

**Meeting the energy challenge**  
The Shell Report 2002



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### Listening to your views

The Shell Report is part of our continuing dialogue with stakeholders. The uncensored **views of independent experts** are included at various points, as is a representative selection of the more than 1,500 e-mails and cards sent to “Tell Shell” last year. For more comments, see our web forum [www.shell.com/tellshell](http://www.shell.com/tellshell)


### Want to know more?

Further information on many of the issues discussed in this report is available at [www.shell.com](http://www.shell.com) or the specific websites indicated. You can also write to us at [tellshell@shell.com](mailto:tellshell@shell.com) or the addresses on the back page.

### Don't take our word for it

KPMG and PricewaterhouseCoopers LLP, have prepared a report (page 44), summarising the assurance work completed for those elements of the Shell Report as indicated by the following symbols   . For an explanation of these symbols, see page 44. In some cases, independent panels have also examined our performance. We report their comments and findings. “Hot spots” are indicated by this symbol .

### Employee sustainable development photography contest

During 2002, we ran a photography competition in partnership with The National Geographic Society. Photographs were received from more than 40 countries on the theme of “sustainable development in action”. Several of the entries, indicated by this symbol , are included.

**By 2050 the world will double its use of energy. Most growth will be in developing countries, as billions of people escape from poverty. Despite greater efficiencies, demand from developed nations will continue unabated.**

**The daunting challenge is to satisfy these rising energy needs without damaging health, blighting local environments and threatening vital natural systems. Hence our theme this year: "Meeting the Energy Challenge".**

**We have asked Mark Malloch Brown, Administrator of the United Nations Development Programme, to give his perspective on the challenge (page 12). And throughout the report we show how Shell is responding, often working with governments, non-governmental organisations, local communities and industry partners.**

**This, our sixth annual Shell Report, shows the progress in 2002 of the Royal Dutch/Shell Group of Companies in contributing to sustainable development.**

**We present a new way of reporting and assuring "hot spot" sites and issues. We also provide more in-depth case studies that give an insight into how Shell people are contributing to sustainable development in their daily work.**

**We hope this report helps you make up your mind about our progress and stimulates your thinking on practical steps that governments, industry and consumers can take to move towards a more sustainable energy system.**

**Find out more about our work on [www.shell.com](http://www.shell.com). Tell us what you think about our progress – and this report – by using the "Tell Shell" system on our website.**



*Dear Stakeholder,*

Across the world, concerns about the economic and political climate and the threat of terrorism have all combined to make us feel less secure. In these difficult times it becomes even more important that Shell companies live up to the highest standards. It is also vital that we are not blown off course by short-term pressures. Taking a long-term view is essential to operating in a sustainable manner.

That long-term approach was central to the World Summit on Sustainable Development in Johannesburg. It was a great privilege to be present at the Summit and I am proud of the role played by Shell, and other progressive business leaders, in developing projects that will impact the lives of many people, not least the world's poorest.

One of the clearest messages from the Summit was that meeting future energy demand will be a key challenge over the next fifty years. Global energy demand is expected at least to double and energy producers will need to seek ways of meeting those needs, whilst minimising the effect on the environment and doing business in a socially responsible manner.

That means ensuring our own operations are run efficiently and this report outlines how Shell met its 2002 target on greenhouse gas emissions. It means looking at ways of making cleaner and more efficient fuels from hydrocarbons. Our investment in natural gas projects will play a major role in this respect. We also continue to work actively to make solar and wind power competitive and support the development of an infrastructure for hydrogen fuels.

Our commitment to contribute to sustainable development is not a cosmetic public relations exercise. We believe that sustainable development is good for business and business is good for sustainable development. Last year's financial results were encouraging, in a very difficult business environment. However, the corporate scandals of the past year underlined that good financial performance must be accompanied by the highest standards of governance. Shell's Business Principles assurance process ensures we meet and maintain those standards.

At the heart of those principles is respect for our staff and their safety. The helicopter crash in the North Sea and a number of fatalities in road accidents showed the need for constant vigilance to ensure that our operations are as safe as possible.

We have always been determined that the Shell Report should openly and honestly outline our performance. It shows that we have performed well this year, but we know there is still more to be done to ensure that sustainable development objectives are delivered consistently across all our operations.

The lesson of the Johannesburg Summit was that business can really make a difference. I am committed to ensuring that we continue to use all our skills to live up to those expectations, both in the way we run our business and in the contribution we make to the wider communities in which we work.

*Yours sincerely,*

A handwritten signature in black ink, reading "Philip Watts", with a horizontal line underneath.

**Sir Philip Watts**  
Chairman of the Committee of Managing Directors





**The Committee of Managing Directors**

from left to right  
**Jeroen van der Veer**  
**Walter van de Vijver**  
**Malcolm Brinded**  
**Paul Skinner**  
**Sir Philip Watts**

# The year at a glance

## Performance

### Economic performance

- Earnings of \$9.2 billion
- Return on average capital employed (ROACE) of 14%
- \$25 billion of capital investment, including \$11 billion in key acquisitions
- Highest hydrocarbon production in recent history of 4 million barrels of oil equivalent per day
- Motorists rank Shell top brand for sixth year running

### Environmental performance

- 2002 greenhouse gas emissions reduction target met
- Phase out of continuous gas venting nearly completed
- Improved spills performance

### Social performance

- Mixed performance on safety
- Highest overall reputation within the energy sector
- Increasing involvement in international public-private partnerships
- More staff feel respected by Shell
- Progress towards senior leadership gender target

## Highlights and lowlights

### Global sustainable development awards

Shell was ranked top of the energy sector in the **Dow Jones Sustainability Index**. The index tracks the financial performance of companies that have made sustainability a key driver of business strategy.

The Malampaya Deepwater Gas-to-Power project in the Philippines won a **Partnerships Award** – sponsored by the UN Environment Programme and the International Chamber of Commerce – for its approach to sustainable development.

### World Summit on Sustainable Development

The business community was a full participant at the World Summit on Sustainable Development (WSSD) in South Africa. Shell was well represented and helped to launch **several new public-private partnerships** (page 43).



Sir Philip Watts welcomes Kofi Annan to the Business Day at the WSSD.

### Building capacity

The Shell Foundation and World Resources Institute established the **WRI Center for Transport and the Environment** (called EMBARQ) to encourage sustainable solutions to urban transport (page 29).

The **Shell Center for Sustainability** was established at Houston's Rice University and Shell companies in Norway and the UK established **sustainable development professorships** at local universities (page 9).

### Resolving differences at Norco

A Joint Statement of Success was signed by the **Norco** refinery and petrochemical plant in Louisiana, USA and the local community. It recognised the steps taken to meet concerns about the plant's environmental and social performance (page 37).

### Loss of life

**Fifty-three Shell employees and contractors lost their lives at work** during 2002. Eleven died when a helicopter crashed in the North Sea (page 33).

### Security

Shell companies in 13 countries experienced significant security incidents, including war, civil unrest or violent crimes. In particular, security incidents at operations in the **Niger Delta** remain a concern (page 33). Significant efforts continue to protect Shell people and assets against potential threats, including terrorism.

### Dealing with legacies

Plans were progressed with local authorities to clean up two sites contaminated with pesticides from previous operations – **Paulinia and Ipiranga** in Brazil (page 29).

### External criticism and protests

Shell was the subject of criticism and received a **"Greenwash award"** from pressure groups at the WSSD (page 43).

There were local community protests about the environmental performance of the **SAPREF refinery** in South Africa, a Shell joint venture (Group interest 50%) (page 27).

## Meeting the energy challenge

### A year of acquisitions

**Enterprise Oil** was bought, boosting production in the North Sea and bringing forward our first oil production in Brazil to 2003.



Enterprise Oil's Nelson platform in the North Sea.

**Pennzoil-Quaker State Company**, the leading marketer of passenger car motor oils in the USA, was acquired, making Shell a global leader in lubricants.

Shell completed the acquisition of Texaco interests in the **Equilon** and **Motiva** joint ventures in the USA, the latter in conjunction with Saudi Refining Inc. A major programme to rebrand Texaco stations to Shell has been launched and integration and best practice sharing with the rest of Shell are being actively pursued.

Shell purchased its partner's 50% share in the **Shell and DEA Oil** joint venture, which has interests in five refineries – including two which are integrated with ethylene crackers – and some 3,000 service stations in Germany.

### Shift to gas

Go ahead was given for a \$3.5 billion (Group interest 25.6%) investment to expand the **Nigeria Liquefied Natural Gas** (NLNG) project (page 20).

In Venezuela, Shell was chosen to partner with PDVSA and Mitsubishi Corporation in the planned \$2.7 billion **Mariscal Sucre LNG** project.

The **North West Shelf** Joint Venture in Australia (Group interest 22%) was selected to supply over three million tonnes a year of LNG to China through the Guangdong LNG terminal.

Plans were announced to study the feasibility of a **world-scale Gas to Liquids plant in Qatar**, to produce up to 140,000 barrels per day of super-clean oil products from natural gas (page 20).

### China

Negotiations moved ahead on the **West-East gas pipeline project** to bring gas to China's fast-growing coastal cities. Together with the UN Development Programme and PetroChina, Shell conducted a social impact survey along the 4,000km route of the proposed gas pipeline (page 42).

Go ahead was given to start building the \$4.3 billion (Group interest 50%) **Nanhai petrochemicals complex**. An environmental and social impact assessment based on international standards has been published (page 42).

A contract is being negotiated with **Sinopec** to establish a joint venture retail network of some 500 stations in Eastern China.



West-East gas pipeline project, China.

### Tomorrow's energy today

An additional 100 MW of **wind energy** generating capacity was acquired in the USA, bringing our total to 240 MW globally.

Shell Solar became one of the **world's largest solar photovoltaic businesses**, with 13% market share, after buying out the remainder of its joint venture with Siemens and E.On. Tough market conditions and product oversupply led to a decision to close production capacity in the Netherlands and Germany.



Shell Solar supplies additional power for the Munich Trade Fair Centre, Germany.

Shell Hydrogen invested \$7 million in a company specialising in **hydrogen purification technology** – vital for future development of fuel cells – and announced plans to build **Tokyo's first hydrogen refueling station** (page 22).

Shell took a 22.5% stake in Logen Energy – a Canadian company with a **promising technology that could lower the cost of converting plant waste into ethanol** for blending with gasoline to reduce greenhouse gas emissions (page 22).



# What we do

**We are a global group of energy and petrochemicals companies, operating in over 145 countries and employing more than 115,000 people.**

We are best known to the public for our service stations and for exploring and producing oil and gas on land and at sea. But we deliver a much wider range of energy solutions and petrochemicals to customers. These include transporting and trading oil and gas, marketing natural gas, producing and selling fuel for ships and planes, generating electricity and providing energy efficiency advice.

We also produce and sell petrochemical building blocks to industrial customers globally. These go into plastics, coatings and detergents used to make many modern products like fibres and textiles, insulation, medical equipment and components for lighter, efficient vehicles.

Renewables and Shell Hydrogen are small, but fast-growing businesses investing in making renewable and lower-carbon energy sources competitive for large-scale use.

Shell companies do not produce coal or nuclear power.

- Shell companies produce more than 3.5% of global gas and approximately 3% of the world's oil, similar to other major private oil and gas companies.
- We produce 13% of the world's solar panels.
- Every four seconds a plane is refueled by Shell Aviation.
- In that time, 1,200 cars visit a Shell service station.



## Exploration and Production

Searches for, finds and produces crude oil and natural gas. Builds and operates the infrastructure needed to deliver hydrocarbons to market.

## Gas & Power

Liquefies and transports natural gas, develops gas markets and infrastructure, develops gas-fired power plants and engages in the marketing and trading of natural gas and electricity. Converts natural gas to liquids to provide clean fuels.

## Oil Products

Markets transportation fuels, lubricants and speciality products. Refines, supplies, trades and ships crude oil and petroleum products. Provides technical consultancy services.



# Our strategic direction

We aim to be the world leader in energy and petrochemicals. We intend to deliver **superior total shareholder returns** in our industry through:

**Delivering robust profitability** – solid earnings, competitive returns and strong cash generation resilient to a broad range of economic and geopolitical conditions. We achieve this through capital discipline, active portfolio management, personal accountability, operational excellence and cost leadership.

**Demonstrating competitive edge** – developing and leveraging our ability to attract people of the highest calibre and diversity; constantly innovating to meet changing customer needs; and leveraging the strongest brand in our industry, our technology and our extensive

global reach. We operate in full alignment with our Business Principles, including our commitment to sustainable development, and view this as critical to maintaining our competitive edge.

**Robust profitability and competitive edge fuel value growth** – moving the Group towards its aspired portfolio, which comprises:

- Growing the proportion of Exploration and Production and Gas & Power assets in the Group's portfolio
- A gradual shift towards gas as the fuel of choice
- Profitable growth and cash generation in Oil Products and Chemicals
- Development of a material new income stream
- Increased exposure in North America, Asia and offshore Africa.



## Chemicals

Produces and sells petrochemical building blocks and polyolefins globally.

## Renewables

Generates “green” electricity and provides renewable energy solutions. Develops and operates wind parks; manufactures and markets solar systems.

## Other activities

Other business activities include: Shell Consumer, Shell Hydrogen and Shell Trading.

## How we work

### Our values

Our core values of honesty, integrity and respect for people define how we work. These values have been embodied for more than 25 years in our Business Principles (page 49), which since 1997, have included a commitment to support human rights and to contribute to sustainable development. The Principles apply to all Shell employees everywhere. We go to great lengths to ensure they are implemented in all Shell-operated companies. We also actively promote our Principles with joint venture partners, contractors and suppliers.

The corporate scandals of the last year have underlined the importance of not just having core values, but living up to them consistently in practice. Our mandatory Shell-wide policies and standards provide a common framework. We have three Group-wide policies: our Business Principles (which include our no bribes and no political payments policies); our Health, Safety and Environment (HSE) Policy; and our risk and internal control policy to assess and manage business risks. In addition, we have global standards for important areas of our business, covering, for example, governance, financial control and accounting, security, diversity and inclusiveness, environmental management and emissions from our sites, biodiversity, health management and animal testing.

Our internal assurance letter process helps us to monitor whether we are living by our Principles. The executives responsible for each Shell business and country operation must inform our Committee of Managing Directors every year, in writing, whether his or her organisation has acted in line with Group policies and standards. Where not, he or she must describe actions being taken to achieve compliance. This assurance process was further strengthened in 2002. The assurance letters, for example, confirmed that we made no political payments in 2002 and continued to abide by all UN sanctions. We also support and are guided by international initiatives such as the Global Sullivan Principles, the OECD guidelines for multinational enterprises and the UN Global Compact. The actions we have taken to implement the Global Compact's nine principles are described throughout this report (see also [www.shell.com/gcprinciples](http://www.shell.com/gcprinciples)).

### Tell Shell

*"I just wanted to tell a company such as Shell that I understand economical development is important, I understand that business is important and can be positive for humanity, but I'm sincerely not sure that big and prestigious companies such as Shell have understood how critical their behaviour and real actions could be in the next decades."*

France

### Embedding and integrating sustainable development

We continue to make progress in translating our commitment to contribute to sustainable development into action. Our biggest challenges now are consistent delivery across all of our operations and weaving together the economic, environmental and social strands of sustainable development, rather than addressing each in isolation.

Below are three areas where we made noteworthy progress in 2002. In addition to further anchoring these initiatives in our operations, the priorities for embedding sustainable development in 2003 will be:

- Further developing our sustainable development learning initiative
- Building the skills and processes needed to improve the social performance of our projects (page 37).

### Investment proposals for new projects

Before we agree to invest, we require major new projects to meet specific social and environmental criteria. These are:

- **Carbon costs.** We include a financial penalty for emitting greenhouse gases in our standard financial models. By making projects pay for the greenhouse gases they emit, we begin to understand the impact of these "costs of carbon" and design our projects with lower emissions. Our Athabasca Oil Sands Project is an example of how this works in practice (see [www.shell.ca/oilsands](http://www.shell.ca/oilsands)). This process favours the selection of lower carbon projects. In 2002, we extended the use of carbon costs to nearly all investment projects and acquisitions.
- **Impact assessments and plans.** Projects must undertake social, health and environmental impact assessments, including biodiversity impacts, in line with Shell guidance. They must also have plans to protect the environment and manage impacts on local communities. The Nanhai petrochemicals complex in China (page 42), illustrates how this works in practice.
- **Shell HSE standards,** such as no continuous flaring in new projects, must be met.
- **Stakeholder engagement plans** that include all affected or interested parties must be in place.

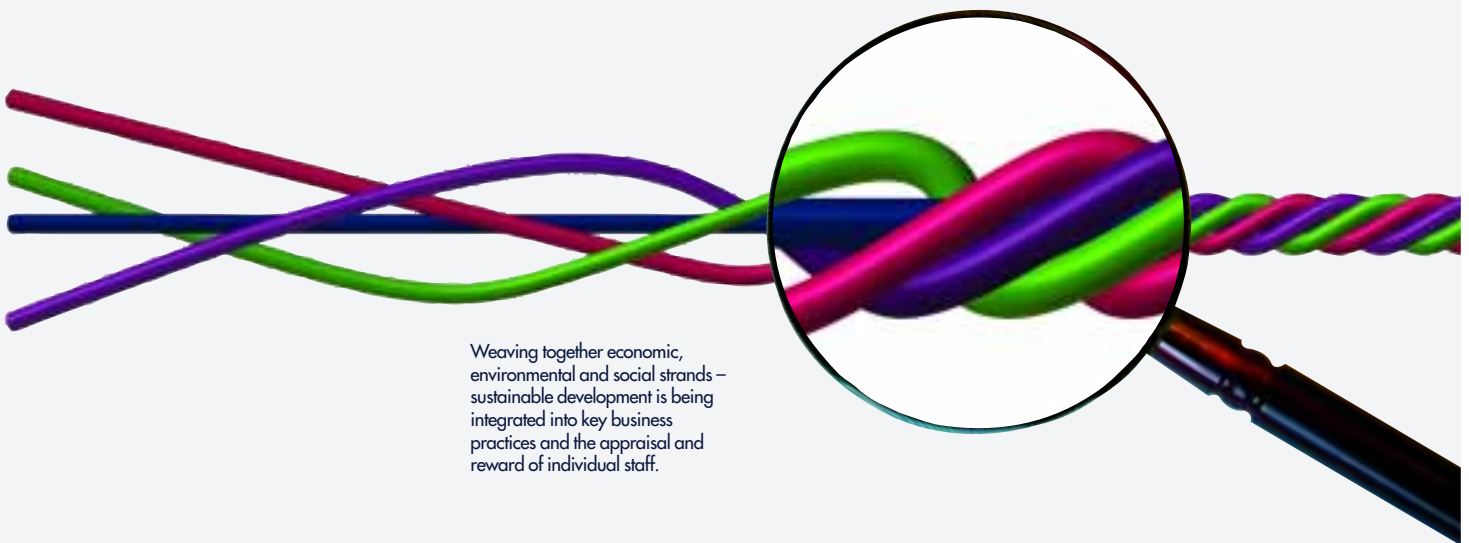
The focus in 2003 will be on applying these checks consistently, in ways that change behaviour. Awareness and training efforts are being strengthened through our learning initiative (right).

