SUSTAINABILITY SUMMARY
ROYAL DUTCH SHELL PLC SUSTAINABILITY SUMMARY 2012
Against the backdrop of a still-struggling global economy, we continue to operate in economically, environmentally and socially responsible ways; and to invest for the future.

As global demand for energy continues to rise, we must develop energy resources that exist in increasingly challenging environments, or that are difficult to produce. Wherever we operate, we never cease in our efforts to keep everyone safe: whether our employees or contractors, or the communities near our operations. We recognise the special physical and technical challenges of working in some of the world’s toughest conditions, and we are determined to learn from our experiences to continue to improve the safety and reliability of our operations.

Sustainable development remains firmly at the core of our business strategy. Working with communities, governments, non-governmental organisations and others helps us to operate safely and responsibly. We take stringent steps to prevent harm to the environment and to build trust with communities close to our operations.

A more sustainable future will require cleaner energy, and more efficient use of energy. With more people moving into cities, world population rising and living standards improving, all forms of energy will be needed to meet demand. Renewables such as wind and solar will continue to grow, but fossil fuels will still be meeting around two-thirds of energy demand in 2050.

We are already taking action to deliver more energy – and cleaner energy – using advanced technologies and innovative approaches. We are producing almost as much cleaner-burning natural gas as oil, producing low-carbon biofuel, helping to develop carbon capture and storage technologies, and putting in place steps to improve our energy efficiency.

We are also helping to shape a better understanding of the increasing stresses the world faces as demand grows for the interlinked essentials of energy, water and food. Most forms of energy production need water; energy is needed to move and treat water; and producing food requires both energy and water. These stresses are likely to increase because of climate change. In early 2013, we published a new set of scenarios that focus on the challenges of an era of volatility and transition, characterised by rapid urbanisation and energy-water-food stresses.

Peter Voser
Chief Executive Officer

Read the full introduction from the CEO in the Shell Sustainability Report for 2012.
OUR APPROACH

SUSTAINABLE DEVELOPMENT AND OUR BUSINESS

Shell works to help meet rising energy demand in a responsible way. That means operating safely, minimising our impact on the environment and building trust with the communities who are our neighbours.

As the world’s population rises and the demand for energy grows, we must meet the needs of our customers and partners against a backdrop of economic volatility. We face increasing competition for access to energy resources in a world where environmental and social pressures are mounting. Our approach to sustainable development underpins the responsible way we work.

In developing energy projects and operating our facilities, we must balance short- and long-term interests. That means integrating economic, environmental and social considerations into our business decisions from the earliest stage. This approach is crucial to our success. It helps us develop projects without delays, and minimise the environmental and social impacts of our operations.

Working closely with communities where we operate allows us to better share the benefits of our activities and to reduce our environmental impact. Understanding and responding to community hopes and concerns allows us to help develop local economies through jobs and business opportunities from the outset of a project. This also allows us to avoid delays to our projects, so makes good business sense. Through engaging with people during community meetings, and sometimes in their homes, we learn how to help protect their way of life. We also improve our understanding of how to protect the local wildlife and biodiversity they may rely on for subsistence.

We will continue to develop oil and gas projects to help meet rising energy demand. We are moving into increasingly challenging environments, using advanced technologies and finding creative ways to access difficult resources.
Safety is critical to the responsible delivery of energy.

Our goal is to have zero fatalities and no leaks or other incidents that harm our employees, contractors or neighbours, or put our facilities and the environment at risk. In 2012, we continued to record low injury rates. However, any injury or incident, no matter how small, serves as a reminder of the need to avoid complacency.

We manage safety through rigorous processes and by embedding a safety culture in the daily lives of our workforce. Everyone working for us and joint ventures we operate must follow our safety rules, intervene in unsafe situations, and respect our neighbours and the environment. Our Health, Safety, Security, Environment and Social Performance Control Framework, a global set of standards and accountabilities, defines the operational controls and physical barriers we require to prevent incidents.

Our Life-Saving Rules and annual Safety Days continue to improve risk awareness and foster a culture where everyone takes responsibility for safety.

