

SUSTAINABILITY REPORT
ROYAL DUTCH SHELL PLC SUSTAINABILITY REPORT 2009

INDEX

INTRODUCTION

- i HOW WE REPORT ON SUSTAINABLE DEVELOPMENT
- 1 INTRODUCTION FROM THE CEO

SHELL AND THE ENERGY FUTURE

- 2 OUR BUSINESS
- 3 BUILDING A LOW-CARBON ENERGY FUTURE
- 4 OUR BUSINESS STRATEGY
- 5 KEY DEVELOPMENT PROJECTS
- 6 OUR APPROACH TO SUSTAINABLE DEVELOPMENT
- 7 INTERVIEW WITH THE CEO

OUR OPERATIONS IN FOCUS

- 8 OUR PERFORMANCE IN 2009
- 10 CLIMATE CHANGE
- 12 MANAGING OUR IMPACTS
- 16 SAFETY
- 18 JOINT VENTURES, CONTRACTORS AND SUPPLIERS
- 19 OUR NEIGHBOURS
- 22 NIGERIA




MEETING ENERGY DEMAND

- 24 CLEANER FUEL FOR POWER
- 26 INCREASING SUPPLIES
- 29 INNOVATING FOR BETTER PRODUCTS
- 30 MORE SUSTAINABLE TRANSPORT

OUR PERFORMANCE

- 32 EXTERNAL REVIEW COMMITTEE
- 34 PERFORMANCE DATA
- 36 PERFORMANCE GRAPHS
- 37 ABOUT OUR DATA

KEY TO SYMBOLS

-  related information online, such as on www.shell.com
-  telephone number
-  postal address

HOW WE REPORT ON SUSTAINABLE DEVELOPMENT

We began reporting voluntarily on our environmental and social performance with the first Shell Report that covered 1997. Our reporting focuses on the environmental and social challenges that most affect business performance and matter most to our key stakeholders. These include local communities, non-governmental organisations, shareholders, investors, customers, governments, employees, media, academics, contractors and suppliers. We use a thorough process to select content for our reporting based on information from internal and external sources. Throughout the year we also provide information to the Dow Jones Sustainability Indexes, FTSE4Good, the Carbon Disclosure Project and other organisations that help investors understand the economic, environmental and social performance of companies.

Internal controls such as audit trails and statistical checks help assure the accuracy of the Shell Sustainability Report. An External Review Committee of independent experts helps make sure our reporting is balanced, relevant and responsive to stakeholders' interests. Lloyd's Register Quality Assurance Ltd has provided limited assurance of our direct greenhouse gas emissions data for 2009.



We report in accordance with the Global Reporting Initiative (GRI) and in line with the International Petroleum Industry Environmental Conservation Association (IPIECA) guidelines. GRI confirmed our A+ reporting level for the information contained in this Sustainability Report, the Royal Dutch Shell plc Annual Report and Form 20-F 2009, and on www.shell.com.



Shell supports the UN Global Compact and its 10 principles covering human rights, labour, environment and anti-corruption. Sections of this Sustainability Report cover Shell's progress in 2009 in these areas. Further details of our contribution to the UN Global Compact are on the Shell corporate website.

 www.shell.com/sdreporting

This report is supported on the Shell website by additional environmental and social performance data and more detailed information on our approach to sustainable development and related issues. Web links on each page show where to find this information and are marked as below.

 www.shell.com/sustainability



CARBON DISCLOSURE PROJECT

INTRODUCTION FROM THE CEO



“SAFETY, ENVIRONMENTAL AND SOCIAL PERFORMANCE ARE NOW CLOSER TO THE CORE OF OUR BUSINESS PLANS AND DECISIONS.”

I am honoured to introduce the Shell Sustainability Report for 2009. It was a landmark year for the world with the UN climate change conference taking place in Copenhagen. My view is that the outcome offered a good starting point for greater action. But I will come to that later.

The business challenges we face are clear in our reduced earnings for the year. There were many positive achievements, however, reflecting our drive and determination to meet energy demand through technology and innovation applied in the right way: with respect for communities and the environment. Development of new fields and increased production at existing projects helped offset the decline of our older fields. The reliability of our refineries improved. Crucially in these tough economic conditions, we reduced underlying costs by more than \$2 billion in 2009 and identified further savings of \$1 billion in 2010. Our safety record in 2009 was our best to date – I expect everyone who works for Shell, employee and contractor alike, to keep building on this excellent progress.

Our greenhouse gas emissions fell further. This was mainly due to reduced activity in our refineries and chemical plants as well as forced production shutdowns in Nigeria. But our investments and improvements in energy efficiency in many of our operations also played a role. We have programmes in place to step up these improvements.

SECURING ENERGY

In 2009, our delivery of major projects remained on course. We started production from the deep-water Parque das Conchas oil field off Brazil, and our Perdido development in the Gulf of Mexico moved towards first production in early 2010. Sakhalin II started production of liquefied natural gas (LNG) in Russia's far east. In Qatar, our Pearl gas-to-liquids and Qatargas 4 LNG projects will complete major construction around the end of 2010. In Downstream, we started up the first of several new advanced processing units at

the Shell Eastern Petrochemicals Complex in Singapore.

We agreed a contract to develop Iraq's Majnoon field as operators. Iraq poses many challenges, including safety and the possible social impact of helping to develop the country's resources. We will draw on our experience of operating in other difficult environments to tackle these challenges.

Our operations and projects in Nigeria moved forward, with Afam VI contributing substantially to the country's electricity supply and the Okoloma plant increasing gas supplies. The Gbaran-Ubie oil and gas project is on track to start production in the next 12 months. We agreed to sell our interest in several leases in the Niger Delta to Nigerian companies, subject to Government approval. I believe this will provide an opportunity to further develop local skills. The security situation, however, meant that the operating environment in Nigeria continued to be difficult.

Our oil sands expansion project in Canada made good progress. It will use new technology that will save energy – reducing carbon dioxide (CO₂) emissions – and water.

TIME TO ACT

Climate change remains a huge global challenge, of course. For the first time, the countries that emit the most CO₂ recognised in Copenhagen the need to work towards a new, low-carbon energy future. Shell will continue to work with governments to help develop the regulatory frameworks we believe are vital to establish a price for CO₂ that allows companies to invest in energy efficiency, new low-CO₂ products and carbon capture and storage (CCS). But while we work towards that aim, we must also focus sharply on what we can deliver now.

Our production of cleaner-burning and cost-effective natural gas has been rising for many years and will be over half our total energy output by around 2012. Natural gas can be both a bridge to a low-carbon

energy future and a central part of the future energy mix. A modern gas-fired power plant emits half the CO₂ of a modern coal plant when generating the same amount of electricity – and it costs less than half to build. In CCS, we are involved in a number of projects to develop this essential technology. We are also helping our customers use less energy by developing more advanced fuels and lubricants.

Low-carbon biofuels offer one of the best and more immediate commercial options to reduce CO₂ from transport fuels. In early 2010 we signed a non-binding memorandum of understanding with Cosan to form a joint venture in Brazil for ethanol production from sugar cane, the biofuel that currently produces the least CO₂. We are also investing to develop more advanced biofuels for the future.

CHALLENGES AHEAD

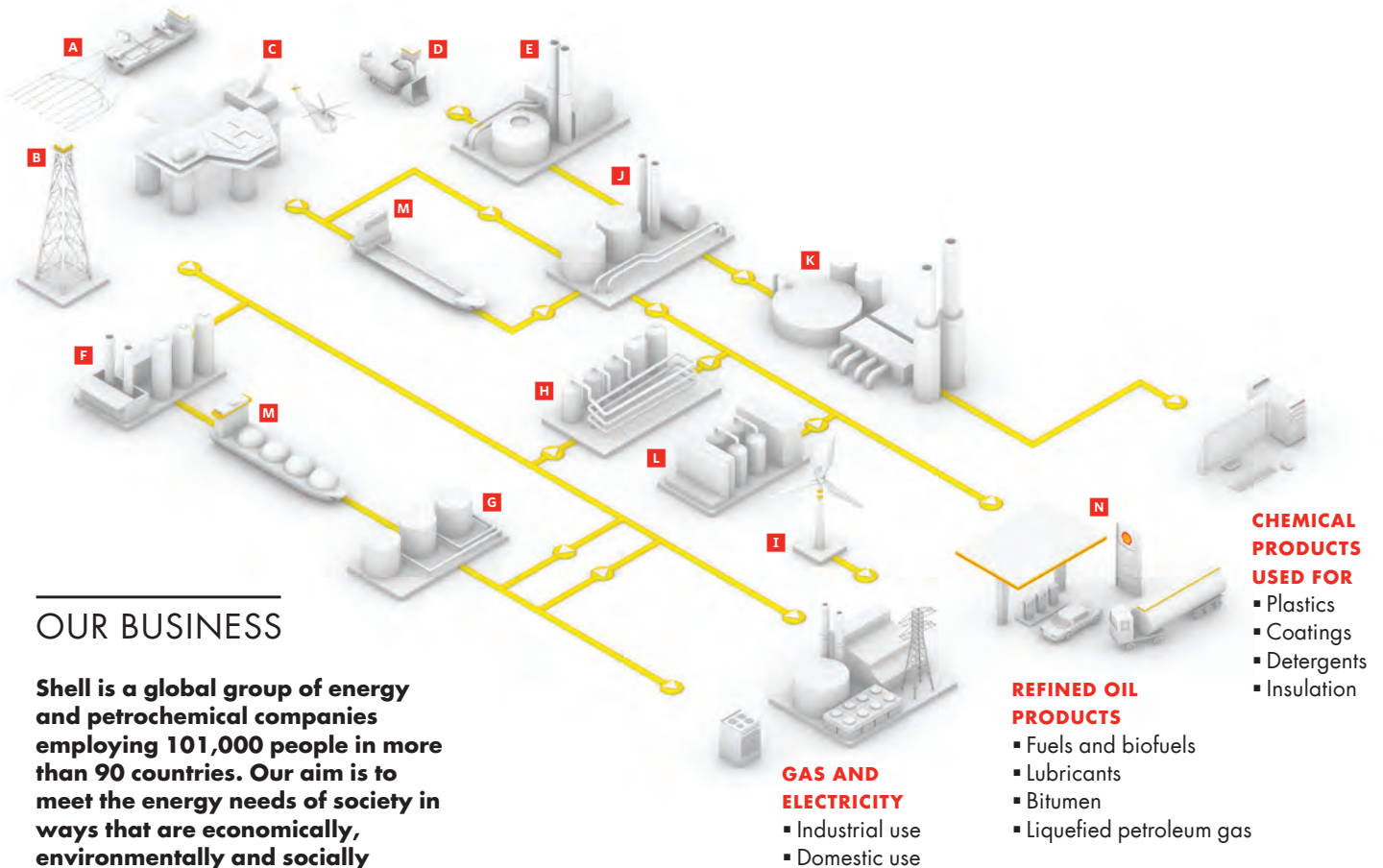
I would like to thank the members of the External Review Committee for their valuable contribution to this year's Shell Sustainability Report. Once again, they provided critical comments on early drafts which urged us to think harder about our performance in sustainable development and how we report on our progress. We know there is still room for improvement. We take to heart all the lessons we learn and will apply them as we move forward.

I believe sustainable development works best when it is thoroughly integrated in our business decisions at the very earliest opportunity. Under the reorganisation of Shell that began when I became CEO in July 2009, we embedded sustainable development firmly in our businesses. This means that safety, environmental and social performance are now closer to the core of our business plans and decisions.

That is exactly how it must be if we are to meet the complex challenges ahead in the most effective and responsible way.

Peter Voser
Chief Executive Officer

SHELL AND THE ENERGY FUTURE



OUR BUSINESS

Shell is a global group of energy and petrochemical companies employing 101,000 people in more than 90 countries. Our aim is to meet the energy needs of society in ways that are economically, environmentally and socially responsible.

UPSTREAM

Upstream consists of two organisations, Upstream International and Upstream Americas. Upstream searches for and recovers oil and natural gas, extracts bitumen from oil sands that is converted into synthetic crudes, liquefies natural gas and is active in gas-to-liquids technology. It often works in joint ventures, including those with national oil companies. Upstream markets and trades natural gas and electricity in support of its business. Our wind power activities are part of Upstream Americas. Upstream International co-ordinates company-wide sustainable development policies and practices.

DOWNSTREAM

Downstream manufactures, supplies and markets oil products and chemicals worldwide. Manufacturing and supply includes refineries, chemical plants and the supply and distribution of feedstocks and products. Marketing sells a range of products including fuels, lubricants, bitumen

and liquefied petroleum gas for home, transport and industrial use. Chemicals markets petrochemicals for industrial customers. Downstream also trades crude oil, oil products and petrochemicals primarily to optimise feedstock for our manufacturing activities. The business also includes our activities in biofuels. It co-ordinates CO₂ management activities across the company.

PROJECTS & TECHNOLOGY

Projects & Technology manages the delivery of Shell's major projects and drives its research and technology development programme. Projects & Technology provides technical services and technology capability to the Upstream and Downstream businesses. It oversees safety and environmental performance and manages contracting and procurement across the company.

www.shell.com/about

CHEMICAL PRODUCTS USED FOR

- Plastics
- Coatings
- Detergents
- Insulation

REFINED OIL PRODUCTS

- Fuels and biofuels
- Lubricants
- Bitumen
- Liquefied petroleum gas

GAS AND ELECTRICITY

- Industrial use
- Domestic use

UPSTREAM

- Exploring for oil and gas **A**
- Developing fields **B**
- Producing oil and gas **C**
- Mining oil sands **D**
- Extracting bitumen **E**
- Liquefying gas by cooling (LNG) **F**
- Regasifying LNG **G**
- Converting gas to liquid products **H**
- Transporting oil and gas by pipeline
- Generating wind power **I**

DOWNSTREAM

- Refining oil into fuels and lubricants **J**
- Producing petrochemicals **K**
- Developing biofuels **L**
- Trading **M**
- Retail sales **N**
- Managing CO₂ emissions
- Supply and distribution
- Business-to-business sales

BUILDING A LOW-CARBON ENERGY FUTURE

The world is starting a shift towards a new, low-carbon energy future. But it will take several decades to get there. Shell is taking steps today to help build the energy system of tomorrow: producing more cleaner-burning natural gas; working to deliver advanced fuels and lubricants and lower-carbon biofuels; and building a capability in carbon capture and storage.

As many countries emerge from recession and Asia's economic growth continues, long-term global demand for energy is rising. By 2050 the world is expected to have over 2 billion more people and energy demand is likely to be twice as high as it is today. At the same time, greenhouse gas emissions must fall by at least half if the planet is to avoid the impact of significant climate change.

Mapping a route to a more sustainable energy future is a challenge for governments, business and consumers alike. It is also a technology opportunity: in the future our economies will be powered by a more diverse mix of fuels and energy sources than ever before. Natural gas – abundant and affordable – will play an increasingly vital role as the world moves towards a low-carbon future. It can act as a bridge to that future and be central to the long-term, lower-carbon energy mix. By 2050 biofuels, wind, solar and other renewables could provide 30% of the world's energy, according to Shell's energy scenarios. Oil will remain an important energy source for many decades, as will coal. But we expect industry, cars and domestic appliances to be more energy efficient than they are today.

Transforming the world's energy system will not be easy. The challenges are "urgent and daunting", according to the International Energy Agency.

Replacing coal with natural gas in electricity generation where possible – for example, as old coal plants are decommissioned – would cut CO₂ emissions significantly in the power sector. A new gas-fired plant produces up to 70% less CO₂ than an ageing coal plant and

around half the CO₂ of a modern coal plant for the same amount of power generated. Gas is more energy efficient than coal and produces electricity at less cost than any other fuel. Adding carbon capture and storage (CCS) technology to a gas-fired power station would further drastically reduce the plant's CO₂ emissions. For those power stations where coal continues to be used, CCS could be installed to reduce emissions. In both cases a price for CO₂ needs to exist to make such investments viable.

Regulations will be needed to ensure energy savings by industry are not lost through greater energy use elsewhere. There will also need to be a revolution in consumer behaviour, with people using less power at home and at work.

More sustainable transport can play a crucial part in reducing CO₂ emissions, with more advanced petrol and diesel engines powering smaller and lighter vehicles. More advanced fuels and lubricants (see pages 30–31) will help. Biofuels for transport will continue to grow, while electric and hybrid cars are expected to become increasingly common.

Renewable energy will grow rapidly but it will take many years to meet large-scale demand. Traditionally it has taken around 30 years for a new energy source to capture 1% of the global market. Biofuels (see page 14) are there now. Wind power (see page 25) could reach the 1% mark at some point in the coming decade.

OUR ROLE

In 2009, our contribution to building this future remained firm, despite the economic downturn and slow pace of global recovery. We invested around \$29 billion in developing and expanding projects that will deliver energy for the future. As several major Shell projects come on-stream in the next few years, the balance of our portfolio will shift toward natural gas (see pages 24–25). By around 2012, natural gas will account for 50% of our upstream production.

Low-carbon biofuels will become an increasing part of our efforts to reduce CO₂ from the transport fuels mix. Our non-binding memorandum of understanding with Cosan to form a joint venture would allow us to invest in the production of ethanol from sugar cane, the biofuel that produces less CO₂ than any other from

cultivation to production to use. We are also making products that help customers emit less CO₂ such as Shell FuelSave petrol and diesel (see page 30) and bitumen produced at lower temperatures for road-building (see page 29).

Our spending of \$1.1 billion on research and development in 2009 was the oil industry's largest, according to annual reports. We invested in developing advanced fuels and lubricants as well as improving our technologies to reduce emissions. Over the past five years we have spent \$2 billion on CCS and alternative energies, including biofuels. We also continued our drive to improve energy efficiency at our refineries and chemical plants (see page 12).

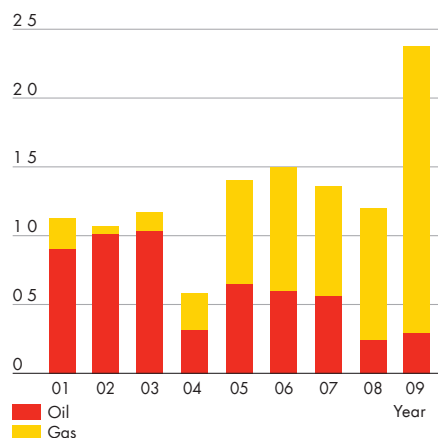
Developing and applying CCS will be essential if society is to achieve steep cuts in greenhouse gases. In 2009 we took steps to move ahead with two major CCS projects, including one with partners that will be the world's biggest (see page 11). We are involved in a number of other demonstration projects. For CCS to succeed on a large scale, governments need to create supportive policy frameworks and financial incentives for industry.

Building a new, low-carbon energy future will take time. There is no single solution. But taking decisive and positive steps today will help the world achieve it faster – and with less impact on the environment – for tomorrow.

 www.iea.org
www.shell.com/scenarios

SHELL'S EXPLORATION RESOURCE ADDITIONS

Billion barrels of oil equivalent



OUR BUSINESS STRATEGY

Shell is a global energy company that helps power and sustain people's lives. As we enter a new period of growth, we are sharpening our business performance and stepping up our delivery.