1995

2000

2005

2010 +



Weaving together economic, environmental and social strands – sustainable development is being integrated into key business practices and the appraisal and reward of individual staff.

### Appraisal and reward systems

We have made sustainable development count in the evaluation and remuneration of our senior staff and in the appraisal of business performance. Since 1997, we have included environmental or social metrics in the overall Shell scorecard. The scorecard defines how we appraise our business performance and impacts the bonuses of all our senior executives. Our businesses also include sustainable development considerations in their performance scorecards. The environmental and social aspects of sustainable development currently account for approximately a fifth of the Shell scorecard.

In 2002, we redefined the social measures of the scorecard to include:

- our reputation and trust with the general public compared with our competitors, based on our annual reputation tracker survey (page 11)
- our success in attracting and retaining staff, which includes our success in delivering our recruitment, diversity (page 34) and training targets.

We continue to struggle to find meaningful, quantitative measures that can be used for the whole of Shell to measure our social performance in the local communities where we operate.

### Sustainable development learning

We are integrating sustainable development more systematically into our leadership development, training and internal communications. The goal is for all staff to understand the concept and its relevance to their jobs, and to have the skills and enthusiasm they need to put sustainable development thinking into practice. In 2002 we took several important steps: We built sustainable development considerations into our executive and senior executive leadership programmes. We increased the focus on sustainable development thinking in our training programmes for new recruits, and for external affairs and HSE staff. We launched our “Sustainable Development Portal”, an internal website, which enables Shell people worldwide to share best practice and access our latest sustainable development tools, communication materials and news. We also worked with universities to support the research and teaching of sustainable development in business schools. In 2002, Shell companies funded university chairs in sustainable development in the USA, Philippines, Norway and the UK, including a \$3.5 million endowment to create the Shell Center for Sustainability at Rice University in Houston, USA.



## Corporate governance

The way in which the Royal Dutch/Shell Group of Companies is governed is critical to ensuring that we live by our core values, serve the interests of our owners and maintain the trust of our partners, employees and wider society. We are committed to the highest standards of integrity and transparency in corporate governance, including the integration of sustainable development into our governance structures and procedures.

## Parent Company Boards

Company Boards need to have a balance of executives responsible for managing the company, and non-executives responsible for supervising the management on behalf of shareholders. We are a Group of companies owned by two independent Parent Companies – Royal Dutch Petroleum Company (Royal Dutch), based in the Netherlands and owning 60% of the Group, and The “Shell” Transport and Trading Company, p.l.c. (Shell Transport), based in the UK and with 40% ownership. In accordance with Netherlands practice, Royal Dutch has separate Supervisory and Management Boards. Six of the Supervisory Board’s eight current members have had no previous relationship with Shell. In accordance with UK corporate law, Shell Transport has a unitary board consisting of both executive and non-executive directors. The Board has a majority of independent directors. Nine of the current 11 Directors are non-executive. Seven are wholly independent of any other relationship with Shell. For more information on Board membership see [www.shell.com/annualreport](http://www.shell.com/annualreport)

## Joint Committees

Joint Committees exist to assist a company’s board in providing robust, independent supervision on behalf of shareholders. For example, our Remuneration and Succession Review Committee advises the Parent Boards on the selection and pay of Managing Directors. The Group Audit Committee reviews our financial results and internal and external audits and advises on the integrity of our financial controls. Our Parent Companies also have a joint Social Responsibility Committee to review

our performance in contributing to sustainable development by living up to our Business Principles and following our HSE Policy. All three committees consist only of non-executive directors.

Specifically for the guidance of principal executives and financial officers, a Code of Ethics has been drawn up in conjunction with the Group’s Statement on General Business Principles. The Code of Ethics can be found on [www.shell.com/codeofethics](http://www.shell.com/codeofethics)

We continue to look for ways to improve our corporate governance and to evolve in response to shareholder expectations and regulations.

## Evolving measurement and reporting

Unlike financial reporting, there are no **established global standards** for measuring or reporting social and environmental performance. We support efforts to develop common guidelines. For example, we are a charter member of the Global Reporting Initiative (GRI), support the greenhouse gas reporting protocol being developed by the World Business Council for Sustainable Development and the World Resources Institute and are working with our industry associations on guidance for the oil and gas industry. In our view, successful guidelines should be specific for each industry sector. Meaningful measuring and reporting should combine quantitative measures with more in-depth reporting on key issues or locations.

In 2002, we continued to improve our own measurement and reporting along these lines.

**Key performance indicators (KPIs)**, quantitative measures of Shell’s performance worldwide, remain one cornerstone of our approach. This year we report on 11 of our original 16 KPIs, five more than last year. We have also refined our environment and safety KPIs, highlighting the six global environmental and safety parameters that we think reflect Shell’s principal worldwide impacts.


The five new KPIs are based on people’s views of our performance. Three (treating staff with respect, diversity and inclusiveness in the workplace, and integrity) focus on staff. They make use of the third Shell People Survey, conducted in 2002 and answered by more than 82,000 Shell employees. The other two new measures (external



perception of environmental performance, and overall reputation) come out of our first annual Reputation Tracker survey. This survey measured our reputation in 18 Shell markets with the general public, local special publics (e.g. people in government, the media, universities), global special publics and business partners.

Most of the 11 KPIs now in use are aligned with our Shell-wide scorecard. The financial, environmental, safety and diversity indicators all have quantitative improvement targets.

Of the remaining five original KPIs, two have proven more useful as local tools. We do not expect them to lead to global performance indicators. Our work on a global KPI to measure alignment with sustainable development principles resulted in the Business Alignment tool, which helps individual operations. The tool was used by more than 25 operations in 2002. It will continue to be rolled out in 2003 and is being adapted for use in contracting and procurement. The human rights compliance tool that emerged from our work on a human rights KPI was revised in 2002 and will be field tested in 2003 (page 34). Two more originally planned KPIs (social performance and quality of engagement) have become part of our wider social performance management effort (page 37). We will continue working on the final KPI (innovation) in 2003.

We believe qualitative “hot spot” reporting is important to give a meaningful picture of our performance. This involves in-depth case studies on some of the most important issues or site level challenges we face. In 2002, we ran a trial with four cases. All are marked with the following symbol  – Community development in Nigeria (page 38), Shell and BP SA Petroleum Refineries (SAPREF) in South Africa (page 27), resettlement at the Nanhai petrochemicals complex (page 42) and animal testing (page 35). In 2003 we will select our “hot spots” in a systematic and transparent way and report on them in the 2003 Shell Report.

We also see a growing importance for **local reporting** by individual Shell companies. At least 20 Shell companies or projects published their own local environmental or social reports in 2002 (see examples, left). We encourage this trend and continue to look for better ways to report on local impacts.

### Tell Shell

*“Your only goal (like everybody else’s) is short-term maximising of profits. Maybe your brochure is a start, but we need some unbiased, impartial and credible proof that you actually are doing something substantial to combat global warming and environmental decline.”*

UK

### External assurance

Our approach to external assurance continues to evolve alongside our measurement and reporting efforts. KPMG and PricewaterhouseCoopers LLP (PwC) continue to provide assurance over those aspects of the report marked with the symbols as explained on page 44. They also play an important role in challenging the entire text and our thinking on reporting. In addition, we have made further progress on a new assurance model suitable for reporting on “hot spot” case studies. It combines assurance over processes and controls by KPMG and PwC with checks on our actual performance by independent experts knowledgeable on the topic. See [www.shell.com/sustain](http://www.shell.com/sustain) for an explanation of the assurance work performed in 2002 on our four “hot spot” cases. This approach will need further refining and streamlining in 2003, but appears to be a promising way to extend our external assurance to individual issues or at specific sites.

### Web links for more information

#### Our policies and standards

Shell Business Principles [www.shell.com/businessprinciples](http://www.shell.com/businessprinciples)

HSE Policy [www.shell.com/hsepolicy](http://www.shell.com/hsepolicy)

Security Standard [www.shell.com/security](http://www.shell.com/security)

Diversity and Inclusiveness Standard [www.shell.com/diversity](http://www.shell.com/diversity)

Biodiversity Standard [www.shell.com/biodiversity/standard](http://www.shell.com/biodiversity/standard)

Animal Testing Standard [www.shell.com/testing/standard](http://www.shell.com/testing/standard)

Minimum Environmental Standards [www.shell.com/hsepolicy](http://www.shell.com/hsepolicy)

#### Our approach to sustainable development and key issues

Sustainable development principles [www.shell.com/sustain](http://www.shell.com/sustain)

Business case for sustainable development [www.shell.com/sustain](http://www.shell.com/sustain)

Stakeholder consultation [www.shell.com/workingtogether](http://www.shell.com/workingtogether)

Social performance [www.shell.com/socialperformance](http://www.shell.com/socialperformance)

Environmental management [www.shell.com/hse](http://www.shell.com/hse)

Human rights [www.shell.com/human](http://www.shell.com/human)

Working in politically sensitive regions

[www.shell.com/sensitiveregions](http://www.shell.com/sensitiveregions)

Climate change [www.shell.com/climate](http://www.shell.com/climate)

Biodiversity [www.shell.com/biodiversity](http://www.shell.com/biodiversity)

Business integrity [www.shell.com/integrity](http://www.shell.com/integrity)

Globalisation [www.shell.com/globalisation](http://www.shell.com/globalisation)

Product stewardship [www.shell.com/stewardship](http://www.shell.com/stewardship)

#### Reporting

Our “hot spot” approach [www.shell.com/sustain](http://www.shell.com/sustain)

Our action to support the UN Global Compact principles

[www.shell.com/gcprinciples](http://www.shell.com/gcprinciples)

Socially responsible investment [www.shell.com/sustain](http://www.shell.com/sustain)

## The energy challenge – a perspective from UNDP

**Mark Malloch Brown, Administrator of the United Nations Development Programme, reports on the challenge of providing access to modern energy for the 40% of the world who live without it.**

Look at the limits of conventional energy services. Despite the enormous progress industry and governments have made in recent decades in expanding electricity and the use of cleaner fuels, over a third of humanity – more than two billion men, women, and children – remain dependent on traditional biomass such as firewood, agricultural residues and charcoal. Indeed, many of the world's very poorest countries rely on such fuels to meet as much as 85% of their total energy consumption. This not only has a high toll on human health and the local environment, but often damaging social effects. An example is the withdrawal of girl children from school to collect firewood with a devastating impact on female literacy and broader development.

Recognising these problems, at the World Summit for Sustainable Development in Johannesburg last year, the critical role of energy services in helping meet the Millennium Development Goals – an ambitious plan for development unanimously agreed by world leaders at the United Nations Millennium Summit with the overarching goal of halving extreme poverty by 2015 – was explicitly acknowledged for the first time (see table, right).

There was wide agreement that reaching nearly all the targets – from primary education to gender equality – will require much greater volumes and quality of energy, particularly the services electricity provides. But ensuring that these are delivered in both sufficient volume and with proper regard to environmental impact, will require the full engagement of the private sector and the development of innovative private-public partnerships, incorporating both business and civil society.

The United Nations Development Programme, the UN's global development network, has made energy and the environment one of our six core priorities across the 166 countries where we work. In this context we see two broad challenges: first, the provision of electricity to the 2 – 3 billion people living far from electrical grids or who only have sporadic access to electricity due to instability in electricity supply; second, expanding access to cleaner fuels and more efficient technology to generate heat for services such as cooking, agricultural processing and home heating.





The practical obstacles cannot be underestimated – but nor can the real opportunities, particularly for companies and governments with the vision and commitment to try to seize them. We are not talking simply about improving quality of energy delivery in environmental terms – such as through the increased use of renewable energy, decentralised or “off-grid” electricity systems and the adoption of modern, efficient and cleaner fossil fuel and hybrid systems – but also improved technology and fuels to meet specific human needs based on local economic and social conditions.

There are many ways to reach these goals ranging from introducing cleaner, smaller conventional and hybrid electricity generation units in developing countries to meet decentralised demand, to making cleaner fuels like Liquefied Petroleum Gas (LPG) and modern bio-fuels more available, affordable and accessible to meet consumer heating and cooking needs, as well as to “fuel” job creation and productive employment. But all of these solutions require many different inputs from development of appropriate technologies to the provision of financing schemes and consumer credit systems that make them available to poor consumers and small business. That requires both an engaged, entrepreneurial and fully transparent private sector, as well as smart public policies that prioritise access to energy services through appropriate regulations and legislation.

We are also talking real partnerships: Shell and others in the private sector innovating affordable locally relevant solutions; local consumer and civil society groups being deeply involved in local energy distribution approaches that ensure both access for the poor and conservation; and governments, often with limited administrative capacity, that nevertheless create a policy environment that both keep energy affordable for the poor consumer while ensuring the energy producer the return necessary to stay in business.

In the long-run, modern energy services, particularly those generated by electricity, are indispensable for everything from productive employment to the provision of social services in schools and health centres. The fact is poor people are energy consumers and do pay for energy services. In many places they pay more per unit of electricity generated from dry cell batteries, or per volume of heat from traditional fuels, than do people with higher incomes. This is because there is often little choice in what fuels and services can be purchased locally.

### Millennium Development Goals

Goal	Target
1	Eradicate extreme poverty and hunger
2	Achieve universal primary education
3	Promote gender equality and empower women
4	Reduce child mortality
5	Improve maternal health
6	Combat HIV/AIDS, malaria and other diseases
7	Ensure environmental sustainability
8	Develop a global partnership for development

For more details on the Millennium Development Goals, visit [www.undp.org/mdg](http://www.undp.org/mdg)

The challenge is to get more energy to more people in ways that are both affordable and environmentally sustainable. If the world is to meet the Millennium Development Goals and make the term “sustainable development” a reality rather than an aspiration, it is a challenge we cannot afford not to meet.

For information on UNDP energy activities visit [www.undp.org](http://www.undp.org)



More than two billion people still cook with traditional fuels.

## The energy challenge – our response

**How can the world deliver all the energy needed for development over the next 50 years without pollution levels that damage health, blight local environments and threaten vital natural systems? For Shell, helping to meet this challenge is at the core of our contribution to sustainable development.**

**The challenge has three main parts:**

### **Providing access to modern energy for the poor**

As Mark Malloch Brown describes (page 12), poverty and a lack of modern energy go together. The world needs to:

- Provide reliable electricity to the two billion people without it
- Make modern fuels like LPG available to over two billion people using traditional fuels
- Spread cleaner, safer technology for using traditional fuels.



Today Shell is:

- Building markets for solar power, for example through our commercial rural solar power business (page 23)
- Growing our LPG business, for example in Sri Lanka (page 31), and providing kerosene for domestic use
- Helping tackle the health effects of traditional fuels (page 40).

### **Find out more**

Our long-term energy scenarios describe two possible routes to a sustainable energy system (see [www.shell.com/scenarios](http://www.shell.com/scenarios)).

### Meeting growing demand for fossil fuels while reducing environmental and social impacts

By 2050, we expect the world to double its energy demand. Developing countries will need five times more. Fossil fuels will remain important, but people are unlikely to tolerate increased pollution, the burden of extra infrastructure and the possible effects on the climate. The world needs to:

- Deliver the extra energy needed
- Minimise the environmental and social impacts from extracting and delivering fossil fuels
- Ensure local communities benefit from energy production
- Increase energy efficiency
- Market more natural gas and develop cleaner transport fuels.



Today Shell is:

- Continuing to explore for and produce oil and gas
- Working to develop new gas markets in fast-growing regions (page 20)
- Reducing the environmental impacts of its operations, for example by cutting emissions and discharges (pages 24 to 27)
- Lowering the environmental impact of producing oil from oil sands (see [www.shell.ca](http://www.shell.ca))
- Working with others to better manage the social impacts of its global operations, for example in China (page 42), Nigeria (page 38) and South Africa (page 27)
- Introducing cleaner transport fuels (page 22).

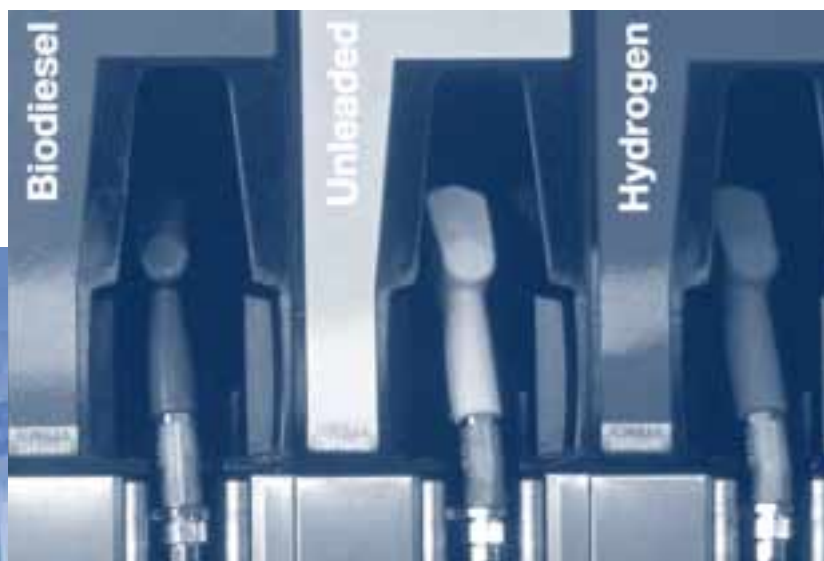


At Shell's Middle Distillate Synthesis plant in Malaysia, waste synthesis gas that was previously emitted, is now used to fire the steam boilers, significantly reducing gas consumption and flaring. Photograph by **Jan Zander, Shell MDS Sdn bhd, Malaysia.**

### Shifting towards a low-carbon energy system

The world needs low-emission and low-carbon energy. It will take more than a decade before alternatives with large-scale potential (solar power, fuel cells and bio-fuels for transport) can compete effectively. It will take another several decades before they deliver a large share of our energy. The world needs to:

- Reduce the cost of alternatives like solar (now at least 10-times more costly than electricity from fossil fuels or nuclear)
- Prepare the distribution infrastructure, regulations and markets
- Find ways to capture greenhouse gases from fossil fuels cheaply
- In the meantime, use more natural gas and affordable wind power.



Today Shell is:

- Working to reduce the costs of solar power (page 23)
- Supporting the development of hydrogen fuel cells and the necessary fuel infrastructure (page 22)
- Looking for cheap ways to capture greenhouse gases from fossil fuels (page 30)
- Bringing more natural gas to market (page 20)
- Expanding its wind power business.



# Our performance







#### **Economic performance**

- Earnings of \$9.2 billion
- Return on average capital employed (ROACE) of 14%
- \$25 billion of capital investment, including \$11 billion in key acquisitions
- Highest hydrocarbon production in recent history of 4 million barrels of oil equivalent per day
- Motorists rank Shell top brand for sixth year running

#### **Environmental performance**

- 2002 greenhouse gas emissions reduction target met
- Phase out of continuous gas venting nearly completed
- Improved spills performance

#### **Social performance**

- Mixed performance on safety
- Highest overall reputation within the energy sector
- Increasing involvement in international public-private partnerships
- More staff feel respected by Shell
- Progress towards senior leadership gender target



Tomorrow's generation – Children from a local school learning about Shell's White Deer Wind Park in the USA. Photograph by Hugh Yendole, Shell Wind Energy, The Netherlands.

