



"A Low Carbon, Alternative Fuels Future: Perspectives from Europe and the Americas"

Friday, March 13, 2009 - 8:00 a.m. - 4:00 p.m.

FIU - MARC International Pavilion

CONFERENCE PROCEEDINGS

Can alternative fuels step in to replace carbon-based energy and curb ominous climate changes? The Miami-Florida European Union Center of Excellence (MEUCE) brought together an eclectic team of academics, policy makers and entrepreneurs to ponder this seminal question at its 2009 annual conference. As befits the center's orientation, the conference explored the state of affairs in three continents, Europe, North and South America. The day-long debate covered a number of angles, including the role of governments, consumers and the private sector, the economic feasibility of alternative fuels, issues of international cooperation and the increasing import of the developing world.

The conference took place March 13 at the Florida International University (FIU) MARC International Pavilion and was co-sponsored by the FIU Energy Business Forum. It was the first in the new three-year conference series under the theme "Global Europe."

Ed Glab, who heads the Energy Business Forum at FIU, laid the ground for the debate by outlining the main challenges. Glab painted a grim picture, denouncing the "irrational exuberance about how far and how fast we can advance toward a low-carbon alternative fuels future over the next generation" and offered what he called a "reality check."

Today, Glab argued, some 80 percent of world's energy comes from fossil fuels, i.e. oil, gas and coal. By 2030, the global demand for energy will have increased by 30 percent, and fossil fuels will still be supplying the same percentage, because they are abundant, available and affordable.

“On the other hand, alternative fuels are currently less affordable, much less available and severely limited in quantity,” he said.

The developing world will be mostly responsible for the continued predominance of fossil fuels, Glab said. Eighty percent of the growth in electricity demand will take place there between now and 2030, as will the demand for transportation fuels and the emission of CO₂ into the environment. In the United States, the use of coal to generate electricity is projected to drop from 50 to 30 percent by 2030, while in Europe it will dip to around 15 percent. Conversely, the use of wind power will increase by 9 percent in the U.S. and 14 percent in Europe.

Glab stressed the importance of efficiency, particularly in electricity production. Estimates by the International Energy Agency (IEA) show that full efficiency throughout the world today could reduce the amount of fossil fuels used by 23 to 32 percent.

“As the area most important to the energy demand growth curve globally, any reduction in the use of fossil fuels in producing that electricity could have a significant impact on reducing greenhouse gases,” he said.

Additionally, he underlined the importance of global cooperation.

“The developed nations cannot combat global warming without the full cooperation of the developing world,” he said.

But high costs make a positive outcome unlikely, Glab argued. In terms of investment, reducing CO₂ emissions by 50 percent from today's level by 2050 will require close to \$45 trillion, according to IEA estimates.

Is CO₂ reduction an impossible dream? Glab left the question to the three panels of speakers that followed.

Panel I: A European Perspective

The European Union is committed to fighting climate change and reducing green house emissions, argued Marc Pallemmaerts, senior fellow and head of the Environmental Governance Programme at the Institute for European Environmental Policy (IEEP) in Brussels.

“This objective, fighting climate change, is now at the heart of the Union's political program,” said Pallemmaerts, who outlined a series of EU policies working toward this objective.

The European Union led the global efforts for several years to bring the Kyoto Protocol into force in 2005, he said. Since then, the Union's internal policies have also accelerated, focusing on the promotion of electricity production from alternative sources, the use of bio-fuels, the establishment of efficiency standards and the promotion of energy savings.

In 2005, Europe had decreased its green house emissions levels by five percent compared to 1990 levels. The goal for 2012 is a reduction by eight percent.

“It is anticipated that that objective will be reached,” said Pallemmaerts, who is also a professor of European Environmental Law at the University of Amsterdam and the Université Libre de Bruxelles.

Pallemmaerts noted an increasing integration of climate and energy policies. A package of measures adopted in January 2008 by the European Council aims to revise, extend and strengthen the existing emissions reduction system as well as cap the green house gas emissions from other sectors of the economy.

After Pallemmaerts, a British diplomat illustrated his country’s environmental commitment, but also the positive changes he has observed in South Florida throughout his three-year appointment here.

Keith Allan, the Consul General of the United Kingdom to Miami, opened his talk by quoting his prime minister’s address to world leaders at the January 2009 World Economic Forum. In Davos, Gordon Brown attempted to dispel the illusion that efforts to curb climate change might be too costly during an economic crisis. The cost of unchecked change is much higher, the British prime minister said. Building a low-carbon economy should be perceived not as a liability but as means to economic growth.

On his part, Allan stressed the need for investment in environmental industries, currently worth \$4 trillion and forecast to grow by 45 percent over the next eight years, he said. Investment in them can be this century’s key driver of economic growth.

He heralded the change he said he is observing in Florida.

