



# Investing in changing energy markets

**Jeroen van der Veer**

Chairman of the Committee of Managing Directors, Royal Dutch/Shell Group

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**Jeroen van der Veer** is Chairman of the Committee of Managing Directors of the Royal Dutch/Shell Group of Companies and President of Royal Dutch Petroleum Company. He has been a Group managing director since 1997.

As a managing director he is responsible for Human Resources; International Directorate; Legal; and Strategic Planning, Sustainable Development and External Affairs. He also has regional responsibilities for the United States, Canada, and Mexico.

He joined the Group in 1971 and worked in manufacturing and marketing in the Netherlands, Curaçao and the United Kingdom. In 1984, he returned to Shell Nederland as manager of Corporate Planning, and then of Pernis Refinery. After an assignment in Shell International, looking after Africa and Canada, he became a managing director of Shell Nederland in 1992. Four years later he became president and chief executive of the Shell Chemical Company in the United States.

He is a non-executive director of Unilever, serving as a member of the Nomination and Remuneration Committees.

He was born in Utrecht in the Netherlands. He has two degrees – one in mechanical engineering from Delft University and another in economics from Rotterdam University. He is married and has three daughters.

**Oil and gas markets are changing rapidly – driven by expanding demand, particularly from emerging economies. The system has insufficient spare capacity to be shock proof. Developing new supplies and delivery chains to consumers - who will be increasingly dependent on energy imports – will require major investment. Larger, more complex and riskier projects will be required to develop more difficult resources. These present particular challenges – financial, technological, project management, and downstream integration. International companies – with their capital, technologies and global expertise – can play a particular role in such projects. But they will only be welcomed as partners in developing national resources if they show they add real value and can work with national companies. Shell’s primary strategic thrust is to invest in such upstream oil and gas projects.**

Shifts in oil and gas markets are creating new challenges for all who depend on them. I will say something about how I see those challenges developing and how international companies can help to meet them.

I will argue that

- the supply system is no longer shock-proof,
- the international industry has a vital role in ensuring the system can meet expanding needs, and
- our most important contribution is the ability to undertake the increasingly large, complex and integrated projects necessary to secure supplies.

This is sometimes described as a sunset industry, starved of possibilities. I don’t agree. I see no shortage of opportunities for oil and gas companies with the capabilities to undertake them.

I will say something about our strategies for pursuing these opportunities in Shell.

### **Changing dynamics**

Those with long memories of this business may well say: ‘What’s new? We’ve always had to cope with change.’ That’s true. And this industry has a very good record of doing so. But I believe that the first decades of the 21st century will see fundamental shifts in oil and gas markets that will transform the way we do business.

First, demand growth will increasingly be driven – not by the mature markets of the developed

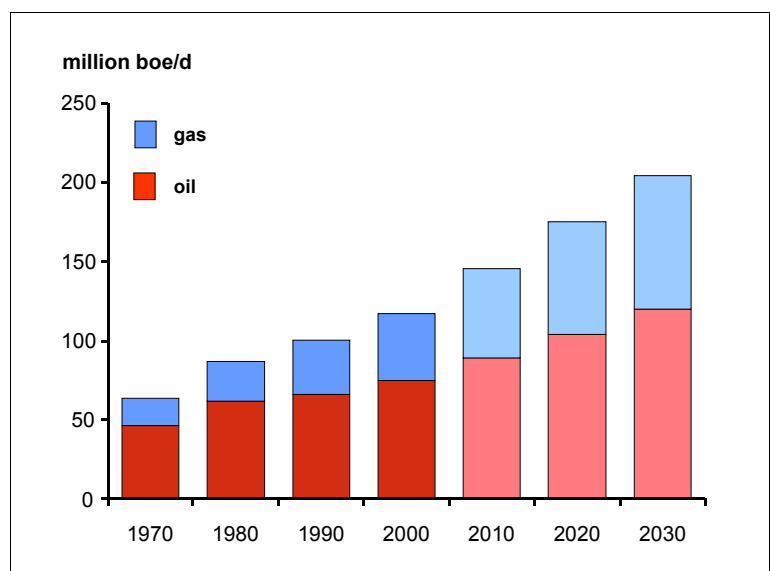
world – but by the rapidly expanding needs of emerging economies, particularly China. Chinese oil consumption has grown by a million barrels a day in three years – more than a third of the global growth.

