

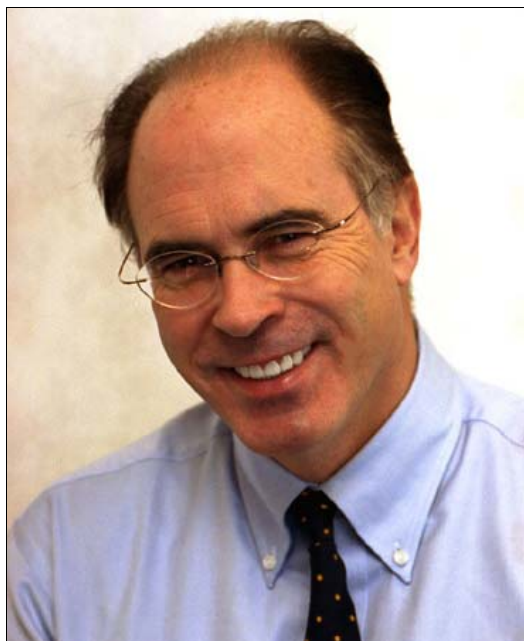


# **Delivering downstream profitability in changing markets**

**Rob Routs**

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MPGC conference, Dubai  
April 5, 2005



**Rob Routs** is the Executive Director Downstream for the Royal Dutch/Shell Group. He is also responsible for Trading and for Europe and Sub-Saharan Africa (apart from Nigeria). He has been a managing director of Royal Dutch Petroleum Company since 2003.

Rob was born in Australia and graduated in Chemical Engineering from the Technical University of Eindhoven in the Netherlands, where he also obtained a Ph.D. in Technical Sciences.

He joined Shell in the Netherlands in 1976 and worked for Shell Canada from 1978 until 1999, finally as President of Oil Products. He then led Shell Global Solutions – the Group’s research and technical services business – before becoming CEO of the Equilon refining and marketing joint venture in the United States. Following the Group’s acquisition of Texaco’s interests, he became the CEO of Shell Oil Products US and President of Shell Oil Company.

Rob and his wife, Janicke, have one son and five daughters.

**Rapidly growing demand and high oil prices reflect profound changes in global oil markets. Shell’s latest planning scenarios focus on the complex trade offs between three societal objectives – efficiency, social cohesion and security. Alternative approaches could produce very different rates of economic growth and patterns of energy consumption, although the major emerging economies – such as China and India – will play an increasingly important role in all cases. Supplying expanding energy needs will require sustained investment in increasingly complex projects, utilising innovatory technologies. Refiners will also have to deal with other changes – in crude supply, the cut of the barrel and fuel specifications. Tackling environmental challenges, such as climate change, will require continuing advances in vehicles and fuels. Shell is transforming its structure and refocusing its portfolio to meet these new challenges.**

Business conditions for the downstream oil industry were unusually favourable in 2004 – as almost unprecedented demand growth brought high oil prices and margins.

This growth reflects profound changes in global oil markets – which will challenge downstream companies, as well as offering opportunities for those able to compete for them. The system is no longer shockproof. As the IEA has warned ‘oil consumption has caught up with installed crude and refining capacity’.

I will look first at changing markets and emerging challenges – and then say something about how Shell is responding.

### **Challenges and opportunities**

Global oil consumption grew at its fastest for 30 years in 2004, led by China with 15% growth.

The additional 2.9 million barrels a day – more than Germany consumes – was over double the average annual growth for the previous 10 years.

Since 2000, China’s expanding economy has required nearly two million extra barrels of oil a day, a third of the global increase.

The many billion dollar question is, of course, whether demand will continue to grow at this rate.

Oil markets are notoriously difficult to predict, as the sudden impact of the late 1990s Asian crisis showed. Demand had been widely forecast to fall back this year, particularly in China. But growth projections are rising.

I have no better insight into what will happen than any of you. But let me look at some longer-term trends that oil companies must consider.

