

2010 SUSTAINABILITY REPORT





## 2010 Performance Summary

#### **Key Data**

The following table provides a snapshot of our health, safety, environment, social and economic performance.

|   | 2008 | 2009 | 2010 |
|---|------|------|------|
| Employee total recordable injury frequency                  | 0.26 | 0.37 | 0.37 |
| Contractor total recordable injury frequency                | 1.27 | 1.04 | 0.80 |
| Production before royalties (mboe/d)                        | 250  | 243  | 246  |
| Company-wide production carbon intensity                    |      |      |      |
| (tonnes of CO <sub>2</sub> equivalent/m³ of oil equivalent) | 0.16 | 0.20 | 0.28 |
| Company-wide CO <sub>2</sub> equivalent (million tonnes)    | 3.81 | 4.72 | 6.34 |
| Number of reportable environmental spills                   | 114  | 127  | 83   |
| Number of environmental exceedances                         | 36   | 74   | 423  |
| Community investment (Cdn\$ millions)                       | 12.7 | 11.4 | 11.4 |
|   |      |      |      |

#### 2010 Highlights

Nexen employees and contractors delivered strong safety results, reducing the total recordable injury frequency rate (TRIF) by 16%.

Our Canadian Oil & Gas division was publicly verified for meeting the ethics, policies and codes of practice of Responsible Care®.

We launched "Reach Out"—a program to encourage employees to volunteer in their local communities.

Nexen was named one of the Global 100 Most Sustainable Corporations by *Corporate Knights* magazine.

#### 2010 Disappointments

Despite a year of otherwise strong safety performance, a contractor was fatally injured while working at our drilling operations in Yemen.

The Long Lake facility did not reach targeted production levels and operated with higher-than-forecast steam-oil ratios and higher greenhouse gas (GHG) intensity levels in 2010. We plan to drill more wells in higher-quality segments of the lease area to boost production and reduce GHG intensity.

The number of environmental exceedances increased over previous years, mostly due to nitrous oxides ( $NO_X$ ) exceedances at the Long Lake facility resulting from plant upsets. In the first half of 2011, we've reduced exceedances by over 50% by improving process reliability.

#### **Our 2011 Commitments**

Nexen is committed to an ongoing effort to improve our health, safety, environmental and social performance. The following are selected focus areas for 2011. We will report our progress against these plans in our next sustainability report.

#### **Health and Safety:**

- Initiate implementation of the "Lifesaving Rules" for safety to drive continual improvement in safety performance
- Advance the implementation of process safety standards across our business

#### **Environment:**

- Advance work to capture and verify waste and water data across the organization
- Continue the hydrometric assessment and monitoring program in the Horn River Basin

#### **Social Responsibility:**

- Update our human rights policy to reflect recent United
   Nations (UN) and multi-stakeholder developments in this field
- Complete a stakeholder relations good practice guide

# **About This Report**

Nexen Inc. is an independent global energy company based in Calgary, Canada. We are focused on three growth strategies: conventional exploration and development primarily in the North Sea, offshore West Africa and deepwater Gulf of Mexico; shale gas in Western Canada; and oil sands.

Offshore. Shale gas. Oil sands. Each contributes significant value to Nexen and each forms part of our long-term strategy for growth. These three operational areas have also generated the most interest and questions from our stakeholders. That's why we have chosen to focus on each of them more closely in this year's sustainability report. We review the value each brings to our company and examine some of the specific hurdles and challenges, as well as opportunities we face as we work to develop these resources responsibly. We then review, from a sustainability perspective, highlights of the past year in meeting those challenges.

This is the 15th year Nexen has opened our doors to invite our diverse audience of stakeholders to look at how we practice corporate responsibility. This summary of our health, safety, social, environmental and economic performance for the 2010 calendar year is intended to complement disclosure we provide in our 2010 Annual Report, Management Proxy Circular, Carbon Disclosure Project submission and corporate website.

Our 2010 sustainability report differs from previous reports in that it is being printed in summary form only. All previously reported data and additional coverage on our performance is available on our website. Our intent is to achieve a better balance between the annual data we report and relevant content that occurs outside the parameters of a once-a-year report.



Please visit www.nexeninc.com/ResponsibleDevelopment for more information.

**MESSAGE TO STAKEHOLDERS** 

THE WAY **WE WORK**  **OFFSHORE** 

**SHALE GAS** 

**OIL SANDS** 

**EXTERNAL** 



#### MESSAGE TO STAKEHOLDERS

# At Nexen, we're working to minimize the impacts and maximize the benefits of energy development.

Finding, extracting and delivering energy on a global basis is becoming a bigger challenge. Much of the easy oil is gone. If you want to be in oil and gas, you have to go into the deep water, riskier countries or unconventional resources. Nexen has sizeable interests in all three: from offshore UK, the Gulf of Mexico and West Africa to conventional oil production in Yemen, oil sands production in northern Alberta and shale gas in northeast British Columbia.

Yet, regardless of where we develop energy, I'm proud of how Nexen's employees strive for excellence in execution and work to deliver results in a safe, efficient and responsible manner. We've created a culture that emphasizes personal accountability, proactivity and leadership—an approach I believe is helping us balance the environmental and social challenges that accompany significant industrial activity. We are good at building strong relationships and this is an increasingly important success factor for upstream companies like ours.