We have a stringent approach to process safety to make sure our facilities are well designed, well operated and well maintained, so they can run safely and without harm to people or the environment. The global safety standards we apply to all the facilities and projects we operate meet local regulatory requirements, and in many cases exceed them.

Shell takes a dual approach to potential incidents. We identify and assess risks that have the potential to become an incident, and take the necessary steps to reduce or eliminate them. At the same time, we prepare for, and are ready to respond to, an incident in the event that one occurs.

We routinely prepare and practise our emergency response to incidents such as an oil spill or a fire. We work closely with local emergency response crews and government organisations to regularly test our plans and procedures, with the aim of continually improving our readiness to respond. If an incident does occur, we have multiple recovery measures in place to minimise the impact on people and the environment.
We aim to build trust by engaging closely with communities.

Our projects and facilities are a part of many communities around the world. We aim to have a positive effect in those communities. Through our operations we create jobs and business opportunities that help to build or rejuvenate local economies, and support community development projects. We also work to incorporate the views of those living close to our operations when we make decisions that may affect them. This is a responsible approach that builds trust and makes good business sense: without community support, projects and facilities can experience delays and other challenges.

Shell has global operating standards and mandatory requirements that set out how we work with the communities our operations might affect. Each of our major projects and facilities must have a social performance plan that frames the way we work to minimise our impacts, engage with communities and share benefits.

When we plan a new project or changes to an existing facility, we talk to local communities and listen to their expectations and concerns as early as possible. Through the life cycle of our operations, we engage with local communities to identify their needs and opportunities for development. We work with indigenous peoples to preserve their way of life and culture, and learn from their traditional knowledge to improve the way we operate. Our approach includes guidelines on how to avoid the involuntary resettlement of communities.

Sharing the benefits of our operations means we also invest in community programmes in which our expertise can provide a positive and lasting impact. We focus on three global themes: enterprise development, road safety, and safe and reliable access to energy for the communities around us. We also have locally tailored programmes in areas such as community development, education, and biodiversity and conservation.
ENVIRONMENT

We aim to reduce the environmental impact of our operations.

Working to reduce the environmental impact of our operations takes rigorous planning. We focus on key areas including managing carbon dioxide (CO₂) emissions, using less energy and water, preventing spills, flaring less gas produced with oil, and conserving biodiversity.

We manage CO₂ emissions through using more energy-efficient technologies and processes, and by reducing flaring in our operations. We are developing a capability in carbon capture and storage. We aim to prevent spills through strict standards and by making sure that our facilities are well designed, safely operated and properly maintained.

The availability of fresh water is a growing challenge for the energy industry as developing new resources, such as tight gas, can be water intensive. Operating in water-scarce areas may bring operational and commercial challenges as regulations on water use tighten and the costs of using water increase. Shell is taking steps to better manage our use of water. We are using innovative approaches and advanced technologies in the design and operation of our facilities to reduce our use of fresh water, and to recycle more water.

When we plan a major project, or an expansion to an existing facility, we conduct an environmental impact assessment. As part of this we consider the potential effects on local biodiversity, and take steps to address them. Through our partnership with the International Union for Conservation of Nature (IUCN) we have developed eight action plans for major operations in areas of rich biodiversity, and we are developing plans in Iraq, Ireland, Kazakhstan, Nigeria and the UK.

Through our partnerships with leading environmental organisations we continue to find new ways to manage environmental challenges and improve the way we develop our projects.
CLIMATE CHANGE

The world faces the critical challenge of how to meet rising demand for the energy that powers economies, while urgently cutting the emissions of carbon dioxide (CO2) that energy use generates.

Shell is taking action in four areas: producing more natural gas, the cleanest-burning fossil fuel; helping to develop technologies to capture and store CO2; producing low-carbon biofuel; and working to improve the energy efficiency of our operations.

