, and cities – about current and planned energy efficiency measures in both Europe and the U.S. Along the way, the delegation also met with a variety of representatives from industry, the environmental community and others to exchange ideas about how to best encourage energy efficiency. This report provides information about sites visited, trip participants, and key elements of the policy roundtables. For an electronic copy of this report, and to view an online photo album and PowerPoint presentations from the trip, please visit <http://www.ase.org/content/article/detail/2480>.

Trip Participants

A total of 25 people comprised the ASE delegation to Europe. The delegation included 18 Congressional staff, Administration officials, and state-level policy advisors, who participated in some to all of the fact-finding trip. Government participants included staff from the House Science Committee, the Senate Environment and Public Works Committee, and the Senate Commerce, Science and Transportation Committee; personal staff from the offices of Senators Wayne Allard (R-CO), Lincoln Chafee (R-RI), Mike Crapo (R-ID), Byron Dorgan (D-ND), Mark Pryor (D-AR), John D. Rockefeller, IV (D-WV), and Congressman Jim Ramstad (R-MN); officials from the U.S. Department of Energy, the Environmental Protection Agency, and the U.S. State Department's U.S. Mission to the European Union; and, energy advisors from the states of California, Colorado, Maryland, and New Mexico. Corporate. Public interest participants included representatives from The Dow Chemical Company, Siemens, Whirlpool, Lawrence Berkeley National Laboratory, the National Conference of State Legislatures, and Garforth International, LLC. Three Alliance to Save Energy representatives staffed the trip. Throughout the trip we also were joined by a variety of experts from European government, industry, and non-profit groups. (A full participant list, including all pertinent contact information, is included at the end of this report).

Corporate/In-Kind Support

This trip would not have been possible without the support of several generous companies, particularly The Dow Chemical Company, Siemens, Whirlpool, and BP America. Several other companies and entities provided essential in-country support, including the State of Baden-Württemberg, Garforth International, LLC, the European Copper Institute, the European Association of Insulation Manufacturers, the City of Amsterdam, ING Bank, and the City of Amsterdam Waste and Energy Company.

Overview of Fact-Finding Trip Agenda

During the week-long fact-finding trip, the delegation – occasionally donning hard hats, florescent orange jackets, and protective goggles – visited an impressive range of energy efficiency applications. By exploring one of the world's most advanced gas turbine plants, a factory that produces ultra-efficient washing-machines, a chemical-facility that exemplifies energy efficiency best practices, and a sleek commercial building designed for employee comfort and minimal energy use, the delegation saw first-hand that energy efficiency measures are being used in all end-use sectors to help companies improve their bottom lines, consumers save money, and governments meet their greenhouse gas emissions reduction targets.

In addition to more informal discussions held at almost every location visited, the trip also included two policy roundtable discussions conducted in Stuttgart, Germany, and Brussels, Belgium. During the roundtable discussions, trip participants heard from EU-wide, state and city government officials as they discussed a variety of measures being undertaken to further energy efficiency in the building, transportation and utility sectors. The U.S. delegation was encouraged to enter into a dialogue with these individuals to share lessons learned from our collective experiences implementing energy efficiency policies and programs, with the goal of bringing home new ideas for furthering energy efficiency at the federal, state and local levels.

Day-By-Day Trip Itinerary

Berlin, Germany – August 28, 2005

Reichstag – German Parliament

During our first day in Berlin, the delegation walked to the German Bundestag – the Parliament building. While much of the Reichstag’s exterior, constructed in 1884, remains unchanged, the delegation was shown several key energy efficiency retrofits completed to enhance comfort, and to reduce the buildings energy costs. We learned about the “light sculptor,” a skittle-shaped cone that extends from the cupola into the plenary chamber that reflects daylight off of its 360 degree angled mirrors attached to the cone into the building below. We also learned about the building’s heating and cooling system which transfers surplus energy, in the form of hot and cold water, to various storage tanks below the building for future reuse. During the tour we also learned about the political structure of the German Parliament, and discussed some of the Parliament’s contemporary political issues.



A beautiful Sunday afternoon visit to the Reichstag.