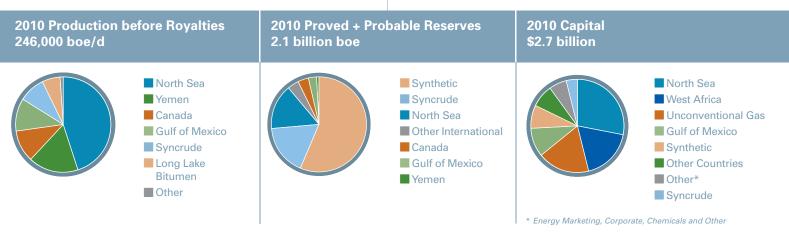


Marvin Romanow, President and Chief Executive Officer

In 2010, we continued to deliver strong safety performance across our operations. But despite our efforts, I am saddened to report that a contractor was fatally injured while working at our drilling operations in Yemen.

#### A Constructive Approach

Throughout 2010, I was encouraged to see a high level of cooperation and collaboration across our business. In a world where people want secure and reliable forms of energy, working constructively—with industry peers, with governments, with Aboriginal and local community leaders and others—creates more successful outcomes.



For example, as an active participant in the Horn River Basin Producers Group in northeast BC, we've shared information about our development plans, pooled resources for infrastructure and minimized our industry's collective development footprint.

Similarly, through the Oil Sands Leadership Initiative (OSLI), Nexen teamed up with four like-minded companies committed to improving sustainability performance. We've introduced an accelerated reclamation initiative called Faster Forests, which has seen 600,000 trees planted in the oil sands region in northern Alberta. OSLI initiatives are driving improvements in energy efficiency which is integral to managing greenhouse gas (GHG) emissions. Together, we are working to reduce dependence on freshwater resources and lower our overall impact on the landscape, wildlife and neighbouring communities.

#### **Reducing Risk, Improving Practices**

Nexen is the only Canadian independent oil company active in the Gulf of Mexico and we felt the impact of last year's Deepwater Horizon disaster. It was a tragic event—one resulting in the loss of 11 lives and significant economic and environmental impacts.

Following this event Nexen, like all of our offshore industry peers, reviewed our operating procedures—in the Gulf, as well as in the UK and offshore West Africa. As a result, I believe that today our company and our industry have better operating and HSE practices driven by well design, better casing design, better communication between companies and stronger emergency response capabilities.

I am pleased to report that in 2011, Nexen received drilling permits for the Appomattox well and we were the first company to receive a permit for an exploration well at our Kakuna prospect. We are excited to be back drilling in the deepwater Gulf of Mexico, which is a key component of our significant resource potential.

The issue of climate change continues to be a challenge for government, industry and consumers alike. Nexen has been an industry leader in the public policy arena through our work with governments and other stakeholders. We believe the world needs energy and climate change policies that are fair, transparent and provide clarity for companies, shareholders and the public.

There's no question that 2010 saw a marked increase in Nexen's GHG emissions. Part of that increase was due to expanded production at Long Lake, as well as higher-than-expected steam-oil ratios (SOR) that have resulted from poorer than expected well performance. We plan to drill more wells in higher-quality segments of the Long Lake lease. As those wells are drilled and brought on-stream, we expect both SOR and GHG intensity to decrease. The Long Lake facility combines SAGD recovery with on-site upgrading. It's an innovative, highly efficient complex that extracts the maximum amount of energy out of every barrel of bitumen, and the gasification process enables the facility to be largely energy self-sufficient.

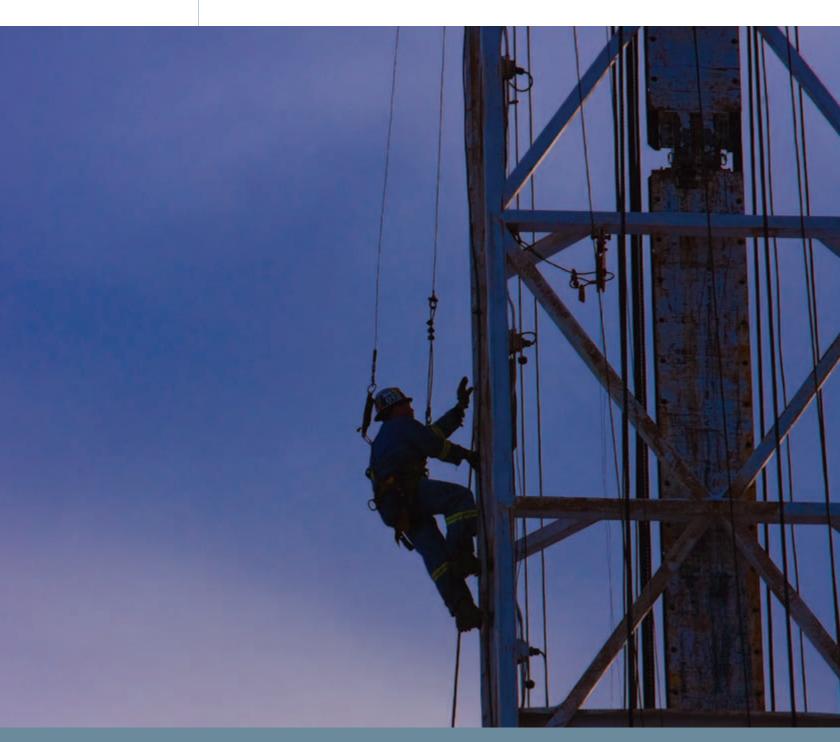
At Nexen, we believe technological innovation and focusing on energy efficiency are key to delivering continued improvement in our operations and our emissions profile. It's also important to recognize that the oil sands industry is responsible for just 0.1% of global GHG emissions. Efforts to effectively transition to a lower carbon future will require a suite of solutions and the involvement of individual consumers, governments and industry.