Natural gas
More than one-third of CO2 emissions from the energy system come from electricity generation, making it a priority to reduce greenhouse gas (GHG) emissions in the power industry. From production through to use in generating electricity, natural gas produces around half the GHG emissions compared to coal. This applies across a range of production, processing and transportation methods. Our production of natural gas is rising: in 2012 it accounted for almost half our production of energy resources.

Carbon capture and storage (CCS)
Shell is helping to advance CCS technologies in a number of projects. More government funding and a strong price on CO2 emissions are needed to move forward these projects for use in wider industry, as CCS projects currently generate no revenue for companies. In 2012, we began construction of our Quest CCS project in Canada, which will potentially store over 1 million tonnes of CO2 a year from our oil sands operations from around 2015.

Biofuels
Around 17% of global CO2 emissions from fossil fuels come from road transport. Shell believes low-carbon biofuels are one of the quickest, most practical routes to reducing CO2 emissions from the transport fuel mix in the next 20 years. Through our joint venture Raizén, Shell produces low-carbon biofuel: ethanol made from sugar cane in Brazil. We continue to work with partners to develop advanced biofuels for the future.

Energy efficiency
Shell has long-term multibillion-dollar programmes in place to improve the energy efficiency of our operations. These include our oil and gas production projects, oil refineries and chemical plants.
NATURAL GAS

The world needs more energy – and cleaner energy – to power economic progress while keeping the planet healthy for future generations. Shell is producing more natural gas, the cleanest-burning fossil fuel. We expect global demand for natural gas to increase by 60% by 2030, from its 2010 level. Shell is developing a number of long-term projects that will help meet this demand.

There are around 250 years’ worth of natural gas resources available for development at today’s rate of consumption. That significantly increases the potential to power economies with the cleanest and most affordable fossil fuel. Most of the natural gas we produce comes from conventional fields. Our projects provide valuable energy resources to countries worldwide and local employment to the communities where we work.

Tight gas
Shell produces tight and shale gas at a number of projects in the USA, Canada and China, and has started to explore for tight gas in Ukraine. The abundance of natural gas in North America today has reduced gas and electricity prices in the region, with lower energy costs boosting industry against competitors in other parts of the world. It has also benefited the environment: replacing coal with cheaper gas in many power stations has contributed to a fall in the USA’s carbon dioxide emissions. In 2012, we produced around 230,000 barrels of oil equivalent a day of tight gas in North America from four major projects.

Tight gas is natural gas trapped in dense rock in pores 100 times thinner than a human hair. It is produced with a process called hydraulic fracturing, or fracking, which uses large amounts of water – mixed with sand and small amounts of chemical additives – injected under high pressure to crack the rock deep underground and release the gas into the well. Fracking has been used for many decades. Its increased use in recent years has led to concerns among some communities about potential air and water impacts, and earth tremors.
Shell uses advanced, proven technologies and practices to make fracking safe. We have adopted a set of five global operating principles for our onshore tight oil and gas activities. The principles focus on safety, environmental safeguards, and engagement with nearby communities to address concerns and help develop local economies. We consider each project separately – from the geology to the surrounding environment and communities – and design our activities using the latest technology and innovative approaches best suited to local conditions.

**Liquefied natural gas (LNG)**
Shell pioneered LNG more than four decades ago as a way to transport natural gas from remote areas to distant markets. Cooling the gas to -162 °C turns it into liquid and shrinks its volume by 600 times, allowing us to ship it around the world. At its destination, the LNG is turned back into gas for our customers. Today, we are one of the largest LNG suppliers, with facilities worldwide. With the abundance of natural gas in North America, the industry is exploring new opportunities to export LNG to countries where it is needed.

Shell is developing an innovative approach to producing more natural gas from remote offshore locations. Our giant floating liquefied natural gas (FLNG) facility, under construction in South Korea, will combine production, processing and storage capacity without the need to build an onshore plant or lay a pipeline on the sea floor. FLNG allows access to offshore gas fields that would otherwise be too costly or difficult to develop.

LNG has been used as a fuel for LNG ocean tankers for several decades, but it is now emerging as a cleaner fuel for other forms of shipping and for road transport.

