

INTERSECTION OF ENERGY & THE ECONOMY

Program co-sponsored by NGO Sustainability and the Mission of Kazakhstan
United Nations, New York, 18 November 2009

Byrganym Aitimova, Ambassador of Kazakhstan

The Ambassador greeted attendees and lauded NGO Sustainability, and Chairperson Roma Stibravy, for being at the forefront of initiating discussions on energy's role in the global economy.

In the Ambassador's view, energy supply security is a priority for all nations. From a regional perspective, Central Asia is one of the oldest hydrocarbon producing areas in the world. Since the Soviet collapse in 1991, Central Asia has attracted special attention from oil and gas consuming nations and international companies.

Although Kazakhstan is politically a new country in the international community, it is a traditional, important oil producing state. Its oil, gas, coal, and uranium reserves rank among the ten largest in the world. Its ample energy supply represents a major source of energy production outside of OPEC. Kazakhstan hopes to join the world's 10 leading oil producers by 2017.

Kazakhstan is furthering its energy capacities by improving existing technologies and using alternate sources of energy. Despite the fact that fossil fuel continues to play a predominate role in Kazakhstan's energy supply, renewable sources are recognized for their great future potential.

The President of Kazakhstan proposed two ideas at the 62nd Session of the General Assembly (2007) relating to alternative energy:

1. Draft a global energy and environmental strategy to be discussed at the 2011 World Summit
2. Develop a Euro-Asian pact on energy supply stability

The UN Department of Economic and Social Affairs (DESA) supports both initiatives.

Elizabeth Cheney, VP Corporate Support, Shell Exploration and Production, Shell Oil Company

Shell is an integrated oil and gas company with operations in 140 countries. It is dedicated to meeting the world's ever growing energy needs efficiently and responsibly. At the heart of how it does business are the principles of safety, sustainability, and the search for viable new energy technologies. Shell focuses equally on traditional oil and gas exploration and production, and unconventional sources of oils and gas, innovative oil product manufacturing, chemicals, and renewable sources of energy.

In 2009, Shell expects to spend 31 billion dollars on expanding its energy portfolio. While there is a surplus of oil and gas in the world today, this surplus is temporary. Ensuring future energy supplies is an exceptionally daunting challenge for those in the gas and oil industry.

By 2050, the world's population is expected to reach 9 billion, and likewise, the demand for energy will double present demands. These 9 billion people will need mobility, food, health care, and electricity. Improved living standards will also require vast new supplies. The need for new supplies to sustain the world's population in the future is the basis for Shell's motto: "more of all types of energy".

Shell has identified 2000-2050 as a transition period from fossil fuels to alternative energy sources. Research by IEA suggests that by 2050 alternative energy may account for 30-40 percent of energy usage (This estimate is highly optimistic). Shell believes it is a business priority to both participate in the development of the alternative energy industry and to continue to produce the fuels that are needed to serve as a bridge from the present to the future

Today's indicators point to a turbulent world energy future. Three energy realities define the context of this future:

1. Energy demand will double, surging in coming decades
2. Easy to reach sources of oil and gas will be gone. Supplies will struggle to meet demand, meaning higher costs and harsher environments to access new resources
3. We will live in a world under environmental stress, with an increase in CO2 production under governments whom agree to help achieve emission restraints

To plan for our energy future, Shell has envisioned two scenarios:

1. Scramble: Under this scenario, there is a continuation of the status quo:
Energy and climate policies remain unlinked, crisis driven, moving on a day-to-day basis, half hazard, and reactive. Countries and regions under this scenario protect their own self interests, rather than taking an internationally cooperative approach.
Result: A great deal of CO2 production and potential climate shocks
2. Blueprint: Under this scenario, there is some global cooperation, shared sacrifice among nations, foresight, localities in countries develop rational, linked policies, combined emission evaluations, efficiency, and conservation in an integrated fashion
Result: This offers more hope, optimism, sustainability and human prosperity

Shell is planning for both outcomes, but trying to use its influence to achieve the "Blueprint" scenario.

For over 5 years, Shell has invested \$1.7 billion in alternative energy sources, such as solar, wind, biofuel, and hydrogen. Shell has not taken a "do it all" attitude, but has focused on certain alternative sources based on their commercial potential. Its ultimate goal and current business plan is to develop one of these sources into a major alternative energy business. The current source most conducive to Shell's business plan is biofuel. Shell is committed to developing biofuels that do not compete with food production. It has invested in research and joint ventures involving second generation biofuels, derived from non-food sources of biomass, such as stalks, straw, wood chips, and algae.

