

Norwegian American Chamber of Commerce
Talking Points
November 29, 2007

Thank you for that kind introduction. It's an honor to address this distinguished gathering. I applaud the Norwegian Chamber of Commerce for recognizing the importance and need to reduce carbon emissions and develop clean energy technology for the future of Norway, the U.S. and the world.

Energy is the #1 issue facing the human race today. And no single country, government or business can solve it. We all must work together and the U.S. Department of Energy is committed to doing its part. It's not going to be business-as-usual. We have strong Federal initiatives guiding us, and the work has begun.

The DOE believes that the most effective way to meet the challenge of climate change is through an agenda that promotes economic growth, provides energy security, reduces pollution, *and* mitigates greenhouse gas emissions. We have established a comprehensive approach that has four major elements: (1) policies and measures to slow the growth in greenhouse gas emissions; (2) advancing climate change science; (3) accelerating technology development; and (4) promoting international collaboration. To support these goals, the Administration has implemented about 60 Federal programs, including voluntary programs, incentives, and mandates. Let me tell you about a few of our initiatives:

First, there is **The Advanced Energy Initiative**

Announced in February 2006, the *Advanced Energy Initiative* aims to reduce our dependence on oil and natural gas, and to improve the security of our energy supplies. It accomplishes this by investing in technology that will *change the way we fuel our vehicles and how we power our homes and businesses.*

The initiative provides a 22% increase in funding for clean energy research. AEI includes significant investments in:

- solar and wind power,
- better battery and fuel cell technologies for pollution-free cars
- cellulosic biorefining,
- near-zero emissions coal, and
- nuclear technologies.

One of the Initiative's early accomplishments has been strengthening the ties and improving communication between our efforts in basic and applied research. These improved communications/interactions are synergistic; they multiply the energy and resources we invest, and they accelerate our progress. Ultimately, at the heart of the Advanced Energy Initiative is the belief that technology will show us the way to improve the nation's supply and use of energy.

Second is the 20-in-10 Initiative.

This initiative specifically targets our use of gasoline. The goal is a 20% reduction (35 billion gallons per year) by 2017. How will we do it?

Replace petroleum with **biofuels**, **hydrogen**, and **electricity stored in batteries**.

First, Biofuels. We are working to advance technology so that cellulosic ethanol is cost-competitive with ethanol produced from corn and believe it can be done by 2012.

Earlier this year, Secretary Bodman announced the selection of six cellulosic ethanol refineries to receive up to \$385 million in Federal funding over the next four years. When fully operational, these biorefineries could produce more than 130 million gallons per year.

Second, Hydrogen Fuel Cells We are making great progress towards developing fuel cell vehicles and the hydrogen infrastructure to support them. We will be expanding the current hydrogen fuel cell vehicle learning demonstration effort to include other vehicles and fuels, including biofuels and plug-in hybrids. These learning demonstrations have helped track technology progress and focus R&D within the Hydrogen Program and now we want to expand that concept to other critical vehicle technologies.

And third, Electricity. There is a tremendous opportunity with plug-in hybrid electric vehicles. We are exploring advanced battery technologies that would allow an automobile to have up to a 40-mile range operating primarily on battery charge. This would cover the majority of driving in the US, displacing much of our nation's petroleum consumption. Average fuel efficiency for these vehicles could exceed 80mpg.

By combining biofuels, hydrogen fuel cells and electricity, we should be able to replace nearly all, if not all, of our gasoline consumption by mid-century. Now that we've identified what the source of renewables, how do we bring them to the marketplace?

EERE is focused on doing just that. Traditionally research and development have been our bailiwick, but we've come to realize that our job is really not done until we see these products commercialized.

- We need to “begin with the end in mind,” and commercialization is the “end” for all EERE programs.
- Many market-ready technologies may exist in national laboratories and within EERE programs, but are not making it to the marketplace.