We are confident that each of the strategic resource areas we are concentrated in will deliver lasting value to our stakeholders. Our company has a diverse portfolio of opportunities, a talented workforce to realize them and a strong foundation of values to guide their responsible development.

Marvin Romanow President and Chief Executive Officer

# The Way We Work

At Nexen, we believe the way we work is as important as the results we deliver.



Ongoing leadership and training drives continual improvement in Nexen's safety performance and reinforces the ethical and transparent expectations we hold for business behaviour.

#### RESPONSIBLE DEVELOPMENT

# A culture of personal accountability and leadership.

#### INTEGRITY AND TRANSPARENCY

In early 2010, we introduced "How We Work: Our Integrity Guide". The document is our code of conduct and provides clear guidelines and expectations for the Nexen way of doing business. Our Integrity Resource Centre launched a road show to all our operations in support of the document, providing a series of opportunities for our employees to question and engage in open discussions about integrity at work. More than 1,740 managers, employees and contractors from Nexen's operations in Canada, the United States, the United Kingdom, Colombia and Yemen participated in 93 interactive workshops.

| Reported and Substantiated Integrit    | y Inciden | ts   |      |
|--|-----------|------|------|
| Category                               | 2008      | 2009 | 2010 |
| Misuse of Computer Assets              | 6         | 5    | 5    |
| Employee Relations                     | 5         | 3    | 3    |
| Theft                                  | 6         | -    | 1    |
| Breach of Confidentiality              | 1         | 1    | 1    |
| Conflict of Interest                   | 1         | 3    | 1    |
| Falsification of Business Records      | _         | _    | 1    |
| Vandalism/Violence                     | 1         | 1    | _    |
| Community Affairs                      | _         | 1    | _    |
| Fraud                                  | 1         | _    | -    |
| Solicitation for Gifts & Entertainment | 1         | _    | _    |
| Human Rights                           | _         | _    | -    |
| Total                                  | 22        | 14   | 12   |

Reported and substantiated integrity incidents declined in 2010. Of the 12 substantiated reports, none were rated high risk and one was rated medium risk. We continue to encourage employees and other stakeholders to speak up if they have an integrity-related concern.

In the final quarter of 2010, Nexen initiated a third-party evaluation of our new integrity guide. US-based ethics and compliance consulting firm Corpedia gave our guide an "A" rating, placing us within the top 1% when benchmarked against 1,400 other codes of conduct, and within the top 2% for the energy and utilities sector.

#### **Integrity Compliance**

In 2010, there were 12 substantiated breaches of our Integrity Guide compared to 14 in 2009. The majority of these incidents relate to improper computer use, conflicts of interest and improper use of confidential information. All incidents were investigated and rectified.

#### **Anti-Corruption Activities**

No country is immune to the threat of corruption. Nexen attempts to reduce the potential for such occurrences by providing risk-based Prevention of Improper Payments training for employees who interact with foreign government officials and foreign offices.

Another way Nexen is contributing to the fight against corruption is by serving on the Yemen Extractive Industries Transparency Initiative. We also lend support to the UN Global Compact's (UNGC) Anti-Corruption Working Group and played a lead role in the June 2010 publication of the UNGC's Fighting Corruption in the Supply Chain: A Guide for Customers and Suppliers.

We continue to support the Chair of Business Ethics at the University of Calgary. The chair supports local business in addressing ethical concerns and provides business ethics training for University of Calgary students.

Early in 2011, Transparency International recognized Nexen among the leaders in its *Promoting Revenue Transparency, 2011 Report on Oil and Gas Companies*. The report examines 44 leading global oil and gas producers in their reporting practices, including reporting on anti-corruption programs and the organizational and country-specific disclosure of financial, technical and operational information.

Company-wide information sessions accompanied the introduction of "How We Work: Our Integrity Guide", which provided employees with greater context about Nexen's expectations for business conduct, as well as the opportunity for dialogue.



Payment of taxes and royalties shares the resource value with the host country; in some cases governments reduce royalties and/or taxes to stimulate industry activity.

| Royalties Paid              |       |      |      |
|-----------------------------|-------|------|------|
| (Cdn\$ millions)            | 2008  | 2009 | 2010 |
| Yemen                       | 970   | 514  | 564  |
| Canada                      | 290   | 125  | 113  |
| United States               | 91    | 38   | 34   |
| United Kingdom <sup>1</sup> | _     | _    | _    |
| Other                       | 19    | 6    | 6    |
| Total                       | 1,370 | 683  | 717  |

<sup>1</sup> In the United Kingdom, new discoveries are not subject to royalty.

Cash taxes paid in 2010 increased due to stronger commodity prices during the year.

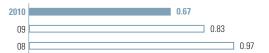
| Cash Income Taxes <sup>1</sup> |      |      |       |
|--------------------------------|------|------|-------|
| (Cdn\$ millions)               | 2008 | 2009 | 2010  |
| Yemen                          | 274  | 148  | 166   |
| Canada                         | 2    | 1    | _     |
| United States                  | (43) | 5    | (13)  |
| United Kingdom                 | 650  | 632  | 1,005 |
| Other <sup>2</sup>             | (24) | (10) | (26)  |
| Total                          | 859  | 776  | 1,132 |

<sup>1</sup> Negative amounts represent tax refunds accrued

#### **HEALTH AND SAFETY**

In 2009, we delivered our best-ever combined employee/contractor safety performance. In 2010, we improved upon this record, reducing the company's total recordable injury frequency rate (TRIF) from 0.83 to 0.67. Nexen achieved this 19% decrease primarily through a significant reduction in contractor TRIF.