Second, major consuming areas – both old and new – will become increasingly dependent on international trade flows for their energy.

IEA projections suggest that oil demand will continue growing at about the same rate as in recent decades. Gas is expected to grow a bit more slowly – although still considerably faster than oil. (Figure 1)

That means that by 2030 the system will need to be able to supply an additional some 90 million daily barrels equivalent of oil and gas. That is two-thirds more than the capacity added between 1970 and 2000, in an industry where reserves must constantly be

**Figure 1: Global oil and gas demand 1970-2030 (forecast IEA Energy Outlook 2002)**



replenished as fields decline. Most investment goes into maintaining present capacity not to meet new needs.

As demand increases and resources in the US and Europe are depleted, OPEC will regain the oil market share it had in the 1970s, as well as supplying an increasing proportion of the world's gas. Of course, this will require investing to expand capacity.

Consumers will continue to seek diversity of supply for security. New resources will inevitably be harder to bring into production than those we tackled earlier – requiring riskier investments, in more demanding geology and more difficult environments. This will include developing more unconventional resources – which will begin to make a significant contribution to supplies.

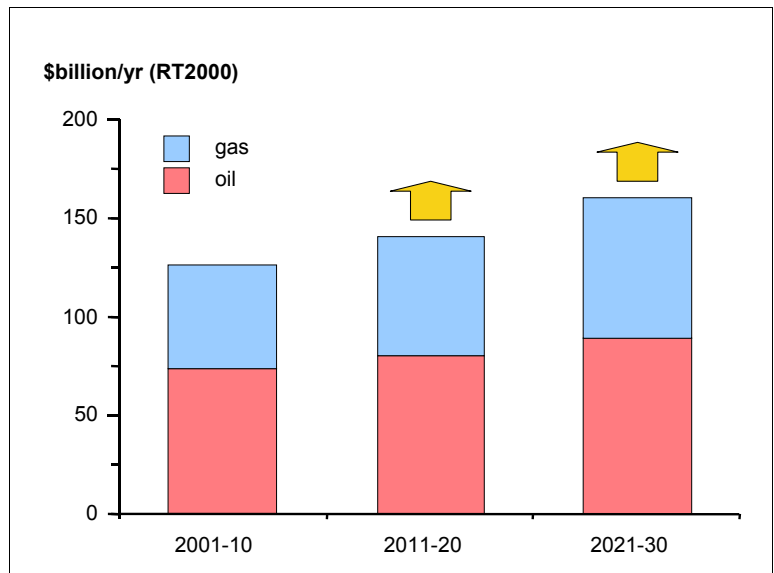
Some may still doubt the viability of such resources. So let me just say something about the progress of Shell Canada's major Athabasca Oil Sands Project to illustrate their potential.

Since coming into production last year the focus has been on ramping up production to the design rate of 155,000 barrels a day – which was reached in the third quarter of this year. Plateau production in such projects can be sustained for decades. Operation costs are being reduced and are on track towards the long-term target of US\$10 a barrel.

Plans to expand production to perhaps 290,000 barrels by 2010 have been announced – as well as to enable processing of more lighter, higher-value products. And we have scope for further expansion to 500,000 barrels a day. The purchase of new leases recently added a billion barrels to the resource.

Returning to the global picture, as I said, demand for gas is expected to grow faster than for oil. But this will depend on developing the infrastructure to transport much more gas over longer distances, by pipeline, as LNG and as Gas to Liquid fuels.

All this will have to be done in the context of accelerating efforts to tackle greenhouse gas emissions. Expanding the use of gas will be one of the most



**Figure 2:**  
Upstream oil and gas investment requirements 2000-30 (forecast IEA World Energy Investment Outlook 2003)

effective ways of doing so during this period.