Examples of major initiatives in this field:

1. Shell has partnered with a Canadian company, Iogen, to produce ethanol from straw through an enzyme process. It is in the planning stages and coming along well.;
2. Shell has partnered with an American company, Codexus, to develop “super” enzymes to speed up the fermentation process used to make ethanol;
3. Shell has joined a joint venture, Selana, in Hawaii to build a pilot facility testing the commercial feasibility of producing vegetable oil from marine algae and converting it into biofuel;
4. Shell has partnered in joint research with Vieraent technologies to convert plant sugars into gasoline.

Shell is the 20th largest producer of wind energy in the world. It generates 1 gigawatt of wind energy a year, enough to produce electricity for 150,000 homes, saving 3 million tons of fossil fuel. Wind energy is a growing part of Shell’s business and it is looking to make it more cost effective.

Solar and hydrogen energies are in the research phase. Shell has joined with universities in their research. Thus far, hydrogen is regarded as a viable long-term option and is being reviewed.

Natural gas is an alternative source of energy. It is a low CO₂ option and cleaner burning than coal, and is recognized as a viable bridging fuel to transition from the present sources of energy.

There is a real need for governments to implement internationally aligned policies. No one company or one State can address climate change on its own. The effort must be through collective, international agreement. We also hope that in Copenhagen, incentives that spark business interest will be agreed upon. When business is interested in technology, innovations usually follow. We need to establish a clean technology fund and truly embrace global cooperation.

Questions

1. *Why doesn't Shell find geothermal a feasible alternative energy source?*

Shell does not invest in geothermal because it is not as widely viable an option for alternative energies compared to other sources. Shell invests in the most viable options.

2. *In 2009, 1% of Shell's money was invested in alternative energies. What technology and regulatory assumptions are you making driving this 1% investment in alternative energies? In Shell's many joint ventures I noticed the focus is on commercialized technology. What does Shell bring to the table in these ventures, expertise or money?*

There are no existing regulatory frameworks on alternative energies. It has to be part of the business plan to spend on resources that reflect good data and science. It's for this reason that Shell is very active in specific areas of renewable energy. Earning comes

from deployment and commercialization. Our 1% investment in research is healthy. This will grow based on when it is decided what will be best commercialized. Shell is a huge distributor of biofuel.

3. *What is Shell doing about alternative energy in rural Africa and Latin America?*
We sponsor programs in these geographic areas as a social investment. In Latin America, we are pursuing biofuel development and have interest in LNG receiving facilities. .
4. *You said we will know when we have peaked. Didn't America have oil peak in 2006?*
There is general agreement that America has already peaked. I have the same access to numbers as you. Likewise, we will know that global supply has peaked after it happens. Keep in mind that there is a lot of hydrocarbon yet to be found and developed
5. *How do you track and report Shell's carbon footprint?*
Emission reporting is a key issue Shell is dealing with today and how to keep up with the new standards and requirements. We feel we are very strong on the reporting side and will be prepared to comply with all rules and regulations as they emerge.
6. *What has your experience in Nigeria taught you about the other places you are focusing on?*
I work with a team of people that are integrating sustainability into each and every project throughout the development cycle to apply the learnings we have gathered around the world. I am the last person to say we have gotten everything right. We are definitely learning and sharing what we have learned globally. We have had great successes and learned from them greatly. We have learned how to approach communities and incorporate their values. It's important that we learn others' values, needs, heart and mind, early on before we make an investment.
7. *How is pollution effecting alternative energy sources?*
I want to change the mindset that drilling activities necessarily result in pollution of the water. Multiple systems are in place to prevent spills from occurring in the first place, and also systems that prevent spills from harming the environment if they do happen. We do a lot of base line work and we will know if there is any kind of an impact. We believe we can work in harmony with wildlife and we can work in harmony.
8. *What is Shell's view on Kerry-Boxer and Markey-Waxman, environment bills before Congress?*
Shell agrees with 80% of the proposals. The 80% we agree with we like and have been out there talking about it. The 20% causes us not to support the bills as they are currently proposed. We would like to work towards solutions. A lot comes down to transportation and allocation of credits under the bill. For transportation a process should be developed that does not hurt the economy, as the bills do now.
9. *Does Shell believe in climate change? There are still oil companies that do not believe in climate change.*

Yes Shell acknowledges climate change. We are not taking a position on whether it was man-made or not. We will leave that argument to the scientists. But we are making efforts to reduce the effects of our own activities.

Photo from 18 November Event

Almat Iganbayev, Mission of Kazakhstan to the UN (Left), Roma Stibravy, NGO Sustainability Chairperson (Center), Elizabeth Cheney, VP of Corporate Support, Shell Oil (Right)