“It is wonderful to witness all the discussions about energy efficiency, cap and trade schemes and renewable energy,” Allan said.

An example of progress the sunshine state is making was the decision by the Florida Public Service Commission to require the state's utilities to generate 20 percent of their power from renewable sources by 2020. Additionally, Allan saluted the UK/Florida Partnership on Climate Change, which was signed in 2007.

"Our German friends signed a similar agreement," he said.

While no grand plan exists to curb climate change, schemes like this can make a significant difference, he said.

"It is important that we remain committed and focused on the real longer-term value and importance of the global transition to a low-carbon economy," Allan said.

But a low-carbon economy must maintain its growth momentum, said the first panel's last speaker, who heads a Miami carbon development and advisory firm.

Reducing emissions while maintaining growth implies that carbon productivity must increase tenfold, i.e. three times faster than the industrial revolution's rise of productivity, according to Yuda Saydun, CEO of the ClimeCo Corporation.

Does this present a crisis or an opportunity for the private sector? In Saydun's view, it constitutes a \$4 trillion opportunity.

The private sector must first assess the situation, i.e. understand climate change and measure its carbon footprint and its financial impact. Then it must act, by learning how to participate in the cap-and-trade system and reduce its footprint. Finally, it must transform, by making technological changes, switching to alternative energies and exploring opportunities in low-carbon products and services. Any company that does not take this route will be eventually swallowed by the competition.

"If you're not at the table, you're on the menu," Saydun said.

In the question-and-answer session following the first panel, conference participants pondered issues of social responsibility. Jorge Piñon, one of the later presenters, asked how it is possible to change household behaviors.

Households constitute a sizeable source of greenhouse emissions, Pallemmaerts said. Yet he said he has observed a rising awareness and a change in consumption patterns, especially as a result of rising gas prices.

Panel II: A North American Perspective

If energy independence is the goal for the United States, alternative energy by itself cannot shield the country from depending on hostile foreign powers in Latin America and the Middle East, according to a political scientist with extensive policy and consulting experience.

“I’m all for alternative energy,” said Susan Kaufman Purcell, who heads the University of Miami (UM) Center for Hemispheric Policy. But the complete elimination of carbon-based energy sources is a “pipe dream,” she said.

The sharp drop in oil prices has reduced the incentive for the production of alternative fuels, such as ethanol, she said. But even prior to this, ethanol production relied on heavy subsidies.

“It raises serious questions about the future of ethanol production in the United States,” Purcell said.

Meanwhile, U.S. dams producing hydro power have been decreasing in the last decade. Solar and wind energy are not constant and cannot be stored.

Purcell juxtaposed the United States with Brazil, a country diversifying its energy sources. It depends heavily on hydro power, uses sugar-based and carbon-based energy, and engages in offshore drilling.

“Brazil is doing all of it,” Purcell said. “It’s doing everything it needs to do to not be energy dependent. We in the United States have not done that.”

While Purcell stressed energy independence, the next two presenters highlighted the risks of climate change and the feasibility of and need for alternative sources of energy. Focusing on the northeastern U.S. region, Stacy VanDeveer offered evidence and projections of climate change and illustrated how a region by itself can make a difference.

Currently, the thermometer in New Hampshire hits over 90 °F about ten days a year, said VanDeveer, who teaches political science at the University of New Hampshire. If the worst predictions come true and temperatures rise from 6.5 to 12.5 °F due to high emissions, this will increase to some 65 days a year by 2099.

VanDeveer demonstrated how small regions can cause serious damage. If the New England/ Eastern Canada region was classified as a country, it would be the twelfth largest emitter of greenhouse gas in the world. In Massachusetts, emissions equal only two percent of the U.S. total, but still are comparable to the total emissions of whole countries, such as Portugal, Egypt, Austria, or Greece.

But small regions can also make a difference. The Regional Greenhouse Gas Initiative (RGGI), signed in 2005 by governors of seven northeastern U.S. states, implements a mandatory cap-and-trade system that can also create a model for a federal program, VanDeveer said.

Set to start in 2009, the RGGI aims to stabilize emissions by 2015 and reduce them by 10 percent by 2019. The program stands to speed the development of clean coal technologies, promote renewable energy, decrease dependence on foreign sources of energy and lead to more efficient electricity generation and lower carbon intensity, VanDeveer said.

Following VanDeveer, Piñon stressed the transportation sector's share of energy use and the responsibility of individual consumers.

About 70 percent of oil goes into transportation, not power generation, said Piñon, an international energy consultant currently serving as the energy fellow at the UM Center for Hemispheric Policy.

"Really take a look at the transportation sector," he said.

Consumer behavior is extremely important.

Should we put all our eggs together for alternative energy in oil companies? Is it their job to focus on alternative sources? Should they be responsible for the development of other sources of energy, Piñon asked his audience.