None of this will come cheap.

The IEA's forecast of the upstream investment required for finding, developing and delivering this oil and gas rises from some \$125 billion a year in this decade to \$160 billion a year after 2020. (Figure 2)

In addition, there will also have to be substantial investment in the downstream.

Over \$400 billion could be required over the 30 years for refining, mostly to meet rising demand in emerging economies. Money will also have to be spent to increase conversion capacity and meet tightening fuel specifications in the industrialised world.

Investment in refining has been inhibited by volatile and often very low margins. Dealing with the mismatch between an increasingly heavy, sour crude supply and the growing requirement for lighter, low sulphur products will be a challenge.

Oil and gas investment will be highest in North America. But 60% will be outside OECD countries, primarily in Russia and the Caspian, the Middle East and Africa. This investment represents a much higher proportion of GDP in those countries and financing it will be a greater challenge.

I don't think any other industry faces capital demands of this scale, which could be even higher than this scenario

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suggests.

And the fact that the forecast looks out over 30 years should not fool us into thinking this is an issue for the future. It is already clear that the supply system is no longer shock proof. There is insufficient spare capacity to cope with an unexpected loss of production. The uncertainty this creates is reflected in today's high oil prices.

We can expect demand to fall in response to higher prices. But it is not clear just how elastic it is – and there will, in any case, be a time lag. So it is vital that investment in developing new capacity – with the long timescales involved – continues to move ahead. The ability to raise living standards everywhere depends on secure and affordable supplies of energy, which this industry has consistently provided.

But it depends on governments allowing access to resources and providing the necessary commercial terms for these massive, long-term and complex investments to go ahead.

Let me focus on some challenges involved in this investment.

### Enabling investment

The national oil companies of the major exporting countries have had a key role in this industry since the 1970s. They have been joined by powerful new companies from places like Russia and China.

But the major international companies still make a vital contribution – and I believe will long continue doing so. They are at the heart of a flexible and dynamic global system that meets the needs of energy customers all around the world.

They bring three particular strengths to this

- the ability to harness resources and learning from diverse global operations,
- a relentless focus on innovation and improvement driven by competitive pressures,
- and a tradition of cooperating others to meet the demands of this industry.

For us in Shell – with our global role in upstream and LNG operations – working with national companies has long been fundamental to our business. I believe these relationships will become increasingly important, involving both upstream and downstream links.

The strengths of international companies will be very important in delivering the increasingly large and complex projects needed to meet expanding demand. These present particular challenges – financial, technological, project management, and downstream integration.

Major international companies have the capacity to commit their own capital to long-term projects and to manage the risks involved. Their involvement can also be important for supporting external project financing.

But let me focus briefly on the technological demands – which I think are sometimes underestimated. Delivering these projects depends on technological advances – both finding new solutions and applying technologies more effectively.

For example, the drive into deeper water – which has so far added nearly 80 billion barrels to world oil and gas resources – has depended on both continuing advances in a multitude of technologies and a continuous drive to reduce cycle times and costs. (Figure 3)

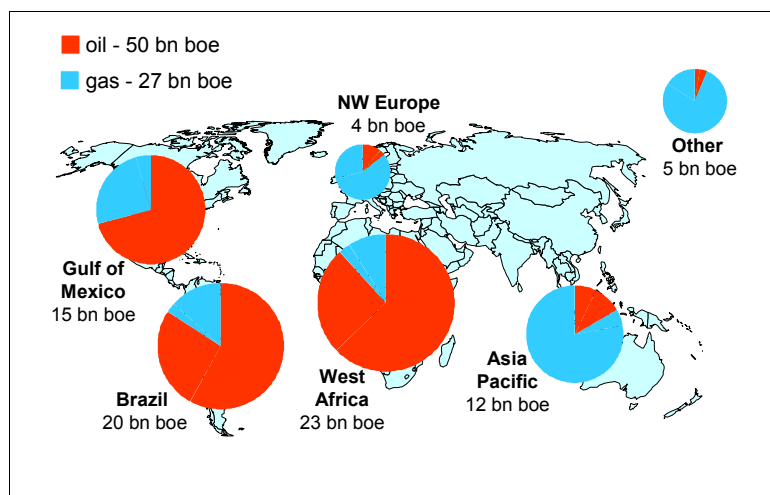
For example, earlier this summer we brought the Coulomb field in the Gulf of Mexico into production through the Na Kika hub. The Coulomb wells are in deeper water than any previously