Total Recordable Injury Frequency Company-wide (TRIF) (combined employee/contractor per 200,000 exposure hours)



Nexen demonstrated continued improvement in employee and contractor safety performance in 2010.

Despite these improved results, in 2010, a contractor fatality occurred on a service rig at our Masila Block in Yemen. Emergency teams responded immediately to the incident, but tragically, the worker succumbed to his injuries. A second worker received minor injuries. An independent investigation leader conducted the post-incident investigation to identify its cause and integrate the findings into our operations. Improvements have been made in training, operations controls and scrutiny of the job observation program.

The integration of Process Safety Management (PSM) into our operations is a good example of our efforts at ongoing safety improvement. Work continued throughout 2010 to further integrate

In 2010, we recorded our best-ever combined employee/contractor safety performance. Nexen's Health, Safety, Environment & Social Responsibility (HSE&SR) Management System is designed to continually review and improve our processes, with a focus on risk identification and reduction.

<sup>2</sup> Includes discontinued operations of \$5 million for 2010 (2009 – \$3 million, 2008 – \$2 million).



Nexen's Balzac gas plant northeast of Calgary has safely produced sour natural gas since 1961, and in 2010 began the process of decommissioning. The Balzac plant was the first Nexen facility to adopt the Responsible Care® commitment, receiving verification in 2002.

six corporate PSM standards in our operations. PSM targets the reduction of process safety incidents, which are defined as unplanned or sudden hazardous releases of material or energy from a process that could result in harm to people, the environment or assets.

The 2010 Deepwater Horizon incident in the Gulf of Mexico brought to the foreground some important questions for the oil and gas industry and our stakeholders about risk management, emergency preparedness and spill response. At Nexen, we took the opportunity to work with our contractors, regulators and peers to reinforce and enhance environmental and safety measures across our offshore operations. For more information, refer to page 8.

# Canadian Oil & Gas Division Earns Responsible Care Verification

In October 2010, Nexen's Canadian Oil and Gas (COG) Division was publicly verified by the Chemistry Industry Association of Canada (CIAC) for its successful commitment to meeting the ethic and codes of practice of Responsible Care®. COG has become the third Nexen operation to be verified, following our Balzac and Yemen facilities.

Responsible Care is a commitment to continuous improvement in all aspects of a company's environmental, health and safety performance, and to ensure openness about our activities and achievements.

#### **COMMUNITY INVESTMENT**

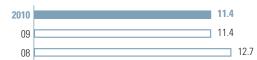
In 2010, Nexen continued the roll-out and consolidation of our new community involvement strategy, called Reach Out—Giving, Matching, Helping.

Through grants and donations, Nexen's Reach Out activities in 2010 totaled \$11.4 million. Funding for partnerships with post-secondary institutions with linkages to our operating areas is a key program component. In 2010, Nexen made an endowed

gift of \$1.5 million over five years to establish the Nexen Chair in Catalytic Reaction Engineering at the University of Alberta. A significant component of our educational support continues to be the Yemen Scholarship Program, a post-secondary scholarship initiative that has awarded a total of 130 scholarships to Yemeni students since its inception.

#### **Community Investment**

(Cdn\$ millions)



Partnerships with post-secondary institutions with linkages to our operating areas and scholarship funding make up a major portion of Nexen's giving budget.

In Nigeria, Nexen invested \$190,000 in 2010 in several community, health care, environment and education-related initiatives. Projects included upgrading the Lagos University Teaching Hospital's Pediatric Unit, an e-library project, a biodiversity study in a rare montane ecosystem and the Street Child Care and Welfare Initiative.

In 2010, employees in Canada, the US and the UK applied to have \$883,000 of their charitable contributions matched through Nexen's gift-match program.

Nexen's employee volunteer program encourages engagement through volunteer grants, volunteer days and team-building initiatives. In 2010, a total of 180 employees applied for \$146,000 in volunteer grants. Individuals volunteer at least 40 hours of personal time to recognized charitable organizations or amateur sports associations to qualify.

For additional performance data and information, please visit www.nexeninc.com

# Offshore

Offshore development is a key component of Nexen's growth strategy and we are ready to handle the unique risks associated with offshore oil and gas.



The 2010 installation of a production sweetening facility has enhanced Nexen's ability to process naturally occurring hydrogen sulphide in the oil produced from our Buzzard platform, offshore United Kingdom.

### OFFSHORE GULF OF MEXICO AND THE UK NORTH SEA

# The source of half of our total production.

#### STRATEGIC RESOURCE VALUE

In 2010, Nexen allocated more than 55% of our \$2.7 billion capital budget to offshore activities—a clear indication that offshore exploration and production is an essential part of our business strategy.

Our offshore activities are concentrated in three world-class basins: the UK North Sea, the deepwater US Gulf of Mexico and offshore West Africa, and in 2010 contributed more than half of the 246 mboe/d we produced.

In the UK, Nexen acquired the Buzzard and Scott/Telford assets in 2004 and over the past six years we have doubled our reserves, while becoming the second largest offshore producer of oil in the UK. More recently, Nexen made a major discovery in the Golden Eagle area. It's one of the largest finds in the UK North Sea in the past decade.



Offshore West Africa, Usan is a long-term project that Nexen has been involved with as a non-operating partner. Usan features a new floating production, storage and offloading unit to recover significant oil volumes, 36,000 boe/d (net to Nexen), and is targeted to come on stream in 2012.

Nexen's long-term growth strategy includes the US Gulf of Mexico, where we have made sizeable investments to explore and develop prospects, and where we are the only independent Canadian oil and gas company currently operating. Our plans include testing exploration prospects to further delineate and appraise our two major discoveries at Appomattox and Knotty Head, as well as explore new acreage.