Berlin, Germany – August 29, 2005



Delegates watch as a fuel cell car is refueled at the BP station.

BP Hydrogen Fueling Station

The first stop of the day was a visit to BP’s hydrogen refueling station. The station, run by BP subsidiary Aral, is Europe’s first hydrogen refueling station to be located at a retail site, and is one of the first stations to provide services for vehicles running on hydrogen and conventional fuels at the same location. Dr. Vasso Tsatsami, Business Manager, BP plc Hydrogen, explained to the delegation how gaseous hydrogen is produced onsite using renewable energy from hydropower. This hydrogen station is also the world’s largest, with extra capacity to increase the number of cars it could refuel to more than 100.

Siemens’ Gas Turbine Factory

Next we made our way to the other end of the city to tour Siemens’ 100-year old, yet state-of-the-art, gas turbine manufacturing facility. Doug Todd, Director, Legislative Affairs, Siemens Corporation gave us a brief history of Siemens, and then we were welcomed by Dr. Wolf-Dietrich Kruger, Senior Executive Vice President of Siemens’ Power Generation Gas Turbine Manufacturing. Dr. Kruger enthusiastically explained how energy efficiency has helped Siemens both contend with sky rocketing natural gas prices, and work towards meeting their greenhouse gas emissions reduction targets. Our delegation



The delegation poses outside of Siemens’ Gas Turbine Facility in Berlin.



Mr. Joerg Voekler explains how the gas turbines reach such high efficiency levels.

was split into two groups for a tour of the factory. We saw the various parts of the large scale gas turbines, which reach efficiencies of nearly 39 percent in simple cycle applications and 58 percent in combined cycle power plants—making them the most efficient gas turbines in the world.

Berlin’s Natural Gas Vehicle Initiative

On our way to the University of the Arts, the delegation had the opportunity to hear from Susanne Berger, Representative of the Berliner Energieagentur GmbH (Berlin Energy Agency). While driving through the city, Ms. Berger described Berlin’s efforts to increase both the use of natural gas (NG) and biodiesel-fueled vehicles. Berlin is one of 19 European cities chosen to work together to create sustainable transport modes for Europe. With funding from the Transport and Environment Alliance for Urban Sustainability (TELLUS), which is part of the Civitas initiative, co-funded by the European Union, Berlin was picked to demonstrate that integrated urban transport

policies can significantly contribute to fighting today's traffic problems in Europe. As part of this multi-pronged initiative, and as part of an environment agreement between the Berlin Senate and the GASAG, The Berliner Energieagentur GmbH has been supporting natural gas vehicle (NGV) leasing since May 2004. As Ms. Berger described the city's NGV leasing initiative, we rode by one of the city's 12 NG fueling stations. This well developed NG fuel infrastructure is the main reason NGVs have the highest density in Berlin as compared to other German cities. Every 250th new vehicle purchasing in Berlin; currently there are already more than 1,000 NGVs in use in the city.

Energy Saving Partnership – Universität der Künste (UdK)

Our last tour visit of the day was Berlin's University of the Arts, a leading European University. The University offers degrees in music, performance arts, fine arts, architecture, media and design. The purpose of our visit was to learn about Berlin Energy Agency's Energy Saving Partnership Program. Maria Krautzberger, State Secretary for Environment and Traffic, welcomed us to the building, and discussed Berlin's energy and transportation policies. Michael Geibler, Managing Director of the Berlin Energy Agency, then explained the history of the Energy Saving Partnership (ESP) program—which is responsible for the efficiency upgrades that have been made to the University's buildings. The 10-year contract between University of the Arts and the energy service company Siemens / Landis & Staefa GmbH was signed on June 13, 2003. The project is expected to reduce the current energy costs to the building by 27%, for an annual savings of 41,000 € (\$49,833 US).

Currently, over 1,300 buildings are being upgraded with the ESP program--\$40 million has been invested into the buildings, and \$30 million in savings has already been returned. Delegates from the U.S. also explained our Energy Saving Performance Contract (ESPC) program, and Drew Bolin, Executive Director of the Colorado Governor's Office of Energy, explained how his state has saved millions of dollars through a state-wide ESPC program. In addition, Mario Lieder, Siemens Building Technology, explained Siemens' efforts to increase the efficiency of buildings through retrofits.