Our strategy includes developing cleaner fossil fuels and alternative energies that fit our business. It focuses more closely than ever on delivering results in our exploration and production projects and improving profitability in our refineries, chemical plants and other downstream activities.

Technology and innovation will remain at the heart of our strategy as we push into challenging frontiers and make the most of existing resources. Sustainable development will continue to underpin our approach. The foundations for future growth are in place.

UPSTREAM AND DOWNSTREAM

In Upstream, our energy output is expected to increase significantly as major new projects come on-stream. In 2012, our oil and gas production should reach 3.5 million barrels of oil equivalent a day, up 11% on 2009. The balance of our output is shifting: from 2012 cleaner-burning natural gas will make up over half our production. Our position as one of the world's leading suppliers of liquefied

↓ *Liquefied natural gas leaving Sakhalin II, Russia.*



natural gas will strengthen in the coming years with planned new LNG projects. Our production of gas trapped in densely packed formations – tight gas – rose sharply in 2009 and will continue to increase.

In Downstream, we are investing selectively in new refining and petrochemicals production capacity. We are expanding our refining capacity in the USA and increasing our chemicals production capacity in the East where demand continues to grow. In our marketing activities, we will focus on larger and profitable markets with potential for growth and leave smaller, less profitable markets. Our strategy includes plans to exit a further 15% of our refining capacity.

BUILDING FOR THE FUTURE

Our net capital investment in 2010 is planned to be around \$29 billion and we expect to invest \$25–27 billion a year in bolstering energy production in the coming years. About 80% of our total capital investment in the next few years is expected to go into our upstream activities. These include our exploration for new oil and gas fields and the development of new major projects, where our technology and experience can benefit host countries and national oil and gas company partners.

We are improving our operating performance and project delivery, including strengthening our focus on sustainable development aspects such as safety, environmental and social performance. We will also continue to reduce costs and to sell assets to further concentrate our portfolio.

As the world strives towards a low-carbon energy future, our contribution is clear: we focus primarily on cleaner-burning natural gas, advanced fuels and lubricants, lower-CO₂ biofuels and on helping to develop carbon capture, transport and storage technologies. We are maintaining our activities in wind power.

TECHNOLOGY AND INNOVATION

Technology and innovation – supported by our strong research and development (R&D) programme – will remain essential to our strategy. As energy projects become more complex and more technically demanding, our technology and technical expertise are becoming increasingly crucial to the growth of our business. We will continue to use advanced technologies to improve our

energy efficiency, reduce emissions in our own operations and extract more from existing resources. We will also continue to help customers improve their energy use by offering more advanced fuels and lubricants developed in our technology centres.

Our R&D work includes the development of biofuels, the renewable we see as the closest fit to our business. We are the world's largest distributors of biofuels, and our potential large-scale, joint-venture agreement with Cosan in Brazil would enable us to become involved in the production and distribution of low-CO₂ biofuel from sugar cane. The agreement would involve combining Cosan's production capacity and Shell's marketing capabilities. We also plan to place some of our advanced biofuels technologies into this joint venture to accelerate their potential growth.

OUR PEOPLE

Our people are central to the success of our business strategy. Their skills and dedication help to deliver business results and address environmental and social challenges.

The reorganisation of Shell in 2009 was designed to strengthen our competitiveness. It created a simpler, leaner structure with clearer accountabilities, leading to faster decision-making and a sharper focus on our customers. We reduced the number of senior management positions by 20%. Around 5,000 staff are leaving Shell as a result of the reorganisation, mostly in management and non-operational positions. Another 2,000 will be leaving in 2010 and 2011 as part of our drive to further reduce costs and streamline our business.

Throughout the reorganisation we maintained our approach to diversity in gender, ethnicity and hiring local people. By the end of 2009, the proportion of women in senior positions was 14%, up 0.4% from 2008. In 37% of countries, local nationals filled more than half the senior positions, compared to 32% in 2008. In the Shell People Survey for 2009, the number of employees who said they were satisfied with the diverse and inclusive nature of their workplace rose to 69% from 67% the year before. Those not satisfied fell to 11% from 12% in 2008.

➤ www.shell.com/strategy

KEY DEVELOPMENT PROJECTS



KEY

- ▲ Oil/gas Upstream
- ▼ Refining/chemicals Downstream
- Integrated Upstream/Downstream

KEY PROJECTS – POST FINAL INVESTMENT DECISION							
Start-up	Project	Country	Shell share(%)	Peak production 100% (kboe/d) [A]	LNG 100% capacity (mtpa) [B]	Category	Shell operated
2010–2011	AOSP Exp 1	Canada	60	106		Heavy oil/EOR [C]	■
	Caesar/Tonga	USA	22.5	51		Deep water	
	Gbaran Ubie Ph 1	Nigeria	30	250		Traditional	■
	Gjoa	Norway	12	107		Traditional	
	Harweel	Oman	34	43		Heavy oil/EOR	
	North America Tight Gas	USA/Canada	Various	100 [D]		Tight gas	■
	Pearl GTL	Qatar	100	320 [E]		Gas to liquids	■
	Perdido	USA	35	100		Deep water	■
	Pluto LNG T1 (Woodside) [F]	Australia	31	129	4.3	LNG [G]	
	Qarn Alam	Oman	34	36		Heavy oil/EOR	
2012–2013	Qatargas 4	Qatar	30	280	7.8	LNG	
	Schoonebeek	The Netherlands	30	20		Heavy oil/EOR	■
	Shell Eastern Petrochemicals	Singapore	100	[H]		Downstream	■
	Amal Steam	Oman	34	22		Heavy oil/EOR	
	Corrib	Ireland	45	57		Traditional	■
	Gumusut	Malaysia	33	135		Deep water	■
	Kashagan Ph 1	Kazakhstan	16.8	300		Sour	
	Majnoon/West Qurna 1	Iraq	45/15	>30 [D]		Traditional	■
	North Rankin B	Australia	16.7	268		Traditional	
	Port Arthur Refinery Expansion	USA	50	325		Downstream	
2014+	SAS	Abu Dhabi	9.5	95		Traditional	
	Bonga NW	Nigeria	55	43		Deep water	■
	Gorgon LNG T1-3	Australia	25	440	15	LNG	

[A] Thousand barrels of oil equivalent per day.

[B] Million tonnes per annum.

[C] Enhanced oil recovery.

[D] Shell share.

[E] Pearl GTL is expected to produce 140,000 barrels per day of GTL products and 120,000 barrels per day of natural gas liquids and ethane.

[F] Shell direct and indirect position via Shell's 34% shareholding in Woodside.

[G] Liquefied natural gas.

[H] Shell Eastern Petrochemicals is expected to produce 800,000 tonnes per annum of ethylene.

OUR APPROACH TO SUSTAINABLE DEVELOPMENT

We have a comprehensive set of business principles and rigorous standards to cover health, safety, security, environment and social performance.

The Shell General Business Principles have set the standards for the way every employee is expected to behave when conducting company business since they were first published in 1976.

Over the years the Business Principles have evolved to include contributing to sustainable development. For us this means helping to meet the world's growing energy needs in economically, environmentally and socially responsible ways.

In practice, we aim to share benefits and reduce impacts through the choice of projects we invest in, improving the way we run our operations and making better products. This requires balancing short- and long-term interests and integrating economic, environmental and social considerations into business decision-making. This includes working to reduce our CO₂ emissions and continuing to build on our relationships with our stakeholders.

STANDARDS AND REQUIREMENTS

Our Business Principles provide high-level guidance and we have a set of more detailed mandatory standards that support them. Many of these relate to sustainable development including health, safety, security, environment (HSSE) and social performance (SP). In 2009, we included social performance in our updated Commitment and Policy on HSSE and launched our HSSE & SP Control Framework. The framework clarifies our requirements for the way we operate, including how we work with communities close to our operations. Our standards are now supported by manuals covering areas such as managing our greenhouse gas emissions, impacts on biodiversity, road safety and security.

We include requirements for integrating environmental and social factors into the way we plan, design and take investment decisions on new projects. Since 2002, we have incorporated the potential impact on costs of a project's CO₂ emissions when making all major investment decisions. An environmental, health and social impact assessment is done before we begin substantial work on major projects or existing facilities. This includes new projects through to the decommissioning of existing facilities. We review the progress of a project to check that the recommendations of the impact assessment have been adopted early and effectively. When we complete a

project, we assess the lessons that we have learned and can apply to future projects.

As with our HSSE & SP manuals, our Code of Conduct gives staff more detailed instructions on the behaviour our Business Principles require. All staff must complete training in our Code of Conduct. Relevant staff must undergo specific training in areas such as combating bribery and corruption, and complying with competition laws. Our global helpline and supporting website allow staff and business partners to report concerns confidentially. They also offer advice on suspected infringements of the law, our Code of Conduct or our Business Principles. We report a summary of all helpline allegations and significant Code of Conduct violations to the Audit Committee and to the Corporate and Social Responsibility Committee (CSRC) of the Board of Royal Dutch Shell plc. In 2009, 165 violations of the Code of Conduct were reported (204 in 2008). As a result, we ended our relationships with 126 staff and contractors (138 in 2008).

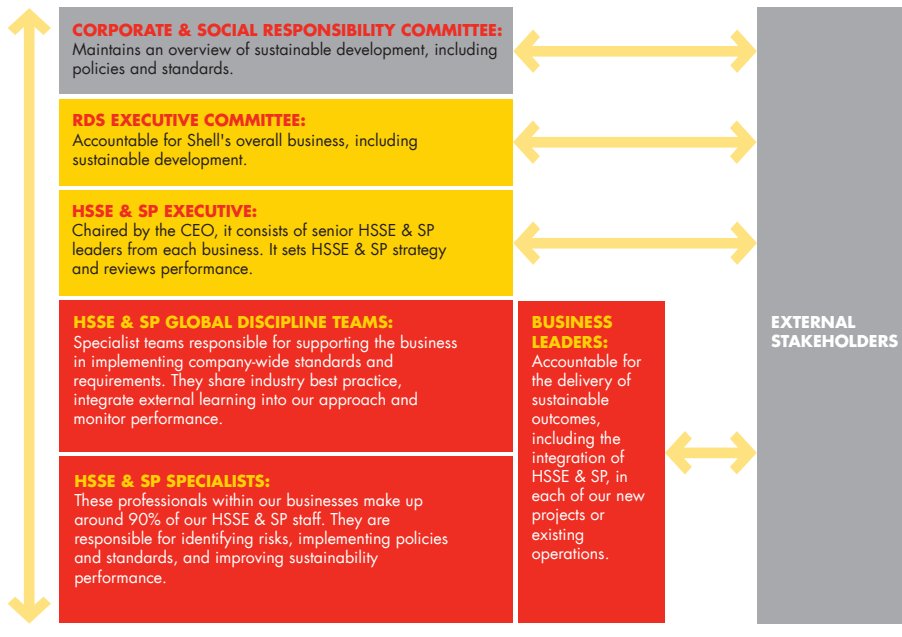
GOVERNANCE

The CSRC assesses our policies and performance with respect to our Business Principles, Code of Conduct, HSSE & SP standards and major issues of public concern on behalf of the Board of Royal Dutch Shell plc. The committee of four Non-executive Directors meets four times a year. It also visits Shell facilities.

Management accountability for sustainable development rests with our Chief Executive Officer and the Executive Committee. The CEO chairs Shell's HSSE & SP Executive, which reviews performance and sets priorities, key performance indicators and targets. Each business and facility is responsible for complying with Shell's safety, environmental and social requirements. They must also set out to achieve targets measured against their industry peers.

In the reorganisation of our company in 2009 we embedded more sustainability-related roles at the core of our operations. As a result we expect to improve our sustainable development performance and engage earlier and more effectively with our stakeholders. Sustainable development is also part of how we assess our overall business performance and reward our people (see page 9).

SUSTAINABLE DEVELOPMENT IN SHELL



INTERVIEW WITH THE CEO



Peter Voser

Aron Cramer

Aron Cramer, Chair of the External Review Committee, puts some challenging questions to Shell Chief Executive Officer Peter Voser.

AC: What is your vision for sustainable development at Shell and why is it critical to the company's business strategy?

PV: Sustainability is central to the way we do business, our business principles and our long-term strategy, so we take a very far-reaching view, not a short-term view. It means for me that we help to meet the growing energy needs of the world in economically, environmentally and socially responsible ways. You can't have one without the other two.

Finding the right ways to provide more energy with less CO₂ poses technological, environmental and social challenges. We haven't always got our approach to all of these right in the past. But we've learnt, and we're building on those lessons. For new projects we need to get it right first time by engaging early with stakeholders.

You have been vocal in advocating a global framework that establishes a price for CO₂. What is Shell prepared to do to help realise that vision?

Effective advocacy is essential. A global framework would enable countries and regions to deliver the required emission reductions by setting achievable targets which will stimulate investments. It would create conditions for industry investments in both low-carbon technologies and cleaner energy solutions. At the same time, continued investments in more oil and chemical products and natural gas supplies will be essential to satisfy the needs of global energy consumers.

In countries where we operate, both developed and developing countries, we make sure that our voice is heard and we

are actively engaged either as Shell or as part of industry bodies. But we have seen how difficult it is to get a large number of countries to agree even on a broad approach to CO₂ and climate change. Getting them to agree on the fine detail of global policy frameworks will be even tougher, and take considerably longer.

For that reason, Shell is very much focused on what we can do today: increase production of cleaner-burning natural gas, invest in low-carbon biofuels, and develop CO₂ capture, transport and storage technologies including participating in demonstration projects. Then there's energy efficiency – we will continue to work both to improve the energy efficiency of our operations and to reduce the flaring of natural gas.

How did sustainable development fit into the reorganisation of the company?

We wanted to embed sustainable development (SD) as deeply into the businesses as possible. I believe that's where the ownership has to sit. Having said that, there is still a corporate accountability for SD and this sits with me, the CEO. But the businesses are where it will develop. That's where it will be used, improved, and the learning truly embedded.

In 2009, many questioned Shell's commitment to renewables: what is the company's current strategy?

The energy mix of the future clearly includes alternative energies, but they can't be developed overnight. Our main contribution in reducing CO₂ emissions in transportation will be to supply lower carbon fuels. We are the world's largest supplier of fuels containing renewable components. We are developing capabilities to produce sustainable biofuels using current processes and developing technologies for advanced biofuels that do not compete with resources for food. We are also asking our biofuels suppliers to commit to signing up to sustainability clauses in our contracts.

Natural gas may not be a renewable energy, but it is clearly a lower-CO₂ energy source than other fossil fuels. It will be very important as a bridge to a low-carbon energy future, and remain a vital part of that future. By around 2012 we will be producing more gas than oil. Gas can play an important role in cleaner power generation. With Shell's leading position in LNG and new technologies in recovering

natural gas from tight formations, we can supply natural gas to replace coal in power generation, which for many countries is the least costly solution to achieving longer-term CO₂-reduction targets.

What steps are you taking to mitigate CO₂ emissions that come from developing oil sands?

Oil sands will continue to play a part in the global energy mix. I'm sure of that. But they pose environmental challenges, and we have to listen to people's concerns. We're taking steps to tackle CO₂ emissions, for example. We have not yet taken the final investment decision, but our proposed Quest CCS project could store over 1 million tonnes of CO₂ a year from our bitumen upgrader in Scofield, Canada. Of course, there's always more to be done, but we are making progress through continuous improvements in our operational performance.

Are there reasons for optimism in Nigeria?

Nigeria, especially the Niger Delta, remains a very challenging place in which to operate. Security issues and sabotage are constant threats to our people, assets and the environment. But we are cautiously optimistic that conditions there are improving and that our initiatives to help community development and build on our partnerships with the government will produce good results.

We've seen positive achievements, such as the progress of several of our major energy projects including the commissioning of the AFAM power generation project that supplies around 20% of Nigeria's electricity.

In other ways, we undoubtedly had a difficult year in Nigeria in 2009. But we are looking to the future and working to build on our relationship with the communities. We have good-quality, committed staff in Nigeria – that's another reason for optimism.

OUR OPERATIONS IN FOCUS

OUR PERFORMANCE IN 2009

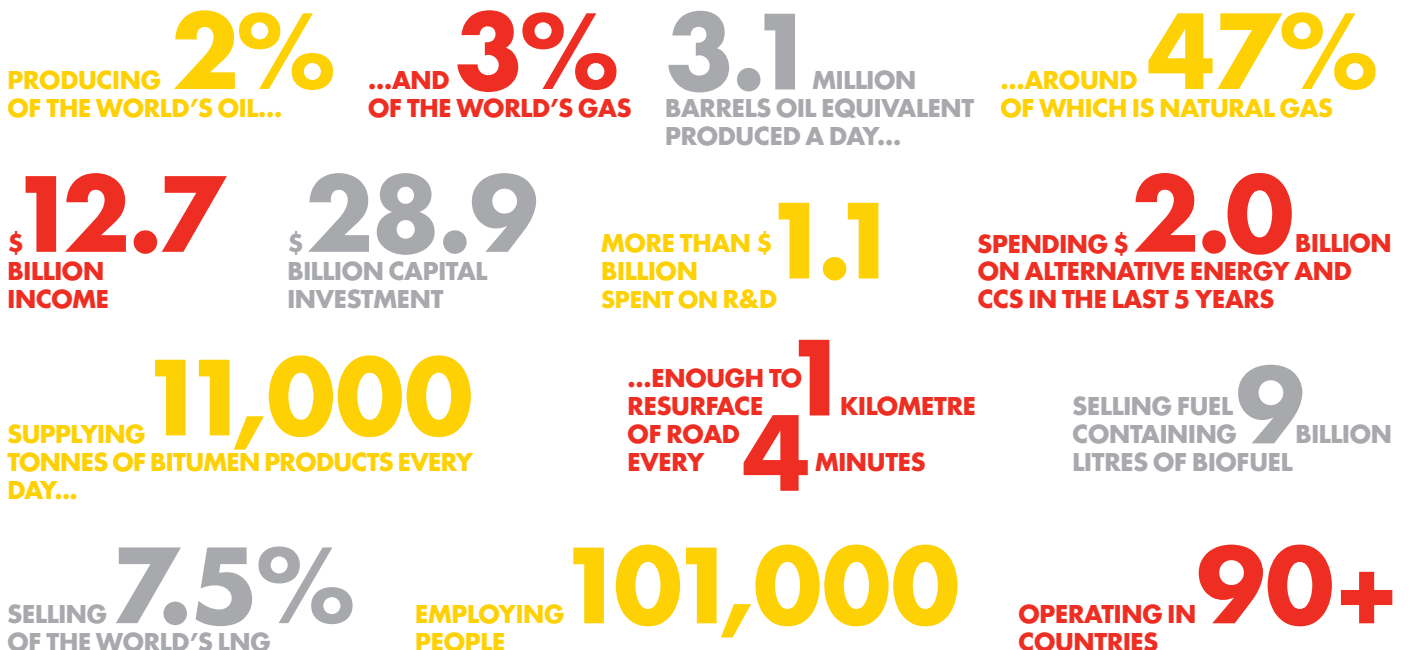
In 2009, Shell started production from major oil and gas projects that will deliver energy for decades to come. We also made good progress on others that will start production in the coming years, beginning in 2010. Our safety record was our best to date and we continued work to improve our environmental and social performance.