In 2012, we began constructing a small-scale production plant at the Jumping Pound complex in Alberta, Canada, to produce LNG for road transport. In early 2013, we announced plans to build two more small-scale plants to produce LNG for road transport in the US Great Lakes and Gulf Coast regions. We have further plans to provide LNG to power marine transport in the Gulf of Mexico in the future.

**Wind power**
Wind remains an important part of the current and future global energy mix. Shell has been developing wind power for more than a decade and is involved in 10 wind projects in North America and Europe. Our share of the energy capacity from these projects is 507 megawatts. Most of this comes from around 720 turbines at eight wind projects in the USA.

---

**REVENUE TRANSPARENCY**
Our operations generate revenue through taxes and royalties for governments around the world. These funds can help support a country’s economy and contribute to local development. We believe greater transparency in payments to governments, and how they are used, is important for building trust between businesses such as ours and the communities we work alongside.

In 2012, Shell paid globally $21.0 billion in corporate taxes, and $3.6 billion in royalties. We collected $85.1 billion in excise duties and sales taxes on our fuel and other products on behalf of governments.
For an energy company the Arctic poses many challenges. It’s an expensive and difficult place to operate. Many people feel that it should be left alone. Why does Shell want to explore off the coast of Alaska?

The world’s population is increasing, living standards are rising and economies need energy to grow. Yet in many regions, easy-to-access energy resources are scarce. To meet growing demand we need a mix of strategies, and we must develop all forms of energy, traditional and renewable. To make up for the decline in conventional oil and gas resources, we have to develop resources in new, more challenging locations. The nations of the Arctic have taken the decision to open up the region for offshore development and trust companies such as Shell to do it responsibly.

Some people think the risks of drilling for oil in the Arctic are too high. Can you credibly argue that the industry can manage the risks of operating in Arctic waters?

Yes we can. We must not forget that the industry has been conducting safe operations in the Arctic for decades – proof that the industry can manage the risks. Effective risk management is about improving safety by analysing what could go wrong, minimising the possibility of it occurring, and reducing the potential consequences. At Shell we have embedded this approach within our management system, and work continuously to enhance safety. Safe well operations demand highly competent people, strict safety procedures, and rigorous design, construction and maintenance standards for all equipment. Our number one priority is safety. Our entire approach to offshore drilling is based on preventing any incident that could lead to marine pollution and this means operating at the highest standards, with an intense focus and commitment to safety and the environment.

What are Shell’s plans for future exploration off Alaska?

Our Alaska exploration plans are a multi-year programme. In February 2013, we decided not to pursue drilling operations off Alaska in the summer of 2013. This decision will give us time to ensure the readiness of all our equipment and people. We are reviewing our future plans, and we continue to work closely with the US Coast Guard and US Department of the Interior. We have conducted an internal review of the events of 2012, as part of our normal business preparations, to learn from our experiences and improve our plans. Shell, working closely with US regulators, will continue to build an Alaska exploration programme that instils confidence in all concerned, and that meets the high standards the company applies to its operations around the world.

Read the full Q&A in the Shell Sustainability Report for 2012.
Shell is a pioneer in developing energy resources in deep waters. We introduced many of the advanced technologies, processes and safety procedures in use by the industry today.

In 2012, Shell’s share of global deep-water production was 330,000 barrels of oil equivalent a day. We continued to reach into ever-deeper, more challenging environments off the shores of Malaysia, the USA, Brazil, Nigeria and French Guyana. We also worked to develop these resources responsibly by reducing our impact on the environment and being a good neighbour to the coastal communities closest to our operations.

The Subsea Well Response Project, a consortium founded by nine leading companies, has designed and built a comprehensive capping system for use at depths of up to 3,000 metres. The project was set up, with Shell as the operator, to make vital equipment ready for deployment worldwide following the BP Deepwater Horizon tragedy in the Gulf of Mexico in 2010. It seeks to improve drilling safety and to minimise environmental impact in the event of a serious incident.