#### **OFFSHORE CHALLENGES**

The safety and protection of workers and the marine environments in which we operate are key offshore priorities. Offshore energy development presents a series of unique risks—among them, the remote nature of the drilling locations, harsh weather conditions and the logistical challenges that come with operating a selfcontained complex in deepwater ocean environments.

Governments, regulators, industry and contractors are working together to promote improved safety for workers and Nexen has a strong operating and policy interest in contributing to the improvement of overall industry standards.

Nexen works closely with contractors to ensure offshore drilling rigs, equipment and safety training meet stringent standards.

We conduct thorough acceptance testing prior to operating new drilling rigs and ensure our partners and contractors understand and comply with Nexen's health, safety and environmental requirements.



#### **New Regulations**

Since the Deepwater Horizon incident occurred in 2010, the Presidential Commission report on the incident was finalized in January 2011, and the moratorium on drilling in the Gulf has been lifted. In 2010, the US Bureau of Ocean Energy Management, Regulation and Enforcement introduced new regulations governing drilling activities in the Gulf of Mexico. Among them are increased requirements for well bore integrity, blowout prevention, well control equipment, personnel training, rig safety and spill response.

Nexen and our industry peers have learned a number of lessons from this event. We used the temporary drilling hiatus in the Gulf wisely, scrutinizing the offshore risks and our operating procedures across the company and made the following changes:

- We hired additional environmental compliance specialists to ensure that our Gulf of Mexico operations will meet the new US regulations.
- We strengthened our oil spill response, planning and capacity by joining the Helix Well Containment Group.
- We obtained membership in the Marine Spill Response Corporation and maintained membership in Clean Gulf Associates, extending both our far offshore and near shore protection capabilities.
- We are upgrading the blowout preventers (BOPs) on the Ensco 8501 and 8502 rigs to meet the American Petroleum Institute's Recommended Practice 65 for well drilling specifications.

Our standards will meet the new US regulations. We are pleased to have received drilling permits for the Appomattox appraisal well and Kakuna exploration wells in the deepwater Gulf in July 2011.

#### **Incident Factors**

The offshore industry has a strong track record, drills thousands of wells every year, and safely and efficiently recovers millions of barrels of hydrocarbons. Similarly, Nexen has earned a reputation as an experienced offshore operator who has safely drilled numerous shallow and deepwater wells.

The National Oil Spill Commission investigation (http://www.oilspillcommission.gov/final-report) into the key causes behind the 2010 Gulf of Mexico oil spill revealed a number of contributing factors. Nexen has reviewed these findings to ensure that operating practices across all our operations address these specific areas, from both a technical and management perspective.

#### RESPONSIBLE OFFSHORE DEVELOPMENT

At Nexen, we believe drilling in the Gulf of Mexico is safer today because of the lessons learned and new practices put in place.

#### **Strong Safety Systems**

Nexen's Health, Safety, Environment & Social Responsibility (HSE&SR) performance is company-wide and part of an embedded culture that emphasizes integrity, leadership and personal accountability. All employees and contractors are expected to work safely and stop work if they see unsafe activities. Our HSE&SR

Nexen has earned a reputation as an experienced offshore operator and we've safely drilled numerous shallow and deepwater wells in the Gulf of Mexico and the UK North Sea.



Ensuring offshore workers have the latest safety equipment is a priority at Nexen. In 2010, Nexen's UK Operations introduced the Survival-One 1000 series survival suit for employees who travel via helicopter to offshore rigs. Nexen is the first company in the UK North Sea to use the suits that feature state-of-the-art technology which provides a superior thermal rating. The suits extend the likelihood of survival in the water to four to five hours.

framework is supported through an extensive program of audits and inspections, safety and environmental training for employees and contractors, and tools for sharing lessons and best practices across our global operations.

In recent years, Nexen has enhanced our emergency preparedness systems, including adoption of the incident command system (ICS) model of emergency management in our Gulf of Mexico operations. (Our UK operations employ a similar, broadly aligned system). ICS uses a simplified command structure to effectively manage complex and extended emergencies and includes coordination among private sector, regulatory agencies and government first responder agencies.

#### **Well Design Review**

The importance of clear, continual communication and decision-making throughout the entire spectrum of engineering, design and operating processes is an important lesson from the Gulf incident. Nexen conducts internal peer reviews of these processes, and has supplemented this practice by engaging outside resources to independently review and certify our well designs. This includes verification of casing and cement design, the presence and integrity of dual barrier protection and verification of blowout prevention design and capability.

#### **Surface Spill and Subsea Containment Response**

To reduce risk and improve industry response, it is important to collaborate and share resources and expertise in emergency situations. Nexen participates in a number of organizations designed to pool offshore response equipment and personnel, and added to this in 2010 by joining the Marine Spill Response Corporation and the Helix Well Containment Group.

Nexen is a member of the following offshore industry emergency response organizations:

- Clean Gulf Associates (US)
- Helix Well Containment Group (US)
- Marine Spill Response Corporation (US)
- Oil Spill Prevention and Response Advisory Group (UK)
- Oil Spill Response Limited (Global)
- SEACOR (US)

#### **UK North Sea Initiatives**

In 2010, Nexen's UK division focused on reducing the number of hydrocarbon loss of containment events by heightening awareness of their importance, modifying specific work responsibilities and devoting full-time resources to the issue.

Another initiative designed to reinforce hazard awareness across Nexen's offshore UK staff was the staging of workshops at the Spadeadem Test Site—one of the world's leading explosion test sites. Close to 200 Nexen employees and contractors participated in sessions designed to highlight the risks and proper practices associated with handling volatile hydrocarbons.