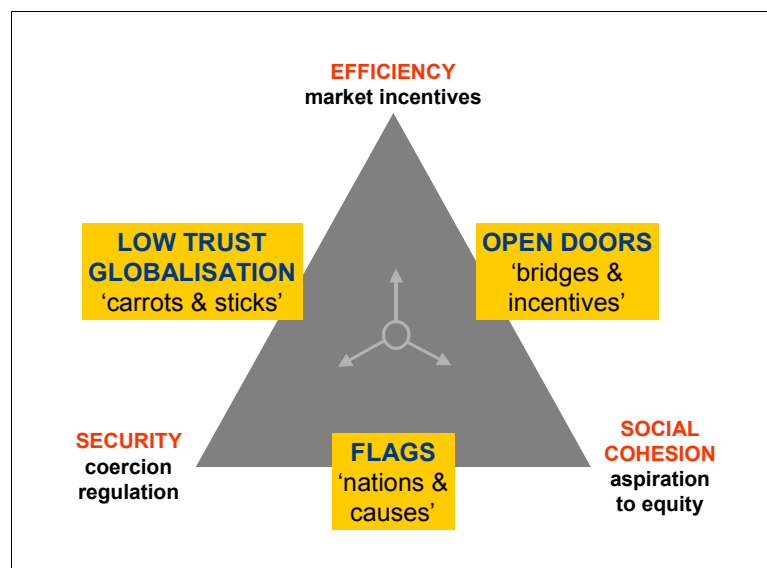
### **Exploring alternative futures**

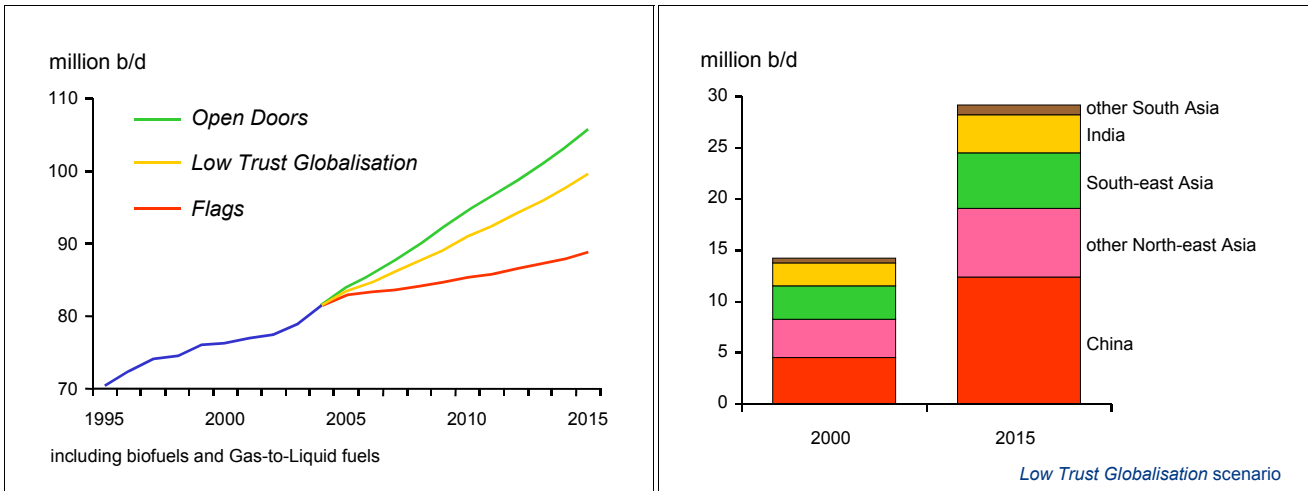
We have used scenarios for many years in Shell to help us explore how alternative futures might affect our business.