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**Figure 3: The power of technology: adding deepwater resources**  
(WoodMackenzie)



completed.

We need to apply the experience we have gained in the Gulf of Mexico in our deepwater operations elsewhere – such as Brazil, Nigeria, Egypt and Malaysia. One reason why we are now organising our businesses globally is to enhance transfers of resources and knowledge around the world.

As well as committing financial resources, the ability to deploy experienced managers and specialists to these projects – both on the ground and in virtual teams – is essential. We believe our ability to do so is a considerable competitive advantage.

Managing these projects is extremely challenging.

For example, the second phase of the Sakhalin II project in Russia is probably the biggest integrated oil and gas project ever undertaken. It involves offshore platforms, 800 kilometre onshore pipelines and an LNG plant with the largest liquefaction trains currently being built. Most of the work is being done in Russia, in locations across the country. But there are also activities all round the world.

At the same time as orchestrating all this activity to deliver the project, managers must pay close attention to its social and environmental impact – minimising disturbance and maximising long-term benefits. We have learned that getting this wrong can be very damaging, and that getting it right takes as much professionalism as any other part of the project.

In Shell, we have many examples of excellence in project delivery. For example, in LNG where in five years we have delivered eight new trains in four countries adding a fifth to global capacity – all on budget and on or ahead of schedule.

But we recognised that we weren't achieving this everywhere. And in this business we need to. So we aim to put this right by ensuring

- we have the best people in the toughest jobs,
- apply best practice everywhere, and
- improve training and development

of our project managers.

One aspect of delivering projects is our relationship with large engineering consultants. I know that in recent years some have been badly hit when they got into difficulties with contracts. This is not in our interest. We depend on strong engineering partners and carry the residual risk – including to our reputation – if they fail. I believe that we need to find new contract forms to cope with the increased risks projects carry.

Finally, the challenge of downstream integration. This is primarily an issue for LNG with its complex customer delivery chains. But it is also important elsewhere. The value of the Athabasca project has been enhanced by the link with Shell Canada's specialised Scotford refinery. And our ability to take forward Gas to Liquids – with the major Pearl GTL project in Qatar – comes from our long-term commitment to developing both the technology and the markets.

We see an important future for Gas to Liquids, providing another way of commercialising gas resources by helping to meet the need for cleaner transport fuels.

But let me give you an example of what integration means in practice in the LNG business.

The Nigerian LNG plant was commissioned in 1999 with two trains in operation and a third under construction – all serving European customers. In 2001, Shell obtained import capacity in the United States and committed to buying gas from the plant, enabling the partners to move forward with a fourth and fifth train. Our Coral Energy affiliate provides the capability for marketing our gas in the US.

We also won the contract to build an LNG terminal at Altamira in Mexico and provide gas for power generation. This allowed us to commit to more gas from Nigeria – supporting the construction of a sixth train.

This will bring the Nigerian plant's capacity to 22 million tonnes a year – one of the largest in the world.

A similar integration process is underway in Sakhalin.

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Shell has recently agreed to buy gas from Sakhalin to sell through our share in a new import terminal being constructed in Baja California in Mexico for sale in North American markets.

International companies can only expect to be welcomed as partners in developing countries' national resources if they can demonstrate

- they add real value,
- they have a long-term commitment to countries,
- and they can work in harmony with national companies.