#### **Offshore West Africa**

Nexen has a 20% interest in a project being developed offshore of Nigeria. In accordance with Nexen's HSE&SR Management System, stewardship programs are implemented to ensure HSE&SR principles and standards are addressed in all projects. As a non-operator of the project, Nexen staff meet regularly with the operating company to ensure their operations are aligned with Nexen's HSE&SR standards.

For more information on Nexen's offshore operations, please visit www.nexeninc.com/operations.

# Shale Gas

Collaboration and technical innovation are key to minimizing industry's cumulative footprint in the Horn River Basin.



Nexen is promoting greater understanding of the Horn River Basin's watershed through a multi-year hydrometric assessment and monitoring program. Its intent is to manage our use of water based on a thorough understanding of the watershed.

#### SHALE GAS IN NORTHEAST BC

# Trillions of cubic feet of contingent recoverable resource.

#### STRATEGIC RESOURCE VALUE

Enormous volumes of natural gas are concentrated inside the tightly bound shale rock formations found near Fort Nelson in northeast British Columbia. This unconventional resource is plentiful, but until the last decade, has been challenging to extract due to the low permeability of the rocks.

Today, with significant technological steps forward, the Horn River Basin, Canada's most prolific shale gas play, is a new and important resource for BC. Natural gas is a lower emission fuel and future demand and markets for this resource are positioned for growth.

Natural gas is also an important component of Nexen's long-term growth strategy. Since 2006, Nexen has acquired the rights to more than 300,000 acres in the Horn River, Cordova and Liard basins. Our contingent recoverable resource and prospective resource in the Horn River, Cordova and Liard basins is estimated at between 9 and

Fort Nelson

Fort St. John
Dawson Creek

British
Columbia

Shale Gas Basins

Nexen's shale gas resource plays in northeast British Columbia are focused in the Horn River, Liard and Cordova basins.

38 trillion cubic feet (tcf). Please refer to our press release dated November 15, 2010 for more information on these estimates.

As an early entrant to this rugged, remote region, Nexen has successfully translated these significant resource opportunities into tangible value. In the coming years, shale gas could represent as much as 20% of Nexen's total production and potentially double our proved reserves. Realizing these opportunities requires Nexen to contribute to the development of a sensible and responsible framework for shale gas development—one that addresses the current regulatory uncertainty concerning carbon taxes, as well as issues such as how and where to add pipeline infrastructure and facilitate export of liquefied natural gas to expanding overseas markets. We will continue to work with the provincial and federal governments as they address future GHG issues that may result from shale gas development.

We also continue to develop and improve technologies like multi-stage hydraulic fracturing and horizontal drilling and introduce innovations to minimize their potential impacts. And, as the foundation to all of our activity, we seek the best ways to inform and engage with local stakeholders.

#### **SHALE GAS CHALLENGES**

Water use, hydraulic fracturing and minimizing the overall development footprint are the key shale gas challenges Nexen and other producers are working to address.

#### **Operational Infrastructure**

The Horn River Basin is the most active of the three shale gas basins Nexen operates within, however the entire region remains largely undeveloped. Shale gas production requires construction of roadways to provide access for the equipment and people that are involved—from initial seismic exploration through well site clearing and construction, drilling and completion and ongoing production. Additional activities include the installation of pipeline corridors, gas gathering and processing facilities and other associated infrastructure.

In June 2010, Nexen hosted an open house at Fort Nelson First Nation (FNFN) Chalo School, where we shared our winter 2011 development plans with the community. More than 200 people attended the meeting.



#### **Surface Water Use**

Water use is another central challenge in responsible shale gas development. Shale gas producers require water during drilling and completion activities, which is derived largely from surface water sources, including rivers, lakes and streams. The resulting produced water also requires safe disposal.

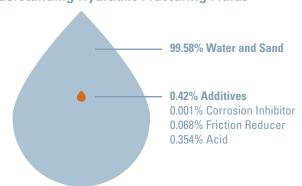
In BC, the use of surface water must be approved under the *Water Act* and is regulated by the British Columbia Ministry of the Environment. Water source wells and disposal well activity for oil and gas producers are legislated through the *Oil and Gas Activities Act* and regulated by the British Columbia Oil and Gas Commission.

Nexen is working to better understand the impacts of surface water use in this region and find alternatives, such as the use of underground saline aquifers to supplement surface water withdrawals.

#### **Hydraulic Fracturing**

Hydraulic fracturing is the process of injecting high-pressure water and sand into reservoirs through a secured well bore to crack the rock, creating pathways for the gas to flow. The sand is used

#### **Understanding Hydraulic Fracturing Fluids**



Over 99% of the fracturing fluids used in Nexen's Horn River operations are water and sand. Small amounts of additives are mixed with the water and sand to enhance the effectiveness of the fracturing process and are customized for each well.

to prop open the rock, and the injected water is produced first, followed by the gas. Our industry has been using fracturing technologies for more than 50 years. Concerns about the potential for groundwater contamination and questions about the safety of chemicals used in fracturing fluid mixtures have been raised in shale gas producing jurisdictions. Regulations in BC and Alberta are in place and are stringent. They call for well set backs from water sources and a combination of both surface and production casing, which are fully cemented, providing protective, impermeable barriers from water sources.

#### **Biodiversity**

Minimizing impacts to the rich biodiversity found in the northern boreal region also continues to be an important focus. The woodland caribou is an endangered species that has been impacted by forestry, mining and oil and gas industry encroachment on the boreal forest habitat in this region, resulting in their increased vulnerability. Nexen is conducting research and contributing to a provincial plan addressing caribou concerns.

