

Peak oil by 2015: Shell

Monday, January 28, 2008

INTERNATIONAL demand for oil and gas will outstrip supply within seven years, and this could have serious environmental and political consequences, according to Royal Dutch Shell chief executive Jeroen van der Veer.

In an e-mail to the company's staff last week, van der Veer said soaring population growth and rapid economic development meant that, "easily accessible supplies of oil and gas probably will no longer keep up with demand."

With conventional supplies inadequate, there would be no choice but to add other sources of energy, he said.

"Renewables, yes, but also more nuclear power and unconventional fossil fuels such as oil sands. Using more energy inevitably means emitting more CO₂ at a time when climate change has become a critical global issue."



Royal Dutch Shell chief executive Jeroen van der Veer

Van der Veer outlined two scenarios for the world's energy future.

The first scenario is called "Scramble".

"Nations rush to secure energy resources for themselves, fearing that energy security is a zero-sum game, with clear winners and losers," van der Veer wrote.

"The use of local coal and homegrown biofuels increases fast. Policymakers pay little attention to curbing energy consumption – until supplies run short.

"Likewise, despite much rhetoric, greenhouse gas emissions are not seriously addressed until major shocks trigger political reactions. Since these responses are overdue, they are severe and lead to energy price spikes and volatility."

Under the alternative scenario, "Blueprints", sees international political cooperation leading to harmonisation of efficiency standards and taxes, a convergence of policies on emissions trading and local initiatives to improve environmental performance of buildings.

"Cap-and-trade mechanisms that put a price on industrial CO₂ emissions gain international acceptance," Van der Veer said.

"Rising CO₂ prices in turn accelerate innovation, spawning breakthroughs. A growing number of cars are powered by electricity and hydrogen, while industrial facilities are fitted with technology to capture CO₂ and store it underground."

Climate change calculations made at the Massachusetts Institute of Technology indicate that a Blueprints world with CO₂ capture and storage results in the least amount of climate change, provided emissions of other major manmade greenhouse gases are similarly reduced, according to Shell.

The company regularly uses scenario-planning to test the likely impact of widely divergent economic and political scenarios on its long-term strategy. It says both scenarios are equally plausible but it expressed a clear preference for the Blueprints path.

"We will know only in a few years whether December's Bali declaration on climate change was just rhetoric or the start of a global effort to counter it," van der Veer said.

"Much will depend on how attitudes evolve in China, the European Union, India, and the United States. The Blueprints scenario will be realised only if policymakers agree on a global approach to emissions trading and actively promote energy efficiency and new technology in four sectors: heat and power generation, industry, transport, and buildings.

Van der Veer's email was reported on RoyalDutchShellplc.com, an independent website that monitors the company.

[www. RoyalDutchShellplc.com](http://www.RoyalDutchShellplc.com)

Text of email below:

From: Jeroen van der Veer, Chief Executive
To: All Shell employees
Date: 22 January 2008

Subject: Shell Energy Scenarios

Dear Colleagues

In this letter, I'd like to share reflections about how we see the energy future, and our preferred route to meeting the world's energy needs. Industry, governments and energy users - that is, all of us - will face the twin challenge of more energy and less CO₂.

This letter is based on a text I've written for publication in several newspapers in the coming weeks. You can use it in your communications externally. There will be more information about energy scenarios in the months ahead.

By the year 2100, the world's energy system will be radically different from today's. Renewable energy like solar, wind, hydroelectricity and biofuels will make up a large share of the energy mix, and nuclear energy too will have a place.

Mankind will have found ways of dealing with air pollution and greenhouse gas emissions. New technologies will have reduced the amount of energy needed to power buildings and vehicles.

Indeed, the distant future looks bright, but getting there will be an adventure. At Shell, we think the world will take one of two possible routes. The first, a scenario we call Scramble, resembles a race through a mountainous desert. Like an off-road rally, it promises excitement and fierce competition. However, the unintended consequence of "more haste" will often be "less speed" and many will crash along the way.