Our latest analysis focuses on the complex trade offs between three societal objectives – efficiency, social cohesion and security. We have produced three scenarios. (Figure 1)

The theme of *Low Trust Globalisation* is ‘carrots and sticks’. Governments use market incentives to promote economic efficiency within a stringent regulatory and security framework. Institutional discontinuities impede global economic integration – hindering the movement of goods, people and knowledge. The global economy grows at a similar rate to

**Figure 1**  
Shell scenarios –  
balancing complex  
trade-offs





**Figure 2 (left)**  
Global oil demand to 2015  
(Shell scenarios)

**Figure 3 (right)**  
Developing Asia oil demand 2000-15  
(Shell scenario)

over recent decades.

The theme of *Open Doors* is ‘bridges and incentives’. Governments pursue social cohesion and economic efficiency – and emphasise corporate transparency and self-regulation. Globalisation continues unabated – with increasing economic integration and international cooperation. Rapid technological progress – and diffusion of knowledge – supports strong productivity growth. The global economy grows more quickly.

The theme of *Flags* is ‘nations and causes’. Efficiency takes a back seat to security and solidarity. Governments resort to populist policies. Differing rules and standards – and protectionist measures – inhibit flows of trade and capital. The fragmented global economy grows more slowly.

The major emerging economies make a substantial contribution in all three scenarios, but particularly in *Open Doors*. China overtakes the US and the Eurozone to become the world’s largest economy in purchasing power parity terms, reflecting its emergence as the world’s manufacturing hub. India also grows strongly, although from a lower base and driven by its strength in services rather than manufacturing.

**Changing patterns of demand**

These major new consumers will, of course, have a profound impact on energy businesses.

In the buoyant global economy of *Open Doors*, oil consumption grows more

quickly than over the past decade. (Figure 2)

In *Low Trust Globalisation*, governments promote conservation for security reasons. Consumption continues to grow at the sort of rate we have been used to.

In *Flags*, the emphasis is on self-sufficiency – including encouraging renewables. Oil consumption grows more slowly.

There would, of course, be huge regional differences. Demand in Western Europe and the OECD Pacific falls in all scenarios, and in the US and Canada in *Flags*.

By contrast the needs of developing Asian countries expand rapidly. In *Low Trust Globalisation*, these countries would require nearly 15 million more barrels a day of oil by 2015 than in 2000. (Figure 3)

China and its neighbours dominate this growth. Demand grows more slowly in India – with its service-oriented economy – and from a lower base.

This is, of course, only a snapshot of much richer analysis. But these scenarios remind us that we must prepare for different eventualities.

Concerns about energy costs, supply security and the environment may well drive measures that affect energy demand.

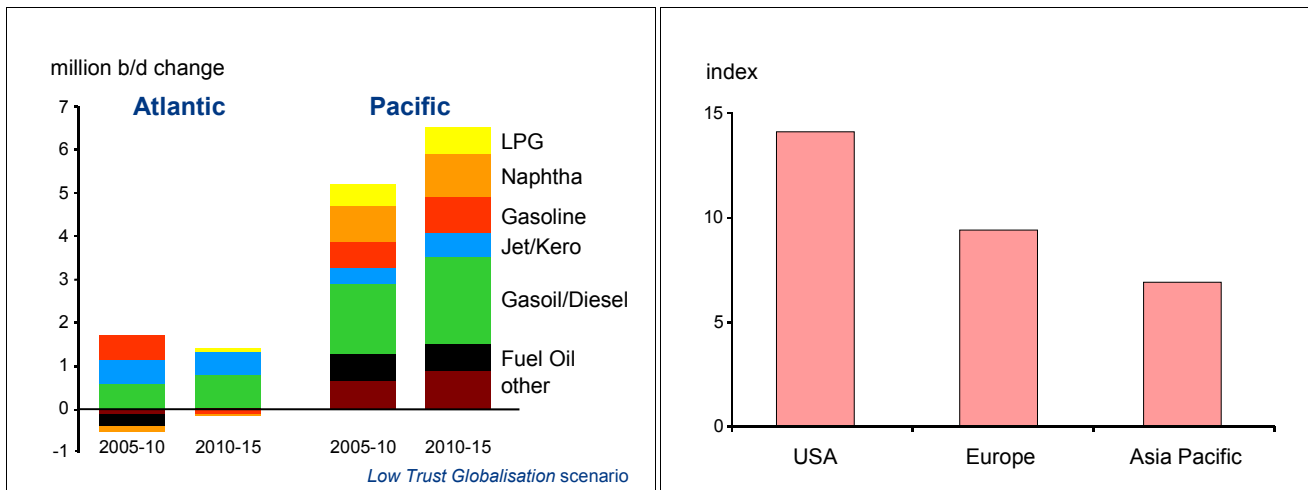
But we will have to meet the expanding needs of billions of people as they begin to achieve the living standards hitherto enjoyed by only a minority. By 2030 there could be as many cars in developing countries as in Europe and North America today.