ECONOMIC

- Our income was \$12.7 billion and we returned \$10.5 billion to our shareholders. Our net capital investment of \$28.9 billion will help sustain our business for the future. We also spent \$1.1 billion on research and development.
- Our exploration efforts added 2.4 billion barrels of oil equivalent in new resources, making it our best year for exploration in a decade.

- Production of liquefied natural gas started from Sakhalin II in Russia's far east, one of the world's largest integrated oil and gas projects (Shell interest 27.5%). Full capacity of 9.6 million tonnes a year, equal to 5% of the world's LNG, is expected to be reached in 2011.
- By December, production had surpassed a total of 1 million barrels of oil from the Parque das Conchas project in ultra-deep water 120 kilometres off the coast of Brazil. Several technology firsts helped bring the project on-stream, including separating oil from gas on the seabed before pumping it nearly two kilometres up to a production vessel on the surface. Shell is the operator with a 50% interest.
- Another major deep-water development, Perdido in the Gulf of Mexico, made good progress leading to the start of production in early 2010. At peak, Perdido will produce up to 100,000 barrels of oil equivalent a day from the world's deepest offshore drilling and production platform. The development is a further step in our strategy to increase oil and gas production by 11% from 2009 to 2012. Shell is the operator with a 35% interest.
- A new mono-ethylene glycol (MEG) unit started production in Singapore, a key milestone for the Shell Eastern Petrochemicals Complex (SEPC – Shell interest 100%) that will become fully operational around mid-2010. The unit has the capacity to supply 750,000 tonnes of MEG a year to Asian markets. The SEPC project also includes a new 800,000-tonnes-a-year ethylene cracker, a butadiene plant and modifications to the Bukom refinery.
- On-track construction continued of Pearl GTL (Shell interest 100%), the world's largest gas-to-liquids plant, and of Qatargas 4 (Shell interest 30%), a major LNG project. Shell and Qatar Petroleum are partners in both. Pearl GTL will supply 140,000 barrels a day of cleaner-burning diesel and kerosene, oils for lubricants and chemical feedstocks, as well as 120,000 barrels a day of natural gas liquids and ethane. Qatargas 4 will convert 1.4 billion cubic feet of gas a day into LNG. Major construction on both projects is expected to be completed around the end of 2010.

FACTS AND FIGURES



- Iraq’s Ministry of Oil awarded Shell and a partner, Petronas Carigali, a contract to develop the Majnoon oil field from its current production of 45,000 barrels of oil a day to 1.8 million. Shell has a 45% interest, Petronas 30% and the Iraq state 25%. We also have a 15% interest in an agreement to redevelop and expand the West Qurna 1 field.

www.shell.com/projects

ENVIRONMENTAL

- The direct greenhouse gas (GHG) emissions from facilities we operate were 67 million tonnes on a CO₂-equivalent basis in 2009, 11% lower than in 2008 and around 35% below our 1990 level – putting us well on track to meet our voluntary target for 2010 of 5% lower GHG emissions than our comparable 1990 level.
- We continued to implement long-term energy management programmes to improve our energy efficiency. Our oil and gas production and chemical plants improved in energy efficiency, while refining declined.
- The new Shell Technology Centre Amsterdam that opened in the Netherlands is almost CO₂-neutral.

- We continued to help develop technology to capture CO₂ and store it underground at a number of demonstration projects. The Canadian and Alberta governments signed letters of intent to provide funding of CA\$865 million towards our proposed Quest project to store over 1 million tonnes of CO₂ a year from the Scotford Upgrader that processes bitumen from oil sands. We took the final investment decision on Gorgon (Shell interest 25%), a major liquefied natural gas project in Australia that will include CCS technology to capture and store up to 4 million tonnes of CO₂ a year.
- Operational spills totalled 1,300 tonnes, the lowest amount we have ever recorded. Sabotage in Nigeria was the largest cause of spills for Shell, accounting for nearly 14,000 tonnes.
- We continued to work towards reducing our water use. Our operations used around 198 million cubic metres of fresh water, down from 224 million cubic metres in 2008.

SOCIAL

- We recorded our lowest-ever injury rate in 2009, down 22% on the year before. Our big construction projects achieved remarkably high numbers of working hours without an injury causing time off

work. The Athabasca Oil Sands Project Expansion 1 in Canada, due to be in production in 2011, achieved 43 million working hours without a lost-time injury – a record for Shell. We launched our mandatory 12 Life-Saving Rules to reinforce our drive towards zero fatalities and injuries.

- Sadly however, 20 people died while working for Shell in 2009 – one employee and 19 contractors. Two fatalities were the results of industrial accidents. Our fatal accident rate was the lowest recorded and down 32% on 2008.
- We launched a clearer set of mandatory requirements for our approach to health, safety, security, environment and social performance (HSSE & SP) with the aim of strengthening compliance across the company.
- We spent \$132 million on social investment, mostly on community development projects.
- In the interests of assisting reconciliation, we reached a settlement with the families of Ogoni activist Ken Saro-Wiwa and eight others convicted and executed in 1995 by Nigeria’s military government.

www.shell.com/sustainability

SHELL SCORECARD

Shell uses a number of key indicators to evaluate the company’s overall performance across financial, operational and sustainable development (SD) areas. This evaluation is then used to determine bonus levels for employees, including members of the Executive Committee.

Sustainable development accounted for 20% of the scorecard for 2009. As in previous years, safety was the key measure, supplemented by other aspects of HSSE & SP performance.

For 2010, an assessment by the Dow Jones Sustainability Indexes of our performance in sustainable development will account for half of the SD element in the scorecard for members of the Executive Committee. Successful delivery of major projects will be part of the scorecard for all employees, with early engagement with communities one factor considered.

SHELL SCORECARD		
	2009	2008
1 Total shareholder return [A]	22.6%	(33.5)%
2 Operational cash flow (\$ billion)	21	44
3 Operational excellence		
Oil and gas production (thousands boe/d) [B]	3,142	3,248
LNG sales (million tonnes)	13.4	13.1
Refinery and chemical plant availability	93.3%	92.5%
4 Sustainable development [C]	1.4	1.8

[A] The calculation of total shareholder return is based on dividends and share prices in US dollars.

[B] Combined Upstream production, including oil sands.

[C] Sustainable development performance is assessed on a basis of total recordable case frequency (TRCF) and consideration of a broad range of sustainability factors including additional safety parameters, environmental measures and social performance. A lower score reflects better performance.

CLIMATE CHANGE

Climate change is one of the greatest universal challenges society faces. A recession-driven shift towards less energy use among businesses and consumers has slowed the growth in global greenhouse gas emissions. As the downturn lifts and energy demand rises, the challenge will be to sustain a more efficient use of energy and manage CO₂ emissions. Global regulatory frameworks remain essential, but they are likely to take some years to develop. There is a great deal we can do now.

NATURAL GAS

Natural gas is both an ideal bridging fuel to a new, low-carbon energy future and a strong foundation for it. A modern gas-fired power plant emits half the CO₂ of an equivalent new coal-fired plant for the same amount of electricity produced, and up to 70% less CO₂ than an old coal plant. It is

OPINION

The Copenhagen Accord suggests that any practical near-term agreement on mitigating the risk of climate change will involve differentiated approaches based on national action plans. However, the current national commitments do not add up to the global CO₂ emissions reduction needed for a 450 parts per million target. Strengthening these commitments, especially for countries such as China and India, will require less costly low-carbon supply technologies, including CCS. The cost of carbon capture for power plants is simply too high for widespread adoption. Alternative technologies that can dramatically reduce cost are the key for CCS.



Professor Ernest Moniz,
MIT Energy Initiative
Massachusetts Institute of Technology,
USA

also up to 40% more energy-efficient. Natural gas is abundant and cost-effective. The International Energy Agency (IEA) believes enough recoverable gas resources exist to supply the world for 250 years at current production rates; and a modern gas plant produces electricity at lower cost than any other newly-built source of electricity such as coal, nuclear, wind or solar power.

There will be increasing opportunities over the next 10–15 years to install new gas-powered generating capacity as hundreds of old coal-fired plants are decommissioned in North America, Europe and China. Moreover, installing carbon capture and storage technology (CCS) in a gas-fired plant would almost eliminate CO₂ emissions from that plant.

Shell has been using advanced technology and innovation to increase its gas production for decades. From 2012, we will be producing more natural gas than oil. We are already the world's leading supplier of liquefied natural gas, which enables us to transport gas from remote fields by ship to cities where it is most needed. We also pipe natural gas directly to markets. For example, the Ormen Lange gas field (Shell interest 17%) in the Norwegian Sea is supplying the UK with almost 20% of its gas. In the USA, we are growing in the business of extracting gas trapped in densely-packed rock – tight gas – that is helping to substantially increase the country's energy security. In 2009, our production of tight gas in North America rose significantly.

CCS AND BIOFUELS

CCS technology could be removing over 10 billion tonnes of CO₂ emissions a year by 2050 if rapid deployment starts this decade, according to the IEA. This is equivalent to a third of current fossil fuel emissions. But there is a long way to go before CCS technology becomes widespread enough to make a difference. We are helping to develop this vital technology through CCS projects now (see facing page).

Our responsibility in helping to address the challenge of climate change is two-fold. We manage the direct greenhouse gas emissions from the operations we control or operate – 67 million tonnes in 2009 – and we help the consumers of our fuels and other products use less energy. We estimate that CO₂ emissions from the use of the products we make were just over 600

million tonnes in 2009. We are working to continue the improvement in our energy efficiency and to reduce our greenhouse gas emissions.

On the consumer side, we are developing more advanced fuels and lubricants and we have signed a non-binding memorandum of understanding to form a joint venture in Brazil with Cosan to produce ethanol from sugar cane, the lowest-carbon biofuel. We see biofuels as one of the most realistic commercially viable ways to reduce CO₂ from transport fuels in the coming two decades. We are investing in research into more advanced biofuels, too, but these will take time to develop and reach commercial scale. For now, we focus on the biofuels currently available and work to improve their sustainability.

BEYOND COPENHAGEN

We will continue to work with governments to help them set the policy frameworks to create market-based incentives, such as an effective cap-and-trade market for CO₂, that will contribute towards improving energy efficiency and developing CCS technologies. Industry-sector and regional agreements could also help accelerate change. We are the only major oil company to remain a member of the U.S. Climate Action Partnership, a coalition of business, environmental groups and policymakers.

The UN climate change conference in Copenhagen was a step towards a global policy framework based on national commitments. The conference saw other positive steps, including an agreement that the world must limit the rise in global temperature to 2°C to avoid dangerous climate change. There was also recognition that urgent action must be taken to stop deforestation, one of the largest single contributors to rising CO₂ emissions in the atmosphere.

Copenhagen may not have created a global legal framework, as many had hoped. But for Shell, that is a reality more than a disappointment. It is also a call to action.

 www.shell.com/climate

OUR SIX CO₂ REDUCTION PATHWAYS

In 2008 we identified six main pathways to follow in our efforts to reduce CO₂ and help achieve a low-carbon energy future. Here is a summary of our performance in 2009.

1. Increase the efficiency of our operations.

We have introduced long-term programmes and we are investing in improving energy efficiency across our operations and projects (see page 12). In 2009, some parts of our business improved their energy efficiency and some declined.

Advanced technologies and innovation will be needed to overcome tough challenges in this area. Upstream production becomes more energy intensive as existing fields age and as new fields contain heavier and harder-to-reach resources. Downstream manufacturing becomes more energy intensive as we make cleaner fuels, and when economic downturns force our plants to run below their full capacity.

All our new office buildings must meet stringent, internationally recognised energy efficiency standards.

2. Establish a substantial capability in CO₂ capture and storage (CCS).

We continued to be involved in a number of demonstration projects to help advance the technologies and understanding of CCS. These included the world's largest, most technically advanced CCS demonstration project in Mongstad, Norway, which is expected to capture up to 100,000 tonnes of CO₂ a year from 2011.

Shell also confirmed involvement in plans for full-scale CCS projects. One is the Gorgon liquefied natural gas project (Shell 25% interest) in Australia that will capture up to 4 million tonnes of CO₂ a year. At the end of 2009 it was the world's biggest full-scale CCS project confirmed so far.

The governments of Alberta and Canada jointly announced funding for our proposed Quest project to capture and store over 1 million tonnes of CO₂ a year from the Scotford Upgrader that processes bitumen from oil sands. We also continued to work with the local community to move forward on the Barendrecht CCS project in the Netherlands. If this goes ahead, it will capture 400,000 tonnes a year of CO₂ from our Pernis refinery and store it in two depleted gas fields.

3. Continue to research and develop technologies that increase efficiency and reduce emissions in hydrocarbon production.

We spent \$1.1 billion on all our research and development (R&D) activities. Some of this R&D will not just help the oil and gas industry. In 2009, for example, we signed an agreement to install a new technology called Cansolv at a coal-fired power station in Wales. This system uses steam and chemicals to capture post-combustion CO₂ and sulphur dioxide gases. It is expected to be in place by 2011.

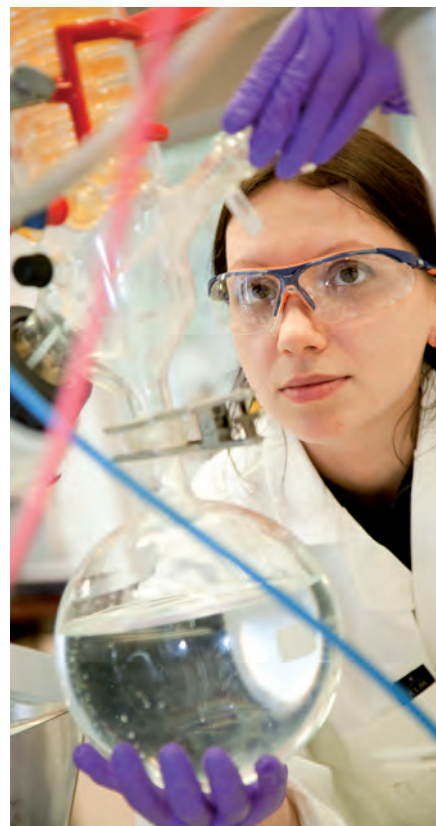
4. Develop low-CO₂ sources of energy, including natural gas and low-CO₂ fuels.

Natural gas will be central to a low-carbon energy future. It produces up to 70% less CO₂ than coal when used to generate the same amount of electricity. For many years, Shell's production of natural gas has been rising and by 2012 we will be producing more gas than oil. We are one of the world's biggest suppliers of LNG which helps power businesses and homes in cities far from gas fields (see page 24).

We are the largest distributor of transport biofuels, with 9 billion litres sold in our fuels in 2009. We are working to increase the sustainability safeguards in place with our suppliers of today's biofuels and we have signed a non-binding memorandum of understanding with Cosan in Brazil to form a joint venture to produce ethanol from sugar cane, the lowest-CO₂ biofuel (see page 14). We are also investing in new technologies and research to provide advanced biofuels for the future (see page 31).

5. Manage energy demand by growing the market for products and services that help customers use less energy and emit less CO₂.

During 2009 we launched our most efficient fuel ever – Shell FuelSave – in five countries. Using this fuel can save up to one litre of fuel in a 50-litre tank. More than 150,000 drivers have signed up for our online driving tips. We also continued to develop and offer advanced, lower-friction lubricants to increase energy efficiency. Our WAM Foam Technology™ for laying roads while emitting up to 30% less CO₂ also continued to be more widely used.



↑ Working to develop more advanced fuels that reduce energy consumption.

6. Work with governments and advocate the need for more effective CO₂ regulation.

In the approach to the UN climate change conference in Copenhagen, we worked with key governments to urge them to adopt policy frameworks that would enable companies to develop the technologies needed to tackle CO₂ emissions. We will continue to work with governments and other stakeholders to build support for an effective policy framework that will accelerate the pace of change in the energy system and respond to the challenges posed by climate change. We advocate a global price for CO₂ that will encourage industry to invest in CCS technologies and effective energy efficiency measures. Incentives to deploy CCS and other new technologies will also be needed. We advocate CO₂ regulations that will apply to the whole industry the same standards, predictable long-term policies and market-based incentives so that competitive forces can drive the most cost-effective solutions.

MANAGING OUR IMPACTS

Shell is working to improve energy efficiency and reduce greenhouse gas emissions at all its operations. We are also reducing our use of fresh water through recycling and advanced technologies. In biofuels, we include sustainability clauses in new and renewed suppliers' contracts.

GREENHOUSE GAS EMISSIONS

The direct greenhouse gas (GHG) emissions from facilities we operate were 67 million tonnes on a CO₂-equivalent basis in 2009, 11% lower than in 2008 (see graph on page 36). A combination of factors was behind the drop including improved operational performance, lower demand for our products due to the economic downturn, some shut-in production in Nigeria and the sale of some of our facilities. Since 1990, our GHG emissions

have fallen by around 35% on a comparable basis. However, in the coming years our direct GHG emissions may rise as a result of new projects coming on-stream.

Of our total GHG emissions in 2009, around 11% came from the flaring – or burning off – of gas in our Upstream business. Some was operational flaring for safety reasons and during the start-up of facilities. We are working to reduce this operational flaring.

The continuous flaring of gas takes place where there is no infrastructure to capture the gas produced with oil, known as associated gas. Most continuous flaring is now in Nigeria (see page 23). Since 2000, the joint venture operated by Shell Petroleum Development Company (SPDC) has spent over \$3 billion to install gas-gathering equipment, reducing continuous flaring by more than 30%. A further \$3 billion at least is needed to complete this programme, and our partner, the government, cannot readily fund its share. The security situation has also hindered

progress. SPDC has received instructions from the government not to decrease production to reduce flaring. In December 2009, SPDC decided to go ahead with a plan to capture associated gas and end flaring at seven more sites in Nigeria. We are lending money to the government to fund its share of this project. The gas will be used to provide energy for the domestic market.

Outside Nigeria, continuous flaring produced around 0.5% of our total GHG emissions. Some of the locations where continuous flaring took place are ageing oil fields where the associated gas pressure is too low to power the compressors used to gather the gas and avoid flaring.

Overall, our operational and continuous flaring has fallen by more than 70% since 2001. Programmes to end continuous flaring caused more than half of this drop; the rest was mainly due to production falls in Nigeria.

All our new projects are designed not to flare or vent continuously. When we acquire or become the operators of an existing operation that is already flaring or venting it may take time before these activities can be stopped. This is the case with the Majnoon oil field in Iraq (see page 27).

ENERGY EFFICIENCY

Our first CO₂ reduction pathway aims to increase the efficiency of our own operations (see page 11).

In 2009, our Upstream businesses improved in energy efficiency. All our Upstream operations have energy management plans in place to optimise processes and equipment used to maximise production from declining fields. New fields like Ormen Lange (Shell is the operator with a 17% interest) in Norway are also showing how the latest field management and extraction techniques can improve energy efficiency. Our efforts to use energy more efficiently were partly offset by the increased energy needed to produce oil and natural gas from some ageing fields. Producing heavier oil and resources that are harder to reach also pose energy efficiency challenges for all oil and gas producers.

At our oil sands operations in Canada energy efficiency remained the same as in 2008. Operational improvements were offset because our trucks consumed more



↑ The new Shell Technology Centre Amsterdam.