Canada’s oil sands can provide an important source of energy in the decades ahead, but they must be developed responsibly. For these resources to play an acceptable role in the energy mix, the industry needs to continue to reduce its environmental impact. With other companies, we are working on ways to improve the management of carbon dioxide (CO₂) emissions, water and land.

In 2012, we decided to go ahead with our Quest carbon capture and storage project, the first in an oil sands development. From around 2015, Quest is expected to capture and safely store deep underground over 1 million tonnes of CO₂ a year from the Scotford Upgrader.

We aim to reclaim land used in our oil sands mining to a condition that matches its state before mining, as required by the Alberta government. The land will be able to support local plants and animals, although it will not be the same as the previous landscape. We continue to work with local aboriginal communities to reduce the impact of oil sands development on traditional land use and culture.
This year I want to focus on just one topic: the massive and growing problem of oil theft and illegal refining in the Niger Delta. In 2009, the UN estimated that thieves were stealing around 150,000 barrels of crude oil a day from pipelines in the Niger Delta. In 2012, the Nigerian government said it believed that a significantly greater amount of oil was being stolen each day. This is costing the nation many billions of dollars a year in lost revenue.

It may never be possible to assess the exact figures, but it’s clear that a well financed and highly organised criminal enterprise exists on a phenomenal scale – a parallel industry with a supply chain to export crude oil overseas that includes loading and shipping operations. Most of the stolen oil ends up in ocean-going tankers that transport it to refineries in other parts of West Africa, Europe and beyond. Those involved – both in Nigeria and outside – mastermind this multibillion-dollar business using influence, corruption and violence to protect their interests.

There are also small-scale, makeshift refineries producing low-grade fuel for local use. These primitive operations cannot use the heavier parts of the crude, which is dumped, destroying the mangroves and riverside areas where these activities take place.

It’s also impossible to know how much of the stolen oil is spilled once it is taken from our facilities. But we can estimate that 26,000 barrels of oil were spilled in the area immediately surrounding our pipelines and other facilities in 2012, of which around 95% was the result of sabotage and oil theft.

Stemming and reversing this menace requires co-ordinated action, both at the national and local level inside Nigeria, and at a regional and international level outside Nigeria. We urgently need more assistance from the Nigerian government and its security forces, other governments and other organisations.

Greater efforts are required to boost economic development in the Delta to provide alternative livelihoods for those involved. And Nigeria needs to do more to encourage investment in the power sector to ensure reliable electricity supplies to reduce demand for illegally refined local diesel.

We have made great efforts to raise awareness of the issue with the government of Nigeria, international bodies like the UN, with civil society and with the media. Tackling oil theft and its causes is in the interests of the industry, the government, the environment and – most importantly – the people of the Niger Delta. We will continue to be at the forefront of discussions to find lasting solutions.

Read the full letter in the Shell Sustainability Report for 2012.
Cars allow many people to go about their daily lives. Trucks, ships and aircraft help economies to thrive. But as the number of vehicles on the roads rises and global trade increases, the need to find ways to reduce the environmental impact of transport becomes more critical. Shell works to develop more efficient fuels and lubricants that can help move the world’s growing number of people and goods by road, sea and air.

Shell supplies fuel to millions of drivers every day. Shell FuelSave petrol and diesel are our most efficient fuels to date. They are designed to help motorists save fuel by improving combustion in the engine and reducing energy loss.

In 2012, we started a programme to help an additional million people worldwide learn how to save fuel and reduce their fuel costs. Through the Shell FuelSave Target One Million campaign, consumers can access a series of online mini-games designed to improve their skills in saving fuel, such as using gears more effectively, conserving the car’s momentum and protecting the engine with the right motor oil.

Shell develops advanced lubricants for cars and trucks that can improve the efficiency of engines and help save fuel. We invest in research and development, and employ more than 200 scientists and engineers who work to improve our lubricants. We also work with partners, including major engine manufacturers. Shell Helix lubricant, for example, was developed through our technical partnership with Ferrari. The Shell Rimula range of heavy-duty engine oils includes products that can help truck, bus and coach drivers improve their fuel economy while protecting their engines.