Stuttgart, Germany – August 30, 2005

Integrated Energy Planning—A Utility Perspective

During a working breakfast, Michael Lowak, CEO of MVV Energiedienstleistungen GmbH, highlighted the company's commitment to energy efficiency, and explained why they are investing in the development and use of decentralized energy generation based on advanced technology. MVV is one of Germany's leading energy distribution and service providers. The company operates in Germany, Poland and the Czech Republic in the fields of electricity, district heating, natural gas and water distribution, non-recyclable waste incineration, and renewable energy generation. Mr. Lowak noted that the company provides heating to approximately 84 percent of private households in Mannheim via conducted energy (district heating and gas). The vast majority of Mannheim's households, therefore, do not need to use heating oil, resulting in a 21 percent reduction in CO₂, 42 percent reduction in SO₂, and a 20 percent reduction in NO₂ emissions.

Mr. Lowak also highlighted the company's consulting operations, which are active on an international scale. MVV energie works with institutions such as the German Development Bank (KfW), the Gesellschaft für technische Zusammenarbeit (GTZ), the World Bank, the United Nations, and others on several supply-side and demand-side energy initiatives. For example, the company recently received an order from the German Development Bank to increase energy supplies in Afghanistan; they were commissioned to provide technical support to modernize the water supply and wastewater disposal infrastructure of the Rumanian town of Botosani; and, they are undertaking an environmental management project in Lebanon. The company also has, and continues, to explore a variety of projects in the United States.



Climate Scientists explain the potential effects of global warming.

Policy Roundtable—Climate Change and Energy Policy

Following breakfast, the delegation walked over to the Landesbank Baden-Württemberg to meet with several of Germany's leading climate experts to discuss the future of energy supplies, and the potential for a stronger American-European partnership with respect to climate change policies impacting energy use and greenhouse gas emissions. The panel was moderated by Dr. Martin Pehnt, Institute for Energy and Environmental Research, Heidelberg.

The first speaker, Dr. Gerhard Spilok, Head of the Department of Ecology, Research, Climate Protections in the Ministry for Environment of the State of Baden-Württemberg, discussed the State of Baden-

Wurttemberg's climate change and energy policy. Dr. Spilok explained that the state's low CO₂ intensity level, which is presently at 7.3 Tonnes per capita, is achieved through a variety of policy measures. By comparison, Germany's CO₂ intensity level is 10.2 Tonnes per capita, and the level is 20 Tonnes per capita in the U.S. In addition to nuclear energy (which accounts for almost 58 percent of its energy mix), the state plans to double the percentage share of renewable energy by 2010, increase energy efficiency in public and private buildings, and build more combined heat and power plants. Dr. Spilok also noted that the state is a leader in fuel cell research and demonstration projects.

Kateri Callahan, President, Alliance to Save Energy, spoke next about U.S. energy policy. After giving an overarching framework of U.S. energy consumption patterns, and describing why energy efficiency is America's greatest energy resource, Ms. Callahan highlighted energy efficiency policies contained in the new energy law (PL 109-58). She stressed the potential of energy efficiency, and noted that while the Energy Policy Act of 2005 includes important provisions to increase energy efficiency in the building and utility sectors, it does not adequately address the U.S.'s over-reliance on petroleum in the transportation sector.

Following Ms. Callahan, Professor Stefan Rahmstorf, Senior Scientist, Potsdam Institute for Climate Impact Research, and Member of the German Advisory Council on Global Climate Change, gave an overview on climate change. Dr. Rahmstorf stressed that after decades of research and thousands of studies, an extraordinary consensus has been reached by scientists across the globe that the atmospheric CO₂ concentration levels have risen sharply since 1850, the rise is caused by anthropogenic activity, and continued escalation of emissions will lead to further rises in global mean temperature. He then highlighted the many risks involved in such an unprecedented warming, including: sea level rise and loss of ice sheets, loss of ecosystems and species diversity, risk of increased intensity of weather events (e.g. hurricanes and flooding), and food shortages.