"The reason today that Hummers are in the market is because there is a demand for Hummers."

But consumers don't react until something hurts their pocketbooks, he said.

"It is extremely sad that in this country we only pay 1 cent tax per gallon of gasoline," said Piñon, while Europeans pay close to 3.5 cents.

"Climate change is real," he said. "It is a threat. We have to act and we have to do something about it."

But U.S. consumers are used to comfort, a student asked following Piñon's talk. How do European consumers manage to use their cars so much less?

Answering the student's question, VanDeveer broke from Piñon's position.

Consumers are not responsible, he said. The U.S. political system and the lobbying that takes place have overtime forged a society based on cheap energy.

"The last administration elevated it to a new kind of level," he said, referring to the lobbying. "Consumers can only affect so much of their choices."

Panel III: A Latin American Perspective

If a cap-and-trade system prevails, then "biofuels are clearly going to have to play a part in it," according to Brian Dean, commissioner trustee of the International Biofuels Commission, a partnership of the governments of Florida and Brazil, and the Inter-American Development Bank.

Focused on the biofuel targets currently in place in both Florida and federal law, Dean argued that these goals require diversified sourcing of ethanol and biodiesel from different feedstock, technologies and regions. He stressed that "the need to establish a hemispheric and ultimately a global marketplace for biofuels is the best hope of both reducing dependence on fossil fuels and promoting economic growth for Florida and the Americas."

Following Dean, an international expert in ethanol and renewable energy spoke on the potential of biofuels in the Americas. George Philippides, co-director of the FIU Energy Business Forum, listed the benefits of biofuels and argued that the time is ripe for them to take center stage.

Today, ethanol comes mainly from corn in the United States, sugarcane in Latin America and grains in Europe, while biodiesel comes from soybeans, palm oil and canola in the same places. In the future, however, ethanol will derive from cellulosic biomass and biodiesel from inedible plants (jatropha) and algae, Philippides explained.

Using biofuels is beneficial on several levels. It helps national security by reducing dependence on foreign oil. It boosts the economy by increasing private investment and creating jobs, lowering the trade deficit and raising the value of agriculture. Biofuels enhance consumer choices and provide better engine performance. As far as the environment is concerned, greenhouse gas emissions from biofuels can be as much as 90 percent lower compared to gasoline, when ethanol derives from sugarcane or cellulose.

The time is ripe for the development of biofuels in the Americas, Philippides argued. At low oil prices, only the Americas can produce biofuels profitably. Increased investment and jobs will boost the economy, while a U.S.-Brazil partnership will provide unique support to Latin America.

Closing, Philippides made several recommendations. Pursuing the harmonization of energy policy in the Americas will require converging regulatory and legal frameworks, avoiding protectionism and pursuing inter-continental partnerships. To stimulate investment, public-private schemes are crucial.

“Energy by definition has to be a public-private partnership,” he said.

Hailing from academia rather than business or the energy sector, the last presenter lent a critical eye to biofuels, highlighting their adverse impact on the poorest and weakest people worldwide as well as on the environment and climate change.

FIU geographer Gail Hollander identified the features that set biofuels apart from previous commodity systems, forging new political and economic relationships.

While the link between agriculture and energy is not new, the conjunction of energy and agriculture policies is, Hollander argued. For example, high oil prices are not just a cost for farmers, but also an incentive for biofuel production.

Another biofuel first is the use of transnational consumption mandates, i.e. policies that make a certain share of ethanol mandatory in domestic markets. Unlike previous policies that aimed to protect national sectors, these are mandates to consume a largely imported agro-industrial product.

Finally, biofuels are emerging when transnational corporations are more powerful than ever before, growing and diversifying in new ways, Hollander said.

Biofuels raise a set of problems in four areas, food security, rural land tenure, the environment and climate change.

First, they reshape the economics of agricultural markets in a way that makes demand for energy take precedence over demand for food. Additionally, the raw materials currently used for biofuels – sugar cane, maize, cassava and oil palm – are the main dietary staples of the poorest people worldwide. Yet, apart from food, the poorest groups are also losing land due to the rapid spread of commercial biofuel production.

Converting previously uncultivated or traditionally cultivated land for the purpose of biofuel crops also results in a loss of biodiversity, Hollander argued. Additionally, it creates a carbon debt, releasing from 17 to over 400 times more CO₂ than the annual reductions that these biofuels would provide by replacing fossil fuels.

Sustainability initiatives, such as the European Union's social standards committees or Brazil's programs with trade unions, are important but not sufficient to address the intertwined problems of land conversion, climate change, rural power relations, the hidden injustices of plantation production, and the increasing volatility in agro-commodity markets, Hollander argued closing.

For a detailed view of the conference proceedings, you may visit <http://www.miamieuc.org/pdf/detailedprogramconference031309.pdf>.