ENERGY EFFICIENCY OF OUR BUILDINGS

All new Shell office buildings must meet internationally recognised standards in energy efficiency. We are taking part in Leadership in Energy and Environmental Design (LEED), a certification system that verifies whether a building project meets the highest energy efficiency standards. These include energy savings, efficient use of water and reduced CO₂ emissions.

We require all new buildings to achieve at least silver-level LEED certification. We have two buildings that have achieved platinum – the highest level – and several more that have achieved gold. We are also seeking certification of many existing buildings.

Although not certified under LEED because it is a mix of laboratories and offices, the new Shell Technology Centre Amsterdam, in the Netherlands, is almost CO₂-neutral. It opened in September 2009. An underground thermal storage system regulates its indoor temperature. The electricity it uses is offset by power generated by a North Sea wind farm under a sustainable certificate system that also covers a number of other Shell buildings in the Netherlands. Shell built and operates the wind farm with partner Nuon, a Dutch energy company.

diesel to cover longer distances than in 2008 between the mining area and the processing plant. New technology will save energy – and water – in processing bitumen at the project’s expansion currently under construction and avoid some 40,000 tonnes of CO₂ emissions a year.

Energy efficiency at our refineries declined during 2009, according to the Solomon Associates Energy Intensity Index (EII™ – see graph page 36). Lower demand for our products forced our refineries to run well below full production capacity. The energy used does not fall in proportion to reduced production, making the process less energy efficient. Unplanned shutdowns at a few of our major refineries also affected our global energy efficiency.

Over the full year energy efficiency at our chemical plants improved (see graph page 36). Demand for our chemical products began to recover in the second half of 2009, which helped our plants run more efficiently.

We are taking steps to improve energy efficiency further by continuing to implement a CO₂ and energy management (CEM) programme at our refining and chemical plants. In 2009, as part of this programme, we began adopting the latest monitoring and maintenance procedures designed to improve energy efficiency. We also continued installing an advanced information system that helps operators improve efficiency at plants. The CEM and advanced information systems have together led to an overall 2% energy saving at our manufacturing facilities in 2009. Unfortunately, these gains were offset by the impact of lower production.

WATER

One in three people do not have enough water to meet their needs, according to the World Health Organization. This situation is expected to intensify as cities and populations grow and demand for water increases. The potential impact of global warming on water supplies is also a concern.

Our industry is not as big a water user as some others, such as power generation. But some of our industry’s operations use quantities of water that can be significant – for example, refining processes. Extracting one barrel of bitumen from oil sands takes two to three barrels of water (see page 28), which is mainly recycled. In 2009, Shell

operations used around 198 million cubic metres of fresh water, down from 224 million cubic metres in 2008.

We use advanced technology to reduce our need for fresh water. For instance, once operational our Pearl GTL plant in Qatar, which will convert natural gas to liquid products, will take no fresh water from its arid surroundings. Instead, it will use and recycle water produced by the GTL manufacturing processes. At both our Schoonebeek oil field (Shell interest 30%) in the Netherlands and the SAPREF refinery (Shell interest 37.5%) in South Africa, agreements are in place with local water authorities that allow the industrial use of recycled household waste water.

There is another side to the oil and gas industry’s relationship with water. When oil and gas are produced they are often accompanied by saline water. We use some of this water to replace fresh water in our operations – for example, by injecting it back into the ground to boost oil recovery. At our Pinedale operation in Wyoming,

USA, we are reusing water produced with the gas for hydraulic fracturing, a process that involves the high-pressure injection of water to unlock the tightly-trapped gas. This approach reduces the use of fresh water in the process by more than 50%. We are also building a water-gathering system that will reduce the number of truck journeys to transport water.

Other possible uses for water produced with oil could benefit local communities. Petroleum Development Oman (Shell interest 34%), for example, is experimenting with reed beds to clean water produced with oil. This water could potentially be used to grow crops.

www.shell.com/environment
www.shell.com/envdata



↑ Parts of Victoria state in Australia have seen little rain for some years.

MAKING THE MOST OF WATER

The Shell Geelong refinery stands in a drought-stricken region of Victoria, Australia, and supplies half the state’s transport fuel. Like all refineries, Shell Geelong needs water for processing. With no rain in the region for some years, water supply had become a problem both for the refinery and for the regional water authority, Barwon Water. The authority needed to increase its capacity to treat sewage because of a rising local population. The refinery wanted to deal more effectively with its waste water. Shell and Barwon Water developed a solution that replaces the fresh water Shell uses for processing with recycled water from a new water treatment plant. Both the refinery’s waste water and sewage from neighbouring areas will be treated to provide industrial-quality water for the refinery and irrigation water for nearby community sports grounds. The plant will free-up 2 billion litres a year of potable water currently used in refinery processes, increasing the region’s available drinking water by 5% – enough to supply 10,000 homes. The AU\$90 million plant is due to begin operating in 2012. It will be built, owned and operated by Barwon Water on land close to the refinery. Shell is contributing half the cost of the project with the balance coming from the government and Barwon Water.

SUSTAINABILITY OF TODAY'S BIOFUELS

Biofuels today make up 1% of the world's transport fuel mix. They could grow to 10% in the coming decades as demand increases for all types of fuel that emit less CO₂. Shell is the world's largest distributor of biofuels and has around 30 years of experience in helping to develop them. In 2009, we distributed 9 billion litres of biofuels.

We see low-carbon biofuels as one of the most realistic, commercially viable ways to reduce CO₂ emissions from transport fuels in the coming 20 years and we continue to build capacity in current biofuels that meet our requirements for sustainability. Biofuels are the renewable fuel that most closely fits our existing transport fuels business and our customers' needs. In early 2010, we signed a non-binding memorandum of understanding with Cosan to form a joint venture in Brazil for the production of ethanol from sugar cane, the most cost-competitive current biofuel and the one with the lowest CO₂ footprint.

We are also accelerating the research, development and scale-up of cellulosic ethanol and other advanced biofuels (see page 31).

The production of raw materials for biofuels such as corn, soy, palm oil and sugar cane can pose sustainability challenges. The CO₂ performance of current-generation biofuels can vary widely depending on the raw materials and the production and processing techniques used – sugar-cane ethanol, for example, produces around 70% lower CO₂ emissions on a "well-to-wheel" basis than conventional petrol. Current biofuels can also compete with food crops for available land. Deforestation, water use, impact on local communities and workers' rights can become issues if, for example, the cultivation of crops for biofuels is poorly managed.



↑ Harvesting sugar cane for biofuels in Brazil.

Our approach

We advocate the adoption of international standards that would reward low-CO₂ biofuels in the market and place high-CO₂ biofuels at a commercial disadvantage when emissions are calculated over the full production-to-use cycle. The use of a single, global approach for calculating the "well-to-wheel" carbon intensity of all transport fuels would also help the growth of more sustainable biofuels.

Shell has been working to raise sustainability standards in its own biofuels supply chain for a number of years. Since 2007 we have followed a clear policy and have dedicated resources to help assess potential risks, implement controls and monitor compliance. The introduction of explicit sustainability clauses into new and renewed supply contracts is central to our approach. These help to rule out the use of child or forced labour and avoid damage to protected areas, such as those rich in biodiversity.

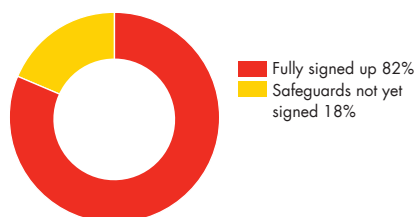
We recognise that some suppliers may not meet our expectations in full at the outset but they must commit to work with us to meet our requirements. We review their progress, conduct independent audits and can terminate the contract if suppliers do not meet these requirements. By the end of the year, 82% of the biofuels we bought by volume were from suppliers who have signed up to our sustainability clauses. We will continue our efforts to increase this proportion.

During the year, Shell continued to work with industry, governments, intergovernmental agencies and policymakers towards the development of international sustainability standards for the biofuels industry. We are involved in voluntary groups such as the Better Sugar Cane Initiative, Roundtable on Sustainable Palm Oil (RSPO) and the Roundtable on Responsible Soy. These organisations are making steady progress in improving practices: government policymakers and regulators increasingly recognise their guidelines and standards. Suppliers of palm oil to Shell must be certified by members of the RSPO, the first such scheme in operation. Shell is also a leading member of the Roundtable for Sustainable Biofuels whose longer-term aim is to develop a widely-accepted system to assure the sustainability of all raw materials used for biofuels.

As global demand for biofuels grows, we continue to work with others to explore how this market can share benefits with communities. For example, we are contributing to a study on how to identify land that could be used for responsible biofuels cultivation and boost local economies. We are also building on our long-term collaboration with the International Union for Conservation of Nature to look into risks and opportunities for environmental conservation and developing livelihoods among communities.

BIOFUEL SUPPLIERS SIGNED UP TO SHELL SUSTAINABILITY SAFEGUARDS

% of our total volume



SPILLS

In operations that we control we have clear requirements and procedures designed to prevent spills. Unfortunately, spills still do occur for reasons such as operational failure, accidents or corrosion. In 2009, our operational spills of oil and oil products totalled around 1,300 tonnes, the lowest amount we have ever recorded (see graph page 36). We continue to learn from such spills. In 2009, our worst operational spill was nearly 170 tonnes of crude oil from a pipeline in the Gulf of Mexico. Hurricanes had weakened this pipe over time, eventually causing a fracture. As a result, we developed additional guidelines for the inspection and repair of all our distribution pipelines. (We have re-estimated our operational spills volume for 2008 – see page 22.)

Sabotage and theft in Nigeria is the largest single cause of spills for Shell. In 2009, the volume of oil spilled due to the sabotage of operations in Nigeria was nearly 14,000 tonnes.

www.shell.com/spills

BIODIVERSITY

We operate in some environmentally sensitive areas where there is a risk of harming biodiversity. For new projects and expansions at existing operations we carry out impact assessments on the risks to biodiversity and develop ways to avoid, mitigate and manage such risks. In addition we have biodiversity action plans that cover new and existing operations in areas of high biodiversity value.

In 2009, Shell had nine of these plans in place to monitor and conserve local biodiversity. The Anduki Forest Reserve in Brunei, for example, is mainly a peat-swamp forest with unique ecology and composition. Brunei Shell Petroleum (BSP – Shell interest 50%) operates wells there. BSP first carried out baseline studies on the wildlife population to assess the risks to biodiversity of operating in this area. These studies helped to document the special nature of the area's biodiversity and identify threats from development pressures. Shell has shared the results of these studies through environmental conferences and presentations to students, increasing awareness of the protected area status of Anduki Forest Reserve.

At our Pinedale gas project in Wyoming, USA, we are helping to conserve wildlife in

the areas where we operate. We fund research on mule deer, pronghorn and sage grouse to understand the behaviour and habitats of wildlife in the area. We reclaim land by sowing a mix of native plant seeds to recreate the sage brush that provides food and shelter for many animals. Our technical approach to extracting the gas at Pinedale also helps minimise environmental impact by significantly reducing human activity and habitat disturbance (see page 25).

www.shell.com/biodiversity

RECYCLING

Shell supports Walmart, the world's largest retailer, in its drive to produce zero waste and sell sustainable products. Shell car-care brands are now sold in Walmart stores in North America in packaging that can be recycled, saving 1,000 tonnes of plastic and paper waste a year. Recyclable Ecoboxes containing Shell oils used for oil changes were tested at 200 of Walmart's Tire & Lube Express service centres during the year, with a view to using them more widely at Walmart service centres in 2010.



↑ An IUCN employee seconded to Shell reviews Shell-sponsored biodiversity initiatives in Nigeria.

ENVIRONMENTAL PARTNERSHIPS

Partnerships with global organisations continued to help us improve our approach to the environment. Our 10-year relationship with the International Union for Conservation of Nature (IUCN) has led to changes in our operations that have reduced our environmental impact. In 2009, IUCN played a key role in reviewing the process Shell uses to draw up biodiversity action plans. This helped us improve operational practices in areas rich in biodiversity. We also work closely with Wetlands International. In 2009, they helped us assess the sustainability of biofuels production in South America, Africa and South-east Asia. They also worked with us on a study of the impact of pipeline infrastructure on Arctic permafrost and tundra. We plan to carry out further research into this with Wetlands International in 2010 to develop specific operational guidelines. Shell also signed a co-operative agreement with The Nature Conservancy, which developed for us a marine conservation action plan for the Beaufort and Chukchi seas off Alaska. In late 2009, we worked with the environmental charity Earthwatch and UNESCO to improve the business planning skills of staff managing biodiversity at Natural World Heritage Sites. This was part of our efforts to work with others to conserve biodiversity.

www.shell.com/partnerships

SAFETY

It was a year of significantly improved safety performance for Shell. Some of our major construction projects set safety records and we saw our lowest-ever rate of injuries across the company. We know that to keep improving we must apply continued effort and vigilance as we continue to build our safety culture.

SAFETY PERFORMANCE

People who work for Shell drive nearly 1.5 billion kilometres a year to deliver fuel and other products. They build new plants in extreme conditions, work on remote offshore platforms, or run refineries and chemical plants alongside communities. Keeping people safe is our top priority. We aim to have zero fatalities and no incidents that harm people, or put our neighbours and facilities at risk.

We have made significant progress towards that aim. In 2009, our major construction projects achieved a remarkably high number of working hours without time lost through injury. Our oil sands expansion project in Canada recorded 43 million working hours – a company record – while the Shell Eastern Petrochemicals Complex in Singapore achieved 38 million working hours (see opposite page). Across the company, we experienced our lowest-ever rate of injuries that led to time off work, down 33% on the year before. Our rate of injuries per million working hours (the total recordable rate frequency – see graph page 36) was the lowest we have achieved and down 22% on the previous year.

We are saddened, however, that 20 people (one employee and 19 contractors) lost their lives while working for Shell in 2009. This was six fewer than in 2008. Two fatalities were the result of industrial accidents. Eight were contractors in a helicopter accident on their way to a platform in the Gulf of Mexico. Four were killed in road accidents and three died as a result of security-related incidents or assault. Other fatalities were a drowning, an asphyxiation during an attempted theft and the result of a commercial airline crash. Our fatal accident rate – the number of fatalities per 100 million hours worked – was the lowest recorded and down 32% on 2008.

SIMPLER RULES

Building on the progress of 2009 depends on continuing to strengthen our safety culture and making sure everyone understands and follows the rules.

Our annual global Safety Day in 2009 was an important part of our efforts to build a culture that believes working without incidents is possible. The day's events focused on the impact each decision can have on safety and how "doing the right things" can make a difference. At some projects employees and contractors staged theatrical performances to highlight safety messages to tens of thousands of colleagues, such as at our Pearl GTL project in Qatar.

We launched our mandatory 12 Life-Saving Rules to reinforce what employees and contractors must know and do to prevent serious injury or fatality: for example, wear seat belts and do not speed or use mobile phones – even hands-free – while driving. If they break the rules, employees face disciplinary action up to termination of employment, while contractors can be removed from the site and barred from future work with Shell. There are signs that the programme is working (see graph page 36).

We also simplified our requirements in health, safety, security, environment (HSSE) and social performance (SP) by launching our HSSE & SP Control Framework in 2009. It is a single source for rules covering risk areas such as road and process safety, occupational health and working at heights or in confined spaces.

OPINION

By supporting the Global Road Safety Partnership, Shell is helping to show the value of combining business, government and civil society partnership efforts to improve road safety in many countries around the world. In Brazil, Shell's approach to managing road safety has contributed towards an effective community-based strategy to reduce road crash death and injury rates. This strategy works under the public leadership of the mayor and his team to mobilise the whole community to undertake road safety projects in the city. The GRSP is currently working with 20 cities using this approach and it's showing real results – for example the city of São José dos Campos reduced its death and injury numbers by 62% from 2006 to 2009, while having an increase of 50% in the motorcycle population. The GRSP intends to extend the use of the strategy both inside and outside Brazil in the coming years, and so help improve the quality of life in many more cities around the world.



José Cardita,
Americas Regional Manager
Global Road Safety Partnership, Brazil

OUR MANDATORY 12 LIFE-SAVING RULES

<p>Work with a valid work permit when required</p> 	<p>Conduct gas tests when required</p> 	<p>Verify isolation before work begins and use the specified life protecting equipment</p> 	<p>Obtain authorisation before entering a confined space</p> 	<p>Obtain authorisation before overriding or disabling safety critical equipment</p> 	<p>Protect yourself against a fall when working at height</p> 
<p>Do not walk under a suspended load</p> 	<p>Do not smoke outside designated smoking areas</p> 	<p>No alcohol or drugs while working or driving</p> 	<p>While driving, do not use your phone and do not exceed speed limits</p> 	<p>Wear your seat belt</p> 	<p>Follow prescribed journey management plan</p> 

ROAD SAFETY

Shell staff and contractors drove the equivalent of more than 100 times round the world every day in 2009. More than 16,000 contractor drivers delivered the fuel, lubricants and chemical products we make and sell. A further 20,000 employees and 100,000 contractors drove for the company in other roles.

Our efforts to improve road safety are delivering results. In 2009, there were 55% fewer fatalities on the road than in 2008. Although Shell operates in many challenging environments where driving risks are high, we achieved a global level of road safety comparable to that of the UK. Our road safety expertise centre uses in-vehicle technology to monitor the performance of over 20,000 drivers in countries and regions where driving poses more risk, including Russia, Africa, Latin America, Asia and parts of the Middle East. Supervisors offer coaching in areas such as planning journeys, coping with fatigue, and not speeding. The in-vehicle technology is expected to be operating in 35 countries by the end of 2011.

Staying safe on the road is not only about how we drive. The behaviour of others can also affect our drivers. We work with businesses, governments and international agencies to widen our reach and help reduce road accidents in countries where we operate. Through the Global Road Safety Partnership (GRSP), we are one of seven automotive and oil companies that have contributed to a \$10 million fund in a five-year programme to improve road safety in Brazil, China and member countries of the Association of Southeast Asian Nations (ASEAN). This fund has helped local programmes deliver results. For instance, a GRSP campaign was one factor in the introduction of a law to make motorcyclists wear helmets in Vietnam. In 2008 – after this law was introduced – there were nearly 1,600 fewer motorcycle deaths on the roads in that country than the year before. In late 2009, we pledged \$750,000 to a second phase of the GRSP-led initiative that will run from 2010 to 2014.

PROCESS SAFETY

For both new and existing projects, we continued to make significant progress in simplifying and standardising our requirements for process safety across the company in a programme spanning several years. Our investment in maintaining and improving the safety and reliability of our



↑ *Communicating safety rules across language barriers at SEPC.*

GETTING THE SAFETY MESSAGE ACROSS

The Shell Eastern Petrochemicals Complex (SEPC) in Singapore – Shell’s largest-ever petrochemicals investment – recorded 38 million working hours without an injury leading to time off work up to November 2009. More than 15,000 workers from a range of countries and cultures were involved at the peak of building two new plants and modifications to Bukom refinery. The complex will supply petrochemicals to the Asia-Pacific region.

Each worker attended a series of safety training sessions. SEPC’s imaginative approach included multilingual campaigns featuring posters and theatre using a mix of music, mime, movement and audience participation. With many in the workforce far from their families, the theme of returning home safely helped encourage personal responsibility for working safely. We also launched a programme to train safety advisors using on-site experience and classroom learning.