Professor Christoph Bohringer, Head of the Department of Environmental and Resource Economics, Centre for European Research, University of Heidelberg, followed by presenting remarks about the future of the Kyoto Protocol and other potential climate change policies. While acknowledging that proponents of the Kyoto Protocol view it as a breakthrough in international climate policy, he stated that the first round of Kyoto will achieve very little in actual emission reductions since the U.S. and large emitters like China and India, as well as the rest of the developing world, are not part of the Protocol. He also noted that the effective commitment by the remaining industrialized countries is weak. Dr. Bohringer posed the question: "which policy architecture is best suited to address the implicit equity debate and huge incentive problems in climate protection?" He then answered that given the interest and priorities of major climate players, such as the U.S and China, perhaps an alternative track or modifications of the Kyoto process are more viable mid-or long-run options. He noted that perhaps a comprehensive UN process, which includes a 160-nation bureaucracy, may be too complicated to resolve this type of challenge.

Professor Eberhard Jochem, Senior Executive, Fraunhofer Institute of Systems and Innovative Research (ISI), Karlsruhe Director, Centre for Energy Policy and Economics, Swiss Federal Institute of Technology, Zurich spoke next about energy efficiency's contribution to greenhouse gas mitigation efforts. Dr. Jochem stressed that by sharing best practices, industry will be able to reap substantial rewards through implementing energy savings measures. As an example, he described a "learning network" in the State of Baden-Wurttemberg, where several companies banded together and hired a senior energy engineer who provided on-the-spot consulting, and monitored the company's three monthly meetings in which they shared their experiences implementing energy efficiency measures. The average improvement in energy efficiency at the 20 project sites was 1.3 percent per year. He then discussed energy efficiency in buildings, and the vast potential for CO₂ reductions.

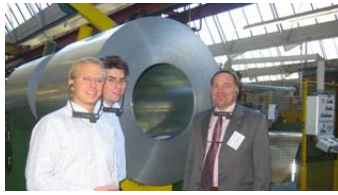
Finally, Manfred V. Haberzettel, Senior Manager Technic and Communication, En BW Energie Baden-Wurttemberg AG, and Michael Lowak, CEO of MVV Energiedienstleistungen GmbH, provided a business perspective about the benefits of energy efficiency.

Hydrogen Fuel Cell Bus

After the policy roundtable, the delegation was provided the opportunity to be transported from Stuttgart to the next site visit on a hydrogen fuel cell bus. The city of Stuttgart was one of nine cities chosen to demonstrate hydrogen fuel cell buses as part of the Clean Urban Transport for Europe (CUTE) program. Aiming to be the driving force for a European hydrogen pathway, the goal of the CUTE program is to create public awareness, understanding, and acceptance of hydrogen and fuel cell technology. The project commenced in November 2001 and will conclude May 2006. The bus we rode on, which is one of 27 busses in the program, operates on the same route as regular city buses.



Stuttgart's fuel cell bus parked outside of the Whirlpool factory.



Drew Bolin, Craig Ferguson, and Ned Farquhar inside the Whirlpool factory.

Whirlpool Bauknecht Factory

Our last stop in the State of Baden-Wurttemberg was a visit to Whirlpool’s Duet washing machine factory in the city of Schorndorff, Germany. Rated as one of the most efficient washing machines in the world, the Duet machines use less than half the water of conventional washers. The delegation was led on a tour by plant manager Mauro Piloni around the ultra-automated facility, and were even privileged enough to glimpse the top-

secret color assortment of the next generation of washing machines. In addition to learning about the European appliance labeling system, Thomas Catania, Vice President, Government Relations, Whirlpool, discussed both the history of washing machines and Whirlpool’s decision to invest significant capital into creating the world’s most efficient washing machines.



John Richards and Anna Carmichael show off the latest edition of the energy-efficient Duet washing machine.