The Shell Eco-marathon challenges student teams from around the world to design, build and test innovative, ultra-energy efficient vehicles. With annual events in the Americas, Europe and Asia, the winners are the teams that go the farthest using the least amount of energy. The events spark debate about the future of energy and road transport, and inspire young engineers to push the boundaries of fuel efficiency.
We produce low-carbon biofuel, distribute biofuels worldwide and continue to develop advanced biofuels for the future. Today, biofuels make up 3% of the global road transport fuel mix. This figure could rise to over 10% by 2050, according to our scenarios.

Shell is one of the world’s largest distributors of biofuels. In 2012, we used around 7.7 billion litres in our petrol and diesel blends worldwide. Raízen (Shell interest 50%) produces low-carbon biofuel – ethanol made from sugar cane in Brazil. This biofuel can reduce carbon dioxide (CO₂) emissions by around 70% compared to petrol, from cultivation of the sugar cane to using the ethanol as fuel. With an annual production capacity of around 2.2 billion litres, Raízen is one of the world’s largest ethanol producers.

RAÍZEN is continuously working to make its production processes more efficient and sustainable. It recycles by-products from cane crushing and ethanol distillation for use as natural fertilisers. It also uses waste sugar-cane fibres as fuel to generate electricity for the mills and delivers a surplus to the national power grid. Raízen works to continually improve crop yields so that more cane can be produced from the same area of land.

Bonsucro has developed the world’s first certification standard for the sustainable production of biofuels from sugar cane. In 2011, Raízen was the first company to achieve certification of a mill from Bonsucro. By the end of 2012, seven of Raízen’s mills had been certified. As a result, 23% of Raízen’s ethanol is now produced in line with the Bonsucro standard.

Raízen supports the work of the Brazilian government to implement effective land-use policies and to address concerns over sugar-cane production displacing other crops to areas with rich biodiversity. Raízen also supports government efforts to protect the land rights of indigenous peoples in Brazil.

The environmental benefits of biofuels vary. Overall CO₂ emissions can differ widely, depending on the raw materials used, as well as the production and distribution methods. Other challenges that need to be managed are competition for land, impact on biodiversity and local communities, and use of water.
In 2012, we continued to operate in ways that balance economic, environmental and social considerations in a responsible way. We maintained our strong investment in projects that will deliver energy resources for decades to come. We worked to maintain improvements in our safety record. We also continued to work to reduce our impact on the environment, to respond transparently to the views of our neighbours and to generate jobs and business opportunities for local economies. Read more details in the Shell Sustainability Report for 2012.

### DIRECT GREENHOUSE GAS EMISSIONS

<table>
<thead>
<tr>
<th>Million tonnes CO₂ equivalent</th>
<th>120</th>
<th>90</th>
<th>60</th>
<th>30</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>04</td>
<td>05</td>
<td>06</td>
<td>07</td>
<td>08</td>
</tr>
</tbody>
</table>

### TOTAL RECORDABLE CASE FREQUENCY (TRCF)

<table>
<thead>
<tr>
<th>Injuries per million working hours</th>
<th>3.0</th>
<th>1.5</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>04</td>
<td>05</td>
<td>06</td>
</tr>
</tbody>
</table>

### FLARING – UPSTREAM

<table>
<thead>
<tr>
<th>Million tonnes CO₂ equivalent</th>
<th>30</th>
<th>15</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>04</td>
<td>05</td>
<td>06</td>
</tr>
</tbody>
</table>

### SPILLS – OPERATIONAL [A]

<table>
<thead>
<tr>
<th>Volume in thousand tonnes</th>
<th>800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of spills</td>
<td>400</td>
</tr>
</tbody>
</table>

[A] Over 100 kilograms
This Shell Sustainability Summary is a short overview of the Shell Sustainability Report 2012. Refer to the Shell Sustainability Report 2012 for more details. In case of any inconsistencies, the Shell Sustainability Report 2012 prevails.

**FULL REPORT AVAILABLE AT:**
www.shell.com/sustainabilityreport