SEPC will produce petrochemicals such as ethylene, butadiene and mono-ethylene glycol (MEG), key raw materials for the textile and packaging industries. The MEG plant successfully started production in late 2009. The rest of the complex is due to start operations in 2010.

🖱 www.shell.com/sepc

operations continued during the economic downturn. For example, our Upstream businesses continued to address the findings of a three-year internal review of more than 2,000 Shell facilities. This has led to a series of improvements to equipment, most of which will be completed by 2011. Our total spending on this programme will be more than \$5 billion dollars. Our Downstream business focused strongly on improving reliability in critical

areas that prevent incidents at our manufacturing and distribution sites.

🖱 www.shell.com/safety

JOINT VENTURES, CONTRACTORS AND SUPPLIERS

A strong relationship is essential between energy companies and their partners, contractors and suppliers. Sharing lessons on how to improve business delivery through better environmental and social performance will be central to meeting the challenges ahead as the world moves towards a low-carbon energy future.



↑ Workers at the Pearl GTL construction site in Qatar.

WORKER WELFARE

With so many contractors working for Shell – many on major construction projects – a focus on the welfare of workers is vital. At the peak of construction over 50,000 contract workers from more than 60 countries were building our Pearl gas-to-liquids plant in Qatar. Major construction is due to be complete by the end of 2010. Many workers are away from their home countries for two years. At the start, we looked at how other companies had approached the welfare of workers in Qatar and in the region. Our aim was to help address social aspects of large-scale construction projects such as personal difficulties and homesickness among workers, and increased pressure on amenities in nearby towns. We designed Pearl Village to accommodate workers in a self-sufficient community with a range of health, recreation and educational facilities, including sports fields, small shops and a multilingual cinema. A medical emergency response team, two psychologists and 120 voluntary counsellors are available in the village to address health and personal matters.

🖱 www.shell.com/pearlgtl

JOINT VENTURES

Shell conducts much of its business through joint ventures with other private companies and national oil companies. This spreads risk and allows us to be involved in more projects or enter new markets. Host governments can also require us to be part of a joint venture.

Our role in a joint venture can vary and affects the extent to which we can apply our standards. Joint ventures we control are required to apply the Shell Control Framework, or materially equivalent principles and standards. The Shell Control Framework includes the Shell General

Business Principles (see page 6), Code of Conduct and company-wide standards, including our HSSE & SP standards.

In joint ventures we do not control, we cannot set the standards. Instead, we encourage the joint venture to operate in line with our values and expect it to apply business principles and an HSSE & SP commitment and policy materially equivalent to our own. Operatorship of these joint ventures may enable us to apply our standards. We last left a joint venture because it would not comply with our Business Principles in 2003.

🖱 www.shell.com/standards

WORKING WITH OUR CONTRACTORS AND SUPPLIERS

More than 400,000 contractor staff and a huge number of suppliers work for Shell. Our major contracts include requirements to follow our Business Principles, Code of Conduct and HSSE standards. In 2009, we cancelled 25 contracts because of failures to adhere to our Business Principles. Of these, 18 involved violations of our HSSE standards. During the year, we conducted 32 audits of certain suppliers to assess their compliance with key sustainability criteria, including working conditions. Nine were carried out by independent auditors.

We hire and buy locally to support development in places we work such as Nigeria (see page 23) and other countries (see page 20). In China, India and Russia we have teams dedicated to increasing our sourcing of local goods and services. Shell trains contractors and suppliers where needed to help them comply with our standards and requirements and better understand our safety rules. For example, in India we have taught construction workers basic literacy along with other useful skills such as financial planning.

Our 12 Life-Saving Rules (see page 16) also apply to contractors.

OUR NEIGHBOURS

Our projects and facilities often operate close to communities. They can bring jobs and economic benefits. They can also give rise to concerns, for example over environmental impact. As we work to help provide the energy and the products that keep economies growing, we aim to be a good neighbour to these communities.

SOCIAL PERFORMANCE

The cornerstone of being a good neighbour – our social performance – is listening and responding positively to local communities and broader society. For this reason, we have a company-wide approach for engaging with our neighbours and other stakeholders. Staff liaise closely with local communities and work with technical and management staff to address their hopes and concerns. However, we are always looking for ways to improve relationships with our neighbours.

For example, our relations with the community close to our refinery in Buenos Aires, Argentina, have strengthened considerably in recent years. In the mid-1990s, a new coking plant led to concerns among local people about

possible pollution. We recognised that anxieties had grown partly because we did not have a strong and open relationship with the local community. We set out to rectify this. Initially, the refinery invited local residents and non-governmental organisations (NGOs) to visit the site. Shell also contributed funds to schools and health centres in the area. But we realised more had to be done. In 2003, the refinery significantly stepped up engagement with the local community through a programme called Creating Bonds. We held a series of workshops at the refinery to help local people learn about our approach to safety and environmental risks. Shell volunteers also became directly involved in community projects to improve their understanding of local needs and to offer business know-how.

The programme has now reached more than 40,000 people through more than 100 projects that seek to improve job skills, education facilities and health care. In 2009, Shell employees helped launch 14 new projects. Creating Bonds has won external recognition for its achievements, including an award from the Argentina branch of the American Chamber of Commerce.

At all of our refineries and chemical plants we gather knowledge and understanding of

each community from regular meetings between plant management and community representatives. At many of these facilities we also conduct a survey of nearby residents every two to three years.

A survey in 2008 among people living near our Rheinland refinery in Germany, for example, found that many saw Shell as a good employer and an important part of the community. However, some residents complained of noise and odours and did not know exactly how to raise their concerns with the refinery.

Having listened to the community, the refinery made improvements in 2009 both to its operations and to the way it engages with its neighbours. Making changes to a treatment plant improved local air quality and altering a flaring system reduced noise during maintenance activities. We also invited around 600 local people to tour the facilities, answered their questions and showed them the operational improvements. Relations between local people and Rheinland refinery are improving, as shown by a reduced number of complaints.

↓ Shell has helped set up workshops to improve job skills in Buenos Aires.



OPINION

Creating Bonds was inspired by the model of community and grassroots-based developments, but that may be both its advantage and its limitation. Shell has shown a new level of corporate openness through the programme and has greatly strengthened the capacity of local NGOs to serve the social needs of the community. In this regard, the programme has been very successful, but perhaps it's now time for Shell to move into a new phase. Instead of responding to perceived community needs it could now start to work more closely with key stakeholders such as grassroots and support organisations, NGOs, other donors and local authorities to address social development challenges together.



Gabriel Berger, Director
Center for Social Innovation
Universidad de San Andrés, Argentina

APPLYING LESSONS LEARNED

As we learn from experience we aim to improve our approach to social performance. At one of our exploration projects, the Grosmont Venture, we applied knowledge gained from other projects in sensitive areas with indigenous communities, such as Sakhalin II in Russia and in the North Slope in Alaska. Then we developed a new way of meeting social and environmental challenges.

Grosmont could potentially extract extra-heavy oil in a remote, environmentally-sensitive area of Northern Alberta, Canada. First Nation aboriginal people are the main inhabitants, in particular the Bigstone Cree First Nation. Such indigenous communities can benefit from oil and gas projects, but there is a need to protect their traditional lifestyles.

From the start it was clear that success for everyone depended on the earliest possible engagement with these communities and an understanding of their concerns. This involved a new, integrated approach towards the social, health, environmental, legal and regulatory challenges facing the project. We invested in building the capabilities of local companies and workers by training them in skills needed for jobs on the project. Local people took part in our environmental, social and health studies. They also contributed their knowledge to key project decisions, including the siting of facilities. We adapted our seismic survey programme to avoid an historic traders' route, placing a 200-metre buffer zone on either side. At one stage we also suspended drilling to protect a bear den.

As a result of this approach we were able to go ahead with three years of exploration activities. During 2009, we began using what we had learned from Grosmont at other new projects and existing operations.

Our experiences at the Buenos Aires, Rheinland and other facilities have shown us that a transparent process for receiving and responding to community complaints makes a difference to our relationships. As a result, all major operations across the company are required to put in place a clearly defined process for local communities to raise concerns.

SHARING BENEFITS

Being a good neighbour also means sharing a range of benefits with local communities and society in general. They include the local jobs and services we help to create, and the investments we make in community projects. In turn, we benefit from improved local skills and greater goodwill in these communities towards our operations.

Building the skills of people in local communities and locally owned companies enables them to find work with Shell and other companies. This can lead to significant growth for local firms.

Brunei Shell Petroleum (BSP – Shell interest 50%), for example, is helping the government to grow small and medium-sized businesses. BSP prefers local companies in bids, and provides training and skills development. BSP has increased its spending with Bruneian companies from almost \$500 million in 2004 to over \$1 billion in 2009. The joint venture's latest oil platform was built in Brunei, largely by local companies. Some of these companies have since won international contracts.

In 2009, we spent over \$13 billion on goods and services from locally owned companies in countries with low and medium incomes. In some contracts we include requirements for the employment of local staff. More than 90% of our employees worldwide were locals.

Shell supports community development projects. We aim to work with communities on projects that address challenges directly linked to our business, such as access to energy or education. These projects often involve development experts from non-governmental organisations, and the community usually runs them. In 2009, we spent around \$132 million on these social investments – the vast majority on community development. This amount does not include the social investments we make that are part of contractual agreements with host governments. We also provide support through donations of equipment and voluntary work by Shell employees.

In the UK, for example, we make voluntary contributions to projects that support science education. In 2009, the Shell Education Service (SES) ran hands-on science workshops for 55,000 primary school children. SES also worked with 280 trainee teachers to help make science classes more interactive.

 www.shell.com/society

HUMAN RIGHTS

In our Business Principles, we state that we "respect the human rights of our employees" and "support fundamental human rights in line with the legitimate role of business". We are active in international efforts to improve understanding of the relationship between business and human rights. For example, we contribute to the work of Professor John Ruggie, the UN special representative on business and human rights, as he seeks to put into practice a framework whereby governments should protect human rights, and business should respect human rights. This framework aims to establish social performance criteria for companies and their stakeholders. Failure to respect human rights could affect a company's licence to operate.

OUR REQUIREMENTS

Our successful work at Sakhalin II and Grosmont has helped us identify what we must do across all of our operations to raise our social performance. Our updated HSSE & SP Control Framework includes requirements for engaging stakeholders, social performance plans, managing resettlement and implementing a grievance procedure. They require:

- an environmental, social and health impact assessment to be carried out before we develop a major new project or facility, or make major modifications to existing ones;
- a review of the effectiveness of these plans every three to four years by experienced social performance staff from other locations; and
- social performance skills to be included in leadership training programmes and in courses in our Commercial and Project Academies.

Shell closely examines the human rights implications of our projects and operations when we enter a new country. Increasingly, we include human rights in our impact assessments. Our work with Professor Ruggie has also led to Sakhalin Energy piloting his guidance for grievance procedures (see page 24) with a view to testing its suitability for wider use by industry.

The staff and contractors who provide security to Shell operations are expected to perform their duties in line with the Voluntary Principles on Security and Human Rights (VPSHR). We provide training for relevant staff and contractors globally on how they should apply these principles. All new security contracts globally now contain a clause on the VPSHR. We also include the VPSHR clause as contracts come up for renewal and we expect all security contracts to contain it by 2012.

www.shell.com/humanrights

REVENUE TRANSPARENCY

Our business generates substantial revenue for governments. In 2009, Shell paid \$9.2 billion in corporate taxes and \$1.3 billion in royalties on the oil and gas we extracted. We also collected over \$80 billion in excise duties and sales taxes on behalf of governments on the fuel and other products we transport or sell.

We work towards achieving greater transparency in the payments we and others in extractive industries make to governments. By publishing these payments people can hold their governments accountable for how these revenues are spent. We publish our payments in the case of Nigeria, for example (see page 22).

Shell is a founder and board member of the Extractive Industries Transparency Initiative (EITI), an organisation that works to increase revenue transparency globally. We take part in a range of national and international forums on the challenges of revenue transparency.

www.eiti.org



↑ Cultivating sustainable cotton in India.

SHELL FOUNDATION

Shell Foundation is an independent charity that applies an enterprise-based approach to tackling poverty and environmental challenges. This means using business thinking, models and disciplines to find financially viable solutions that can be replicated in a number of countries.

In 2009, Shell Foundation helped deploy a \$170 million fund to support entrepreneurs in Africa who struggle to grow their businesses because of a lack of access to finance and training. Managed by GroFin – a specialist business developer and financier – the fund will provide vital business skills and finance to small businesses, creating thousands of jobs and driving much needed economic growth. It is the largest fund of its kind in the world.

In India, Shell Foundation helped create a new business, CottonConnect. This emerged from a partnership between Shell Foundation, Organic Exchange (an NGO), and retailer C&A which led to the sale of 18 million organic cotton garments in Europe in 2009. CottonConnect aims to help cotton farmers improve their lives by learning new production methods that increase yields while using less water and fewer pesticides; and by gaining direct access to international retailers, who in turn benefit by making their supply chains more sustainable.

In Mexico City a transport system devised by Foundation partner EMBARQ reached a milestone of 450,000 passengers a day. Metrobus consists of dedicated bus lanes and extended buses that carry large numbers of people. This means fewer cars on the roads, shorter journey times and less pollution. By the end of 2009 the model was being rolled out in other countries including India, Turkey and Brazil.

Shell Foundation was established in 2000 with an initial \$250 million endowment from Shell, and an additional \$160 million to cover its costs until 2010.

www.shellfoundation.org

NIGERIA

Shell has been in Nigeria for over 50 years, longer than any other international energy company. Our operations there contributed around 9% of Shell's global oil and gas production in 2009.

Oil and gas revenues account for 95% of Nigeria's export earnings and around 80% of its total income. These revenues support Nigeria's targets for growth and development. Yet most of the 30 million people living in the Niger Delta remain poor. Many do not have access to basic amenities such as education, health, transport or running water.

SECURITY CHALLENGES

In recent years, militant violence, sabotage and the large-scale, organised theft of oil and natural gas condensate in the Niger Delta have severely disrupted oil and gas production in Nigeria. This has caused environmental damage, delayed projects and harmed livelihoods.

The threat to people working in oil and gas operations is high. Gangs kidnapped 51 employees and contractors working for Shell Petroleum Development Company (SPDC) in 2009, compared to 11 in 2008.

Companies have had to suspend some operations and Nigeria's oil and gas production has fallen far below its capacity. SPDC's oil production, for example, is significantly lower than in 2005, the year before the latest militancy began. Its Soku gas plant remained shut down for most of

2009 while we carried out repairs to damage to pipelines caused by thieves.

In June 2009, President Yar'Adua declared a general amnesty for militants, offering jobs, training and monthly payments to those who agreed to surrender their weapons. Senior politicians in Nigeria asked Shell to support the amnesty programme. In early 2010 we were working with other international oil and gas companies in Nigeria to set up skills training for former militants to try to help them find long-term employment.

CLEANING UP SPILLS

The great majority of oil spills in Nigeria are the result of sabotage or are caused when thieves drill into pipelines or damage wellhead equipment to steal oil and natural gas liquids. In 2009 the volume of such spills for the SPDC-operated joint venture was almost 14,000 tonnes, accounting for 98% of total SPDC spills volume during the year and significantly greater than sabotage and theft-related spills in 2008.

Most of the oil spilled in 2009 involved two incidents. At the Odidi field, around 10,500 tonnes were spilled when thieves damaged a wellhead, and a spill of around 2,500 tonnes occurred after bomb explosions sabotaged the Trans Escravos pipeline (see graph page 36).

We have re-estimated our operational oil spills volume for 2008 – from 2,200 to 8,800 tonnes – to include the results of investigations completed in 2009, in line with normal practice. One of these investigations involved an incident at Iriama in Delta State in November 2008, in which

around 6,000 tonnes were spilled. This followed an explosion that occurred during work to make additional repairs to a pipeline originally damaged by thieves in 2006.

SPDC cleans up spills as fast as possible, no matter what their cause, but is sometimes delayed by security concerns or because some communities deny access to win clean-up contracts or extract greater compensation. These delays can increase the environmental impact of spills.

Nevertheless, in 2009 SPDC recovered nearly 10,000 tonnes of spilled oil in clean-up activities and undertook extensive remediation work. SPDC has strengthened its spill response team to improve its ability to cope with spills.

In a 2009 report, Amnesty International made a number of allegations about SPDC's approach to spills in the Niger Delta. SPDC shares Amnesty International's concerns about the environment and welfare of communities, but is disappointed that its report did not reflect the reality and complexity of the challenges of operating in the Delta. Shell has published its response to the report on its website.

www.shell.com/ai

BOOSTING NIGERIA'S POWER SUPPLIES

Millions of people in Nigeria are not connected to the national electricity grid. The government plans to increase electricity supply significantly to power businesses, industry and homes. SPDC has supplied around 70% of Nigeria's gas for power generation for over three decades. New SPDC projects are helping to boost supplies further. The Afam VI power plant, which started production in 2008, has added around 15–20% to the country's generating capacity. The new Okoloma gas plant, which supplies fuel to the power plant, has increased Nigeria's gas supply by a further 20%. Gbaran-Ubie is Nigeria's largest gas project. When complete in 2010–2011, it will produce around 1 billion cubic feet of gas a day. Some of the gas will be used to generate more power at two plants in the Niger Delta. The rest will go to NLNG for export and become a major source of revenue for the government.

SHELL'S ECONOMIC CONTRIBUTION

Shell companies in Nigeria produce oil and gas onshore in the Niger Delta and offshore in the Gulf of Guinea. Shell Petroleum Development Company (SPDC) operates Nigeria's largest oil and gas joint venture on behalf of the government-owned Nigerian National Petroleum Corporation (55%), Shell (30%), Total (10%) and Agip (5%). Shell also has a 25.6% interest in Nigeria Liquefied Natural Gas Limited (NLNG), which exports LNG around the world. Shell Nigeria Exploration & Production Company (SNEPCo) operates and is 55% owner of the offshore Bonga field, Nigeria's first deep-water project. SNEPCo also owns part of the offshore Erha field. In the past five years, the government has received almost \$39 billion in revenues from SPDC and SNEPCo. In 2009:

- contracts worth nearly \$892 million were awarded to Nigerian companies, amounting to 85% of the value of new contracts;
- Shell-run operations contributed \$156.5 million (\$55.3 million Shell share) in total to the Niger Delta Development Commission, as required by law; and
- a further \$57.7 million (\$18 million Shell share) was spent by SPDC on social investment and development projects.

OPINION

PNI is assisting the Andoni community in Rivers State to implement community development projects set up under SPDC's model of global memoranda of understanding. This approach has helped communities to identify their needs and implement important activities that provide tangible and real benefits. It includes assistance through micro-credit finance to women's groups where, for the first time, they now feel part of the development process. Additionally, some schools that have never before had equipment now have the laboratory equipment they need. In many countries these achievements may seem small but in marginalised communities they are giant steps which have improved understanding between people and have helped communities to be independent and self-empowered.