Brussels, Belgium – August 31, 2005

European Union Policy Roundtable

The EU-wide policy roundtable, held in a conference room within the EU Parliament building, was attended by over 40 participants. Members of the EU Parliament representing the Group of the Alliance of Liberals and Democrats for Europe included Ms. Fiona Hall, United Kingdom; and Ms. Lena Ek, Sweden (Centerpartiet). Representing the Group of the Greens/European Free Alliance were Ms. Rebecca Harms, Germany; and Mr. Claude Turmes, Luxembourg (Vice-Chairman, European Parliament). And representing the Group of the European People’s Party (Christian Democrats) and European Democrats was Mr. Anders Wijkman, Sweden. We also were joined by officials from the EU Commission: Mr. A Gonzalez Finat, Director of Renewables & Energy Demand Management, Energy and Transport; and, Mr. J. Delbeke, Director Air and Chemicals, DG Environment.



The European Union Parliament Building.

Kateri Callahan, President, Alliance to Save Energy moderated the roundtable, and opened the discussion with a general overview of U.S. energy policy, including a synopsis of past, current, and planned energy efficiency policies at both the federal and statewide levels. Ms. Callahan then invited Members of the EU Parliament to provide comments on the creation of an “Energy Intelligent Europe.” Mr. Claude Turmes explained that Parliament’s goal is to make Europe the most energy efficient society in the world by 2020. He highlighted the EU Commission’s recently released Green Paper on Energy Efficiency, which lays out a strategic plan of action for EU-wide, nationwide, and local energy efficiency policies. The paper is now out for public comment, and will be debated in the Parliament, and hopefully among European citizens, until March 2006. Mr. Anders Wijkman noted that improving efficiency in the transportation sector continues to be problematic, and he indicated the ongoing debate whether to use voluntary versus binding policy measures to achieve greater efficiency levels in that sector. Tilman Schwencke, Assistant to Mechtild Rothe, MEP, noted that the EU’s overall energy use reduction goal is 11.5 percent by 2015.



Inside the Parliament where European and U.S. policy makers exchange ideas about energy efficiency.

The MEPs discussed a variety of policy tools used in their own countries to achieve higher energy efficiency rates. Ms. Lena Ek commented on Sweden’s use of taxes and “green certificates” to encourage energy efficiency; Ms. Hall spoke about the need for smart metering; and both noted the need for aggressive transportation policies.

After opening statements the delegation heard from Mr. Delbeke, who heads the DG Environment Department, which is responsible for implementing the Kyoto Protocol’s emission trading scheme. Over 12,000 installations

throughout Europe are involved in the trading system, which is the largest multinational cap and trade program in the world. Mr. Delbeke commented that there has been a marked increase in companies investing in energy efficiency technologies since the start of the trading scheme. However, the issue of international competitiveness is a growing concern, given that the U.S. and other major emitters such as China and India are not engaged in the Kyoto Protocol. Mr. Delbeke noted that additional policies are needed to help the EU reach its current Kyoto targets, and it also needs to look beyond 2012 (when current Kyoto agreements end) to ensure continued greenhouse gas emissions reductions.

In response to Mr. Delbeke's remarks, several U.S. delegates spoke about climate protection initiatives underway in the U.S. Bill Pennington from the California Energy Commission highlighted Governor Schwarzenegger's recently announced greenhouse gas emission reduction targets. He indicated that by 2010 the state must reduce its emissions to 2000 levels; by 2020 emissions must further be reduced to 1990 levels; and, by 2050 the goal is to reduce emissions 80 percent below 1990 levels. Mr. Pennington cautioned that an 8 degree Fahrenheit warming would wreak havoc on the California landscape, with rising sea levels that would threaten countless coastal towns and cities. Mr. Pennington highlighted a range of state policy initiatives aimed at increasing energy efficiency, including California's stringent buildings codes and appliance standards.

Floyd DesChamps of the Senate Commerce, Science, and Transportation Committee indicated that the Senate may be moving closer towards some type of action on climate change. In defending this statement, he noted that Senators McCain (R-AZ) and Lieberman (D-CT) continue to introduce the Climate Change Stewardship Act (this year it failed by a vote of 43 to 55); Senator Stevens (R-AK) set up a new subcommittee on climate change, and the Senate passed a "Sense of the Senate" that states that climate change is an issue that must be addressed.