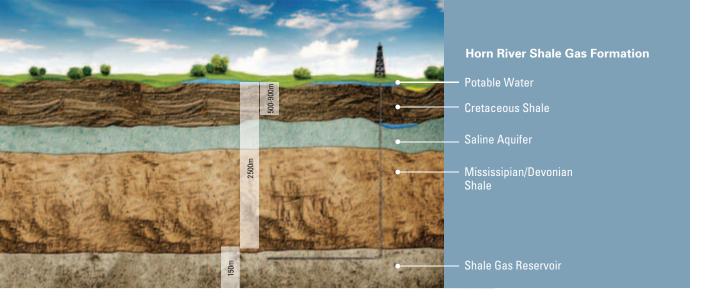
#### Consultation

Fort Nelson First Nation (FNFN) and the Town of Fort Nelson are the communities in closest proximity to shale gas activity in the Horn River Basin. We consult on an open and timely basis about development plans, their potential impacts and employment and business opportunities.

#### RESPONSIBLE SHALE GAS DEVELOPMENT

#### **Horn River Basin Producers Group**

Nexen is a founding member of the Horn River Basin Producers Group, created in 2007 to promote a coordinated approach to the region's shale gas activities. The 11 member companies pool information at the early stages of development to avoid overbuilding and reduce environmental disturbance. For example, Nexen and other producers partnered on the Komie Road, a shared access road, instead of building three separate roadways. Companies also build pipeline corridors alongside roadways to reduce forest clearing and consolidate infrastructure.



#### **Footprint Management**

Nexen has incorporated a variety of footprint mitigation strategies into our shale gas development plans. Enhanced environmental constraints mapping is used to identify potentially sensitive areas so that they are avoided from the outset. Low-impact seismic practices and reduced right of way widths are other ways we strive to take only what is needed from the forest floor.

#### **Horizontal Drilling & Multi-Well Pads**

The use of horizontal drilling from multi-well pads concentrates our drilling activities in fewer, more centralized locations and improves the overall efficiency of our operations. By drilling from a single pad, the number of access roads and other physical impacts to land are greatly reduced. Prior to single pad drilling, each well site needed its own access road and land clearance. Consolidating activity in fewer locations also boosts efficiency and ultimately enables producers to extract larger hydrocarbon volumes with less overall impact.

#### **Water Monitoring**

Nexen is contributing to better understanding of surface water, shallow groundwater and deep saline water sources in northeast BC's shale gas producing regions. Since 2008, in support of our application for a long-term water allocation license, Nexen has been working on a water monitoring research initiative in Horn River Basin, in cooperation with provincial and federal regulators. Ultimately, our water research efforts are expected to strengthen a regional database for the watershed that will enhance existing modeling and provide the basis for better decision-making when it comes to licensing and managing of water resources for industrial users.

In addition, Nexen has invited the Fort Nelson First Nation (FNFN) to subject our water study to an independent, third-party scientific review and is planning to provide training so FNFN members can become involved in ongoing water monitoring initiatives.

#### **Groundwater Resources**

In 2010, Nexen advanced testing of a groundwater aquifer as a potential alternative to fresh surface water use. The aquifer was identified as part of a collaborative research effort through GeoscienceBC, supported by the Horn River Basin Producers Group and the BC Government.

Nexen is also leading a regional groundwater monitoring initiative in partnership with the Ministry of Environment to monitor both the quality and quantity of shallow groundwater in the Horn River Basin.

#### **Caribou Study**

Since 2008, Nexen has participated in a baseline caribou habitat study in the Horn River area to enlarge our understanding of their habitat use patterns, which we apply to our resource development plans. In addition, we are contributing to the development of the BC Government's Boreal Caribou Management Plan.

#### **Economic Opportunities**

Providing economic opportunities to people and businesses in the Horn River area is a priority for Nexen. Through the Horn River Basin Producers Group, Nexen participates in annual trade shows and Energy Expos that bring together producers, vendors and potential employees. We also stage workshops for local contractors, and provide funding for relevant industry-related training that will open doors to employment and business contracts.

For more information on Nexen's shale gas operations, please visit www.nexeninc.com/operations.

# Oil Sands

An emphasis on energy efficiency defines Nexen's approach to responsible development of the oil sands.



Long Lake's innovative upgrading technology delivers a high quality, low-sulphur refinery feedstock or diluent supply.

#### OIL SANDS

# Long-term production horizon.

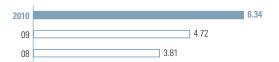
#### STRATEGIC RESOURCE VALUE

The oil sands are the world's second largest hydrocarbon basin. Abundant, secure and long term, they offer tremendous potential. As much as 1.7 trillion barrels are estimated to be buried in the Athabasca, Cold Lake and Peace River deposits of Alberta and Saskatchewan, Canada. An estimated 175 billion barrels are deemed recoverable with today's technology.

Nexen is positioned in more than 290,000 acres of bitumen-rich lands in the Athabasca region, where we own 65% of the integrated Long Lake oil sands facility located southeast of Fort McMurray, Alberta. Nexen's other major oil sands investment is our 7.23% interest in Syncrude's oil sands mining operation located northeast of Fort McMurray.

Long Lake's production, upgrading and cogeneration facility uses the proprietary OrCrude<sup>™</sup> process to convert bitumen into Premium Synthetic Crude (PSC) oil. It is currently producing approximately 30,000 bbls/d, and we plan to drill more wells in higher quality segments of the lease area to reach the upgrading capacity of 60,000 bbls/d of PSC oil.