Deborah Okoro,
Senior Programme Advisor
Pro Natura International (PNI), Nigeria

MAJOR PROJECTS

Despite the security challenges, work on major projects continues. The new 650 MW Afam VI power plant continued production in 2009, while construction at Gbaran-Ubie – Nigeria's largest-ever gas project – is nearing completion. Both projects will support government efforts to tackle electricity shortages (see box opposite).

Projects like these also help reduce flaring. Since 2000, the SPDC-operated joint venture has spent over \$3 billion on projects to gather and use associated gas extracted during oil production that would otherwise be flared. From 2002 to 2009, these projects reduced continuous flaring by more than 30%. Over the same period, the joint venture's flaring was down overall by around 65%. In 2009, flaring was down 18% from the previous year, mostly due to lower production as a result of the security situation. In December 2009, the SPDC-operated joint venture decided to go ahead with a project to capture gas at seven more oil field sites, ending flaring there. We are lending money to the government to fund its



↑ Workers at the Gbaran-Ubie construction site.

SHARING BENEFITS WITH LOCAL COMMUNITIES

At peak construction, the Afam project employed around 3,000 local workers and Gbaran-Ubie employed 6,000. Around 95% were Nigerian. Some were trained in valuable skills like scaffolding and welding that could help them obtain further jobs. Both projects have had a positive impact on the economy. Some \$1.5 billion of the total project budget for Gbaran-Ubie, for example, is being spent in Nigeria. More than 140 Nigerian companies have provided a range of services including dredging, the manufacture of equipment and plant components and transport. Local communities have benefited from a wide range of social development initiatives based on a new model, global memoranda of understanding (GMOU). Under these, communities decide for themselves how to spend the development funds Shell provides. GMOU have helped launch a range of projects to construct schools, town halls and health clinics and improve fresh-water supplies. GMOU have also funded micro-credit schemes.

share of this project. The gas will be used to provide energy for the domestic market. SPDC has received instructions from the government not to decrease production to reduce flaring.

We agreed to sell three onshore oil field leases to Nigerian companies – subject to approval by the government – which could offer an opportunity to further develop local skills. We continue to work with our industry partners and the government as it considers reforms that may solve funding and some of the other problems facing the sector.

OGONI SETTLEMENT

In June, Shell reached a legal settlement with the families of Ken Saro-Wiwa, the Ogoni activist, and eight others who were convicted and executed in 1995 by the military government. Although at the time

both Shell and SPDC tried to persuade the government of the day to grant clemency and avoid such a tragic outcome, Shell was falsely alleged to have been complicit in the men's deaths. We agreed to a settlement because we felt it was time to draw a line under the past and assist the process of reconciliation. As part of the settlement, Shell contributed funds towards the setting up of an independent trust fund for Ogoni people that will support initiatives in education and agriculture, small businesses and literacy.

➤ www.shell.com/nigeria

MEETING ENERGY DEMAND

CLEANER FUEL FOR POWER

Shell produces enough natural gas to power around 200 million European homes. By 2012, it will account for more than half our energy production. As global energy demand rises, natural gas can balance economic growth with efforts to reduce greenhouse gas emissions. It will be essential to achieving and sustaining a low-carbon energy future.

LIQUEFIED NATURAL GAS

Kuwait's summer temperatures average over 40°C. Normally this means a huge surge in demand on the state's oil-fired power stations as air conditioning systems operate at their peak. In 2009, however, homes and businesses were able to use power for the first time from the cleanest-burning fossil fuel: natural gas, supplied by Shell as liquefied natural gas (LNG). From now on, LNG will help the state meet peak summer demand with lower CO₂ emissions.

Liquefying gas enables us to transport it to cities and towns that cannot be reached by pipeline. We are one of the world's largest suppliers of LNG, with customers in key markets of Asia-Pacific, Europe and North America. We continue to develop new markets. We were the first to deliver LNG to Mexico and, through one of our joint ventures, to China. We are also one of only two LNG suppliers to India, where we have a terminal that converts the LNG into gas for the domestic market.

Our supply agreement with Kuwait marked the beginning of commercial deliveries of LNG in the Middle East. We also have an agreement to supply Dubai with 650,000 tonnes a year of LNG from the Qatargas 4 project (Shell interest 30%).

The start of operations at Sakhalin II in Russia in 2009 increased our output of LNG substantially. Construction continued on other LNG projects in Australia and Qatar.

We decided with our partners to go ahead with the Gorgon LNG project in Western Australia. The project will produce about 15 million tonnes of LNG a year for around

40 years. That is about 8% of current global LNG capacity and enough to provide power for around 38 million homes a year. Gorgon (operated by Chevron, Shell interest 25%) will include the world's largest carbon capture and storage (CCS) project yet confirmed. It will capture up to 4 million tonnes a year of CO₂ produced with the natural gas for storage underground – four

times more than any other CCS project. Much offshore gas is found in remote locations or in reservoirs too small to be developed in the traditional way. We are pioneering a new floating design capable of developing these fields economically and bringing their resources to shore.

www.shell.com/lng



↑ Sakhalin II's Lunskeye-A platform is built to withstand huge pressures from ice floes.

SAKHALIN II

Sakhalin II in Russia's far east, one of the world's largest integrated oil and gas projects, started production of LNG in early 2009. By October 2009 – ahead of schedule – it had reached daily production of more than 400,000 barrels of oil equivalent. Sakhalin II adds around 5% to the world's LNG capacity.

It is Russia's first LNG plant, first offshore oil and gas development and it enables the supply of Russian gas to countries in Asia-Pacific for the first time. At the peak of construction it employed 25,000 people, 70% of them Russian nationals. By the end of 2009 the project had spent almost \$14 billion with Russian companies.

The project overcame major technical hurdles in hostile, sub-Arctic conditions. Sakhalin Energy Investment Company – of which Shell owns 27.5% – also worked to meet social and environmental challenges. It engages extensively with indigenous communities including the Nivkh, the Uilta, the Evenk and the Nanai on Sakhalin Island, funding more than 150 projects to provide education, health care, and support for businesses. These projects are part of a development plan drawn up with indigenous peoples. Sakhalin Energy operates a community grievance procedure for local people to raise concerns, based on the guidance of Professor John Ruggie, the UN special representative on business and human rights (see page 20).

The independent Western Gray Whale Advisory Panel of scientific experts continued to advise Sakhalin Energy on any potential impact of its offshore activities.

Sakhalin II employs a Shell-developed process that improves energy efficiency and lowers CO₂ emissions. This process uses the low ambient temperatures to help cool the gas into liquid so that less power is needed.

Our partners are Gazprom (50%), Mitsui (12.5%) and Mitsubishi (10%).

www.sakhalinenergy.com

TIGHT GAS

Tight gas is natural gas held in hard, low-porosity rock formations such as shale and sandstone. In the past decade, advances in drilling and production technology – many developed by Shell – have made producing such gas economical, opening vast new resources across North America and elsewhere.

In 2009, our production of tight gas in North America rose over 60% and we plan to continue to grow the business significantly in line with our global drive towards

producing more natural gas. At our Pinedale field in Wyoming, USA, we are implementing innovative technologies and applying best practices to produce gas with lower environmental impact. For example, the wells are drilled directionally from single locations to link up small reservoirs of gas. Drilling vertically down to tap each reservoir would have taken many more wells and caused greater impact on the surface.

Advanced catalyst technology has reduced emissions of nitrogen oxides from our drilling rigs at Pinedale. We also recycle

the water produced with the gas (see page 13) and are building a new water-gathering system that reduces fresh-water use and the number of truck journeys to transport water. We are taking a number of steps to protect the wildlife and biodiversity in the area (see page 15).

Shell is taking a similar technical and environmental approach at our Groundbirch Venture tight gas field in British Columbia, Canada.

COALBED METHANE

Coalbed methane is natural gas contained in coal seams. The gas is attached to the coal itself rather than trapped in rock pores. Shell is involved in coalbed methane projects in Australia, China and Germany. With a partner, we have made an offer to acquire Arrow Energy in Australia, including its existing coalbed methane business and a potential LNG project. In June 2009, we began producing small amounts of coalbed methane from a pilot project at Farrell Creek in north-east British Columbia. In the nearby Klappan area, we delayed drilling plans until 2010 to allow time for further environmental studies and engagement with the local population.

COAL GASIFICATION

Coal is the most abundant and cheapest fossil fuel and is expected to remain a major energy source for decades to come. It is also the most polluting fossil fuel. Gasifying coal creates synthesis gas and is one of the cleanest, most efficient ways to convert coal's energy into electricity, fertilisers, transport fuels and chemicals. It also produces relatively pure streams of CO₂ waste gas that can be captured, potentially for long-term storage or other uses. Shell licenses its coal gasification technology in many countries including China, Vietnam, the UK, Australia, South Korea and the Netherlands.

WIND

Shell has been developing wind power for more than a decade. We have an interest in wind projects with an overall capacity of around 1,100 MW. In the USA, our share of the operating capacity is 450 MW, enough to power 150,000 US homes. We have a further 98 MW share of wind-generated power in European projects. Our wind-energy output avoids around 1.5 million tonnes of CO₂ a year, if compared to a coal-fired power station. We are looking at potential new North American wind projects.



↑ Laying the offshore pipeline for the Corrib gas project, June 2009.

CORRIB

Natural gas generates more than half of Ireland's electricity, making it crucial to the economy. But the country currently has to import almost 95% of this gas. At peak production, Shell's offshore Corrib gas field will meet up to 60% of Ireland's gas demand.

The project has created more than 1,000 jobs during construction and will provide around 130 permanent jobs when in production. It has also set up a €5 million fund to support community activities over three years.

We made progress on Corrib in 2009, including laying the offshore pipeline and recording over 1.5 million hours worked without injury resulting in time off work. By the end of the year, the terminal was 85% complete and had been connected to the national gas grid.

After listening to local views, Shell presented a revised route for the onshore pipeline to a public hearing by the independent Irish planning board. In November, the planning board said it would like to see a further amendment to the route and asked for a revised environmental assessment by May 2010.

We continued to work with local communities to increase our understanding of their concerns. We also encouraged them to learn about the project, with more than 1,000 people visiting the construction site in 2009. A government-initiated forum of community representatives, politicians and Shell staff met regularly.

Our partners in the Corrib project are Statoil (36.5%) and Vermilion Energy (18.5%).

www.shell.com/corrib

INCREASING SUPPLIES

Oil will remain essential to global energy supplies for many decades to come. To meet demand, we are increasing production from more difficult sources and ever more challenging frontier environments. We are also extracting more from existing fields. We use advanced technologies to improve energy efficiency and reduce emissions.

DEEP WATER

Shell pioneered deep-water production more than 30 years ago when deep meant 300 to 500 metres. Today we are producing from waters more than five times this depth. In the Gulf of Mexico and off the coasts of Brazil, Malaysia and Norway, we are deploying advanced technologies while meeting high standards for safety and environmental responsibility.

We brought a major offshore development into production in 2009. Parque das Conchas links 10 wells from four fields to a floating production, storage and offloading (FPSO) vessel moored in water 1,800 metres deep in the Atlantic, 120 kilometres off the coast of Brazil. Remote-controlled technology installed the equipment that separates the oil and gas on the seabed – a technical first – before it is pumped up to the FPSO for shipping to shore.

The Perdido development in nearly 2,500 metres of water in the Gulf of Mexico has the world's deepest drilling and production platform. The development involves the deepest undersea wells ever drilled and three complex fields spread over 70 square kilometres. Production from Perdido started in early 2010 and is expected to reach up to 100,000 barrels of oil equivalent a day.

Off the coast of Malaysia, the deep-water development at Gumusut (Shell is the operator with a 33% interest) is due to start production around 2012 using a locally built semi-submersible platform. This project is expected to build local skills for future Malaysian deep-water developments.

At full production these three projects are expected to contribute around 300,000 barrels of oil equivalent a day to world energy supplies.

ARCTIC

The Arctic already produces 8 million barrels of oil equivalent a day and, according to the U.S. Geological Survey, is believed to contain 13% of the world's yet-to-find oil and 30% of its undiscovered gas.

Today, the region offers new opportunities for exploration and production. It also continues to present tough physical conditions for finding and developing oil and gas resources. Its environmental sensitivity and the need to protect the traditional lifestyles of indigenous communities add to the challenges. However, we believe our 50 years of experience in Alaska, Canada, Norway and Russia have given us extensive knowledge of how to work responsibly and safely in Arctic and sub-Arctic conditions.

We also believe development in the region should benefit Arctic countries and communities and meet high performance standards. We have learned from projects such as Sakhalin II (see page 24), and know that we must work closely with the region's communities at the earliest stages of our projects.

EXTENDING FIELD LIFE

Extracting more from existing oil fields is an effective way to increase production. Typically only about a third of the oil in a reservoir can be produced economically, but Shell has developed a range of enhanced oil recovery (EOR) technologies to increase output.

The approach varies with the reservoir formation. It can involve using steam to thin the oil and ease its flow, or the injection of CO₂ or chemicals. High-pressure water injection is also commonly used to push more oil out of a reservoir, a technique Shell is using to extend production in the Princess field in the Gulf of Mexico. We estimate that EOR now accounts for around 4% of world oil production and this is expected to grow.

Using sophisticated information technology is another way to get more out of a well. Shell Smart Fields® technology links sensors and valves in the well to remote control centres where engineers can monitor performance in real time, react to problems quickly and control the well more precisely. Shell has Smart Fields® technology in more than 50 fields and expects to be using it in around 20 more fields within five years.

www.shell.com/innovation

↓ *Transporting the huge Perdido deep-water spar along the coast of Texas, USA.*





↑ Attending a community meeting in Kaktovik, Alaska.

ALASKA

Potential development of Alaska's vast offshore oil and gas resources promises both economic and energy benefits for local communities, the state and the USA. But exploring for and producing hydrocarbons in the Beaufort and Chukchi seas poses special technology, environmental and social challenges. The region is home to many indigenous people, such as the Inupiat, whose lives and culture are dependent on the land and sea. It is also rich in wildlife, such as birds, caribou, polar bears, seals, walrus and whales.

In Alaska, Shell's approach involves engagement with indigenous people, applying advanced technologies that can reduce environmental impact and supporting scientific studies to monitor and protect wildlife.

Our interaction with local communities through regular meetings helps us better understand their concerns and needs, and offers them the chance to see how they might benefit from our activities. We draw from the knowledge of the local environment that native peoples have built up over thousands of years. For example, on the advice of Inupiat subsistence whalers, we painted the hull of one vessel blue to avoid disturbing sea life. We employ Inupiat and other native people among our vessel crews. As well as doing normal duties, their understanding of Arctic ice movements and ability to spot the smallest evidence of whales, walrus and other marine life make them ideal ice monitors and lookouts for marine mammals. Listening to community views also helped us revise our offshore drilling plans.

Our use of advanced technology includes the testing of quiet, fuel-efficient aerial drones to help monitor the movement of marine mammals. We are developing experimental bubble curtains that can muffle underwater sound near platforms; and we use advanced satellite imaging to track ice movement and reduce the need for observation from aircraft.

The US Minerals Management Service (MMS) has approved our revised plans for exploratory drilling in the Beaufort and Chukchi seas in 2010. We believe the new plans address the concerns of the North Slope communities. However, in late 2009 the Alaska Eskimo Whaling Commission and the Inupiat Community of the Arctic Slope joined environmental non-governmental organisations to legally challenge the decisions of the MMS. We continue to engage with these communities and work towards developing Alaska's resources. In April 2010, the US Environmental Protection Agency granted Shell key air-quality permits to allow exploration drilling in the Beaufort and Chukchi seas.

 www.shell.com/alaska

IRAQ

Years of conflict and an ageing infrastructure have left Iraq's oil and gas industry operating well below its potential. The country currently produces around 2.5 million barrels of oil a day, but this figure could rise significantly in the years to come.

We have agreed several major contracts which will significantly add to the country's oil output and domestic energy supply. To operate successfully in Iraq and share the benefits with local communities, we must address security and social challenges. In a country where many are unemployed, these agreements give us the opportunity to help train local people for the future.

We and partner Petronas, the Malaysian national oil company, signed a 20-year agreement with the Ministry of Oil in Iraq to develop the huge Majnoon oil field from its current 45,000 barrels a day to a potential 1.8 million barrels a day. While we raise production we will also work on plans to install gas-gathering equipment to capture gas produced with the oil, which is currently flared.

Shell has a 45% interest in the Majnoon agreement and will operate the field. Petronas has a 30% stake, and the Iraqi government 25%. We also have a 15% interest in an agreement to redevelop and expand the West Qurna 1 oil field. ExxonMobil will be the operator with a 60% interest, with the Iraqi government holding the remaining 25% interest.

Our memorandum of understanding with the South Gas Company to form a joint venture involves capturing gas produced with oil in fields near Basra that is currently wasted through flaring. Much of this gas would go to the domestic market to help power homes and businesses, reducing CO₂ emissions. The rest could be exported as LNG, helping Iraq's economy. In 2009, we carried out inspections and repairs to equipment. This avoided the flaring of up to 20% of the gas, which could then be used to provide energy for the domestic market.

OIL SANDS

Unconventional resources such as Canada's oil sands can play a key role in meeting world energy demand. But developing them is costly and energy-intensive. For oil sands to realise their potential, they must be developed affordably and in a way that keeps environmental and social impact to a minimum.

The Canadian government estimates that the oil sands contain over 170 billion barrels of oil, deposits second in size only to those of Saudi Arabia. They lie beneath around 140,000 square kilometres in the Athabasca, Cold Lake and Peace River regions of northern Alberta. Around 20% of these resources are close to the surface and can be mined. The rest must be produced using techniques to thin the bitumen, or heavy oil, and bring it to the surface through wells similar to those in conventional oil production.

Giant shovels and the world's largest trucks excavate the bitumen at the Athabasca Oil Sands Project (AOSP – Shell interest 60%). After warm water separates the heavy oil from sand and clay, we pipe it more than 400 kilometres south to the Scotford Upgrader near Edmonton for conversion into synthetic crude oil.

Production in 2009 from oil sands was 2.5% of Shell's total oil and gas production. The AOSP's current capacity is 155,000 barrels a day of synthetic crude oil, but a major expansion project expected to be in production in 2011 will add up to 100,000 barrels a day.

Mining oil sands poses environmental challenges, and opposition to developing this resource has grown in some quarters. We are working to manage the effects of further growth on CO₂ emissions and other environmental impacts. An essential part of this is our dialogue with others including local communities, environmental agencies, non-governmental organisations and governments to establish ways in which we can continue to develop these resources responsibly.

Greenhouse gas emissions

Across the industry, oil sands development accounts for 5% of Canada's CO₂ emissions and 0.1% of global emissions, according to the Canadian Association of Petroleum Producers. A report by Cambridge Energy Research Associates (CERA) showed that transport fuel produced from mineable oil



↑ Large shovels excavate the oil sands.

sands bitumen is about 5–15% more CO₂-intensive than fuel produced from the average crude oil barrel in the USA on a "well-to-wheel" basis, that is, from production through refining to combustion by engines. On a production-only basis, CERA says that CO₂ emissions from mining oil sands are comparable to those of heavy oils from Venezuela and less than those of heavy oils from California and Angola.

We are aiming to further reduce CO₂ intensity from our oil sands development through energy efficiency and by exploring the potential for large-scale carbon capture and storage (CCS). New technology to save water and energy used in processing bitumen, for example, will avoid some 40,000 tonnes of CO₂ emissions a year when our expansion to the AOSP starts operations.