Malcolm Woolf of the Senate Environment and Public Works Committee noted that action within his Committee on climate change, which is chaired by Senator Inhofe (R-OK), has been severely limited. However, he did note that action by the states to limit greenhouse gas emissions, particularly in the Northeast and California, are moving forward.

Graham Pugh, Senior Advisor for International Partnerships at the U.S. Department of Energy's Energy Efficiency and Renewable Energy program, began his remarks by noting that the Bush Administration places an emphasis on allowing the private sector to address climate change through voluntary measures. Mr. Pugh stated that companies already have a variety of incentives to voluntarily reduce their emissions, and these incentives, coupled with a sense of social responsibility and the potential to reduce risk associated with non-compliance with future regulations, are motivating factors for the business community. Mr. Pugh stated that there is a cultural divide over the Kyoto Protocol, and the Administration does not share the same regulatory "philosophy" inherent in the Protocol.



Delegates listen to Kateri Callahan outline U.S. energy efficiency policy.

John Richards of Senator Rockefeller's (D-WV) office noted the potential for carbon sequestration, but cautioned that the technology is not ready for the commercial market. Jerry Hinkle from Senator Dorgan's (D-ND) office also mentioned that the Congress, and Senator Dorgan in particular, have been active in advocating for programs to develop hydrogen and fuel cells, and to spur the creation of a "hydrogen economy."



Members of the U.S. delegation visit the main chamber of the Parliament building.

The roundtable then switched to a different, though connected, topic: creating sustainable communities. European and U.S. policy makers commented on policies aimed at increasing energy efficiency in the building and transportation sectors. Mr. Gonzalez Finat, Director of the Renewable and Energy Demand Management program in the DG Energy and Transport at the EU Commission, focused his remarks on efficiency in the building and transportation sectors. He mentioned that 40 percent of all energy in the EU is consumed by buildings, and that the transportation sector consumes one-third of all petrol. He noted that fuel efficiency standards are voluntary, but discussions are ongoing to potentially change this system. He also mentioned that the Commission is exploring the

option of requiring the public sector to purchase clean vehicles, as well as mandatory CO₂ emissions labeling requirements for vehicles.

Ned Farquhar, Senior Advisor on Energy and the Environment for the New Mexico Office of the Governor, spoke about the balance that needs to be struck between providing consumers inexpensive energy while moving towards cleaner energy sources. Mr. Farquhar also discussed the Western Governors' Association's clean energy goals, and their initial talks about potentially developing a regional greenhouse gas emission reduction plan. Janet Cohen of the Environmental Protection Agency focused her remarks on advanced technology options in the transportation sector. She discussed the agency's Smartway Transport Partnership, which focuses on increasing the efficiency of trucks, rail, and ports through a variety of programs, including deployment of advanced gas and diesel trucks, truck idling reductions programs, and port electrification initiatives.

Drew Bolin of the Colorado Office of Energy Management and Conservation discussed the state's use of Energy Service Performance Contracts, which have resulted in \$100 million in energy bill savings in public buildings. Michael Richards of the Maryland Energy Administration mentioned his state's passage of model building energy codes (International Energy Conservation Code 2004) and the Governor's participation in an Energy Star public education campaign.

After the formal remarks, participants engaged in a brief question and answer period and were able to continue the discussions during dinner. The policy roundtable was only the first step in building stronger trans-Atlantic relationships; the Alliance to Save Energy plans to work with Members of the European Parliament to organize a follow-on policy roundtable that would be held in the U.S.