We need to work **with** the marketplace, to catalyze interest and growth:

- **Increase our focus on early commercial markets.** For example, in the hydrogen program, the “holy grail” is hydrogen-powered automobiles for mass markets. But there are many products using hydrogen and fuel cell technology that are ready for commercialization **right now**—some of them might seem like baby steps compared to our goals for hydrogen vehicles, but they are critical to developing the technology, and their success can bring rapid acceleration to our progress.
- **Increase early adoption,** by working to facilitate government deployments. This is essential to increase industry's confidence in the technology. In this capacity, the Federal Government **can and should** be a role model.
- **Provide information resources** to help address the needs of start-ups and firms poised to launch new products.

- **EERE Commercialization & Deployment Program:** Our commercialization and development program is in full swing include:
 - Using tools of EPACT, like the Tech Transfer Commercialization Fund
 - Conducting outreach to venture capital investors to keep them up to date on current available technologies.
 - Providing EERE input into the DOE loan guarantee program
- We also have some very valuable resources available from a project called *Energy TechNet*. This is a collection of information and resources useful to anyone engaged in developing and commercializing advanced energy technologies. It consists of:
 - **Knowledge Center:** a thorough discussion covering essential steps in the process of developing and commercializing innovative technologies.
 - **Resource Directory:** a searchable database of national, regional, and state resources for energy technology developers.
 - Regularly updated **news, funding opportunities, and events**, as well as **hundreds of links** to other useful sites.

We look to a future where electric power, biofuels, and hydrogen share the load of our transportation needs and are integrated to provide maximum output with minimal environmental impacts.

These are challenges but they are also opportunities.

Every improvement in efficiency that we seek is a new technology waiting to come to market, every new source of energy we aim to develop is another industry waiting to be born.

We at the Department of Energy will be relentless in helping to develop the technology and in pursuing all the possibilities of commercialization and enhancing the rate of market penetration of these clean burning, cost-effective renewable fuels. I hope you will join us in fostering the evolution of promoting and investing in clean energy technologies

There are numerous incentives that you can enjoy both at the Federal and State level. For example:

Biomass Incentives

- Up to \$33.8 million is available to support the development of commercially viable enzymes for the production of cellulosic ethanol. With a minimum 50 percent industry cost-share, this funding will total nearly \$68 million.
- DOE is currently reviewing a significant number of applications to the loan guarantee program. These financial incentives are available to a wide range of commercial projects, including bio-refineries for the production of ethanol.
- The Volumetric Ethanol Excise Tax Credit (VEETC) provides ethanol blenders with \$.51 per gallon of blended ethanol or \$.51 per percentage of blended ethanol.

Federal Incentives

- **Production tax credit** for electricity produced from renewable energy sources, currently valued at 1.9 cents/kwh (increases annually according to inflation index) for the first ten years of electricity production

- **Business energy tax credit** covers 30% of the cost of solar technologies installed by businesses
- USDA's **Renewable Energy Systems and Energy Efficiency Improvements Program** provides grants and loan guarantees for renewable energy projects in rural areas
- **Modified Accelerated Cost-Recovery System (MACRS)** five-year depreciation tax deduction schedule for business investments in renewable energy technologies

State Incentives

- **Renewable Portfolio Standards (RPS's)** that require utilities to generate a percentage of their electricity from renewable sources have been enacted by 24 states and the District of Columbia; a table listing states with RPS's is provided below
- **Rebate Programs** in many states provide funding for the installation of renewable energy technologies; the California Solar Initiative, which provides \$3.2 billion over ten years in funding for solar photovoltaic installations, is a prominent example of this type of incentive
- **Net Metering** laws in many states require utilities to purchase electricity from customers who install small-scale renewable generation technologies on their property
- **Tax Exemptions** are provided for the purchase of renewable energy technologies in many states

Our future looks optimistic when government and private industry work together to ensure America's climate and energy security.

I look forward to any questions you may have. Thank you.