# Generating robust profitability

**Successful financial performance is essential to our sustainable future and contributes to the prosperity of society. We seek to achieve robust profitability by improving ROACE, delivering projects, establishing new legacy assets and ensuring capacity for dividend growth.**

## Financial performance

We firmly believe that contributing to sustainable development improves our financial performance. In 2002, Shell had full year adjusted earnings (on an estimated current cost of supplies (CCS) basis excluding special items) of \$9,218 million, 23% lower than in 2001 (graph 1). It should be noted that adjusted CCS earnings is not a measure of financial performance under generally accepted accounting principles in the Netherlands and the USA. Oil prices were higher than in 2001. The price for Brent crude averaged \$25.05 per barrel, slightly up from \$24.45 in 2001. However, refining margins were at their lowest for a decade. Profit margins in our petrochemicals business remained poor, well below their mid-cycle levels. Despite these conditions, the Group generated an operational cash flow of \$16.4 billion and delivered a return on average capital employed (ROACE) of 14%, which compares favourably with industry peers (graph 2). ROACE is the industry standard to measure how profitably a company uses its assets.

## Investment and divestment

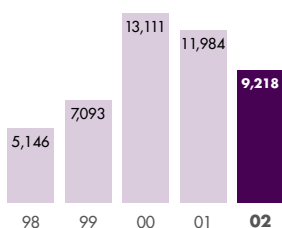
Directing our capital to where it can generate the highest return remains a top priority. We include social and environmental considerations when we decide where to invest to ensure that returns are truly sustainable over the lifetime of our projects (page 8).

In 2002, we invested \$25 billion, our highest investment level in recent history. \$14 billion was spent on organic growth and \$11 billion on four key acquisitions: We completed the acquisition of Texaco's 44% interest in Equilon, to become that company's sole owner and, with Saudi Refining Inc., acquired Texaco's interest to become joint owners of Motiva. We also completed the acquisition of Pennzoil-Quaker State. Together, these two transactions are an important step for Shell in improving its downstream position in the USA and strengthening its global Oil Products portfolio. We entered into a refining and marketing joint venture (50:50) with RWE-DEA in Germany in January 2002, and in July, took ownership of 100% of the venture, though payment has been deferred until a year later. In June, we completed the acquisition of Enterprise Oil, boosting production in the North Sea and bringing forward our first oil production in Brazil to 2003.

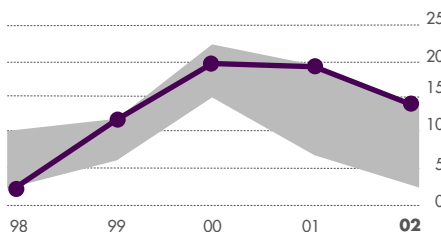
## Financial position and reserves

Although we undertook significant investment and acquisition activity in 2002, we can pride ourselves on a very strong balance sheet and financial position. We continue to hold the triple-A credit rating we have had since 1990. Group capital employed, the accounting measure for the amount of assets operated by the company, grew by 28% to \$83 billion. \$14 billion of this growth stems from our 2002 key acquisitions, including the effect of acquired debt. At the end of 2002, we had \$1.6 billion in cash on hand, while our debt as a percentage of our capital employed was 24% (within our target range of 20–30%).

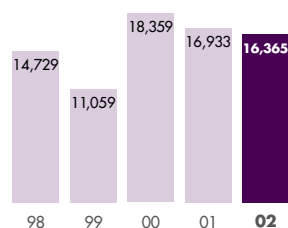
**1 Royal Dutch/Shell Group of Companies**  **adjusted CCS earnings**  
\$ million



**2 Return on average capital employed (ROACE) for oil majors\***  
%



**3 Cash flow provided by operating activities**  
\$ million



Earnings on an estimated current cost of supplies (CCS) basis, excluding special credits/(charges).

   
 Competitor range (BP, ChevronTexaco, ExxonMobil, Total)

\* Shell ROACE figures are calculated as CCS earnings plus the Group share of interest expenses after tax, as a percentage of the Group share of average capital employed. The figures for other oil majors are Shell estimates based on publicly available information, which may have been prepared on a different accounting basis and have not been subject to assurance.

With energy demand set to double by 2050, and alternatives decades away from being competitive on a large scale, we continue to grow our oil and gas reserves. We have proven oil and gas reserves equivalent to more than 13 years of current production. We expect our production capability to grow by an average of 3% per year. Our oil production increased by 7% compared with 2001. Gas production, which we see as a strategic bridge to a lower carbon future, grew by 5%. We added 1.17 barrels to our oil and gas reserves for every barrel we produced.

### Tell Shell

*"Presumably directors and managers should be working to the best of their abilities at all times. I therefore see no need for their financial enhancements at a time when profits and share prices are falling whatever the cause."*

UK

### Dividends and shareholder return

In 2002, Royal Dutch and Shell Transport grew their dividends by 3.6% and 3.0% respectively, in line with local inflation (graphs 5 and 6) and our long-standing dividend policy. It was the second year of our share buy back programme, resulting in us returning \$1.3 billion in cash to shareholders in 2002.

It was a terrible year for stock markets. In absolute terms, Royal Dutch and Shell Transport declined 26% and 13% respectively. However, the two stocks showed strong relative performance, outperforming the national indexes, with total shareholder returns in the 1993–2002 period of 12% and 13% per year respectively.

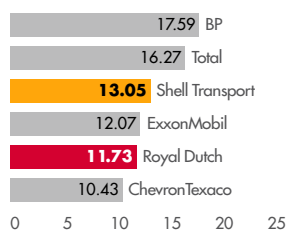
### Building our business in the Middle East

Two thirds of global oil reserves and one third of gas reserves are here in my region, the Middle East. The emerging potential for gas is particularly exciting. With oil production capped by OPEC, gas exports can increase the region's revenues, further its development, and contribute to a lower-carbon future. But these are turbulent and worrying times for the region. As a company that has been active in the Middle East for more than 90 years, we continue to take a long-term perspective and are determined to maintain momentum. Shell chemicals, lubricants and fuels are widely available across the region. Shell is involved in oil production in Egypt, Iran, Oman, Syria and UAE. Shell's share of Middle East oil production delivers more than a fifth of Shell's global oil production. I help Shell pursue new oil and gas opportunities in Abu Dhabi, Kuwait, Libya, Qatar and Saudi Arabia. In my 24-year experience, Shell has consistently been a valued partner in the development of societies where we operate – making considerable efforts to transfer technological know-how, support local businesses and build new skills. Nearly 90% of our 6,400 employees are local, and today, 85 staff are like me – people from the region furthering their development by working for Shell abroad. Wherever we work, we respect local cultures and emphasise diversity. When we work with national oil companies and other partners, we are clear about our Business Principles, including our commitments to sustainable development and human rights. We actively promote these principles and uphold all international conventions. In doing so, I believe we make a useful contribution to development throughout the region.

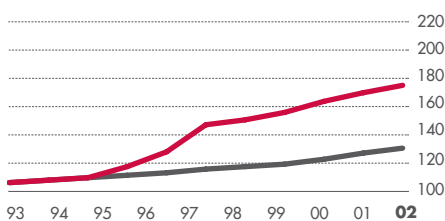


**Nejjib Zaafrani,**  
Regional Vice  
President,  
New Business  
Development,  
Middle East, reports.

**4 Total shareholder return\* 1993 – 2002** 🌐  
% per year

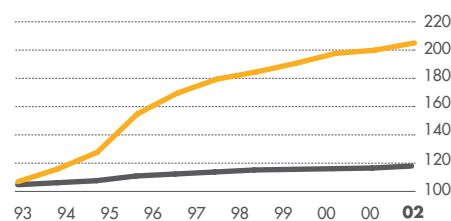


**5 Royal Dutch Petroleum Company dividend 1993 – 2002** 🌐  
indexed, 1992 = 100



■ Royal Dutch dividend growth  
■ Dutch inflation expressed as annual growth of the consumer price index measured by CBS. Source: Bloomberg (ticker NECPI Index).

**6 The "Shell" Transport and Trading Company, p.l.c. dividend 1993 – 2002** 🌐  
indexed, 1992 = 100



■ Shell Transport dividend growth  
■ UK inflation expressed as annual growth of the consumer price index measured by Eurostat. Source: Bloomberg (ticker CPALUK Index).

\* Total shareholder return is calculated as the total of stock appreciation and yield from reinvested dividends before taxes. The figures above are based on quarterly reinvestment of gross dividends expressed in dollars. Data for Total, ChevronTexaco and ExxonMobil before the effective date of their respective mergers were replaced by data from the acquiring entities. Source: Bloomberg.



# Natural gas – our bridge to the future



Linda Cook, Chief Executive of Shell Gas & Power, reports.

Like many people, I am convinced that natural gas will be an important bridge to a cleaner, lower-carbon energy future. It may take 20 years or more before alternative sources of power or heat, like solar energy, become competitive. In the meantime, demand for electricity will have nearly doubled and we will need a clean, affordable fuel to meet this growth. This is where gas will be critical in bridging the gap. Oil will however, continue to meet the growing demand for transport fuels for the foreseeable future, with gas a promising source of hydrogen in cars if fuel cells replace conventional engines.

Why is gas the bridge? Because it is convenient, cost competitive, relatively abundant, and the cleanest burning fossil fuel. It is already the fuel of choice for the power industry, for both environmental and economic reasons. A combined cycle gas-fired power plant generates as little as half the carbon emissions of a modern coal-fired plant. We see global demand for gas doubling over the next 20 years. Making this a reality requires large investments by energy companies and support from governments. Gas is often found long distances from markets, requiring expensive pipelines or special facilities to liquefy and transport it. It also requires us to address safety, local environmental and social impacts.

## Shell's gas strategy

We are committed to growing our gas business aggressively and profitably. To be allowed to grow, we must work together with stakeholders to minimise environmental impacts and ensure our activities benefit those communities involved. Whether we are producing gas near an endangered whale population off Sakhalin Island in Russia or in an area with local communities in the West of China, we need to meet the sustainable development challenges head on. We are expanding in new and established markets, building on our leadership position in liquefied natural gas (LNG) and developing new, more efficient and cost effective technologies.

## Developing new and growing established markets

We are helping develop gas markets in the Asia Pacific region. Our efforts in China are discussed on page 42. We are also continuing to explore for new gas reserves to grow our production, for example in the US Rocky Mountains and in Canada. We are continuing to grow our business in liberalising European markets and in North America, including increasing access to imported gas via pipelines and LNG.

## Strengthening our lead in LNG

Liquefying natural gas enables us to deliver cleaner energy to distant markets. Our new LNG project on Sakhalin Island will supply key markets in Asia

Pacific. Our project in Venezuela will supply markets in the Atlantic Basin. To access growing markets in India, we are constructing a LNG re-gasification terminal in Hazira. Our joint venture in Nigeria contributes to reducing flaring by capturing the gas produced from remote oil fields and turning it into saleable LNG for customers in Europe and the USA. Our developments in liquefaction technology have halved unit capital costs and increased efficiencies in energy used over time. Work done in 2002 by one of our joint ventures in Australia, in conjunction with the Rocky Mountain Institute, indicated the potential for further reducing energy use profitably.

## Gas to Liquids technology

Producing ultra-clean liquid fuels is a further option to capture the environmental benefits of natural gas. Our Gas to Liquids plant in Malaysia has been in operation since 1993. We are pursuing prospects for building world-scale facilities, with particular focus on the Middle East. We are also working with the automotive industry and heating equipment manufacturers to fully capture the fuel's environmental benefits and anticipated efficiency improvements. Increasing process energy efficiency is of particular interest. Our R&D efforts aim to minimise the impact on global warming.

## Further information

Find out more about our gas business at [www.shell.com/gas](http://www.shell.com/gas)



# Delivering value to customers

**Customers are the lifeblood of our business. We seek constantly to strengthen existing customer relationships and develop new ones. We strive to meet and exceed customer expectations by designing and delivering highly attractive and innovative products and services.**

## Serving consumers

Every day, we serve more than 25 million customers in more than 100 countries with transport fuels and convenience goods through our retail outlets. We have twice as many service stations as McDonald's has restaurants and the largest retail network under one brand in the world. In 2002, for the sixth year in a row, Shell was the preferred energy brand for private motorists in the 50 countries surveyed in our Shell Global Brand Tracker research. Shell led in 30 countries, 10 times more than our nearest global competitor, and was placed second in another 10 countries (graphs 7 and 8).

We provide consumers in both developing and developed countries with a wide range of other energy services, from fuel cards, vehicle lubricants and servicing (via Shell autoserv) to home heating oils and gas, home energy advice and "green" electricity.

## Tell Shell

*"I shall be purchasing Shell fuel since I read your advert in the Harvard Business Review. My priorities have changed since understanding the concept of global sustainability and I now choose my vehicles according to emissions and economy instead of acceleration performance."*

Unknown

## Serving business

Our one million commercial and industrial customers trust us to provide them with a wide range of energy and petrochemical products from the more than 50 refineries in which we have a stake, our petrochemicals plants, gas plants and distribution networks. We deliver:

- transport fuels and lubricants, for trucks, ships and planes. Shell supplies 14% of the world's jet fuel at 700 airports.
- products for manufacturing and construction, including full factory lubrication and maintenance services, petrochemicals to make plastics for vehicles, packaging, construction and insulation, and bitumen to surface roads and roofs.
- power generation fuels, as the world's largest private provider of LNG and a marketer of pipeline natural gas.

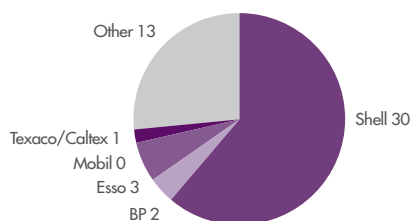
The big growth markets for lubricants are China, India and Russia and Shell is aiming to invest more there. Developing and transition countries are among our fastest-growing fuels markets, as economic development drives up demand for mobility and energy.

## Innovative products and services

We are constantly looking to improve our products and services to better meet changing customer needs. This has led us to introduce tailored fuel brands such as Shell Pura™, Shell Optimax™ and Shell V-Power™ into 46 markets as diverse as Thailand and the Netherlands. These fuels have been designed to meet specific customer demand for reduced environmental impact or improved engine performance (see Fuels of the Future story, page 22). It is also why we are testing automated service stations in Finland and France that halve the amount of time it takes to refuel. Shell also helped to launch OceanConnect, an online brokering service for marine fuels trading. This drive for innovation has also led us to extend our range of consumer products,

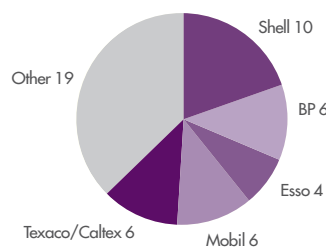
### 7 Brand share of preference 2002

First preference  
number of countries



### 8 Brand share of preference 2002

Second preference  
number of countries



and services to industrial and commercial customers. For example, we now trade greenhouse gas emission credits via Shell's Environmental Products Trading team. We sell pure carbon dioxide, full factory maintenance services and energy advice (Shell Energy, Coral and Energise™) to industrial users, to help them save money and reduce their emissions.

### Tell Shell

*"Having been a former Shell dealer, I am glad to see the company moving into the renewable energy systems. I would encourage the company to aggressively research and develop a practical fuel cell that would utilize hydrogen to produce the electricity that we, as a nation and world, need."*

USA

### Competition and fuel pricing

In line with our Business Principles, we support the spread of competitive markets and seek to compete fairly and ethically, and within applicable competition laws. Competition laws are complex: complying with them requires training and constant vigilance. In 2002, we produced "Competing Fairly – an Antitrust Primer for Shell Staff", to help our people in this area. It has been distributed to Legal Counsel and Country Chairs\*. It is also distributed to staff in compliance training sessions and is available on our internal website.

We continue our efforts to be transparent about pricing and explain fluctuations in fuel prices to our customers, making clear how dependent gasoline prices are on taxes, world oil prices and the strength of the US dollar, and on local competitive conditions. For example, our fuel pricing website in Australia lets customers compare daily pump prices at the Shell stations in their neighbourhoods drawn from more than 900 of our stations across the country (see [www.shell.com.au/petrolpricing](http://www.shell.com.au/petrolpricing)).

In 2002, we were either found guilty or settled out of court in two competition cases involving allegations of gasoline price fixing with other energy companies. In the US State of Hawaii, a pending lawsuit on gasoline pricing practices against four retail gasoline companies was settled and Shell paid \$5 million to the State. In the Czech Republic, we were fined approximately \$2 million. This decision is being appealed.

\* One manager acts as the senior representative of the Group and is called the "Country Chair" in a country or group of countries, whether or not he or she is actually chairman of the local companies.

### Fuels of the future

The demand for mobility, especially with the private car, goes on rising. Environmental concerns continue to grow, but there is no single, quick way to make transport emission-free. So we're pursuing many different options. We believe that, for the next decade, the biggest environmental gains can be made by increasing the use of modern engines and cleaner conventional fuels. Today's diesel and hybrid engines (electric/internal combustion) can cut a car's greenhouse gas emissions by 20 – 30%. Reformulated gasoline and diesel, containing less sulphur, significantly reduce the emissions contributing to local air pollution, and improving engine efficiency and performance. In some cities, compressed natural gas and LPG can also help. The challenge for us is to increase market penetration of these cleaner fuels.

We are also increasing our efforts to commercialise fuels from crops (bio-fuels), that can be blended with gasoline or diesel to reduce emissions further. In 2002, we bought a \$29 million stake in logen Energy, a small company with a promising technology that could narrow the cost gap between bio-fuels and gasoline. Producing ultra-clean diesel fuel from natural gas – Shell Gas to Liquids – is another option we are pursuing.

Longer-term, hydrogen holds a lot of promise. Today, fuel cells running on hydrogen cost much more than conventional engines. Reducing costs and building the fueling infrastructure will take time. Shell Hydrogen is supporting hydrogen fuel cell development on many fronts, including participation in the California Fuel Cell Partnership, in the first hydrogen refueling station in Tokyo (to open in 2003) and in Iceland's vision to become the first hydrogen economy. Find out more at [www.shell.com/hydrogen](http://www.shell.com/hydrogen)



**Mark Gainsborough,**  
**Leader of Shell's**  
**Future Fuels**  
**Strategy, reports.**



Ethanol and biogas on sale in Stockholm. The clean burning biogas is made from purified methane from the city's sewage and powers many municipal vehicles.



# Shell Solar's rural operations



**Damian Miller,**  
Director of Rural  
Operations for  
Shell Solar, reports.

Photovoltaic (PV) panels turn sunlight directly into electricity, safely and with no emissions. For most of the estimated two billion people without access to modern electricity and living in villages "off-grid", PV is practical, and for governments, one of the cheapest ways to deliver electricity. And with access to power, come many benefits – light at the flick of a switch, cleaner indoor air, extra hours for study or work, connections to the world for example via television, radios and phones.