Terneuzen, Netherlands – September 1, 2005

The Dow Chemical Company Plant

In the morning, the delegates boarded a bus and drove to the port town of Ternuezen, where the Dow Chemical Company operates one of the world's largest chemical facilities. Dow Terneuzen is Dow's largest production facility outside the US with over 2,200 employees. There are 26 plants on the



From his seat in the bus, Nathan Miller learns about the various components of the Dow chemical plant.

site producing plastics and chemicals. After a briefing at the Dow Farmhouse by Gerard Van Harten, V.P. Operations, Dow Benelux, where the group learned about the history of the facility, they

boarded a bus and toured the expansive site with Rudolf Van Beelen, Dow Terneuzen. The delegation learned how Dow Terneuzen transformed from a facility plagued by inefficient use of water and energy, which prohibited Dow from expanding the site's capacity to meet growing demand, into a state-of-the-art facility where, thanks to the introduction of efficient micro filtration and reverse-osmosis membrane technologies, 80 percent of the water is recycled. This transformation has reduced energy consumption for desalinating saltwater to generate steam by 90 percent. Thanks to these

technological improvements, Dow was able to expand the site capacity while lowering operating costs and reducing negative environmental impacts.

After exploring the facility, Peter Molinaro, Vice President, Federal and State Government Affairs for Dow escorted us along to Dow's Sustainability Summit in Rotterdam, answering questions about Dow's energy efficiency efforts during the drive. At the Summit, the delegation listened to remarks from Laurens-Jan Brinkhorst, Minister of Economic Affairs and Vice Prime Minister of the Netherlands. Mr. Brinkhorst noted that concerns about diminishing security of energy supplies, rising prices and potential climate change have provided the catalyst for the Dutch to embrace an ambitious energy policy. He spoke about high petrol prices, and the fact that the Ministry does not support lowering the gas tax because energy taxes highlight and combat the social cost of energy consumption. The Vice Prime Minister called for increased international cooperation in combating climate change, and noted that he was pleased that the U.S. had recently passed an energy bill that would help advance clean technologies. He also discussed the Netherlands's energy efficiency goals which included reductions in end-use energy per supplied product of 1.3 percent by 2008, and 1.5 percent by 2012.



The delegation learns about the history of Dow Terneuzen.

International Netherlands Group (ING) Bank Headquarters

The delegation boarded Amsterdam’s fuel cell bus to visit the architecturally impressive and highly energy-efficient ING Bank headquarters. First, the group met with Gert-Jan Lankhorst, Director-General for Energy, Netherlands



Janet Cohen walks along the outside of the ING Bank to get a better look at the stilt support system.

Ministry of Economic Affairs. During a discussion about the Dutch energy situation, Mr. Lankhorst indicated that domestically produced natural gas satisfies two-thirds of the Netherlands’ electricity demand and the country is working to increase market penetration of “energy smart” technologies. He noted that the Netherlands plans to reduce projected energy growth rates by 1.5 percent annually through a variety of mandatory energy efficiency measures, and voluntary market transformation measures. He stated the Ministry believe that a “technology push must be complemented by a pull on the market.” At the conclusion of Mr. Lankhorst’s remarks, the delegation was briefed on the structure of the building by its lead architect, Roberto Meyer. The new building, finished in 2002, is a model of innovative design and energy efficiency. We learned about the building’s heating and cooling system, which contains two layers of glass that form an indirect barrier with the outside elements, thereby saving energy while maintaining transparency. In addition, electro-mechanical controlled glass valves allow additional airflow into the offices, and the automated lighting system controls the lighting and energy use by sensing the presence of users.



Roberto Meyer draws our attention to the ING Bank building’s heating and cooling system.

Afval Energie Bedrijf (AEB) Waste-to-Energy Site

The delegation then drove to the City of Amsterdam’s municipal waste incineration plant—soon to be the largest waste-to-energy facility in the world. The AEB is charged with turning municipal waste into energy and recovering recyclable materials as efficiently and economically as possible, while minimizing emissions and other negative environmental impacts. Donning protective gear, the group toured the plant, where roughly 950,000 tons of non-recyclable material is incinerated each year. We also learned that in 12 years of operation, the plant has provided six million megawatt-hours of electricity to the city and recovered more than two million tons of metals and construction materials for recycling, saving the equivalent of seven million barrels of oil.



Jeff Harris and Mandi McKinley brave the fumes and peer into a waste incineration chamber.