The alternative scenario, called Blueprints, has some false starts and develops like a cautious ride on a road that is still under construction. Whether we arrive safely at our destination depends on the discipline of the drivers and the ingenuity of all those involved in the construction effort. Technical innovation provides for excitement.

Regardless of which route we choose, the world's current predicament limits our maneuvering room. We are experiencing a step-change in the growth rate of energy demand due to population growth and economic development, and Shell estimates that after 2015 supplies of easy-to-access oil and gas will no longer keep up with demand.

As a result, society has no choice but to add other sources of energy - renewables, yes, but also more nuclear power and unconventional fossil fuels such as oil sands. Using more energy inevitably means emitting more CO₂ at a time when climate change has become a critical global issue.

In the Scramble scenario, nations rush to secure energy resources for themselves, fearing that energy security is a zero-sum game, with clear winners and losers. The use of local coal and homegrown biofuels increases fast.

Taking the path of least resistance, policymakers pay little attention to curbing energy consumption - until supplies run short. Likewise, despite much rhetoric, greenhouse gas emissions are not seriously addressed until major shocks trigger political reactions. Since these responses are overdue, they are severe and lead to energy price spikes and volatility.

The other route to the future is less painful, even if the start is more disorderly. This Blueprints scenario sees numerous coalitions emerging to take on the challenges of economic development, energy security and environmental pollution through cross-border cooperation.

Much innovation occurs at the local level, as major cities develop links with industry to reduce local emissions. National governments introduce efficiency standards, taxes and other policy instruments to improve the environmental performance of buildings, vehicles and transport fuels.

As calls for harmonization increase, policies converge across the globe. Cap-and-trade mechanisms that put a cost on industrial CO₂ emissions gain international acceptance. Rising CO₂ prices accelerate innovation, spawning breakthroughs. A growing number of cars are powered by electricity and hydrogen, while industrial facilities are fitted with technology to capture CO₂ and store it underground.

Against the backdrop of these two equally plausible scenarios, we will only know in a few years whether December's Bali declaration on climate change was just rhetoric or the beginning of a global effort to counter it. Much will depend on how attitudes evolve in Beijing, Brussels, New Delhi and Washington.

Shell traditionally uses its scenarios to prepare for the future without expressing a preference for one over another. But, faced with the need to manage climate risk for our investors and our grandchildren, we believe the Blueprints outcomes provide the best balance between economy, energy and environment.

For a second opinion, we appealed to climate change calculations made at the Massachusetts Institute of Technology. These calculations indicate that a Blueprints world with CO₂ capture and storage results in the least amount of climate change, provided emissions of other major manmade greenhouse gases are similarly reduced.

The sobering reality is that the Blueprints scenario will only come to pass if policymakers agree a global approach to emissions trading and actively promote energy efficiency and new technology in four sectors: heat and power generation, industry, mobility and buildings. It will be hard work and there is little time.

For instance, Blueprints assumes CO₂ is captured at 90% of all coal- and gas-fired power plants in developed countries in 2050, plus at least 50% of those in non-OECD countries. Today, there are none. Since CO₂ capture and storage adds cost and brings no revenues, government support is needed to make it happen quickly on a scale large enough to affect global emissions. At the very least, companies should earn carbon credits for the CO₂ they capture and store.

Blueprints will not be easy. But it offers the world the best chance of reaching a sustainable energy future unscathed, so we should explore this route with the same ingenuity and persistence that put humans on the moon and created the digital age.

The world faces a long voyage before it reaches a low-carbon energy system. Companies can suggest possible routes to get there, but governments are in the driving seat. And governments will determine whether we should prepare for a bitter competition or a true team effort.

That is the article, and how I see our challenges and opportunities. I look forward to hearing how you see the situation (please be concise).

Regards
Jeroen van der Veer, Chief Executive