## Shell's commitment to off-grid solar

Shell is committed to building a profitable business from selling, installing and servicing PV systems in off-grid rural areas, as one part of its overall PV strategy. Many more of our panels are used in projects connected to the grid. But the off-grid market has real growth potential, as more governments focus on bringing electricity to the rural poor.

## The practical challenges

Our rural PV projects are small, but fiendishly complex. After four years in the field, our people know all about the challenges. The first is establishing a local presence in remote areas. Then there's payment. The PV system has to be paid for by customers with no bank accounts and little cash. Effective partnerships are needed with local credit providers to ensure customers can pay for their systems in small installments. Finally there is basic logistics. Cash and PV systems have to be moved between branches and customers without going astray, often with no phones or roads.

## Making it happen

With perseverance and support from partners, we've already achieved a lot. Over the past four years we have launched operations in Sri Lanka, India, Philippines, China and South Africa, making us one of the world's largest rural solar retailers. We have invested more than \$10 million, established more than 35 remote rural "Shell Solar Centres", created more than 600 local jobs and connected more than 23,000 customers (with plans to double this number in 2003). In Sri Lanka (picture right),

for example, we have sold roughly 15,000 systems in three years and broken even financially. Our presence has helped spawn a local industry. We now have three Sri Lankan competitors.

The Sri Lankan business succeeded because of grants from the Global Environment Facility (GEF) and credit for our customers from SEEDS – a local micro-finance organisation. Sellers received \$100 on average for every PV system installed, which helped reduce the price of systems and offset the cost of setting up in remote areas. And while few customers have \$500 to buy a solar system, many can afford a \$100 down payment and roughly \$10 per month over five years. With both sellers and credit available, a competitive market flourished.

## A call for action

Rural solar's potential remains largely untapped. If realised, it would improve many more people's lives, and dramatically increase the demand for solar panels, driving down the cost of making them.

We are calling for a concerted effort by governments, international agencies and the solar industry to develop this market. At the

World Summit on Sustainable Development, we lobbied for the launch of a "One Million Solar Homes Fund". In partnership with the GEF, this has now grown into the "Five Million Fund", which aims to provide five million people with some form of renewable electricity within five years.

Following the Sri Lanka model, the Fund would provide per connection grants – \$150 million in total – and support the establishment of credit facilities. Shell would then aim to connect 150,000 homes, with other, hopefully local, companies connecting the rest. The GEF has indicated its intent to provide \$60 million in grants for off-grid renewable energy, and discussions are underway with other donors.

## Further information

Find out more about our solar business at [www.shell.com/solar](http://www.shell.com/solar)

**"In India, Shell Solar is unique among PV suppliers in going all the way to the customer's door step, with quality products and after-sales service; and we are proud of it."**

**N.P. Ramesh**, General Manager,  
Shell Solar India





# Protecting the environment

**The natural environment supports all human activity. We continually look for new ways to reduce the environmental impact of our operations, products and services throughout their life.**

Finding effective ways to reduce our environmental impacts also makes us more competitive. We made good progress in 2002, beating our reduction targets for greenhouse gas emissions, gas flaring and spills.

### HSE data presentation for 2002

During 2002, new acquisitions (page 5) have made a material difference to the HSE data we report. For clarity and comparability, we report our 2002 data in two ways:

- **Old portfolio:** includes data from the operations we controlled at the start of the year, to see if we met our 2002 targets. Unless otherwise specified, we report on this basis, below.
- **New portfolio:** actual data from all operations for the time that they were under our operational control. New portfolio data are shown in the relevant graphs.

In 2002, we started to integrate Group HSE reporting systems at the new acquisitions. The work is not yet complete. The data from the acquisitions have therefore not been subject to assurance, but will be included in the 2003 assurance process.

Our 2002 reduction targets were based on the old portfolio. We have set new improvement targets for 2003 and 2007 for flaring, spills and energy efficiency based on the new portfolio. We have also restated our 1990 greenhouse gas (GHG) baseline (see page 45) and set out our 2010 climate change goals (see below and page 28).

### Environmental Key Performance Indicators

#### Global Warming Potential (GWP)

Responding effectively to climate change is strategically important to our business. Our response begins with reducing GHG emissions from our own operations. We beat our target to reduce emissions to 10% below our 1990 baseline in 2002. We achieved the reductions from our 1990 baseline by:

- Almost eliminating continuous venting of gas during oil production. This made up more than half the reduction. Our target to end continuous venting by 2003 was met by all but our Brunei operation, which will stop the practice in 2003.
- Reducing continuous flaring of gas during oil production (see below). This made up most of the remaining reduction.

We also improved our energy efficiency, but in refining this was largely offset by the extra energy needed to produce cleaner gasoline and diesel.

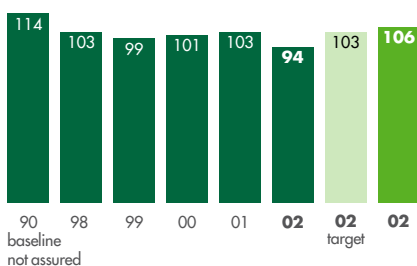
Compared with 2001, emissions were also lower because of reduced throughput in our refineries, lower oil production levels and corresponding flaring in Nigeria. Our future target is to manage GHG emissions so that they are still 5% or more below the 1990 baseline by 2010 (graph 10). We intend to achieve this, even while we grow our business.

#### Flaring

We met our 2002 target to reduce flaring by 22% (see graph 11). Most of this improvement was due to lower oil production in Nigeria (primarily because of OPEC quotas). We also increased the amount of associated gas sold to make LNG or for use in power plants, rather than flaring it. Much of this increase came in Nigeria where we have

### 9 Reduction in Global Warming Potential\*

million tonnes CO<sub>2</sub> equivalent

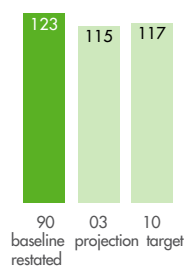


■ old portfolio  
■ new portfolio (including new acquisitions, assurance not provided)

\* see Flaring.

### 10 Global Warming Potential targets

million tonnes CO<sub>2</sub> equivalent



made significant investments in gas gathering for Nigeria LNG. Our long-term target is to stop continuous flaring by 2008. Our programme to improve data quality in Nigeria is on track, but we recognise that uncertainties remain. In 2002, we began to measure the volume of gas flared. Further comparison between metered and calculated data is required and the final outcome of the programme will be reported next year. We do not believe that the remaining uncertainties impact our conclusion that we met our 2002 GWP reduction target.

We were the first company to support the World Bank's Global Gas Flaring Reduction Initiative, launched at the 2002 World Summit on Sustainable Development (page 43). We have seconded a senior executive to work on the initiative full-time (see [www.iftc.org/ogmc/global\\_gas.htm](http://www.iftc.org/ogmc/global_gas.htm)).

### Tell Shell

*"In the early 1960s, I was always puzzled by pictures of oil installations showing gas flared off continuously. It always struck me as the most appalling waste of a source of energy that must have a commercial value... I write with considerable puzzlement that the practice is still continuing and will not be completely phased out until about 2008."*

UK

### Spills

Spills of crude oil, oil products or chemicals can unnecessarily impact the environment, erode stakeholder trust (see case study on SAPREF, page 27) and are a waste of money. In 2002, our spills were the lowest since we started reporting in 1996, beating our 2002 target and improving significantly on our disappointing performance in 2001 (see graph 12). The main improvement came in our Exploration

and Production business, where the volume of spills attributed to sabotage in Nigeria was reduced by more than 50%. Nevertheless, we still had more than a thousand spills. The largest was the loss of 450 tonnes of oil as a result of a collision involving a Shell-contracted barge in Singapore harbour. Our new long-term target means a reduction of more than a third in 2007. This will be achieved primarily through further upgrading of our pipeline systems and continued engagement with communities to reduce spills from sabotage.

### External perception of environmental performance (New KPI)

For the first time we report on the perception of our environmental performance by external stakeholders, using the new Reputation Tracker survey (page 11). Respondents were asked to assess Shell's overall "environmental responsibility" and our performance in specific areas (e.g. minimising impacts from our operations, offering cleaner fuels and developing renewable energy). Environmental responsibility was found to be one of the top three factors in deciding a company's reputation, but one of our, and our industry's, lowest scores. However, against our main competitors, Shell scored highest in this area, with approximately one quarter of all respondents around the globe ranking us "the best" or "one of the best companies". We will report our ranking again next year and are analysing the results to identify areas where stakeholders want us to focus our improvement effort.

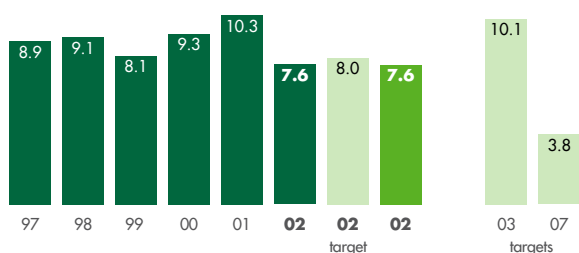
### Other parameters

#### Ozone-depleting substances

Certain halocarbons (such as chlorofluorocarbons – CFCs – and halons) damage the ozone layer in the upper atmosphere. The production of these gases is being phased out globally. As part of our Minimum Environmental Standards, we will phase out our use of them as well.

## 11 Flaring Exploration and Production\*

million tonnes

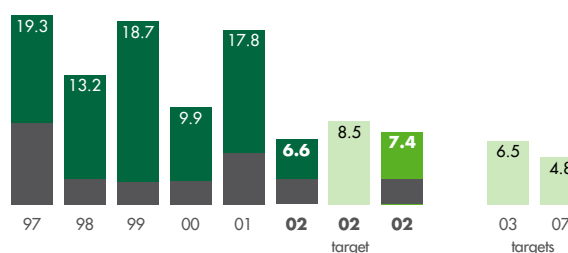


■ old portfolio  
 ■ new portfolio (including new acquisitions, assurance not provided)

\* see Flaring.

## 12 Total spills

thousand tonnes



■ old portfolio  
 ■ new portfolio (including new acquisitions, assurance not provided)  
 ■ sabotage (assurance not separately provided)

# Protecting biodiversity

## Challenges

Our mission at The World Conservation Union (IUCN) is to encourage and assist societies to conserve the integrity and diversity of nature and ensure natural resources are used in a fair and ecologically sustainable way. Biodiversity is IUCN's business.

Energy companies impact biodiversity directly through land use and pollution or indirectly through the use of their products. The purpose of my secondment is to work with Shell to minimise its impacts on biodiversity and to identify opportunities for it to play a positive role in biodiversity conservation.

## Progress

Shell is the first energy company to establish a Biodiversity Standard. It commits all Shell companies to respect protected areas, maintain ecosystems and contribute to conservation.

Shell has shown it can meet this Standard in projects from Gabon in Africa to the Stanlow refinery in the UK (photograph, right). But I have also seen operations where Shell is struggling to deliver. That tells me Shell has a lot of work to do, particularly in joint ventures and acquisitions, before it can apply its Standard everywhere.

I have been working to develop tools, which integrate biodiversity into Shell's business practices. In 2002, I helped create a system to warn planners when projects are in or near sensitive environments, integrated biodiversity into Shell's internal guidelines for assessing the environmental impact of its projects, and developed a management primer to introduce managers to biodiversity issues.

Shell has successful partnerships with conservation organisations, such as IUCN, the Smithsonian Institution and Fauna and Flora International. For example, Shell is working with IUCN in the Energy and Biodiversity Initiative

(EBI), a collaborative project between four energy companies and five conservation organisations. The results of this collaboration will be shared with others in the energy industry in 2003.

## Protected areas

Shell and the rest of the energy industry need to go further and commit not to explore or extract oil and gas from the most sensitive areas of the world. The conservation community has worked for over a hundred years to create a global network of areas protected because of their natural or cultural value. We are seeking to shield the most sensitive parts of that network from the impacts of industry.

I understand that Shell needs to think carefully before making such a step. I have been helping Shell understand whether this would significantly limit its current operations and future business plans. I have also been helping to increase understanding between the conservation community and business, with the hope of resolving some of the conflicts, uncertainties and mistrust that surround this debate on protected areas.

## Overall impressions

I have greatly enjoyed working with Shell as it has given me an opportunity to see how a major company is striving to integrate biodiversity concerns into its business. I have been impressed with the level of commitment shown within Shell at all levels, from the engineers on the West-East gas pipeline project in



**Andrea Athanas, seconded to Shell for two years from The World Conservation Union (IUCN), reports.**

China to the Chairman, Sir Philip Watts. Increasing that commitment in a challenging business environment will be difficult, but is critical. Shell has made good progress on biodiversity, but it still has a long way to go.

## Further information

Find out more about Shell's approach at [www.shell.com/biodiversity](http://www.shell.com/biodiversity), the EBI at [www.celb.org/ebi.html](http://www.celb.org/ebi.html) and IUCN's activities at [www.iucn.org](http://www.iucn.org)



Shell UK Stanlow has created a pond as part of efforts to actively manage its land for biodiversity. The pond is used by schools to give local children the opportunity to learn about wetland biodiversity. Photograph by Nigel Fenwick, Shell UK Oil Products, Stanlow.



### Nitrogen oxides and sulphur dioxide

We emit nitrogen oxides (NO<sub>x</sub>) and sulphur dioxide (SO<sub>2</sub>) when we burn fuel. These gases contribute to local air pollution and acid rain. No matter where we operate, our emissions are in the range permitted within Organisation for Economic Cooperation and Development (OECD) countries. This is one of our Minimum Environmental Standards. NO<sub>x</sub> and SO<sub>x</sub> emissions last year declined by 5% and 6% respectively. Efforts continue to reduce these emissions further. We are also helping to establish a NO<sub>x</sub> trading system in the Netherlands, which will be launched mid-2004.

### Discharges to water

Oil in the water that accompanies oil production and oil in effluents from refineries are our main discharges to water. Both were reduced in 2002. The average concentration of oil in the water from our production operations worldwide was 14 milligrammes/litre (mg/l) in 2002, 65% below the 2002 North Sea standard of 40mg/l.

### Winning back trust at SAPREF

Some of the biggest challenges for refiners are to reduce emissions and incidents and contribute to social development. Delivering continual improvement in social and environmental performance is important to earning your neighbours' trust.



**Richard Parkes,**  
**SAPREF Managing**  
**Director, reports.**

#### The issue

Regretfully, we haven't yet got it right at SAPREF, Southern Africa's largest crude oil refinery and a 50:50 joint venture between Shell and BP. Like many companies operating in South Africa, in the past we had limited communication with the local community. In recent years we discovered that we had been significantly under-reporting our sulphur dioxide emissions because of a miscalculation and we had too many incidents, including a major leak in an underground pipeline in a residential area. This combination of practice and events resulted in widespread community concern and is reflected in some of the recent protests against us.

#### Addressing the underlying problems

When you lose trust, you need to admit it, learn from your mistakes and take positive action to rectify the situation. In 2002, we commissioned \$49 million worth of plant to reduce our environmental impacts. Included in this was new plant to reduce sulphur emissions by 40%, which we achieved in the fourth quarter. We have maintained ISO 14001 certification, which helps to tighten our environmental

### Tanker safety

Many of our products are transported by sea, including oil, gas and chemicals. Safety is always our foremost concern and we set high standards for our own ships and those we charter. While most of the world's ships are operated safely in accordance with international regulations, a significant minority pose an unacceptable risk. Shell has its own long-standing system of ship quality assurance, to avoid being associated in any way with a sub-standard vessel. Accredited inspectors undertake rigorous ship inspections. Our Ship Quality Assurance team assesses the inspection reports and other information each time a vessel is offered to us for charter. We insist on evidence that a ship is suitable for use – what we call positive vetting. We will not use a ship that compromises our standards. Shell is working to raise overall standards of tanker safety. We share our inspection reports with other oil companies and government authorities. Through our membership of the Oil Companies International Marine Forum and other industry bodies, we promote global measures by the International Maritime Organisation to improve safety and protection of the environment.

management system and drive further improvement. To improve transparency, we produced our Environmental and Social Performance Report (see [www.sapref.com](http://www.sapref.com)) and hired more people to work on community dialogue. I now meet regularly with community members to report our progress on the petrol remediation project and listen to their concerns.

#### Assurance and advice

To help rebuild trust, we also sought assurance and advice from other parties. PricewaterhouseCoopers Inc provided assurance over parts of our 2001 Performance Report. A team of international experts, including two independent consultants, are helping us prepare a long-term plan for increasing local community dialogue and involvement. We've already started to implement some recommendations from these reviews. I know we still have a long way to go, but I am personally involved in achieving continual improvement and trying to rebuild our neighbours' trust.





# Progress on climate change



David Hone, Group Climate Change Adviser, reports.

## The challenge

The emission of carbon dioxide (CO<sub>2</sub>), mainly from burning fossil fuels, and other greenhouse gases (GHGs) could be changing the global climate. Long-term effects are not fully understood, but we share the widespread concern. We believe action is needed now to eventually stabilise GHG levels in the atmosphere without hurting economic and social development.

With energy demand expected to double by 2050, stabilisation could take more than a century. Achieving it will require sensible action by governments, consumers and energy companies. As a start, we must all use energy much more efficiently. We will also need to use more natural gas for power and heat instead of coal. Finally, the world must also shift to low or zero-carbon alternatives such as solar, bio-fuels and fuel cells running on hydrogen, as these become competitive and widely available (see [www.shell.com/scenarios](http://www.shell.com/scenarios) for two possible paths to stabilising GHG emissions).

## Shell's response

In 1998 we set clear targets to reduce GHG emissions from our own operations. We beat our 2002 target (page 24). By 2010, we want our GHG emissions to be 5% or more below our 1990 baseline, even while we grow our business. This will be done by ending continuous flaring at our oil production sites and substantially improving energy efficiency in our operations. We factor the costs of GHG emissions into nearly all our new investments (page 8).

We will also continue to expand and improve our offering of lower-carbon products. We need to drive down the costs of these alternatives to meet customer demands for low-cost and convenient energy.

We are developing options for cleaner transport fuels (page 22), building our solar (page 23) and wind power businesses and expanding gas supplies (page 20).

We actively support practical regulations by governments that give companies the confidence to make long-term investments to reduce GHG emissions. For example, we welcome the European Union (EU) proposals for a mandatory, EU-wide emissions trading scheme. We have completed a three-year internal CO<sub>2</sub> trading trial and are sharing our knowledge and experience with governments.

## Progress in 2002

In 2002, we continued to prepare ourselves for a low-carbon future:

**Preparing for the Kyoto protocol.** By the end of 2002, 100 countries had ratified the Kyoto protocol and many governments are acting to meet the targets. We expect emissions trading to play an important role. For example, the UK has started an Emissions Trading System. Our UK oil production facilities have joined – capping their CO<sub>2</sub> emissions more than 10% below their 1998–2000 baseline emissions by 2006. The EU trading system will start in 2005 and we will join it.

We have created an environmental trading business within Shell Trading. This team traded in the UK and Danish CO<sub>2</sub> markets in 2002 as well as in the SO<sub>x</sub> and NO<sub>x</sub> markets in the USA. Our new trading business will enable us to use credits from the Clean Development Mechanism (CDM).