If CCS can be applied successfully it will have a major impact on reducing CO₂. In October 2009, the governments of Alberta and Canada jointly announced funding agreements for our proposed Quest project to capture over 1 million tonnes of CO₂ a year from the Scotford Upgrader and store it deep underground. A final investment decision will require regulatory approvals and consultation with stakeholders, but an important step has been taken towards developing a large-scale CCS project.

Tailings

Tailings consist of the water, sand, clay and residual hydrocarbon left when bitumen is extracted from oil sands. The AOSP tailings ponds cover around 12 square kilometres. Shell's tailings management plan involves the removal of water followed by blending and treatment of the remaining solid tailings

to make reclamation of the land more effective. The plan spans the start of oil sands mining to the eventual final placement of materials in a reclaimed landscape. Mining operations last many years and it will be several decades before this process is complete.

Tailings can be toxic and as a result we continually monitor, assess and manage them to protect water and wildlife. In 2009 Shell submitted plans in response to new Alberta legislation to improve the management of tailings and to accelerate reclamation.

Water

Processing oil sands uses water. We meet about 85% of our needs by recycling water from tailings. The rest comes from the Athabasca River. Shell has permits to withdraw about 0.6% of the river's average annual flow. We currently use about a quarter of this amount and withdraw less during low-flow winter months than at other times. We return no used water to the Athabasca River.

Development of oil sands resources is receiving increasing attention from shareholders, media and non-governmental organisations. Some shareholders tabled a resolution for our 2010 Annual General Meeting about our investments in oil sands. We have responded to this by providing more information about our oil sands activities (see web link below).

Our partners in AOSP are Chevron (20%) and Marathon Oil Sands (20%).

🖱️ www.shell.com/oilsands

INNOVATING FOR BETTER PRODUCTS

Making products that emit less CO₂ and creating useful products from waste are two ways Shell's innovative approach improves energy use for our industrial and retail consumers. Some of the chemicals we make help create better insulation for homes and office buildings around the world, improving their energy efficiency.

BUILDING ROADS

Shell is the world's largest supplier of bitumen, which binds and waterproofs the asphalt used to build roads. The asphalt is typically produced and laid at temperatures above 160°C. Shell Warm Asphalt Mixture (WAM) Foam Technology™ can be mixed and laid at up to 50°C lower than conventional processes. This reduces the energy used and CO₂ produced by around 30%, and significantly reduces dust and fumes. The process is used in Australia, Canada, France, Italy, Luxembourg, the Netherlands, Norway and Sweden. In Switzerland, where the government has imposed a tax on CO₂ emissions in the asphalt industry, several manufacturers are preparing to produce asphalt using Shell WAM Foam Technology™ in 2010.

Shell Instapave Systems™ helps to make all-weather roads more affordable in developing countries. The process mixes specially-prepared bitumen with locally-available stone chips on site and at ambient temperature. Traffic can use the road within 30 minutes. We plan to introduce Shell Instapave Systems™ in India, Malaysia and Indonesia in 2010.

MAKING USE OF SULPHUR

Making traditional Portland cement for concrete involves heating limestone at 1,450°C, a highly CO₂-intensive process. Shell Thiocrete™ is a sulphur-based binder that replaces the cement typically used in concrete. Although producing concrete using Shell Thiocrete™ takes place at 135°C, the process uses less energy than conventional concrete production because of the absence of cement. In late 2009 we sold Shell Thiocrete™ for use in drainage channels on a new railway track in Poland.

Another sulphur-based product, Shell Thiopave™, can replace up to 25% of the

bitumen normally used in asphalt and can be laid at lower temperatures, reducing CO₂ emissions. It also strengthens the road. In late 2009, the government of Alberta, Canada, approved the use of sulphur-enhanced asphalt technologies such as Shell Thiopave™ to generate carbon credits.

Field trials of our sulphur-enhanced fertiliser technology, Shell Thiogro™, have shown increased crop yields in some types of soil, which leads to greater absorption of CO₂. The first commercial use of Shell Thiogro™ is expected in 2010.

LUBRICANTS

Our lubricants range from products for vehicle engines to those used in power generation and mining operations. Some of our Shell Helix Ultra motor oils can improve fuel economy through their low-viscosity formulations. For industry, trials of our Shell Tellus® EE hydraulic fluid showed an 8% reduction in energy use by hydraulic systems in applications such as plastic moulding.

www.shell.com/solutions

CHEMICALS FOR INSULATION

Improving insulation can make a significant impact on energy consumption in homes and buildings – a major cause of CO₂ emissions.

Shell Chemicals supplies two of the raw materials used in the manufacture of widely-available insulation products: expanded polystyrene (EPS) foam made from styrene; and rigid polyurethane (PU) foam, made from polyether polyols. Both are chemicals derived from hydrocarbons.

EPS foam, one of the most commonly used forms of building insulation, can be used to fill cavities or as moulded foam panels. Builders and architects have developed new approaches to insulation using EPS because it is light and easily shaped. These include filling hollow EPS blocks with concrete and sandwiching EPS between sheets of timber, allowing faster construction.

Rigid PU foam is often used in building construction or renovation where the thickness of insulation materials can be crucial. Alternative materials must be up to 60% thicker to achieve the same level of insulation.

Most refrigerators and freezers produced today are insulated with PU foam, which helps to meet increasingly tight energy efficiency standards for household appliances.

www.shell.com/chemicals

↓ Pouring concrete into EPS insulating blocks.



MORE SUSTAINABLE TRANSPORT

Shell helps customers use less fuel by offering more advanced, cleaner products and encouraging more economical driving. By 2050, the number of vehicles is expected to double to around 2 billion. Powering so many vehicles will take a range of fuels and energy sources, from fossil fuels such as petrol and diesel, to biofuels, to electricity and even hydrogen.

Transport accounts for almost a quarter of the world's CO₂ emissions from fossil fuels, with road vehicles producing almost 75% of that amount, according to the International Energy Agency. For the world to make a transition towards a low-carbon energy future, these emissions must come down significantly. The most effective way to achieve this is for governments and regulators to focus on the "well-to-wheel" CO₂ emissions of fuels and energy sources – from production or generation to

powering an engine. There is no single solution to achieving sustainable transport: whether liquid fuels, electricity or hydrogen offers the best option may depend on the local market. There will be a need for all.

Suppliers like Shell can help towards developing a low-carbon energy future by continuing to produce more advanced fuels. Vehicle manufacturers also have a vital role to play by developing more efficient engines that use less fuel and generate less CO₂. Consumers can make a big difference by driving more economically. We work with partners such as Volkswagen and Ferrari to develop more advanced petrol and diesel, and we help drivers improve their fuel economy through better driving habits.

We are working to improve the sustainability of today's biofuels. For the future, we are helping to develop advanced biofuels that will not depend for raw materials on arable land (see opposite page). In 2009, we opened two new hydrogen refuelling stations in New York, creating our first cluster of three in the area. We also have refuelling stations for

hydrogen fuel-cell powered vehicles in Asia and Europe, making a total of seven. These play an important role in understanding and testing the potential for hydrogen-fuelled vehicles.

MAXIMISING EVERY DROP

In 2009, Shell launched our most efficient fuel to date in the Netherlands, Turkey, Malaysia, Singapore and Hong Kong. Shell FuelSave can help save up to one litre of fuel in a 50-litre tank because it contains an ingredient that keeps engine and fuel system components clean and working efficiently. More than 150,000 drivers in 13 countries also signed up for our online tips on how to drive more economically. In 2010 Shell FuelSave will be launched in other countries in Europe and Asia.

CLEANER AIR

Shell was one of the first companies to produce ultra-low sulphur diesel on a commercial scale, in Sweden in the early 1990s. By the end of 2009 we had invested over \$1 billion at our refineries over 10 years to produce the lower-sulphur fuels needed for today's engines and to meet the requirements of many governments. Our refinery in Argentina now produces lower-sulphur fuels and in 2010 we will begin producing lower-sulphur fuels at our joint-venture refinery in Saudi Arabia (Shell interest 50%).

Ever-tighter fuel and vehicle regulations – combined with investment in advanced technologies – will continue to reduce the pollutants a vehicle emits. This cuts the amount of smog that can affect the atmosphere in large cities, especially in the developing world. As more developing countries install desulphurisation units in their mainly locally owned refineries, sulphur levels will reduce accordingly. Shell continues to work with governments towards the introduction of lower-sulphur fuels and the modern engines needed to make the most of these fuels.

↓ Filling up with Shell FuelSave in Hong Kong, China.



BIOFUELS FOR THE FUTURE

Today's conventional biofuels offer one of the most effective ways to reduce CO₂ from transport fuels over the next two decades (see page 14), but we are also investing to develop and commercialise more advanced biofuels. Shell technologists investigate these in research centres in India, the Netherlands, the UK and the USA. We also have technical partnerships with leading biotechnology companies and academic institutions to examine raw materials and processes at the forefront of advanced biofuels research. However, it takes considerable time and investment to take new energy technologies from laboratory testing to the demonstration phase and eventual full-scale production plants. Not all will achieve commercial success.

Our most promising advanced biofuel is cellulosic ethanol. Shell has been working to develop the process with logen Energy, a Canadian company that opened a demonstration plant in 2004. In 2009, the company produced 500,000 litres of this advanced biofuel. Shell and logen Energy are now investigating the feasibility of building a commercial plant in Saskatchewan, Canada. If this investment goes ahead, it will be the world's largest commercial-scale cellulosic ethanol plant.

Shell is also working with US company Codexis, which develops powerful enzymes for faster conversion of biomass to ethanol and other fuels. Another US partnership is with Virent Energy Systems whose scientists use catalysts to convert biomass directly into petrol, which could potentially be blended at high rates in standard petrol engines. Shell is also a majority partner in Cellana, which is developing a small pilot facility in Hawaii to grow marine algae and produce vegetable oil for biodiesel.

In 2009, we sold our shares in German company Choren to focus on other biofuels opportunities, but we continue to provide technology and technical help for its process of converting wood chips to biodiesel.

www.shell.com/fuels



↑ A little goes a long way in the Shell Eco-marathon.

SHELL ECO-MARATHON

The goal of the Shell Eco-marathon is not speed but to consume as little fuel as possible over a set distance. Annual events are held in Europe and the Americas, and in 2010 the first in Asia will be held in Malaysia.

There are two categories: "Prototypes" for streamlined vehicles built to reduce drag and maximise efficiency; and "Urban Concept" for cars designed for more conventional roadworthiness. Vehicles can be powered by alternative fuels such as solar, hydrogen and biofuels such as ethanol; or standard fuels such as diesel, petrol and liquefied petroleum gas.

In 2009, a total of 241 teams representing 33 countries competed to push the boundaries of fuel efficiency at events in Europe and the Americas. The 25th European event took place in Germany for the first time. The Americas event of early 2010 was held on the streets of Houston.

The Norwegian University of Science and Technology set a record in 2009 in the Urban Concept category, achieving the equivalent of 1,246 kilometres on one litre of fuel in a hydrogen-powered car.

The Prototype record was set during the 2005 European event with a hydrogen-powered vehicle built by ETH Zurich, Switzerland. It ran the equivalent of 3,836 kilometres – the distance from Paris to Moscow – on one litre of fuel.

www.shell.com/ecomarathon

OUR PERFORMANCE

EXTERNAL REVIEW COMMITTEE



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SOCIAL RESPONSIBILITY (BSR) USA



Rebecca Adamson
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David Runnalls
PRESIDENT, INTERNATIONAL
INSTITUTE FOR SUSTAINABLE
DEVELOPMENT (IISD) CANADA

Shell, for the fifth successive year, has invited an External Review Committee to assess the content of its sustainability report and the process of producing it. This letter provides our assessment of Shell's 2009 Sustainability Report. We express our views as individuals, not on behalf of our organisations.

SHELL'S REPORTING

Shell's 2009 report includes the most material sustainability issues the company faces.

The report covers a year of significant change, both within Shell and the world. In particular, the report reviews the impact of the recession on Shell and the world, how sustainable development at Shell has been changed by the substantial reorganisation of the company undertaken by new Chief Executive Officer Peter Voser, and Shell's views on public policy developments regarding climate change during the past year.

Shell's report rightly focuses considerable attention on the most important sustainability question it faces globally: meeting the world's energy needs while also reducing the carbon intensity of its products and operations. The report prioritises topics appropriately to produce a concise document that covers the most important sustainability aspects of Shell's complex and global business.

Again this year, Shell has made an extraordinary commitment to the review process. We are particularly pleased to have been able to meet with the Chief Executive Officer, senior executives including most of the company's Executive Committee, the Board's Corporate and Social Responsibility Committee, and the Chairman of Shell. These exchanges have given us crucial insights into how responsibility for sustainability was integrated into operational business units during the major reorganisation of 2009. We are pleased that the Shell reporting team has incorporated many of our comments and suggestions on successive

drafts into the final report. We believe this level of engagement is a strong indication of Shell's commitment to openness.

SHELL AND THE ENERGY FUTURE

Several elements of Shell's reporting on energy and climate change deserve mention.

We welcome the clear theme running through this year's report that sets out Shell's contribution to a global transition to a low-carbon energy future. The report usefully outlines Shell's overall perspective on the energy challenge facing it and the world. By again stating its "six pathways" to a low-carbon future, the company provides a useful means by which readers can assess its progress against a comprehensive strategy that includes both operational and policy elements.

We welcome the clarification of Shell's approach to lower-carbon fuel sources. This year's report provides a more concise and direct statement than in previous years on which energy sources Shell intends to prioritise in reducing the carbon intensity of its portfolio.

In particular, Shell has clarified its approach to biofuels, especially its shift towards an emphasis on sustainable first-generation biofuels. This indicates an evolution in strategy, from earlier emphasis on second-generation sources, to one which calls the current generation of low-CO₂ biofuels one of the most realistic commercially-viable paths to lower-carbon fuel over the next two decades.

At the same time, we would welcome further information on Shell's management of the sustainability impacts within the supply chains of first-generation biofuels.

We appreciate Shell's forthright acknowledgement that its energy efficiency declined in refining operations in 2009, while improving in other areas of the company's operations, as well as its assessment of the reasons for these changes.

OUR FOCUS

We concentrated on three main questions, informed by the AA1000 assurance standard:

- Has Shell selected the most important topics for the report?
- How well has the report dealt with these topics and responded to stakeholder interest?
- Did Shell provide sufficient information and access to do our job effectively?

OUR PROCESS

In autumn 2009, we commented on Shell's initial choice of issues to include in the report. We reviewed and commented on the report outline in late 2009, and on successive report drafts in January and March 2010. The Committee met in person twice in The Hague, and on other occasions by teleconference. We held several meetings with key Shell personnel to discuss in detail Shell's approach to sustainable development.

Our review did not include verification of performance data underlying the report, or the information on which the case studies in the report were based. In addition to our comments on the company's reporting, we have separately offered Shell our observations on the company's sustainability performance. In recognition of our time and expertise, an honorarium was offered, payable to us either individually, or to a charitable organisation of our choosing. We were also reimbursed for the expense of our travel and accommodation.

We welcome Shell's clear call for policy frameworks delivering effective CO₂ regulation. Shell's statement that the inability at Copenhagen to establish a binding international climate agreement treaty is a "call to action" for further efforts to reduce carbon intensity is particularly valuable.

We note Shell's acknowledgement in the report that its greenhouse gas emissions may rise in the years ahead due to new projects coming online. The report provides greater clarity concerning Shell's portfolio, in particular its increased focus on natural gas as well as its investments in oil sands. The report also clarifies Shell's CO₂ mitigation efforts, including carbon capture and storage (CCS). At the same time, we call on the company to provide additional information in the future to enable readers to gauge the company's progress on reducing its carbon footprint. The lack of a new voluntary company-wide target after 2010 may make this more difficult in years to come.

Finally, we would like to see more information in the future on how GHG emissions from oil sands will be affected by the Athabasca Oil Sands Project expansion, including the impact of the planned Quest CCS project.

We also offer comments below on several other topics that Shell addresses in the report:

ASSESSMENT OF ABOVE-GROUND RISKS IN CHALLENGING ENVIRONMENTS

We would like to see further treatment of Shell's view of the social and environmental risks associated with complex projects. We welcome the coverage of current and impending work in Iraq, Alaska and the Arctic, and would welcome more detailed insight into the risks presented in these operations.

INTEGRATION OF SOCIAL PERFORMANCE LEARNING

We renew our call for Shell to report more fully on how it is integrating its social and community engagement experiences in other environments. This year's report

includes case studies and external opinions on this topic. However, we would like to see more detail on precisely how Shell is applying its experiences in its most challenging operations, as this has been identified by Shell as a key determinant of the company's future success.

COMMUNITY DEVELOPMENT

Again this year, we seek more information about the impact of Shell's investments in communities where it is active. The report provides data on Shell investments, but does not enable readers to fully understand how effectively these expenditures have improved community well-being or advancement. We take note of the company's declining voluntary contributions to social investment over the past two years. We would like to see more information on the potential implications for community development and Shell's intentions on its approach in the coming years.

NIGERIA

The report provides insights into the difficulties of doing business in Nigeria and recounts the most important developments in 2009. We would have liked the report to better enable readers to assess how Shell expects to navigate what continues to be a very challenging operating environment.

CONCLUSION

Shell's report and its reporting process continue to demonstrate leadership by producing a balanced and comprehensive sustainability report. The 2009 report stands out in particular for the additional clarity provided on Shell's contribution to a low-carbon energy future. We encourage Shell to build on its strong reporting platform to enable readers of future reports to continue to assess its progress towards its sustainability goals. This will, we believe, benefit Shell and its many stakeholders, and also encourage others to take action to address crucial sustainability challenges.