I believe we can demonstrate this and that it is very important that we should. Our capabilities are needed if we are to meet the challenge of securing the world's energy supplies.

### **Making strategic choices**

Our business environment is being transformed, presenting new challenges and – as I made clear earlier – new opportunities. All those involved in the industry have to think carefully about their strategic goals and choices.

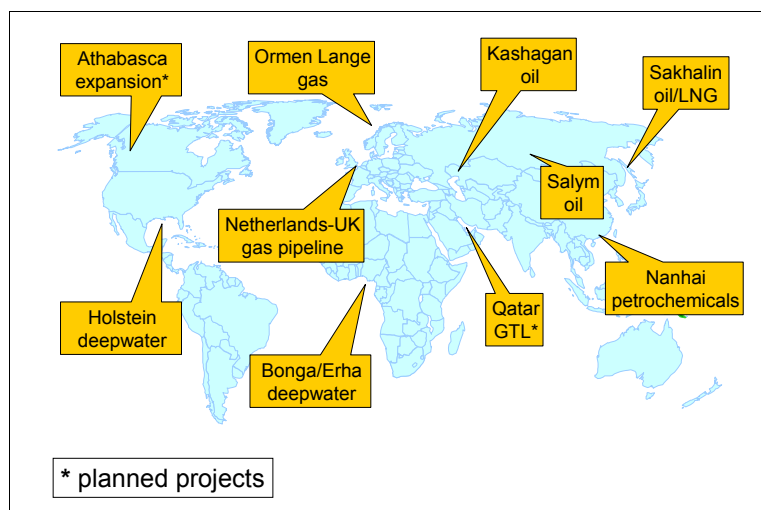
In the case of Shell, we have had particular reason to take stock of where we are and where we should go. This includes making significant changes to how we are organised and work together. We now have a new executive team in place and will shortly announce the results of a review of our corporate structure and governance.

So let me end by saying a few words about our strategy.

This can be expressed simply – 'more upstream and profitable downstream'.

We recognise that – because of the pressures I discussed earlier – we are now in a higher price world. We plan our business accordingly, and have raised our annual capital investment to \$15 billion. We still, of course, screen our projects to understand their upside at higher prices and their robustness at lower ones. And we are putting much more emphasis on capturing that upside.

Our portfolio is being reshaped. That means being decisive about divesting underperforming assets and those that



**Figure 4: Major Shell projects**

don't fit our strategy. It may also mean focused acquisitions.

The bulk of our investment will be in our upstream exploration, production and gas supply businesses. That includes raising our annual spending on exploration to \$1.5 billion. We returned to a global exploration strategy – focusing on bigger opportunities in fewer places – in 2003. This is already bearing fruit. Replenishing reserves is clearly a priority.

Our intention is to grow in three areas

- more integrated gas – leveraging and extending our leadership in LNG and GTL,
- more material oil – targeting major, long-term production,
- and more unconventional oil.

And we also intend to make the most of our strong existing oil and integrated gas positions – such as here in Europe. The recent commissioning of the Goldeneye gas condensate development in North Sea is an example.

Of course, we have a portfolio of major projects underway to drive that growth. (Figure 4)

We are integrating our downstream oil products and chemicals business into a single global organisation – which is shifting its focus towards growth markets, particularly in Asia. Our strategy of differentiated premium fuels and lubricants has been very successful and is a key part of the strategy.

All this is underpinned by a determination to deliver operational

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excellence consistently in everything we do – which must include taking sustainability into account. Our global business organisations will enable a simpler, standardised and more disciplined approach – including adherence to our values and principles.

Our ability to contribute to the world – applying our capabilities to provide the energy people need –

depends on our ability to perform as a business.

I know Shell retains great underlying strengths. But – in a world of relentless competition – we have let others move ahead while we have fallen back. That’s not acceptable, to us or to our shareholders. We are determined to regain our position and are taking urgent action to do so.

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***“All this is underpinned by a determination to deliver operational excellence consistently in everything we do – which must include taking sustainability into account.”***

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