This is a UN programme – still in development – that encourages investment in low-carbon energy projects in developing countries. Investors will gain credits that can be traded on international GHG markets. Shell projects under consideration for CDM include developing geothermal power in El Salvador and providing solar power for homes in India and Sri Lanka (page 23).

**Energy efficiency.** See page 30 for our efforts.

## Further information

Find out more about our activities and position at [www.shell.com/climate](http://www.shell.com/climate)

*“Shell, as a world leader in the energy business, is an example to be copied insofar as it writes climate change into its business plan. As a result of Shell's own work in developing GHG emissions trading, and as befits a “first-mover”, Shell will be better prepared than most when the EU's emissions trading scheme starts.”*

**Jos Delbeke**, Director, Environment Directorate-General, European Commission



The icebergs in Antarctica seem to be melting very quickly... this really brought home to me the effects of global warming and the importance of our focus on sustainable development. Photograph by **Genevieve Granger**, *Societe des Petroles Shell, France*.



### Tell Shell

*"Although I am still somewhat sceptical given the past damages that have been done to our shared environment by your corporation and others, I am glad that you are not only beginning to think about positive changes – but are also actively creating change."*

USA

### Fines, settlements, compensation payments and liabilities

Shell companies paid a total of \$0.6 million in fines related to HSE incidents. In addition, settlements and compensation payments were made, the largest of these were in the USA, where Equilon paid \$43.2 million as a result of two incidents: a rupture and explosion of the Olympic pipeline in 1999 and alleged MTBE contamination of groundwater in the South Tahoe area of California. At the end of 2002, the total liabilities being carried for environmental clean-up, decommissioning and site restoration were \$4,325 million. The more than 40% increase since 2001 relates principally to the new acquisitions.

### Legacies

We reported in 2001 on how we were responding to the concerns of local residents in Paulinia, Brazil about pesticide contamination at a former Shell agricultural chemicals plant that we sold in 1993. In 2002, many of the local residents accepted our offer to buy their homes and relocated. We focused on developing a plan for remediation and long-term monitoring to satisfy local stakeholders. We are also developing plans with the local authorities for remediation and monitoring at the Ipiranga Terminal, a fuel depot still owned by Shell in Sao Paulo City, where pesticides were also made. In Nigeria, we have been running a programme to clean up old oil spills since June 1999. Of the more than 500 sites requiring remediation, work has been completed on 245.

### Management systems

HSE management systems are in place and our programme to certify major installations to the ISO 14001 standard is virtually complete. The challenge now is to implement such systems in all the new acquisitions. We expect to complete this process by the end of 2005, except for Pennzoil-Quaker State Company where a plan will be finalised in 2003.

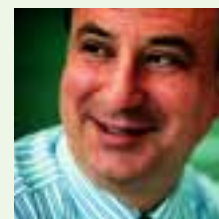
### Tell Shell

*"Fossil fuels have done Shell and myself as a car driver and shareholder very well. Now is the time to consider Shell's position as an investor in other sources of energy which we as a society have at our disposal. Wind, wave – all it needs is investment."*

UK

### Sustainable mobility

Two major forces will define the future for mass transport this century: population growth and urbanisation. By 2030, some 60% of the world's population will live in cities, compared with 47% today. We expect over half of the world's oil will be used for transport. New solutions are needed to keep cities moving and livable. That is why Shell is playing a lead role in the sustainable mobility project co-ordinated by the World Business Council for Sustainable Development.



**Kurt Hoffman,**  
**Director of the**  
**Shell Foundation,**  
**reports.**

It is also why last year, the Shell Foundation supported the launch of EMBARQ – the World Resources Institute Center for Transport and Environment – with a \$3.75 million grant. EMBARQ will help find, and speed the introduction of, more sustainable solutions to the problems of urban transport in cities, where the impacts of air pollution and congestion are most acute and have the greatest impact on the poor.

EMBARQ's first project is in traffic clogged Mexico City, (picture below) where a simple trip to the shops can take half a day and air pollution levels exceed local health standards for 288 days a year. The project involves the government, multi-lateral organisations, non-governmental organisations and the private sector. It aims to deliver better transport systems for the city's 18 million residents. Suggested changes include separating car and bus traffic, providing bigger, cleaner buses, and delivering mass transit routes that best suit residents.

### Further information

Find out more at [www.sustainablemobility.org](http://www.sustainablemobility.org) and [www.embarq.wri.org](http://www.embarq.wri.org)



# Managing resources

**Efficient use of natural resources (for example, energy, land, water) reduces our costs and respects the needs of future generations. We constantly look for ways to minimise their use.**

## Energy efficiency KPI

We used a similar amount of energy in 2002 as we did in the previous two years. In the longer-term, we expect to use more energy as we meet expanding global demand for our products.

Improving our energy efficiency – using less energy for every tonne we produce – saves money and reduces our environmental impact. However, over the last five years, we have not seen a systematic improvement. There are three main reasons for this. First, older oil and gas fields need compressors to maintain reservoir pressure and produce more water, requiring extra pumping energy. Second, we are now making a different mix of chemical products that require more energy to make. Third, we are producing new low-sulphur fuels which need more energy-intensive refining.

However, we will be taking further action to improve energy efficiency. Ambitious new programmes are underway in both our Chemicals and Oil Products businesses in support of their new one- and five-year improvement targets (graph 14). These two businesses have also developed new measures for reporting their energy efficiency. Programmes such as Energise™ will be progressively introduced in all our refineries worldwide. Energise™ seeks to improve energy efficiency with limited capital expenditure. Chemicals has started Energise™ programmes at sites in France and the Netherlands.

## Carbon dioxide capture

Capturing and storing carbon dioxide (CO<sub>2</sub>) emitted when fossil fuels are burnt could help reduce greenhouse gas emissions significantly. We sell more than 350,000 tonnes a year of concentrated waste CO<sub>2</sub> from our plants. It is used, for example, in carbonated drinks and to freeze foods. We have created a dedicated team to expand this business. Most man-made CO<sub>2</sub> is emitted in low concentrations, for example mixed with other emissions from power plants. Separating and capturing this CO<sub>2</sub> is very expensive. Finding cheaper techniques could create an enormous market.



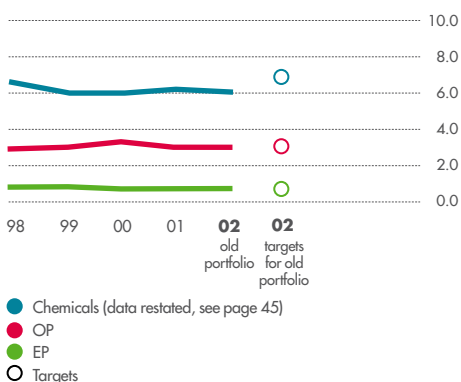
**Markus Droll,**  
Leader of Shell's  
CO<sub>2</sub> Capture Team,  
reports.

A CO<sub>2</sub> capture team was set up in 2002, with technical and commercial experts from across Shell. Its goal is to dramatically cut the cost of capturing and reusing CO<sub>2</sub>, by 2010. The team is doing its own research. It is also:

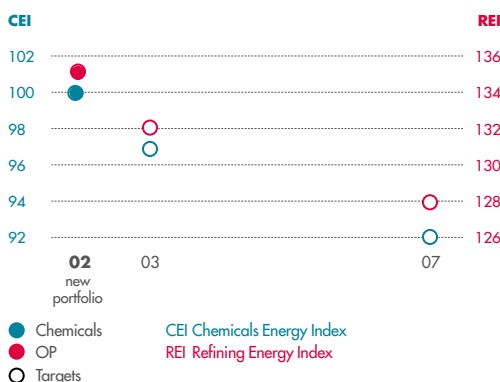
- Working with the CO<sub>2</sub> Capture Project, an industry initiative, and the International Energy Agency's Greenhouse Gas Research and Development programme.
- Collaborating with Statoil of Norway, the Norwegian government and Siemens Westinghouse to design and test a fuel cell power plant with zero GHG emissions.
- Co-sponsoring a project in Poland to store CO<sub>2</sub> in coal seams.
- Working with governments and environmental organisations to ensure that CO<sub>2</sub> stored underground is a safe long-term option.

### 13 Historic energy efficiency performance

Gigajoule/tonne throughput



### 14 Energy efficiency targets





In 2002, we continued working with the Rocky Mountain Institute on improving efficiency dramatically with new plant designs or refits. We held successful pilots on a North Sea platform and at a LNG plant in Australia.

### Water

Our operations affect water quality, for example, through our discharges (page 27) and when we use freshwater for cooling. Our industry is not a major water consumer, but can impact water quality when we operate in water stressed areas. In 2002, we used 1.6 billion cubic metres of fresh water, a little less than in 2001. More than 90% of this was for cooling.

We aim to use less water, especially in water-stressed areas. For example, Shell's chemicals plant in Singapore, which imports drinking water from Malaysia, saves 50,000 tonnes of water a year by reusing process water when making styrene and propylene oxide (base materials for many plastics). The change also improved energy efficiency and the overall performance of the plant. The technology will be applied at Shell's other styrene monomer-propylene oxide plants worldwide, with potential savings of up to 350,000 tonnes of fresh water per year.

### Waste

In 2002, we disposed of 965,000 tonnes of waste in our operations, of which just under half was classified as hazardous. Waste includes all solids, liquids and sludges that must be incinerated or sent to landfill. It excludes domestic, office, construction waste and contaminated soil.

We continue to look for new ways to reduce waste, including turning it into saleable products. For example, our Chemicals business is experimenting with a partnership to recycle used soft-drink bottles (made from polyethylene terephthalate – PET) into building materials in a Shell study in Mexico. In partnership with a soft drinks manufacturer and a local building materials company, the Shell PET-fix system uses the plastic to bind together stones and sand, to make roof and floor tiles as well as wall cladding.

### LPG in Sri Lanka

Liquefied Petroleum Gas (LPG) is a clean-burning fuel produced from natural gas or crude oil. It is highly versatile and used in homes and businesses for heating, cooking, lighting and transport. LPG plays a key role in many developing countries – providing energy and helping to reduce deforestation and pollution. Open fires can contribute to poor health and respiratory problems in women and children (page 40). The benefits of switching from kerosene or firewood to LPG are clear. There is less smoke and fewer accidental fires. Furthermore, using LPG creates more free time as fuel gathering, along with collection of food and water, in poor regions can take the entire day, everyday.



**Chanaka Yatawara, Area Implementation Marketing Manager for Sri Lanka, Vietnam and Pakistan, reports.**

In the rural areas of Sri Lanka, the use of firewood and kerosene is widespread and the average household income is low. It is tough for people to find the initial capital for LPG-based equipment, such as stoves or lamps. Nevertheless, by being creative and tailoring our market offering to local needs, we provided approximately 10,000 Sri Lankan households with access to LPG for the first time in 2002. To supply simple, affordable domestic LPG packages, we have: developed partnerships with distributors and rural banks to secure credit terms for customers; worked with local companies to agree direct-from-salary repayment schemes for their staff; and identified a number of competitively-priced equipment suppliers that offer customers an affordable deal. Our challenge for 2003 is to build on the knowledge gained to further improve our offer and to share best practice with colleagues from other developing countries where similar opportunities exist.





# Respecting and safeguarding people

**We aim to treat everyone with respect. We strive to protect people from harm from our products and operations. We aim to respect and value personal and cultural differences and try to help people realise their potential.**

## Safety

We deeply regret that 51 people lost their lives at work during 2002 (seven Shell staff and 44 contractors). Two further fatalities occurred in the acquired companies, bringing the total to 53 (see page 24 for how our data are reported). Shell staff throughout the world were saddened by the loss of 11 people in a tragic helicopter accident (page 33). Once again the principal cause of fatalities was road accidents (45%), mainly in difficult driving environments in developing countries. We measure fatalities by the Fatal Accident Rate (FAR), which is the number of company and contractor fatalities per 100 million hours worked (graph 15). Our performance has been disappointing and contrasts with the continuing improvement in our overall safety performance. In the short-term, we aim to continuously reduce the number of fatalities. Our long-term target is zero.

We also report a broader measure of safety that includes injuries, minor accidents and incidents – Total Reportable Case Frequency (TRCF, graph 16). Gathering complete and accurate data remains a challenge, in particular from our distribution contractors in some parts of Africa. This will be the focus of further efforts in 2003. We achieved our target of 2.6 cases per million hours worked, recording our best ever performance for the fourth consecutive year. This reflects the success of a number of safety management programmes including the sharing of best practice in road safety between businesses and further

implementation of the “Hearts and Minds” programme to instil constant awareness of work-related risks. We have set a long-term target to reduce this key indicator to 2.0 cases per million hours worked in 2007.

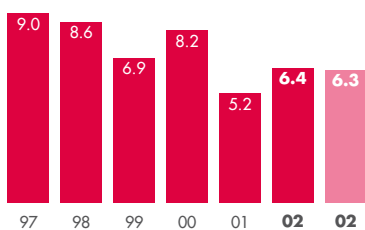
## Health

We measure the health of our employees in terms of the Total Reportable Occupational Illness Frequency (TROIF). It was 2.1 illnesses per million hours worked in 2002. We recognise that the awareness, identification and reporting of occupational illness still remains a challenge. To improve our performance, we have developed a management programme to give occupational health more prominence.

In 2002, we developed a series of Minimum Health Management Standards. These cover areas such as health risk assessment – the basis for our health management – health incident reporting and investigation, and human factors engineering in new projects. We have adopted a target across Shell to implement the Standards by the end of 2003. To support this programme, we have developed guidance and tools to raise understanding, improve competence and encourage the sharing of good practice.

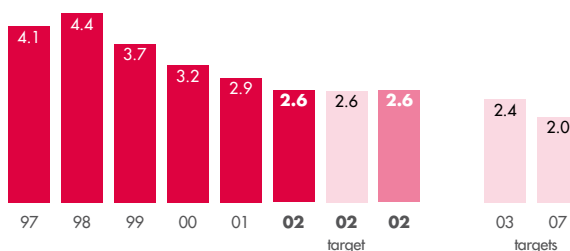
Through our impact assessments we address the health impacts on the broader community in the management of our projects. We have voluntary Group guidelines on HIV/AIDS, which we are piloting in several African countries (page 37).

**15 Fatal accident rate – company employees and contractors**   
per 100 million exposure hours



■ old portfolio  
■ new portfolio (including new acquisitions, assurance not provided)

**16 Total reportable case frequency – company employees and contractors\***   
per million exposure hours



■ old portfolio  
■ new portfolio (including new acquisitions, assurance not provided)

\* see Safety.

### Southern North Sea helicopter tragedy

On 16 July, eleven people – friends, colleagues and co-workers – died when a Sikorsky S76 helicopter crashed in the North Sea. It is difficult for me to describe the sense of deep personal sadness and shock that we in Shell Expro, indeed all of the UK oil and gas industry, felt on hearing the news. Our heartfelt sympathies and prayers continue to be with the families of the men who lost their lives in the line of duty. These men were all highly respected at work and in their local communities and are sorely missed. In the weeks following the accident, the Air Accidents Investigation Branch of the Department for Transport were of the opinion that the cause was clear – a fatigue fracture in one of the main rotor blades led to catastrophic failure. Working with Sikorsky, Bristow Helicopters, Shell Aircraft International and others, precautionary steps were immediately taken whilst detailed investigations were conducted to try to ensure this type of accident could not happen again. We engaged widely with our workforce, and on 3 September, flights were resumed with the S76 aircraft in the North Sea. On 23 August a memorial service was held in Norwich Cathedral, which saw people gathering from around the world. The fitting tributes paid to our lost colleagues and the inspirational words of the Bishop of Norwich were a comfort to the many people who were able to attend or see the coverage we broadcast across the company. The events of 16 July will be with us for the rest of our lives. The other thing that will remain with me forever is the incredible manner in which people from across Shell, the Emergency Services, Contractor companies, and other organisations responded. The selflessness and support that people showed each other and the families of the lost men was simply outstanding. I want to commend all of those involved for dealing with an unbelievably difficult tragedy with such a high degree of professionalism and sensitivity.

**Thomas M. Botts**

Managing Director, Shell U.K. Exploration and Production

### Security

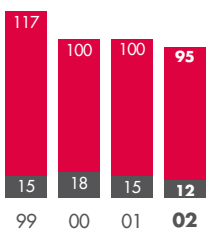
We need to protect our people, assets and shareholders' investments – sometimes with armed guards – without undermining the human rights in the countries where we operate. With ongoing concerns about terrorism and potential conflict, significant efforts continued in 2002 to protect Shell people and assets against potential threats. Thirteen countries reported significant security incidents during 2002, including war or civil unrest and violent crimes (including killings) at retail sites. In particular, security incidents at our Niger Delta operations remain of concern due to attacks on company staff at construction sites, hostage taking and willful damage to pipelines.

We expect protection from local law enforcement, in line with national and international laws. Where this is inadequate, managers may seek authority, or be required by law, to use security personnel. We use armed security only when it is a legal or government requirement, or where there is no acceptable alternative to manage the risk. Our Security Standard defines the way that Shell companies should manage security.

In 2002, Shell companies in 95 countries used security personnel (graph 17). In 23 countries, Shell companies used armed security (see data tables). In all cases where Shell staff are used for armed security, our Guidelines on the Use of Force and Rules of Engagement are followed. In two countries, where armed security is provided by contractors, they do not operate in line with our Guidelines. Plans are in place to correct this situation. In addition, in 28 countries, joint ventures and contractors also used armed security. Those under our operational control are required to follow our Guidelines and we promote its use in other ventures. In 2002, contractors and joint ventures in 20 countries operated according to our Guidelines.

### 17 Use of security personnel

number of countries

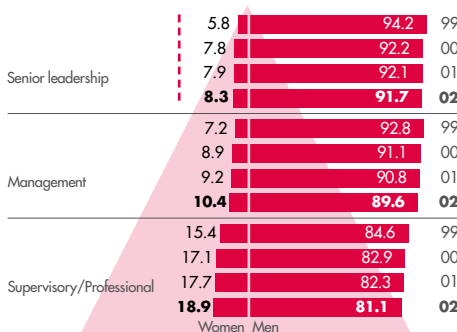


■ Required by law

Data aggregation not subject to assurance in 1999.

### 18 Gender diversity

%

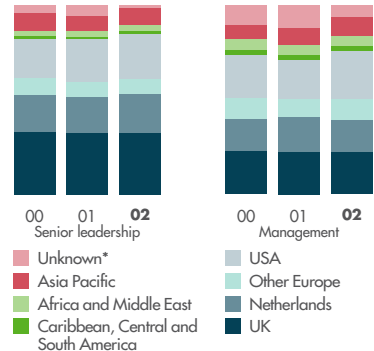


--- Target 2008: Increase to 20% the number of women in senior leadership positions

Data aggregation not subject to assurance in 1999.

### 19 Regional diversity

staff country of origin %



\* Including data from Australia (00-01) and Canada (00-02) for legal reasons.

For percentages, see data tables.

## Respect for staff KPI

In the Shell People Survey (page 10), 78% of people said that “where I work we are treated with respect”. This is up from 73% in 2000 and 8% above the norm for high performing companies, according to benchmarking by the research company that conducted the survey.