According to the IEA some \$670

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**Figure 4 (left)**  
Changing cut of the barrel 2005-15  
*(Shell scenario)*

**Figure 5 (right)**  
Regional differences in refinery complexity

billion may need to be invested in tankers, pipelines and refineries over the first three decades of this century.

Nearly three quarters of refining investment would be in developing countries – perhaps \$50 billion in China. The amount and location of extra capacity will depend, of course, on the openness of countries to product imports.

The \$100 billion of refining investment forecast for the Middle East reflects this region’s role in product exports as well as its own growing needs.

The Middle East will also supply most of the Gas to Liquid fuels – which could meet 5% of world road diesel demand by 2015.

Refiners will also have to deal with other changes – in crude supply, the cut of the barrel and fuel specifications.

In the Atlantic basin, the major growth will be in middle distillates. Demand for fuel oil and naphtha is already declining, and may peak for gasoline after 2010.

In the Pacific, demand for all product areas will continue to grow – notably gasoil/diesel. *(Figure 4)*

The existing refining system in the Far East is much simpler than in the US or Europe and will have to be upgraded to meet growing demand for light products – particularly with increasing reliance on heavier Middle Eastern crudes. *(Figure 5)*

**Investing in supplies**

You will hear many valuable insights

into how this demand can be met during this conference. Let me make just one point.

Meeting this demand will require sustained investment in increasingly complex projects utilising advanced technologies – to maximise recovery from existing fields and develop new capacity.

I believe the international industry can play a vital role in supporting national oil companies in developing their resources.

Companies contribute in three ways

- making long-term investments in developing difficult resources,
- harnessing their global experience of applying advanced technologies, and
- helping to build capabilities in host societies.

There are important new sources of oil – in the Caspian, in deepwater and in unconventional resources like oil sands. But the Middle East is bound to be the major source of additional supplies, particularly for Asia.

Shell is committed to contributing to the Middle East. We have been engaged here for a long time and plan significant further investment.

**Pursuing sustainability**

Supplying expanding energy needs will be a huge task. But we also need to do it sustainably – reducing the impact on local air quality in expanding cities and on climate systems.

Getting the world on track to

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stabilise atmospheric carbon levels at what could be a safe level will be a profound challenge. It will require greenhouse emissions to be not much higher in 2050 than they are today, despite the anticipated two or threefold growth in energy needs.

Meeting these challenges – without depressing living standards – will require transforming the way we supply and use energy. We need continued technological advances in vehicles, and other areas of energy use, and in fuels. There is already a ferment of innovation that offers many possibilities for advance.

Let me turn to how Shell is responding to such challenges.

### **Reshaping our business**

Shell's decentralised organisation had advantages in a world of fragmented markets. But we are transforming how we work – to be able to meet the new challenges of an increasingly interconnected world. We are becoming simpler, clearer and more accountable.

We plan to replace our century-old corporate structure with a single UK registered company – Royal Dutch Shell plc – with one board and an accountable CEO.