PERFORMANCE DATA

ENVIRONMENTAL DATA										
	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000
Greenhouse gas emissions (GHGs)										
Total GHGs (millions tonnes CO ₂ equivalent) [A]	67	75	82	88	93	101	102	96	93	91
Carbon dioxide (CO ₂) (million tonnes)	64	72	79	85	89	96	97	92	87	84
Methane (CH ₄) (thousand tonnes)	123	126	119	124	173	192	187	196	261	325
Nitrous oxide (N ₂ O) (thousand tonnes)	2	2	2	2	2	2	3	4	3	3
Hydrofluorocarbons (HFCs) (tonnes)	24	23	28	24	20	13	9	11	4	8
Flaring										
Flaring (Upstream only) (million tonnes CO ₂ equivalent)	7.5	8.8	9.7	14.3	20.8	24.6	24.1	20.6	28.9	26.3
Flaring (Upstream only) (million tonnes hydrocarbon flared)	2.5	2.8	3.4	4.8	7.0	8.1	8.1	6.8	9.5	8.8
Energy intensity										
Upstream excluding Oil Sands (gigajoule per tonne production) [B]	0.79	0.80	0.81	0.80	0.73	0.71	0.72	0.75	0.69	0.66
Oil Sands (gigajoule per tonne production)	7.0	7.0	6.0	5.6	5.2	5.8	10.0	N/C	N/C	N/C
Refineries: Energy Intensity Index	100.5	97.2	96.9	96.7	96.3	95.1	96.1	98.3	N/C	N/C
Chemical plants: Chemicals Energy Index	92.0	93.0	92.6	92.5	95.8	93.3	98.3	99.7	101.4	100.0
Acid gases and VOCs										
Sulphur dioxide (SO ₂) (thousand tonnes)	141	175	212	233	226	247	257	240	236	250
Nitrogen oxides (NO _x) (thousand tonnes)	142	150	145	154	157	172	193	195	191	184
Volatile organic compounds (VOCs) (thousand tonnes) [C]	126	130	148	185	199	213	226	324	309	442
Ozone-depleting emissions										
CFCs/halons/trichloroethane (tonnes)	0.4	1.4	0.6	0.3	0.8	2.3	3.0	7.7	4.5	5.1
Hydrochlorofluorocarbons (HCFCs) (tonnes)	24	26	27	35	35	42	44	57	45	55
Spills and discharges										
Oil in effluents to surface environment (thousand tonnes)	1.5	1.7	1.6	1.8	2.3	2.1	2.3	2.4	2.8	2.6
Sabotage spills (thousand tonnes) [D]	13.9	6.5	3.4	1.9	1.5	1.1	0.9	2.5	5.2	2.4
Operational spills (thousand tonnes) [E]	1.3	8.8	3.5	3.9	3.4	3.4	5.0	4.2	9.6	6.1
Hurricane spills (thousand tonnes)	0.0	0.0	0.0	0.0	2.9	1.0	0.0	0.0	0.0	0.0
Number of sabotage spills	95	115	197	123	111	101	105	128	114	102
Number of operational and hurricane spills	264	275	392	465	560	711	678	784	N/C	N/C
Fresh water use										
Fresh water use (million cubic metres)	198	224	315	N/C	N/C	N/C	N/C	N/C	N/C	N/C
Waste disposal										
Hazardous (thousand tonnes) [F]	962	688	907	716	631	714	675	781	N/C	N/C
Non-hazardous (thousand tonnes)	1,139	996	1,899	1,154	632	421	443	480	N/C	N/C
Total waste (thousand tonnes)	2,101	1,684	2,806	1,870	1,263	1,135	1,118	1,261	N/C	N/C

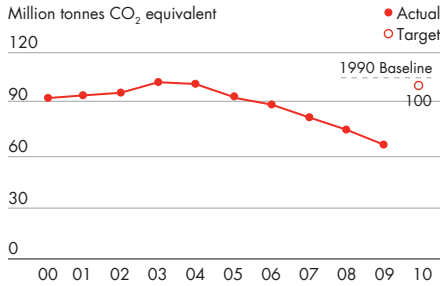
- [A] Petroleum Industry Guidelines for Greenhouse Gas Estimate, December 2003, (API, IPIECA, OGP) indicate that uncertainty in greenhouse gas measurements can be significant depending on the methods used. In 1998 we set a voluntary target for 2010 of 5% lower GHG emissions than our comparable 1990 level.
- [B] The 2008 energy intensity figure has been restated following recalculation of the data.
- [C] The 2008 and 2007 VOC figures have been restated following recalculation of the data.
- [D] We have re-estimated our 2008 and 2007 sabotage and theft-related spills following completion of investigations to confirm spill volumes.
- [E] We have re-estimated our 2008 operational spills volume following completion of investigations to confirm spill volumes.
- [F] Increase in 2009 due to waste water containing selenium being temporarily disposed of as hazardous waste. From late 2009 this waste water was disposed of as non-hazardous material.
- [G] Decrease in 2009 is due to entry into Iraq where these rights are still prohibited by national law.
- [H] Decrease in 2009 is due to raising the requirements for specific procedures in place to prevent child labour.
- [I] Expenditure in countries where GDP amounts to less than \$15,000 a year per person (source: UNDP human development index 2009). For consistency we have restated this data back to 2007.
- [J] Code of Conduct violations gathered by our global helpline and through internal channels.
- [K] Social investment spending varies from year to year depending on the business climate, locations and type of activities under way. This is voluntary social investment and does not include social investments made through contractual agreements.
- [§] Social investment and contracting and procurement data collected via our financial system since 2007.
- [§] Data obtained from an internal survey completed by the senior Shell representative in each country.
- N/C Not calculated.

See page 37 for more information about our data.

SOCIAL DATA										
	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000
Fatalities										
Employees	1	2	1	2	3	2	5	8	2	4
Contractors	19	24	20	36	32	32	40	43	33	48
Total number	20	26	21	38	35	34	45	51	35	52
Injuries										
Total recordable case frequency (TRCF)										
Injuries per million exposure hours (employees and contractors)	1.4	1.8	1.9	2.1	2.5	2.6	2.6	2.5	2.9	3.2
Lost time injury frequency (LTIF)										
Lost time injuries per million exposure hours (employees and contractors)	0.4	0.6	0.7	0.8	1.0	1.1	1.1	1.1	1.3	1.4
Illnesses										
Total recordable occupational illness frequency (TROIF)										
Illnesses per million working hours (employees only)	0.6	1.2	1.5	1.8	2.0	2.1	2.0	2.0	2.3	2.2
Security										
Using armed security (% of countries)	17	17	16	15	19	18	22	16	18	22
Using armed company security (% of countries)	1	1	2	2	2	2	2	1	2	2
Using armed contractor security (% of countries)	10	9	12	9	11	11	22	12	12	12
Gender diversity										
In supervisory/professional positions (% women)	26.4	24.7	24.6	23.2	21.8	20.7	19.5	18.9	17.7	17.1
In management positions (% women)	16.1	15.3	17.7	16.2	12.9	12.2	11.3	9.2	9.3	8.9
In senior leadership positions (% women)	14.0	13.6	12.9	11.6	9.9	9.6	9.6	8.8	7.9	7.2
Regional diversity										
% countries with majority of local nationals in senior leadership positions										
	37	32	33	25	36	N/C	N/C	N/C	N/C	N/C
Staff forums and grievance procedures										
% staff access to staff forum, grievance procedure or other support system [G]										
	99.1	100.0	100.0	99.2	100.0	100.0	99.9	99.9	99.9	N/C
Child labour (% countries with specific procedures in place) [H]										
Own operations	98	100	99	95	88	83	78	86	89	84
Contractors			98	89	69	61	57	56	57	51
Suppliers	97	99	96	82	62	53	50	42	41	31
Contracting and procurement										
Estimated expenditure on goods and services from locally owned companies in low and middle development countries (\$ billion) [I]										
	13	13	13	10	9	6	5	N/C	N/C	N/C
Integrity										
Code of Conduct violations [J]										
	165	204	361	N/C	N/C	N/C	N/C	N/C	N/C	N/C
Contracts cancelled due to incompatibility with Business Principles										
	24	49	35	41	63	64	49	54	100	106
Joint ventures divested due to incompatibility with Business Principles										
	0	0	0	0	0	0	1	0	0	2
Social investment										
Social investment (equity share) (\$ million) [K]										
	132	148	170	140	127	106	102	96	85	85

PERFORMANCE GRAPHS

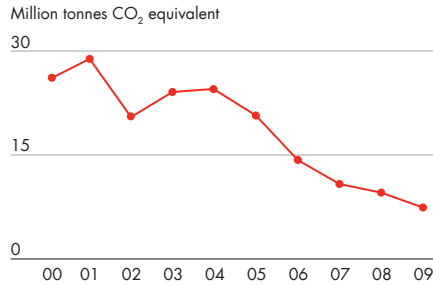
GREENHOUSE GAS EMISSIONS [A]



In 2009 the direct GHG emissions from facilities we operate were 11% lower than in 2008. This was due to operational improvements, reduced activity in our refineries and chemical plants, and forced shutdowns in Nigeria.

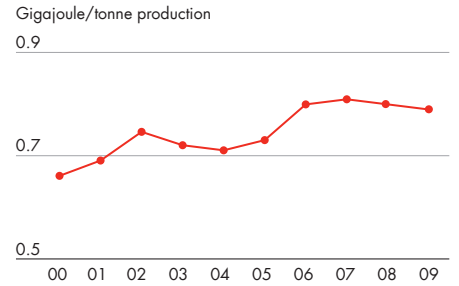
[A] Target and baseline adjusted to reflect portfolio changes.

FLARING – UPSTREAM



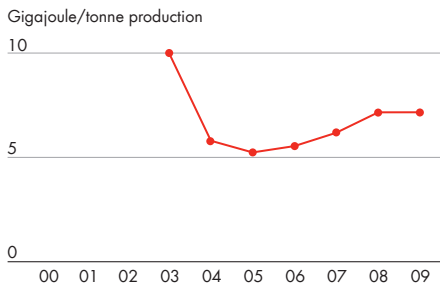
Overall, our operational and continuous flaring has fallen by more than 70% since 2001. Programmes to end continuous flaring caused more than half of this drop; the rest was mainly due to production falls in Nigeria.

ENERGY INTENSITY – UPSTREAM (EXCLUDING OIL SANDS)



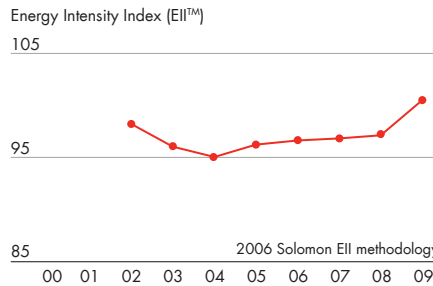
In 2009 our Upstream businesses improved in energy efficiency. Our efforts to use energy more efficiently were partly offset by the increased energy needed to produce oil and gas from some ageing fields and harder-to-reach resources.

ENERGY INTENSITY – OIL SANDS



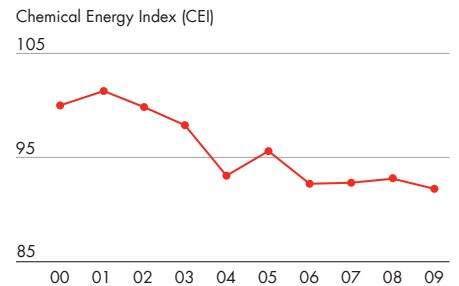
At our oil sands operations in Canada energy efficiency remained the same as in 2008. Operational improvements were offset because our trucks consumed more diesel to cover longer distances than in 2008 between the mining area and the processing plant.

ENERGY INTENSITY – REFINERIES



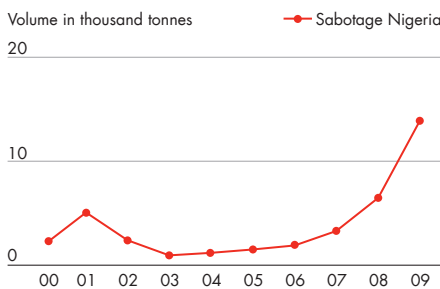
Energy efficiency at our refineries declined during 2009. Lower demand for our products because of the economic downturn meant we were running refineries well below full capacity, making them less efficient.

ENERGY INTENSITY – CHEMICAL PLANTS



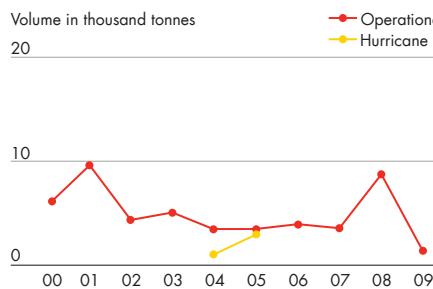
In 2009 the energy efficiency at our chemical plants improved over the full year. Demand for our products began to recover in 2009, which helped our plants run more efficiently towards the end of the year.

SPILLS



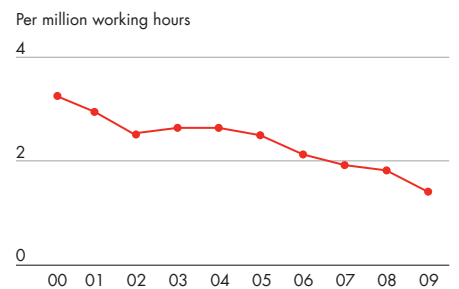
Sabotage and theft-related spills in Nigeria increased significantly in 2009, with spill volume being dominated by two large spills. At the Odidi field, around 10,500 tonnes were spilled due to theft, and a spill of around 2,500 tonnes occurred due to sabotage at the Trans Escravos pipeline.

SPILLS



The volume of oil spilled in 2009 during our operations was the lowest we have recorded. We have re-estimated our 2008 spill volume to include the results of investigations completed in 2009. One investigation involved an incident in November 2008, in which around 6,000 tonnes were spilled.

INJURIES – TOTAL RECORDABLE CASE FREQUENCY



Our injury rate in 2009 was down by 22% compared to 2008, and was our lowest ever. It has fallen by more than 55% since 2000. We launched our mandatory 12 Life-Saving Rules to reinforce what every employee and contractor must know and do to prevent serious injury or fatality.

ABOUT OUR DATA

There are inherent limitations to the accuracy of environmental and social data. We recognise that our environmental and social data will be affected by these limitations and continue to improve the integrity of our data by strengthening our internal controls.

All non-financial data in this report are reported on a 100% basis for companies and joint ventures where we are the operator. Environmental data are for our direct emissions. We report in this way, in line with industry practice, because these are the data we can directly manage and affect through operational improvements. For greenhouse gas (GHG) emissions we provide more detailed data on our website.

www.shell.com/ghg

Operations acquired or disposed of during the year are included only for the period we had ownership. Other data are collected from external sources, staff surveys and other internal sources as indicated.

Cautionary note

The companies in which Royal Dutch Shell plc directly and indirectly owns investments are separate entities. In this publication "Shell", "Shell group" and "Royal Dutch Shell" are sometimes used for convenience where references are made to Royal Dutch Shell plc and its subsidiaries in general. Likewise, the words "we", "us" and "our" are also used to refer to subsidiaries in general or to those who work for them. These expressions are also used where no useful purpose is served by identifying the particular company or companies. "Subsidiaries", "Shell subsidiaries" and "Shell companies" as used in this publication refer to companies in which Royal Dutch Shell either directly or indirectly has control, by having either a majority of the voting rights or the right to exercise a controlling influence. The companies in which Shell has significant influence but not control are referred to as "associated companies" or "associates" and companies in which Shell has joint control are referred to as "jointly controlled entities". In this publication, associates and jointly controlled entities are also referred to as "equity-accounted investments". The term "Shell interest" is used for convenience to indicate the direct and/or indirect (for example, through our 34% shareholding in Woodside Petroleum Ltd.) ownership interest held by Shell in a venture, partnership or company, after exclusion of all third-party interest. This publication contains forward-looking statements concerning the financial condition, results of operations and businesses of Royal Dutch Shell. All statements other than statements of historical fact are, or may be deemed to be, forward-looking statements. Forward-looking statements are statements of future expectations that are based on management's current expectations and

We only include data that have been confirmed by the time this publication goes to print. If incidents are reclassified or confirmed after publication, the data are restated in the following year's publication.

Data marked in the social data table come from an internal survey completed by the senior Shell representative in each country. Their accuracy may be lower than for data obtained through our financial systems.

Data provided are subject to internal controls. Lloyd's Register Quality Assurance Ltd has provided limited assurance of our direct GHG emissions data for 2009. Limited assurance means nothing has come to the auditor's attention that would indicate that the data are not correct.

Unless otherwise noted, estimates of the number of homes served are based on the electricity consumption of an average European household. Conversions into US dollars are based on the average exchange rates for 2009.

assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements. Forward-looking statements include, among other things, statements concerning the potential exposure of Royal Dutch Shell to market risks and statements expressing management's expectations, beliefs, estimates, forecasts, projections and assumptions. These forward-looking statements are identified by their use of terms and phrases such as "anticipate", "believe", "could", "estimate", "expect", "intend", "may", "plan", "objectives", "outlook", "probably", "project", "will", "seek", "target", "risks", "goals", "should" and similar terms and phrases. There are a number of factors that could affect the future operations of Royal Dutch Shell and could cause those results to differ materially from those expressed in the forward-looking statements included in this publication, including (without limitation): (a) price fluctuations in crude oil and natural gas; (b) changes in demand for the Shell's products; (c) currency fluctuations; (d) drilling and production results; (e) reserve estimates; (f) loss of market share and industry competition; (g) environmental and physical risks; (h) risks associated with the identification of suitable potential acquisition properties and targets, and successful negotiation and completion of such transactions; (i) the risk of doing business in developing countries and countries subject to international sanctions; (j) legislative, fiscal and regulatory developments including regulatory measures addressing climate change; (k) economic and financial market conditions in various countries and regions; (l) political risks, including the risks of expropriation and renegotiation of the terms of contracts

SHARE YOUR OPINION

If you have any views on issues raised in this report, or on the report itself, please email:

sustainabilityreport@shell.com

PAPER SPECIFICATIONS

The paper used for this report is Satimat Green, an FSC-certified paper, produced from 60% FSC-certified recycled fibre and 40% FSC-certified virgin fibre. All virgin fibres are ECF bleached, without using chlorine gas. The inks used are vegetable oil-based. The laminate used for the cover is eco-friendly and allows the report to be fully recycled.

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with governmental entities, delays or advancements in the approval of projects and delays in the reimbursement for shared costs; and (m) changes in trading conditions. All forward-looking statements contained in this publication are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. Readers should not place undue reliance on forward-looking statements. Additional factors that may affect future results are contained in Royal Dutch Shell's 20-F for the year ended December 31, 2009 (available at www.shell.com/investor and www.sec.gov). These factors also should be considered by the reader. Each forward-looking statement speaks only as of the date of this publication, May 4, 2010. Neither Royal Dutch Shell nor any of its subsidiaries undertake any obligation to publicly update or revise any forward-looking statement as a result of new information, future events or other information. In light of these risks, results could differ materially from those stated, implied or inferred from the forward-looking statements contained in this publication. The United States Securities and Exchange Commission (SEC) permits oil and gas companies, in their filings with the SEC, to disclose only proved reserves that a company has demonstrated by actual production or conclusive formation tests to be economically and legally producible under existing economic and operating conditions. We may have used certain terms in this publication that SEC's guidelines strictly prohibit us from including in filings with the SEC. U.S. Investors are urged to consider closely the disclosure in our Form 20-F, File No 1-32575, available on the SEC website www.sec.gov. You can also obtain these forms from the SEC by calling 1-800-SEC-0330.

SHELL REPORTS



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Annual Report and Form 20-F for the year ended December 31, 2009

A comprehensive operational and financial overview of Shell.



Annual Review and Summary Financial Statements 2009

A summarised operational and financial overview of Shell.

Jaaroverzicht en verkorte jaarrekening 2009

Dutch language version.



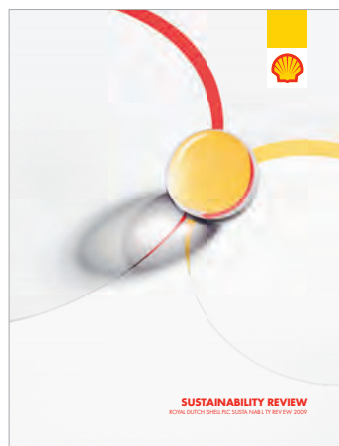
Financial and Operational Information 2005-2009

Five years' detailed financial and operational information, including maps.



Sustainability Report 2009

Report on progress in contributing to sustainable development.



Sustainability Review 2009

A summarised report on progress in contributing to sustainable development.

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