## Diversity and inclusiveness

Diversity and inclusiveness means both visible differences such as age, gender, ethnicity and physical appearance, as well as underlying differences in thought styles, religion, nationality and education. Our goal is to create a work environment that attracts a diverse range of talented people and releases their potential.

We use a three-part key performance indicator to monitor our progress:

### Group diversity targets

By the end of 2002, 8.3% of senior leaders were women. This is up from 7.9% in 2001, but still behind our target of 20% by 2008. Shell was the only company with three executives on Fortune magazine’s list of the most powerful international businesswomen. We are taking steps to improve our ability to attract, retain and develop women at all levels in the company.

In 2003, our target is to have local nationals in place, or with the skill and seniority to be able to fill all Country Chair positions. In 2002, we had suitably qualified local nationals for 78% of these positions.

### Diversity and inclusiveness indicator

In 2002, we developed a diversity and inclusiveness indicator (DII). This uses the Shell People Survey (page 10) to measure the extent to which staff believe that their views and backgrounds are respected, their leaders support Shell’s Diversity and Inclusiveness Standard and they are being treated fairly at work. The favourable response rate to these questions averaged 70%, which was higher than the average for high performing companies. In 2003, we will continue to track, report and take specific actions to improve our score.

### Diversity and Inclusiveness Standard

We require all our businesses to implement our Diversity and Inclusiveness Standard. At the end of 2002, we reviewed our progress. Results show that most efforts to date have focused on communicating the Standard and developing implementation plans. The detailed results will now be used to help further improve implementation in 2003. We will monitor and report on progress annually.

In addition, we track the regional diversity of senior staff, which is shown in graph 19.

## Tell Shell

*“While I applaud Shell for investing in wind technology, their human rights record is deplorable beyond our imaginations. When Shell is ready to have a human conscience then we as consumers will start to have some trust in their deeds and they won’t have to spend so much on greenwashing.”*

Unknown

## Human rights

Support for fundamental human rights is embedded in our Business Principles. It also needs to be matched by clear action. Increasingly, that means promoting human rights among our contractors and wider society, as well as continuing to respect the human rights of individual Shell employees. In 2002, we issued 5,000 copies of our new training guide on Human Rights Dilemmas, after a successful pilot in Oman and reviews by Amnesty International and Pax Christi. The guide helps managers understand their responsibilities and identify actions they can take to support human rights. It is now part of our Business Principles training.

We also developed a new human rights compliance tool for Shell companies, based on tools developed by the Human Rights and Business project of the Danish Centre for Human Rights (see [www.humanrightsbusiness.org/pages/hrca](http://www.humanrightsbusiness.org/pages/hrca)). First piloted in South Africa in 2001, this was revised in 2002 to give managers a practical step-by-step approach to help them avoid violating the basic human rights of employees, local communities and others directly affected by our operations. It now also covers compliance aspects by contractors and aligns with our business management processes. In 2003, we are planning further tests, before deciding how to roll it out.



Without the tyres of the rich men, the poor would not have such nice shoes. Without the shoes of the poor man, the tyres would probably be left in nature. Thus respect the poor man, rich man and nature. Photograph by Rene Verschoor, Shell Nederland Chemie BV, The Netherlands.



Our approach to human rights in practice is illustrated by case studies on SAPREF refinery (page 27), community development in Nigeria (page 38) and Shell in China (page 42).

**“We’ve been working with Shell for over three years, developing a human rights compliance assessment. We chose to partner with Shell because they are serious about understanding the issues and open about how they are addressing them.”**

**Dr Margaret Jungk**, The Danish Centre for Human Rights

### Working hours and wages

No Shell employee is paid less than the legal minimum wage, nor has to work more than 48 hours a week. Employees are rewarded for personal performance and team achievements. Rewards for senior staff are also linked to how they help Shell contribute to sustainable development (page 9). In 2002, our options and share purchase programmes were extended to give more employees a share in the success of the company. Some 10% of employees received stock options and 28% were in share purchase programmes.

### Unions and staff forums

We have a number of ways to protect employee welfare and enable staff to discuss employment issues. We do not stop any employee from joining a union and almost a fifth of Shell employees are estimated to be members. In many countries, unions discuss and negotiate with Shell companies on employment conditions (see data tables). Nearly all employees have access to a staff forum, a grievance procedure or a support system – such as helplines, independent counsellors, doctors or ombudsmen. Staff councils include the Shell European Forum, a consultation body of management and staff, representing more than 40,000 of our employees. Employment grievance procedures were used on 541 occasions in 2002 (592 in 2001).

### Child labour

We go to great lengths to prevent the use of child labour and discourage its use by suppliers or contractors. Our primer “Business and Child Labour” provides guidance to Shell managers, including practical examples of how Shell companies are addressing this issue. Every Shell employee is above the legal age of employment and in 120 countries, Shell companies have a procedure to prevent the use of child labour in their operations. The youngest Shell employee is 14 and works part-time (Saturdays and school holidays) in a retail station in the Netherlands. We also attempt to screen our contractors and suppliers in those countries where children are known to work. In 2002, screening has increased (see data tables).

### Animal testing

Shell products must be safe for people and the environment. Unfortunately, animal testing is sometimes necessary, either because it is required by law, or because there is no accepted alternative. Energy and petrochemical companies are relatively minor users of animal testing. We use officially approved facilities and our data show that we do not test on cats, dogs or monkeys. We have committed funding and staff time to organisations working to develop alternatives. A significant proportion of Shell’s animal testing is carried out through industry consortia (groups of co-producer companies) – a method of reducing the numbers of animals used.

Our Group Animal Testing Standard is based on the “3 Rs” principle: reduce the number, refine the tests, and replace them with alternatives. This year, we implemented the Standard in all Shell companies and made it part of our internal assurance system. We have also invited external scrutiny. An independent Panel of experts reviews our Standard and its implementation.

The Panel concluded, that:

- The Shell Group Standard on animal testing and its accompanying implementation strategy represents a commendable attempt to achieve and advance good practice in the field
- Shell properly pursues a proactive approach to influencing regulatory practices.

The Panel also suggested we make several improvements, which are all underway:

- Assign clear responsibility for keeping up to date with laboratory best practice
- Pay more attention to how testing laboratories respond to animal distress
- Investigate alternatives to using fish to monitor the biological effects of effluent.

For the Panel’s full report and summary data see [www.shell.com/testing/panelreport](http://www.shell.com/testing/panelreport)

### Tell Shell

***“I cannot believe in the year 2002, the human race is still so primitive. All living beings feel pain and fear. Please do something to stop the torture. How can you stand by and know that these animals are suffering. To do nothing is just as bad as inflicting the pain yourself.”***

**Australia**

# Benefiting communities

**Wherever we work we are part of a local community. We will constantly look for appropriate ways to contribute to the general wellbeing of the community and the broader societies that grant our licence to operate.**

Our business activities can have a significant impact on the local communities and societies in which we operate. For example, the 2002 Financial Times World's Most Respected Companies survey listed Shell among the five companies expected to make the most impact on social and economic issues in developing countries.

### Contributing through our products

We make an important contribution to development by delivering a safe, convenient and affordable supply of energy and petrochemicals. On page 12, Mark Malloch Brown described the need for modern energy to raise living standards. Petrochemicals can also make a contribution when they are used for example, as plastics in lighter, more fuel efficient vehicles. Alongside these social benefits come environmental costs, which we aim to reduce. For example we are helping customers reuse petrochemical products (page 31), producing cleaner transport fuels (page 22) and working to make alternatives (e.g. solar, wind, and hydrogen fuel cells) competitive (page 23).

### Contributing through our operations

#### Royalties and taxes

In 2002, we contributed more than \$1.6 billion to the budgets of the countries in which we operate in cash royalties. These revenues can make a significant contribution to a country's development, provided they are managed well. We support several initiatives to help governments manage oil and gas revenues effectively (page 39).

In 2002, we paid more than \$7.5 billion in corporate taxes and collected more than \$56 billion in taxes for governments.

### Tell Shell

*"Besides showing Shell to be a "good corporate citizen", your efforts seem to put the company in a better position for continued success in the 21st century."*

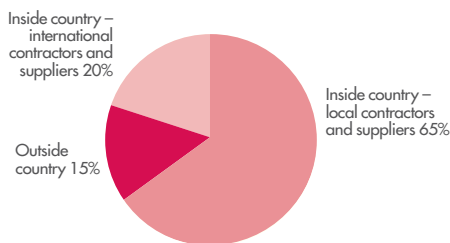
#### USA

### Local employment and procurement

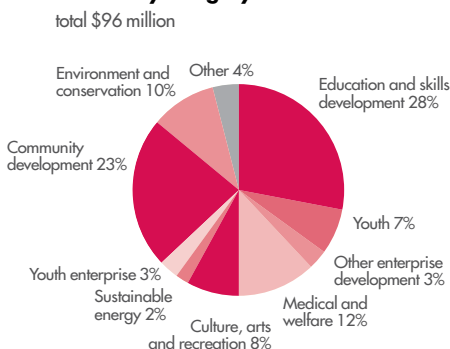
We employed more than 115,000 people at the end of 2002. Approximately 90% were local staff. We aim to buy products and services locally. In 2002, our Country Chairs indicated that we spent more than an estimated \$25 billion on goods and services from locally-owned companies, 65% of our total spend (graph 20).

We have developed a range of initiatives to support local businesses. In Nigeria, for example, we helped create a \$30 million fund to provide credit to local contractors. The fund is expected to make its first loans in 2003. As part of a voluntary government scheme, Shell UK Exploration and Production staff mentor local small and medium size businesses. During monthly meetings they provide advice to companies on ways to grow their business and meet the environmental and social standards that multinational companies such as Shell require. We also support the South African government's Black Economic Empowerment programme. In 2002, we sold 25% of our marketing business in South Africa to the Thebe Investment Corporation, a black owned company.

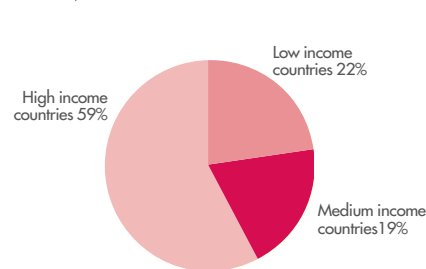
**20 Estimated spend on goods and services\***



**21 Social investment (Shell share\*) in 2002 by category**



**22 Social investment (Shell share\*) in 2002 by country income level (UNDP)**



\* Based on information provided by Country Chairs.

\* In companies where we do not have 100% ownership of equity, the figure has been adjusted to represent only the "Shell share".

\* In companies where we do not have 100% ownership of equity, the figure has been adjusted to represent only the "Shell share".

### Dealing with disruptive impacts

Our operations can also have a negative impact on local communities. For instance, building new facilities may require local residents to be resettled. Our direct neighbours may be subject to noise or other environmental nuisances. We may cause a construction boom when we arrive that drives up local prices and strains services. We are committed to working together with the community to limit these disruptions.

In 2002, we continued to make progress at Norco – our refinery and petrochemical plant in Louisiana, USA – on rebuilding trust with a local community concerned about environmental and safety incidents. Through our, and our joint venture Motiva's efforts, we aim to increase transparency, improve our environmental performance and raise the quality of life for the community. Shell and Motiva have invested to reduce air emissions, which are now 30% below 1998 levels and are supporting the creation of an independent air quality monitoring unit by members of the community, non-governmental organisations (NGOs), academics and local government. We signed a Joint Statement of Success with our neighbours in 2002 to recognise the progress made together so far. We are tackling similar issues at the SAPREF refinery in South Africa (page 27) and working to address resettlement and other community issues in our projects in China (page 42).

### Improving social performance

Social performance is how well we manage disruptive impacts and generate benefits for communities where we operate. We have places where our performance is amongst the best in industry. For example, our Malampaya project in the Philippines was one of 10 projects to win a Partnerships Award – sponsored by the UN Environment Programme and the International Chamber of Commerce – at the World Summit on Sustainable Development in 2002 (page 43).

Our main challenge now is delivering good social performance consistently everywhere we operate. Rather than moving straight to formal guidelines or standards, we are taking a learning-by-doing approach. In 2001, our businesses created a dedicated Social Performance Management Unit (SPMU) to support their efforts to improve our social performance. In 2002, the SPMU established a common language and framework for social performance across Shell. It developed guidance notes for managers, ran training workshops on several continents to help share best practice and provided direct support to a number of projects. The unit also undertook in-depth social performance reviews at four operations – the SAPREF refinery in South Africa, the Norco refinery and petrochemical plant in the USA, the Athabasca Oil Sands project in Canada and Oman LNG. In 2003, efforts will focus on continuing to build skills and embed social performance into existing management systems.

### Addressing HIV/AIDS through partnerships

The HIV/AIDS pandemic affects our employees and customers. We believe that we can help by working in partnership with others to reduce the spread of the disease.



**Bernard Huisman, Shell's Chief Health Advisor, reports.**

Throughout sub-Saharan Africa, we run AIDS prevention and care programmes for our employees and their families and use our retail outlets to raise public awareness (Shell Report 2001). We also have voluntary Group guidelines, which we are piloting in several African countries to supplement existing activities and help us to develop a consistent response on this issue.

The guidelines help our companies to work with others to promote HIV prevention and manage the effects of the disease. During 2002, for example, Shell Côte d'Ivoire established an HIV/AIDS awareness centre in Yamassoukrou, in partnership with Population Services International and local NGOs. The centre trains people to visit local schools and promote HIV prevention and safe sex among young people. It also runs awareness campaigns.

The centre's work, combined with a successful staff education campaign in 2001, has shown the value of a partnership approach. This learning is being shared with other Shell companies.



The opening ceremony of the Shell Institute in Yamassoukrou, Côte d'Ivoire.



# Community development in Nigeria

## The issue

Local communities must see concrete benefits from the oil and gas produced beneath their feet. Nigeria's Niger Delta shows vividly how important it is to meet this challenge. All of Nigeria's oil and gas comes from here and the nearby offshore area, but the region remains underdeveloped. In the past, too few benefits came back to these communities, and monies that did come back were often poorly spent.

In the last two years, our new democratic government has begun to address the problem. In 2000, it established the Niger Delta Development Commission (NDDC) to co-ordinate development in the region. It also committed to return 13% of federal oil and gas revenues to the Delta.

As the money begins to flow, the challenge becomes distributing it fairly and managing it well. This is an enormous task. It will take some time before the communities clearly see the benefits they have been promised.

In the meantime, the issue continues to dominate local politics. It has led to widespread agitation by youths, whose protests again last year led to disruption of oil and gas production as well as sabotage, kidnapping, hostage taking and assaults on staff.

## Lending our support

The Shell Petroleum Development Company of Nigeria (SPDC) – which operates a joint venture with the Nigerian National Petroleum Corporation (NNPC), Total and Agip in which Shell has a 30% share – has been in the Niger Delta for over 60 years, in good times and bad. We produce more than 40% of the oil and gas in the Delta.

In 2002, the joint venture partners were required by law to support the NDDC with \$48 million. This was in addition to our own community development programme, which spent \$67 million and completed more than 280 projects. This does not include other community spending such as compensation payments, pipeline surveillance contracts, and spill clean-up activities.

For us, 2002 was a year for improving the basic delivery of our programme, based on the findings of the external reviews we undertook in 2001. For example, the 2001 KPMG review of our community development management systems led us to improve the way we classify and document projects and track our spending. As a result, we can now report more accurately and demonstrate what we spend on our programme. Our community development approach is to move away from cash payments (which some community groups demand instead of development projects)



**Olukayode Soremekun, in charge of developing Nigeria's Corporate Community Development Programme, reports.**

and improve the overall quality of our projects. We've made progress, but I can tell you, it hasn't been easy for us. We continue to get almost daily demands for cash payments.

## External assurance

External assurance remains important for improving our processes and demonstrating our integrity. In 2002, our independent stakeholder panel consisting of 11 representatives from development organisations (including the World Bank, UNDP, National Petroleum Investment Services, World Health Organisation, Friends of the Niger Delta) and Nigerian government agencies assessed a representative sample (43%) of our projects completed in 2002. The conclusion was that 93% were functional and 75% successful. The panel made a set of recommendations for improvement, including an assessment of the long-term sustainability of our projects. We will be following up these recommendations in 2003. See our 2002 Shell Nigeria Report for the results ([www.shell.com/nigeria](http://www.shell.com/nigeria)).

Operating in the Niger Delta will continue to be challenging until the communities begin to see more widespread benefits. This requires governmental, non-governmental and industry groups working more closely together and with the local community. NDDC's master plan for the Delta is capable of providing the much-needed framework. We are fully committed to playing our part.



### Contributing through social investment

Shell also makes voluntary charitable investments. The Shell Foundation is a UK registered charity and our global vehicle for social investment. It has an endowment from Shell of \$250 million, but operates independently. In 2002, the Foundation granted approximately \$10 million to 25 projects and three major initiatives, up from \$6.7 million in 2001. Two of the Foundation's projects are described on pages 29 and 40. For more information and to see the Foundation's annual report visit [www.shellfoundation.org](http://www.shellfoundation.org)

Individual Shell companies also run social investment programmes. Shell's contribution to these programmes was almost \$96 million in 2002, up from \$85 million in 2001. That is approximately one per cent of our net after-tax income, in line with our five-year average. The largest share – more than a quarter – is spent on education and skills development (graph 21). More than 40%, approximately \$39 million, is spent in low or medium income countries (graph 22) according to UNDP definitions ([www.undp.org/hdr2002](http://www.undp.org/hdr2002)). Our largest programmes are in Nigeria (page 38) and the USA.

### Tell Shell

*"Nigerian people must be acknowledged and respected, as well as benefited by oil extraction, after all it is their homeland resources being utilised. Until Shell shows more respect for these people and shows more care for the Earth we will not buy your oil."*

Unknown

### Contributing by behaving with integrity

Behaving with integrity means doing what is right, not just what is legal. We believe it is good for our business and for society. In some countries where we operate, bribes and facilitation payments to government officials are common. This practice hampers economic growth and social development. Our policy is simple – we do not make or accept bribes or facilitation payments. Intermediates or agents can only be used if they do not compromise business integrity. Any Shell employee found guilty of bribery is disciplined.

Bribery, by its nature, is difficult to detect and prove. Many accusations prove unfounded. Our businesses run control systems based on the risks they are facing. Globally, we require businesses to report incidents of bribery and corruption to the Group Audit Committee. Annually, Country Chairs report proven incidents of bribery through our annual assurance process. Internal audit runs an internal incident reporting process. We suspect that we still detect only a fraction of the actual incidents that occur. We continue to report this information (see data

tables) to be transparent and to signal our seriousness in stamping out these practices. We will be looking for ways to improve our detection and reporting processes in 2003.

In 2002, we also started tracking our progress in another way – by asking staff in the Shell People Survey whether their part of Shell is dealing with the outside world with integrity. Last year 78% said it was, with 7% believing their organisation was not. Benchmarking by the research company that executes the survey, put us among high performing global companies. In 2003, we will analyse the data further to better target our improvement efforts. We will measure and report our score annually as a KPI.