Amsterdam Transportation Policy

While being driven to our next destination, the delegation was briefed by Ton Buffing, Directorate of Infrastructure Traffic and Transport, City of Amsterdam. He highlighted Amsterdam’s commitment to environmental planning and zoning policy, investments in new public transport connections, policies to reduce car traffic in the inner-city and to increase bicycle commuting, and purchasing programs for increasing clean busses in the city fleet. As an example of the City’s interest in non-motorized transport, a “parking garage” for 7,000 bicycles is currently under construction.

IJ-Burg



A strawbale house under construction in IJ Burg.

The group then visited the IJ-Burg, an under-construction “city on sand”, which is turning out to be a highly energy-efficient urban residential community right outside of Amsterdam. Construction is completed on two of the seven artificial islands in the master plan, designed to contain 18,000 residential dwellings plus offices and recreational areas. After an initial slideshow presentation, the group boarded the bus and toured the development, which included a variety of environmentally sensitive home designs, such as a straw-bale home that uses bundles of straw for insulation.

De Ambtswoning Van De Burgemeester- The Mayor’s Residence

The final stop on the five-day fact finding trip was the Mayor’s Residence, where the delegation had an opportunity to meet Ruud Nederveen, a member of the Amsterdam City Council. Mr. Nederveen officially closed the trip with remarks about Amsterdam’s commitment to energy efficient buildings and transport modes, and thanked the delegation for visiting the Netherlands.



After a whirlwind five-day trip the U.S. delegation officially concludes the journey at the residence of the Mayor of Amsterdam.

Alliance to Save Energy European Fact-Finding Trip Attendance List:

CONGRESSIONAL STAFF

Charlie Cooke, Minority Counsel, House Science Committee (D)
Kevin Carroll, Majority Counsel, House Science Committee (R)
Floyd DesChamps, Majority Senior Advisor, Senate Commerce, Science & Transportation Committee (R) (Germany Belgium)
Malcolm Woolf, Minority Counsel, Senate Committee on Environment and Public Works
Nathan Miller, Energy Legislative Assistant, Senator Lincoln Chafee (R-RI)
Craig Ferguson, Energy Legislative Assistant, Senator Mike Crapo (R-ID)
Jerry Hinkle, Legislative Fellow, Senator Byron Dorgan (D-ND)
Mandi McKinley, Energy Legislative Assistant, Senator Wayne Allard (R-CO)
Derrick Freeman, Energy Legislative Assistant, Senator Mark Pryor (D-AR)
John Richards, Senior Counsel on Commerce, Senator John D. Rockefeller, IV (D-WV)
Adam Peterman, Senior Legislative Assistant, Congressman Jim Ramstad (R-MN)

ADMINISTRATION OFFICIALS

Graham Pugh, Senior Advisor for International Partnerships, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy (Belgium)
Janet Cohen, Deputy Director, Transportation and Regional Programs Division, Office of Transportation and Air Quality, U.S. Environmental Protection Agency
George Banks, U.S. Mission to the European Union (Berlin, Brussels)

STATE OFFICIALS

G. William "Bill" Pennington, Manager, Buildings and Appliances Office, California Energy Commission
Drew Bolin, Executive Director, Governor's Office of Energy Management and Conservation, Colorado
Michael Richard, Director, Maryland Energy Administration
Ned Farquhar, Senior Advisor, Energy/Environment, Office of Governor Bill Richardson, New Mexico

CORPORATE AND PUBLIC INTEREST REPRESENTATIVES

Peter Molinaro, Vice President, Federal and State Government Affairs, The Dow Chemical Company
Doug Todd, Director, Legislative Affairs, Siemens Corporation
Peter Garforth, Garforth International LLC (*Stuttgart, Germany*)
Thomas Catania, Vice President, Government Relations, Whirlpool
Matthew Brown, National Conference of State Legislatures (*Belgium*)
Jeff Harris, Lawrence Berkeley National Laboratory
Dale Morris, Senior Advisor, Economic Division, Royal Netherlands Embassy (*Belgium, Netherlands*)

ALLIANCE TO SAVE ENERGY

Kateri Callahan, President
Gail Hendrickson, Director of Transportation
Anna Carmichael, Policy Associate