And we are creating a more centralised and integrated organisation – at corporate level and for our businesses – with a culture focused on the success of the enterprise. For example, we have transformed our Downstream structure – integrating our Oil Products and Petrochemical businesses and organising along global lines.

This provides clear line of sight and accountability to me as the Executive Director.

As well as stronger global direction, this helps us to

- standardise systems and processes,
- drive operational improvement, and
- focus on meeting the needs of our customers – rather than managing our own complexity.

Integrating refining and chemicals manufacturing creates significant synergies and opportunities for optimisation.

### **Making progress**

Our strategy has two main thrusts – more upstream and profitable downstream.

Meeting expanding demand will require much more investment in more difficult upstream and gas supply projects. Our capabilities enable us to make a significant contribution to this.

A strong and profitable downstream is essential for

- delivering the strong cash flow to fund investment, and
- adding value from integrating upstream and downstream capabilities, such as with Gas to Liquids.

Portfolio management is an essential focus. That means divesting under performing and non-strategic businesses – to improve performance and recycle capital – and investing in growth markets, particularly in Asia and the Middle East.

In China, we are creating a network of 500 retail sites in Jiangsu in a joint venture with Sinopec. We are also considering the possibility of refining investment in China.

In India, we are the first international company to enter the retail business.

Asian markets will also account for a major share of future petrochemical demand. In China, we are working with CNOOC to bring the Nanhai petrochemical complex in Guangdong into production by the end of this year.

We are planning further petrochemical investment in Singapore and were delighted to sign a letter of intent with Qatar Petroleum for the development of a world-scale ethane based cracker and derivatives complex in Ras Laffan.

We are building a powerful global lubricants business following the acquisition of Pennzoil Quaker State in 2002. Shell Lubricants is the leading global supplier of finished lubricants – with around 13 percent of the market. And we are building strong positions in expanding lubricants markets – with double-digit growth in China, India and Russia.

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We are also developing new fuels.

We have been pursuing the potential of Gas to Liquids for over 30 years – developing the technology, gaining operational experience, and working with vehicle manufacturers to develop markets.

GTL Fuels can reduce local emissions from today’s vehicles and support advances in vehicle technology.

We are now working with Qatar Petroleum on the planned Pearl GTL project in Qatar. This world-scale plant – the size of a major refinery – will produce 140,000 barrels a day of GTL fuel.

The technology could also be used to make liquids from coal and biomass.

We are also investing in advanced biofuels.

### ***Serving customers***

Serving countries and customers in the Middle East is a key part of our strategy.

We have been contributing here for a long time and aim to do even more in the future – downstream as well as the upstream.

This contribution includes helping to get products to market, such as

- our refining and petrochemical joint ventures with Saudi Aramco and SABIC in Saudi Arabia,
- our role in LNG exports in Oman and in the recently announced Qatargas 4 project.

I mentioned our role in GTL, another way of delivering the region’s gas to an expanding market.

I should also mention Shell Global Solutions, our technology consultancy, which is providing services to upstream, gas, refining and petrochemical operators in the region – complementing the strengths of national oil companies.

We also have a strong marketing presence. As well as our retail ventures in Oman and Egypt, we also market lubricants, aviation and marine fuel, and petrochemicals across the region.

Here in Dubai we are pleased to be a partner in a new aviation fuel terminal at Jebel Ali to meet the expansion of Dubai’s airport capacity.

Finally, there is our important partnership with Saudi Aramco in refining and marketing in the US and Japan. And we are now looking for worldwide downstream opportunities together with Kuwait Petroleum.

I have discussed the challenge of meeting expanding energy needs in a way that is sustainable. This offers downstream as well as upstream opportunities – but only for those companies with strong capabilities.

In Shell we are responding to those challenges and pursuing the opportunities. The Middle East will play an increasingly vital role in meeting the world’s energy needs. We are proud to be able to make our contribution.

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