To improve our detection and performance, we are providing employees with safe ways to report possible incidents. Shell companies in 70 countries now have hotline numbers or whistle-blowing schemes to allow employees to raise concerns without fear of reprisal. This is up from 60 in 2001, but still below the coverage level we would like to see.

### Transparency of oil and gas revenues

Revenues from mining, oil and gas production are by far the biggest source of government income in a number of developing countries. If well managed, these revenues can make a huge contribution to economic and social development, funding much-needed services, such as education, healthcare and infrastructure. If poorly managed, they can exacerbate poverty, corruption and poor governance. There are two main sources of government oil and gas revenues: payments by private energy companies (e.g. licence fees, taxes and royalties) and profits from state-owned energy companies. Publishing how much governments receive each year from all these sources – making revenues transparent – is a useful way to help them manage these funds better. Simply put, you cannot know how well the pot of public funds is being spent if you do not know for a start, how big that pot is.

We support efforts such as the UK Government's Extractive Industries Transparency Initiative, the "Publish What You Pay Campaign" ([www.publishwhatyoupay.org](http://www.publishwhatyoupay.org)) and work by the World Bank and others to promote transparency of oil and gas revenues. We believe that the push for greater transparency must be inclusive. Otherwise it will not work. It should involve governments, multilateral organisations, regulatory agencies, financial and lending organisations, NGOs and industry, who all have an important contribution to make. And any reporting requirements should be applied equally to all oil and gas companies. We will continue to actively support efforts to make progress in this area.

## Working with stakeholders

**We affect – and are affected by – many different groups of people, our stakeholders. We aim to recognise their interest in our business and to listen and respond to them.**

### Working with a full spectrum of stakeholders

Companies and their stakeholders must work together to meet the energy challenge. We work with a wide range of stakeholders. For example we work with governments, customers, suppliers and auto manufacturers to improve our products' performance and reduce their environmental impacts. We work with our employees individually and via unions, work forums and staff councils on issues affecting them (page 35). We also work with communities around the world to manage the impacts of our projects and share the social benefits (see pages 38 and 42 for examples).

In 2002, we actively worked with numerous international NGOs and academic institutions. These include the Smithsonian Institution, IUCN and Fauna and Flora International on biodiversity, the Pew Center, Environmental Defense and World Resources Institute on climate change (page 28), Amnesty International, the Danish Centre for Human Rights and Pax Christi on human rights (page 34), and Transparency International on business integrity (page 39). We work with a great many more at local level. See [www.shell.com/workingtogether](http://www.shell.com/workingtogether) for more information about our approach to working with stakeholders.

### Rise in international public-private cooperation

We are involved in a growing number of international public-private partnerships between business, individual donor governments and international agencies like the UN and World Bank. These initiatives do not replace the need for direct aid by governments and UN agencies, or the work of NGOs. Instead they aim to increase the contribution that multinational companies make to local development through their business activities.

Our co-operation with international agencies to promote rural solar power (page 23) and our work with UNDP on the social impacts of the West-East gas pipeline project and Nanhai petrochemicals complex in China (page 42) are two practical examples. We also support the World Bank's Business Partners for Development initiative. In 2002, it completed its work on partnerships for managing social issues in the oil, gas and mining industries ([www.bpdweb.org](http://www.bpdweb.org)). We are a founding member of the UN Global Compact and in 2002 participated in several public-private initiatives launched at the World Summit on Sustainable Development (page 43).

### Tackling indoor air pollution

Providing access to modern energy saves lives. Two million people – mainly women and children – die each year from breathing high levels of indoor smoke, mainly from cooking fires. This is the fourth-highest cause of death in the developing world, according to the World Health Organisation.

The problem is centuries old, but it can be solved. We have committed \$10 million over five years to improve household energy and health. Specifically, the Shell Foundation promotes innovative business models for increasing the use of cleaner stoves and fuels in poor communities. We work in partnership with others in areas such as health impact monitoring and advocacy.

We were also the first private organisation to join the "Healthy Homes and Communities Partnership" initiated by the US Environmental Protection Agency and US government development agencies at the World Summit on Sustainable Development (page 43). The partnership aims to bring together developing countries, UN agencies and other civil society organisations to work to reduce pollution from cooking and heating in homes, with a goal of halving the number of deaths caused by poor indoor air quality in targeted areas.

Find out more about the Foundation's projects at [www.shellfoundation.org](http://www.shellfoundation.org)



**Karen Westley,  
Shell Foundation  
Programme  
Manager,  
reports.**

### Listening and responding

We use the Shell Report, our corporate identity programme and our web site [www.shell.com](http://www.shell.com) to maintain a dialogue with a wide range of stakeholders about the issues that most concern them. This dialogue helps us better respond to the needs of our customers and neighbours. We hope it also helps to build trust.

Highlights of 2002 included:

- 1.5 million copies of the 2001 Shell Report distributed to stakeholders. The report was translated into more than 20 languages.
- Our international corporate identity programme reached 16 countries with advertising, stakeholder forums and briefings, nine more than in 2001. The programme is tailored to cover the sustainable development issues of greatest interest to people in each country where Shell operates.



- More than 1,500 responses were received via "Tell Shell" our web-based mail and discussion forum, a significant increase on previous years. Human rights, senior management salaries and renewable energy were the three most popular topics (graph 23).

**Tell Shell**

*"I'm from China and as we know, there is a good reputation for Shell all over the world. But as far as myself is concerned, I think although a big ad. fee is spent for establishing Shell's image, there is still a lack of intimate impression on customers' minds."*

China

**Shell's reputation with stakeholders KPI**

In 2002, we measured our overall reputation via our new Reputation Tracker survey (page 11). The findings show that the reputation of the oil and chemicals industries is low compared with other sectors – such as IT or car manufacturing. However, within the energy sector, Shell had the best overall reputation (graph 24).

In most countries the general public and local opinion leaders had a higher opinion of Shell than its local or international competitors. Plans are now in place to address the issues raised by the survey, which will be conducted again in 2003 to measure our progress in building public trust.

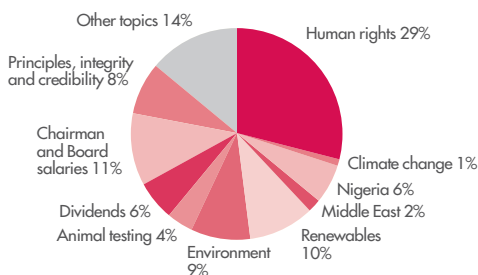
**Shell employee photography contest – winning entry** 



Arthur (holding a bird box) and Mark (painting a dovecote) work for Pembrokeshire Frame, a UK project that turns domestic waste into usable products and provides jobs for people with mental health problems. This picture by Alistair Bruncker of Shell in the UK was the first prize winner of the employee sustainable development photography competition (see inside front cover).

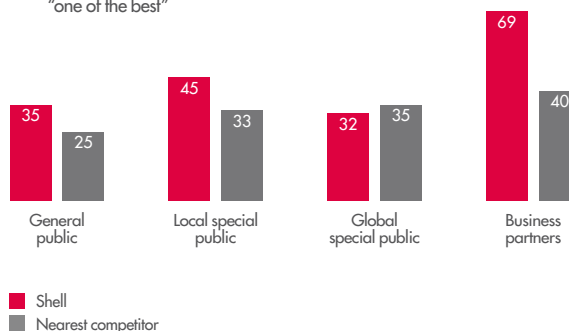
**23 "Tell Shell" responses by topic**

December 2001 - November 2002  
Total 1,537



**24 Reputation – Shell versus competitor global performance**

% identifying company as "the best" or "one of the best"



# Shell in China



**Tan Ek Kia,**  
Country Chair of  
Shell Companies in  
North East Asia,  
reports.

I am living in a country that will likely triple its economy within 20 years, according to the World Bank. Energy and petrochemical use will grow sharply. The extra energy needed by China between now and 2020 is equivalent to all of Western Europe's energy demand today. Air pollution is already a serious problem in many Chinese cities. With coal meeting 70% of today's energy needs, China's greenhouse gas emissions are the second highest in the world. The government is committed to delivering tomorrow's energy in a sustainable way and we are working closely with our Chinese partners to help develop the clean energy and petrochemicals the country needs to grow.

## Developing gas: West-East project

The West-East gas project moved forward in 2002. It will develop gas from China's major reserves in the West and transport it more than 4,000km to the fast growing cities of the East. When completed the project will deliver approximately a third of China's current gas demand. We are a potential investor in the project and, as part of a group of international companies, signed a Joint Venture Framework Agreement with PetroChina in 2002.

Working with our partners to manage the environmental and social impacts of such a complex project remains a challenge. We have agreed environmental and social standards with PetroChina, and completed extra environmental and social impact assessment work to international standards. This included one of the largest social impact surveys ever done in China. It was carried out by UNDP, which interviewed approximately 10,000 people along the pipeline's path (see [www.unchina.org/undp/documents/siasurvey](http://www.unchina.org/undp/documents/siasurvey)).

This work has led to environmental and social management plans being developed, including plans for dealing with protected areas, cultural heritage sites and reserves, and managing biodiversity.

## Quality transport fuels and renewable energy

Shell is also selling high quality lubricants in more than 250 Chinese cities, is setting up a joint venture with Sinopec for 500 service stations, and is part of a project in Xinjiang, Western China, to deliver solar electricity to up to 78,000 rural homes.

## Resettlement at Nanhai petrochemicals complex

In 2002, we gave the final go-ahead to build a large petrochemicals complex in Daya Bay, Southern China, a \$4.3 billion project in which CNOOC Petrochemicals Investment Limited and Shell each have a 50% share in a joint venture company, the CNOOC and Shell Petrochemicals Company Limited. It is Shell's largest investment so far in China. The joint venture is working with the government to mitigate the impact on the environment and manage social issues related to the project. The joint venture is committed to meet international social and environmental standards, including Shell's Business Principles. A full environmental and social impact assessment was completed in August 2002 (see [www.cnoocshell.com](http://www.cnoocshell.com)).

As with many projects in China, people needed to be relocated. We have developed a Resettlement Action Plan (see [www.cnoocshell.com](http://www.cnoocshell.com)) in line with World Bank standards to help manage this process. The move is being carried out by the government in accordance with this plan. Nearly 1,500 families were moved in February 2002 to accommodation better than they left to allow site preparation to begin. Another 900 families living close to the site will be moved in the middle of 2003. The joint venture company is monitoring the resettlement, and a team of external experts led by Robert Barclay (an internationally-recognised resettlement expert), started a programme of checking progress of the resettlement every six months.

We also asked the UNDP to review the resettlement programme. Their report is expected to identify areas for further improvement of resettlement practices that can be applied elsewhere in China.

Stakeholder consultation on the West-East gas project.



### World Summit on Sustainable Development

The second World Summit on Sustainable Development (WSSD) was held in Johannesburg, South Africa in September 2002. Government representatives from 191 countries met to review progress on sustainable development. The Summit focused on priorities set by the UN Secretary-General Kofi Annan – access to water, energy, and health care, improving agriculture and protecting biodiversity.

Before the meeting, some claimed there was no room for big business at these multilateral meetings. One achievement of the Summit was a growing acceptance that business does have a role to play in addressing global problems.

Sir Philip Watts, our Chairman and Chairman of the World Business Council on Sustainable Development, and Sir Mark Moody-Stuart, our former Chairman and Chairman of Business Action for Sustainable Development, were prominent in making the business case for sustainable development and demonstrating practical commitment to action. Shell supported a range of international public-private initiatives. These include the World Bank Global Gas Flaring Reduction Initiative (page 25), the Five Million Fund (page 23), the Global Compact Sustainable Business in the Least Developed Countries effort and the Extractive Industries Transparency Initiative (page 39). We also set up four projects to support African development (see box, right, for details of Flower Valley, our project in South Africa).

We were disappointed to receive one of the Greenwash awards handed out by campaigners, Corporate Watch, at the Summit. In their view, our actions on sustainable development do not match our promises. Specifically, they point to the fact that most of our investments still go to delivering fossil fuels, while we talk extensively about our activities in solar, wind and hydrogen. We take the criticism seriously, but disagree with Corporate Watch's conclusions. We talk about solar power or fuel cells because, though small today, they are a potentially big part of our energy business in the future. We also talk widely about our biggest, mature business – delivering the affordable oil and gas that will be needed for development over the coming decades in growing quantities, and doing it in ways that reduce environmental impacts.

### Tell Shell

*"I'm amazed and annoyed that you have to endure all the traffic [on the Tell Shell Forums] from the folks who apparently blame you for everything from mischaracterization of innocent wolves, to colonialism in Nigeria, to single-handedly destroying the rainforest and the ozone layer... All before lunch."*

USA

### Flower Valley

I am fortunate to be involved in one of Shell's WSSD projects for Africa (see text left) called The Flower Valley Conservation Trust in the Cape Floral Kingdom, South Africa. This is one of the Earth's richest, but most threatened botanical regions. Its unique "fynbos" flora includes over 7,000 species – 70% of which are found nowhere else. Regrettably, only 4% of the area is formally protected.



**Jay Pillay,**  
**Retail Manager**  
**Shell Southern**  
**Africa, reports.**

With sponsorship from Shell and Fauna and Flora International, a British conservation organisation, the Trust has acquired 550 hectares of land, which is managed in conjunction with local NGOs. In addition to conserving the endangered flora, the project uses the fynbos in a sustainable manner to the benefit of the local Cape community, where unemployment levels stand at 50%. It supports the creation of local businesses by harvesting fynbos flowers and wood and developing related micro-enterprises such as papermaking.

I sit on the board of the Trust to guide the development of a distribution network for the sale of its produce through Shell retail sites in South Africa and to advise on good management practices. We are also investigating the feasibility of distributing the Trust's products through our international retail network.

I find it deeply rewarding to be able to use my business skills and Shell's retail network to help this community and their outstandingly beautiful valley.



Nic Barends cuts indigenous wild proteas daily for the local and export market. Photograph by Geoff Love, Shell South Africa.



**Message from the Independent Auditors**

Over the five years we have provided assurance over information in the Shell Report, we have aligned our approach with emerging standards. In 2002, building on our work to provide a high level of assurance on certain information, we have developed an approach to enable us to provide assurance over Shell's reporting on "hot spots". Next year, evolution of the overall assurance approach will continue to further integrate the input of external experts and panels.

Three symbols have been used to describe the scope of our work:

- 🌐 At Group, Business and Operating Company (OC) level we obtained an understanding of the systems used to generate, aggregate and report the data for these parameters. We assessed the completeness and accuracy of the data reported by visiting OCs to test systems and data, performed a review of all data reported and assessed data trends in discussion with management. We tested the calculations made at Group level. We did not obtain assurance over Safety and Environmental (SE) data reported by OCs acquired during

2002, for the reasons set out on page 24. Our SE work was therefore only completed for the Shell portfolio as at 31 December 2001. For the economic parameters, we also checked that they are properly derived from the audited Financial Statements of the Royal Dutch/Shell Group of Companies.

- 👍 We determined that the statements marked with this symbol are supported by underlying evidence at Group and/or local level. Our work included interviewing Shell people as well as external panels where these have been established, reviewing systems and documentation and confirming the accurate use of information derived from external sources. We also checked that panel comments, where presented, were derived from and reflect full reported findings.
- ⊕ At Group level we tested the accuracy of the data aggregation process for data received from a complete set of responses from countries in which Shell operates. We did not provide assurance over the reliability of the data reported by those countries.

**Assurance Report**

To: Royal Dutch Petroleum Company and The "Shell" Transport and Trading Company, p.l.c.

**Introduction**

We have been asked to provide assurance over selected data, graphs and statements of the Royal Dutch/Shell Group of Companies reported in this year's Shell Report. We have marked these statements with the symbols below. This Report is the responsibility of management. Our responsibility is to express an opinion on the data, graphs and statements indicated, based on work referred to above in "Message from the Independent Auditors".

**In our opinion:**

- 🌐 The data and graphs (together with the notes), properly reflect the performance of the reporting entities for each parameter (SE – for portfolio as at 31 December 2001) marked with this symbol.
- 👍 The statements marked with this symbol are supported by underlying evidence.

In addition the data for each parameter marked ⊕ are properly aggregated at Group level.

**Basis of opinion**

There are no generally accepted international environmental, social and economic reporting standards. This engagement was conducted in accordance with the International Standards for Assurance Engagements. Therefore, we planned and carried out our work to provide reasonable, rather than absolute, assurance on the reliability of the data and statements marked with the symbols 🌐 and 👍 and on the accuracy of the Group level aggregation process for data marked ⊕. We believe our work provides a reasonable basis for our opinion.

**Assurance work performed**

In forming our opinion, we carried out the work summarised above in "Message from the Independent Auditors." We used a multi-disciplinary team, comprising financial auditors and environmental and social specialists. We also examined the whole Report to confirm consistency of the information reported with our findings.

**Considerations and limitations**

It is important to read the data and statements in the context of the reporting policies and limitations on page 45 and the notes to the graphs. Environmental and social data are subject to many more inherent limitations than financial data given both their nature and the methods used for determining, calculating or estimating such data.

We have not provided assurance over all contents of this report, nor have we undertaken work to confirm that all relevant issues are included.

We have not carried out any work on data reported in respect of future projections and targets. Where we have not provided assurance over previous years' data it is clearly shown.

We have not carried out any work to provide assurance over the completeness and accuracy of the underlying data for the parameters aggregated at Group level, and marked with ⊕.

It is also important that, in order to obtain a thorough understanding of the financial results and financial position of the Group, the reader should consult the Royal Dutch/ Shell Group of Companies Financial Statements for the year ended 31 December 2002.

5 March 2003

*KPMG Accountants N.V.*

The Hague

PricewaterhouseCoopers LLP

London



The basis of reporting is as follows:

- The financial data are aggregated from Group companies, together with partnerships, joint ventures and other interests using the accounting and consolidation principles used in the Royal Dutch/Shell Group of Companies Financial Statements. For more information refer to [www.shell.com](http://www.shell.com)
- The HSE data are aggregated from all companies, partnerships, joint ventures and other interests that are under Shell's operational control plus a number of companies to which Shell companies provide operational services. A list of these Operating Companies can be found at [www.shell.com/hse](http://www.shell.com/hse). We report these HSE data on a 100% basis even where the Group's interest is less. Unless otherwise stated in the text, HSE data reported are based on our global "HSE Performance Monitoring and Reporting" guideline. A copy of this guideline can be found at [www.shell.com/hse](http://www.shell.com/hse)
- The remaining data, unless otherwise specified, are aggregated from all companies, partnerships, joint ventures and other interests either under Shell's operational control or where the Shell entity is responsible for the activities concerned. We report these data on a 100% basis, unless otherwise specified.

Operational control means entities in which a member of the Royal Dutch/Shell Group of Companies has full authority to introduce and implement the Group's HSE Policy and the Statement of General Business Principles. Data from companies that were disposed of or acquired during the year are generally included only for the period that companies were under operational control or the Shell entity was responsible for the activities concerned. However, no data are included for the Pennzoil-Quaker State Company, which came under our operational control in the fourth quarter of 2002.

## Comparability

The comparability of data is affected by changes to the portfolio of reporting entities, by changes in the methodology for determining certain data and improvement in information systems, such as enhanced guidelines and use of better estimates. Items affecting data comparability can be found at [www.shell.com/hse](http://www.shell.com/hse)

## Targets and projections

We have set Group-level performance improvement targets for the six safety and environmental KPIs (fatalities, TRCF, GWP, flaring, energy efficiency and spills). Targets are based on the new portfolio. We have also set a Group-level target to implement our Minimum Health Management Standards by end-2003. The 2003 GWP projection is based on business plans.

## Limitations

Although we are confident in the overall reliability of the data reported, we recognise that some of these data are subject to a degree of uncertainty that relates to the limitations associated with interpreting guidelines, measuring, calculating or estimating the data and differences in reporting to regulatory authorities.

Certain specific limitations that our data are subject to include:

- Differences in definitions of HSE parameters occur, often due to the use of definitions prescribed for reporting by the regulatory authorities as opposed to those prescribed in our guidelines, for example waste and spills
- Social (including health and safety) data may be affected by local interpretations, cultures and practices, and can be the subject of confidentiality laws
- Methods used to determine environmental data carry limitations in respect of accuracy. For example, measurement of oil in effluent to surface environment may be based on continuous or intermittent sampling, and is influenced by the type and accuracy of the instruments and techniques used
- Emission calculations can be based on broad industry-wide standards, particularly for the determination of NO<sub>x</sub> and CH<sub>4</sub> emissions. For some data, such as spills, volumes have to be estimated.

## External assurance of safety and environmental data

Data from the six safety and environmental KPIs (old portfolio) listed under targets and projections, together with fines, are subject to assurance by our independent auditors, KPMG and PricewaterhouseCoopers LLP.

## Restatements

Restatements to prior year data are made in the event of detection of errors or changes in reporting policy deemed significant at Group- or Business-level. On this basis, we have restated the following data:

- Activity levels for Chemicals have increased by about 16% for the years 1999-2001 as a result of the previous omission of secondary and intermediate products. This restatement also impacts the energy efficiency data, which is about 14% lower than previously stated for the same years. Changes in the business reporting structure in Chemicals preclude restatement of the 1998 data.
- The number of fatalities in 2001 has been reduced from 42 to 40. Two contractor fatalities have been determined to be non-work related.
- The 1990 greenhouse gas baseline has been restated to reflect the new acquisitions. Estimated 1990 emissions from our four Equilon refineries were 5.7 million tonnes CO<sub>2</sub> equivalent with an additional 3.4 million tonnes from the three DEA refineries. The baseline has therefore been increased from 114 to 123 million tonnes.

## Economic

For further financial performance details, see the Parent Companies' Annual Report and Accounts 2002 at [www.shell.com/annualreport](http://www.shell.com/annualreport)







<b>Return on average capital employed (ROACE)</b> 	1997	1998	1999	2000	2001	2002
%	12.0	2.8	12.1	19.5	19.2	14.0

<b>Total shareholder return</b> 	1991–2000	1992–2001	1993–2002
% Royal Dutch	16.33	17.63	11.73
% Shell Transport	15.67	15.58	13.05

## Environmental

N/C – not collected, O – Old portfolio, N – New portfolio. For explanation of terms, see page 24.

<b>Environmental</b>	1997	1998	1999	2000	2001	2002 O	Target 2002 or projection (P)	2002 N	Target 2003	Target 2007
<b>Carbon dioxide (CO<sub>2</sub>)</b> 										
Million tonnes	95	92	90	92	95	88	95(P)	100		
<b>Methane (CH<sub>4</sub>)</b> 										
Thousand tonnes	N/C	522	456	398	315	239	306(P)	241		
<b>Other Kyoto greenhouse gases</b>										
Thousand tonnes	N/C	N/C	11	13	9	9		15		
<b>Global warming potential</b> 										
Million tonnes CO <sub>2</sub> equivalent	109	103	99	101	103	94	103	106	115	117*
<b>Flaring EP</b> 										
Million tonnes of hydrocarbons	8.9	9.1	8.1	9.3	10.3	7.6	8.0	7.6	10.1	3.8
<b>Volatile organic compounds (VOCs)</b>										
Thousand tonnes	N/C	584	499	538	372	363		379		
<b>Sulphur dioxide (SO<sub>2</sub>)</b>										
Thousand tonnes	343	337	304	277	274	250	265(P)	270		
<b>Nitrogen oxides (NO<sub>x</sub>)</b>										
Thousand tonnes	230	252	218	202	213	202	191(P)	213		
<b>Hydrochlorofluorocarbons (HCFCs)</b>										
Tonnes	N/C	95	77	61	48	47		60		
<b>CFCs/halons/trichloroethane</b>										
Tonnes	N/C	11	12	6	5	8.1		8.1		
<b>Oil in effluents to surface environment</b>										
Tonnes	5,585	5,248	3,284	2,803	2,879	2,347	2,690(P)	2,462		
<b>Spills</b> 										
Thousand tonnes	19.3	13.2	18.7	9.9	17.8	6.6	8.5	7.4	6.5	4.8
<b>Water</b>										
Million cubic metres	N/C	N/C	N/C	N/C	1,701	1,636		1,710		
<b>Waste</b>										
Thousands tonnes										
Hazardous	N/C	240	272	400	445	476		504		
Non hazardous	N/C	521	468	490	452	489		524		
Total	N/C	761	740	890	897	965		1,028		
<b>Fines</b> 										
Amount \$'000	501	1,355	2,833	3,089	1,412**	598		1,437		
Number	211	227	306	329	93	126		155		

### Activity level

Million tonnes										
EP	N/C	326	324	341	355	335	343(P)	341		
OP	N/C	163	156	154	156	141	156(P)	177		
Chem	N/C	36	43	43	39	43	37(P)	44		

EP: oil, condensate and gas produced; OP: crude/feedstock processed; Chem: production, 1999–2001 data restated, see page 45  
Data are reported on a 100% basis and are not comparable with data in the Parent Companies' Annual Reports

### Energy efficiency

Gigajoule per tonne production – for OP per tonne crude/feedstock										
EP	N/C	0.8	0.8	0.7	0.7	0.8	0.7	0.8		
OP	N/C	2.9	3.0	3.3	3.0	3.1	3.0	3.1	132***	128***
Chem	N/C	6.6	5.9	6.0	6.2	6.0	6.8	5.9	97****	92****

\* 2010 target

\*\* Data not subject to assurance

\*\*\* OP:2003/7 targets are Refinery Energy Index

\*\*\*\* Chem:2003/7 targets are Chemicals Energy Index, 1999–2001 data restated, see page 45



# Social

N/C – Not collected, O– Old portfolio, N – New portfolio. For explanation of terms, see page 24.

Health and Safety							Target	Target	Target	
	1997	1998	1999	2000	2001	2002 O	2002	2002 N	2003	2007
<b>Total reportable occupational illness frequency (TROIF)</b> Illnesses per million exposure hours – employees only	N/C	3.2	3.5	2.2	2.3	2.1		2.0		
<b>Fatalities</b>										
Employees	7	6	3	5	3	7		8		
Contractors	60	57	44	55	37**	44		45		
Total number	67	63	47	60	40**	51		53		
<b>Fatal accident rate</b> Number of fatalities (employees and contractors) per 100 million exposure hours	9.0	8.6	6.9	8.2	5.2	6.4		6.3		
<b>Total reportable case frequency (TRCF)</b> Per million exposure hours – employees and contractors	4.1	4.4	3.7	3.2	2.9	2.6	2.6	2.6	2.4	2.0
<b>Lost time injury frequency (LTIF)</b> Injury hours per million exposure hours – employees and contractors	1.6	1.6	1.4	1.3	1.2	1.1	1.1	1.1		

Unless otherwise noted, all questions below refer to the number of countries and to Shell companies

Security	1998*	1999*	2000	2001	2002
<b>Security personnel</b>					
Use of security personnel (required by law)	107	117 (15)	100 (18)	100 (15)	95 (12)
<b>Armed security</b>	31	36	29	24	23
Armed company security	5	3	3	2	2
Armed contractor security	21	21	16	16	17
Armed government forces	15	18	14	12	8
<b>Diversity and inclusiveness</b>	1998*	1999*	2000	2001	2002
<b>Equal opportunities</b>					
With relevant operating policies	112	121	123	124	130
<b>Gender diversity</b>					
% women in supervisory/professional positions	N/C	15.4	17.1	17.7	18.9
% women in management positions	7.40	7.2	8.9	9.2	10.4
% women in senior leadership positions	4.90	5.8	7.8	7.9	8.3
<b>Regional diversity*</b>					
% Country Chair positions for which suitably qualified local nationals exist	N/C	N/C	N/C	N/C	78
% of senior leadership staff (management staff) by nationality					
Unknown***	N/C	N/C	4 (11)	6 (12)	1 (6)
Asia Pacific	N/C	N/C	9 (7)	8 (9)	9 (10)
Africa and Middle East	N/C	N/C	3 (5)	3 (5)	3 (6)
Caribbean, Central and South America	N/C	N/C	2 (3)	1 (3)	1 (2)
USA	N/C	N/C	20 (23)	22 (20)	24 (26)
UK	N/C	N/C	33 (22)	32 (22)	33 (22)
The Netherlands	N/C	N/C	19 (17)	19 (18)	20 (17)
Rest of Europe	N/C	N/C	9 (11)	8 (10)	8 (11)
<b>Unions and staff forums</b>	1998*	1999*	2000	2001	2002
<b>Union membership</b>					
Estimated % employees	N/C	N/C	N/C	19	19
<b>Union involvement</b>					
% countries which acknowledge unions in discussions	67	69	71	70	64
% countries which involve unions in negotiations	N/C	N/C	N/C	60	56
<b>Staff forums and grievance procedures</b>					
% countries with staff forums	71	77	82	81	74
% countries with grievance procedures	73	80	83	83	88
% staff with access to staff forum, grievance procedure or support systems	N/C	N/C	N/C	99.99	99.99
Number of times grievance procedure used	412	590	620	592	541

\* Data not subject to assurance

\*\* Data restated

\*\*\* Including data from Australia (2000–2001) and Canada (2000–2002) for legal reasons

<b>Working hours and wages</b> +	1998*	1999*	2000	2001	2002
<b>Lowest wage paid</b> \$/month (statutory minimum in that country)	50 (N/A)	71 (N/A)	50 (25)	50 (28)	50(40/32)**
<b>Child labour</b> +	1998*	1999*	2000	2001	2002
<b>Procedures to prevent use of child labour in operations in</b>					
Own operations	84	112	112	118	120
Contractors	51	63	69	76	78
Suppliers	28	41	42	55	59
Require contractors to screen their contractors/suppliers	N/C	N/C	25	33	46
Require suppliers to screen their contractors/suppliers	N/C	N/C	24	27	37
<b>Contracting and procurement</b> +	1998*	1999*	2000	2001	2002
<b>Local contracting and procurement policy</b>	N/C	54	50	52	54
<b>Spend on goods and services</b> \$000 million					
Outside the country	N/C	N/C	N/C	N/C	5.7
Inside the country – international contractors and suppliers	N/C	N/C	N/C	N/C	7.9
Inside the country – local contractors and suppliers	N/C	N/C	N/C	N/C	25.2
<b>Business Principles included in contracts</b>	N/C	104	112	119	128
<b>Business Principles screening for compliance with</b>					
Contractors	81	106	107	114	119
Sub contractors	32	54	54	64	73
Suppliers	64	86	95	102	107
<b>Contracts cancelled due to incompatibility with Business Principles</b>					
Number	69	62	106	100	54
<b>Joint ventures divested due to operations incompatible with Business Principles</b>					
Number	N/C	1	2	0	0
<b>Social investment</b> +	1998*	1999*	2000	2001	2002
<b>Total social investment</b> \$ million	92	93	139	129	156
<b>Total Shell social investment (equity share)</b> \$ million	N/C	N/C	85	85	96
<b>Business integrity</b> +	1998*	1999*	2000	2001	2002
<b>Use of intermediaries</b>					
Procedures to ensure no compromise to business integrity	N/C	71	82	79	86
<b>Facilitation payments</b>					
Procedures to prevent breaches of Group commitment	N/C	80	82	87	101
<b>Reported cases of bribery</b> Number of bribes (\$value)					
Bribes offered and/or paid by Shell company employees to third parties	1 (\$300)	1 (\$300)	0	0	0
Bribes paid by intermediaries or contractor employees to third parties	N/C	0	1 (\$4,562)	0	0
Bribes accepted by Shell company employees	4 (\$75,000)	3 (\$153,000)	4 (\$89,000)	4 (\$25,668)	4 (unknown)
Bribes accepted by intermediaries, contractor employees or others	N/C	1 (unknown)	0	1 (\$18,072)	0
<b>Political payments</b>	1998	1999	2000	2001	2002
Number of political payments	16	0	1	0	0
<b>Competition cases</b>	1998	1999	2000	2001	2002
Number of cases involving Shell, completed	9	2	5	5	3
Ruled in favour of Shell	9	1	3	3	1
Ruled against Shell	0	1	2	2	2

\* Data not subject to assurance

\*\* Two countries where that wage is paid

## Principle 1 – Objectives

The objectives of Shell companies are to engage efficiently, responsibly and profitably in the oil, gas, chemicals and other selected businesses and to participate in the search for and development of other sources of energy. Shell companies seek a high standard of performance and aim to maintain a long-term position in their respective competitive environments.

## Principle 2 – Responsibilities

Shell companies recognise five areas of responsibility:

### To shareholders

To protect shareholders' investment, and provide an acceptable return.

### To customers

To win and maintain customers by developing and providing products and services which offer value in terms of price, quality, safety and environmental impact, which are supported by the requisite technological, environmental and commercial expertise.

### To employees

To respect the human rights of their employees, to provide their employees with good and safe conditions of work, and good and competitive terms and conditions of service, to promote the development and best use of human talent and equal opportunity employment, and to encourage the involvement of employees in the planning and direction of their work, and in the application of these Principles within their company. It is recognised that commercial success depends on the full commitment of all employees.

### To those with whom they do business

To seek mutually beneficial relationships with contractors, suppliers and in joint ventures and to promote the application of these principles in so doing. The ability to promote these principles effectively will be an important factor in the decision to enter into or remain in such relationships.

### To society

To conduct business as responsible corporate members of society, to observe the laws of the countries in which they operate, to express support for fundamental human rights in line with the legitimate role of business and to give proper regard to health, safety and the environment consistent with their commitment to contribute to sustainable development.

These five areas of responsibility are seen as inseparable. Therefore, it is the duty of management continuously to assess the priorities and discharge its responsibilities as best it can on the basis of that assessment.

## Principle 3 – Economic principles

Profitability is essential to discharging these responsibilities and staying in business. It is a measure both of efficiency and of the value that customers place on Shell products and services. It is essential to the allocation of the necessary corporate resources and to support the continuing investment required to develop and produce future energy supplies to meet consumer needs. Without profits and a strong financial foundation it would not be possible to fulfil the responsibilities outlined above.

Shell companies work in a wide variety of changing social, political and economic environments, but in general they believe that the interests of the community can be served most efficiently by a market economy.

Criteria for investment decisions are not exclusively economic in nature but also take into account social and environmental considerations and an appraisal of the security of the investment.

## Principle 4 – Business integrity

Shell companies insist on honesty, integrity and fairness in all aspects of their business and expect the same in their relationships with all those with whom they do business. The direct or indirect offer, payment, soliciting and acceptance of bribes in any form are unacceptable practices. Employees must avoid conflicts of interest between their private financial activities and their part in the conduct of company business. All business transactions on behalf of a Shell company must be reflected accurately and fairly in the accounts of the company in accordance with established procedures and be subject to audit.

## Principle 5 – Political activities

### Of companies

Shell companies act in a socially responsible manner within the laws of the countries in which they operate in pursuit of their legitimate commercial objectives.

Shell companies do not make payments to political parties, organisations or their representatives or take any part in party politics. However, when dealing with governments, Shell companies have the right and the responsibility to make their position known on any matter which affects themselves, their employees, their customers, or their shareholders. They also have the right to make their position known on matters affecting the community, where they have a contribution to make.

## Of employees

Where individuals wish to engage in activities in the community, including standing for election to public office, they will be given the opportunity to do so where this is appropriate in the light of local circumstances.

## Principle 6 – Health, safety and the environment

Consistent with their commitment to contribute to sustainable development, Shell companies have a systematic approach to health, safety and environmental management in order to achieve continuous performance improvement.

To this end Shell companies manage these matters as any other critical business activity, set targets for improvement, and measure, appraise and report performance.

## Principle 7 – The community

The most important contribution that companies can make to the social and material progress of the countries in which they operate is in performing their basic activities as effectively as possible. In addition Shell companies take a constructive interest in societal matters which may not be directly related to the business. Opportunities for involvement – for example through community, educational or donations programmes – will vary depending upon the size of the company concerned, the nature of the local society, and the scope for useful private initiatives.

## Principle 8 – Competition

Shell companies support free enterprise. They seek to compete fairly and ethically and within the framework of applicable competition laws; they will not prevent others from competing freely with them.

## Principle 9 – Communication

Shell companies recognise that in view of the importance of the activities in which they are engaged and their impact on national economies and individuals, open communication is essential. To this end, Shell companies have comprehensive corporate information programmes and provide full relevant information about their activities to legitimately interested parties, subject to any overriding considerations of business confidentiality and cost.

The companies in which Royal Dutch Petroleum Company and The "Shell" Transport and Trading Company, p.l.c. directly or indirectly own investments are separate and distinct entities. But in this Report the collective expressions "Shell", "Group" and "Royal Dutch/Shell Group of Companies" are sometimes used for convenience in contexts where reference is made to the companies of the Royal Dutch/Shell Group in general. Likewise the words "we", "us" and "our" are used in some places to refer to companies of the Royal Dutch/Shell Group in general, and in others to those who work in those companies. Those expressions are also used where no useful purpose is served by identifying a particular company or companies.

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**Contact any of the addresses below for copies of publications**

**Shell International B.V.**

FSK Division, PO Box 162, 2501 AN The Hague, The Netherlands  
Tel: +31 (0)70 377 4540 Fax: +31 (0)70 377 3115

**Shell International Limited**

PXXC (Publications), Shell Centre, London SE1 7NA, UK  
Tel: +44 (0)20 7934 5293 Fax: +44 (0)20 7934 5555

**Shell Oil Company**

1270 Avenue of the Americas, Suite 2320, New York, NY 10020, USA  
Tel: +1 212 218 3113 Fax: +1 212 218 3114



**Annual Report and Accounts 2002**

The Annual Reports of Royal Dutch Petroleum Company and The “Shell” Transport and Trading Company, p.l.c.

Also available at [www.shell.com/annualreport](http://www.shell.com/annualreport)



**The Shell Report 2002**

A review of how Group companies are living up to our Business Principles and contributing to sustainable development.

Also available at [www.shell.com/shellreport](http://www.shell.com/shellreport)



**Financial and Operational Information 1998–2002**

Five years’ financial and operational information about the Group, including maps of exploration and production activities. Also available at [www.shell.com/faoi](http://www.shell.com/faoi)



**Summary Annual Report and Accounts 2002**

Abridged versions of the Annual Reports of Royal Dutch Petroleum Company and The “Shell” Transport and Trading Company, p.l.c.



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