# Company-wide CO<sub>2</sub> Equivalent Emissions (million tonnes)



The increases beginning in 2008 are primarily related to commissioning of the Long Lake SAGD/upgrader project.

The Long Lake facility is designed to run on an almost entirely energy self-sufficient basis and recycle more than 90% of its produced water. Horizontal steam assisted gravity drainage (SAGD) wells are drilled from centralized well pads to minimize the surface footprint and Nexen has conducted accelerated reclamation to re-establish the boreal forest landscape.

Moving forward, Nexen is planning to develop Kinosis, the next phase of this development.

#### **OIL SANDS CHALLENGES**

Creating the basis for a factual and open dialogue about oil sands and where they fit in the world's energy mix is a key challenge. Despite the amount of attention the oil sands have received in recent years, a great deal of misinformation and misunderstanding persists. Our industry recognizes the need to do a better job of demonstrating what we are doing to minimize impacts to land, air, water and communities.

#### **Surface Land Impact**

Canada's oil sands have been under development for more than four decades, yet less than one-tenth of one per cent of Canada's boreal forest has been disturbed by oil sands development. Most oil sands deposits lie too deep under the surface to be mined and will be extracted using SAGD or other in situ technologies. This approach closely resembles conventional oil and gas development from a surface disturbance perspective.

#### **Greenhouse Gas Emissions**

Canada's oil sands are an important source of new oil at a time when global energy demands are increasing and conventional oil is becoming more difficult or riskier to develop and market. While the development of less energy- and GHG-intensive forms of alternative energy is important, it is also evident that oil will continue to serve as one of the primary sources of fuel for the foreseeable future, with oil sands playing an important role.

The OrCrude™ unit at Nexen's Long Lake integrated oil sands facility is central to the proprietary upgrading technology, which produces one of the highest quality, low-sulphur synthetic crude oils to come from Canada's oil sands.



The past year was challenging for Nexen's GHG emissions performance. Compared to 2009, our company-wide carbon dioxide ( $CO_2$ ) equivalent emissions rose 34%—an increase primarily attributed to our Long Lake oil sands operations.

Part of that emissions increase was due to higher-than-expected steam-to-oil ratios (SOR). However, three other factors also contributed to Long Lake's higher GHG emissions profile—increased production; the use of syngas (rather than natural gas) for most of the site's energy needs; and flaring of syngas during plant upsets.

The technology choices that Nexen made for Long Lake a decade ago are well-suited for long-term success. By pioneering gasification technology, we took a portion of the bitumen barrel and converted it into a syngas to fuel our operations, reducing the need for external sources of natural gas and getting the most energy value out of each barrel of bitumen. The value of this technology rises with higher gas prices.





Long Lake's  ${\rm CO_2}$  equivalent emissions more than doubled in 2010, primarily due to increased steam generation.

While syngas enables the facility to run on an almost completely energy self-sufficient basis, it has a higher carbon content and therefore emits more  $\mathrm{CO}_2$  than natural gas. However, using syngas and the  $\mathrm{OrCrude^{TM}}$  process creates a high quality, low-sulphur product, which partially offsets emissions at the refining stage elsewhere, while keeping higher value-added processing in Alberta.

Nexen recognizes that better management of GHG emissions is an important policy and business issue that's critical to ensure our long-term success as an energy producer. Nexen's emission management strategy includes:

- seeking technological solutions;
- participating and developing expertise in carbon markets;
- investing in renewables; and
- engaging in public policy discussions on climate change.

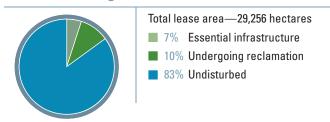
#### Water Use for SAGD and Upgrading

Nexen designed Long Lake to use saline groundwater (which is not used for human or agricultural purposes) to create steam for the SAGD operations. During start-up of our facility, we have been using fresh water, and are currently transitioning to saline groundwater. The facility is designed to recycle more than 90% of Long Lake's produced water, as well as other waste streams. The value-added upgrading process at Long Lake requires fresh water, which is currently drawn from groundwater sources.

As oil sands activity increases, producers recognize the need for a more comprehensive understanding of the regional watershed in the Wood Buffalo region. Nexen, along with other industry members,

Advancing technology and a focus on reservoir performance will drive continued improvement in Nexen's Long Lake oil sands operations, as well as its emissions profile and overall development footprint.

#### Land Use at Long Lake



To date, about 7% or 2,100 hectares of Long Lake's lease area has been impacted by our SAGD development activities and contains processing facilities, roads and well pads, leaving 83% undisturbed and 10% which is currently undergoing reclamation.

is contributing to the federal and provincial government-led enhancement of the comprehensive ground and surface water monitoring program in the Fort McMurray area.

#### RESPONSIBLE OIL SANDS DEVELOPMENT

#### **OSLI—The Oil Sands Leadership Initiative**

Nexen is a founding member of OSLI—a network of progressive, like-minded oil sands operators working collaboratively to improve the environmental, social and economic performance of the oil sands industry.

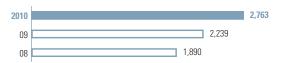
OSLI is focused on working within its membership and with local communities to accelerate tangible examples of industry progress on environmental, social and economic performance. OSLI companies collaborate by sharing best practices. One OSLI initiative involved winter planting of black spruce seedlings, to help members gain a better understanding of how to reclaim bogs and wetlands disturbed by oil sands activity.

OSLI is also supporting the Start Smart program being delivered to students at Father R. Perin School in Janvier, which is located near the Long Lake facility. Start Smart focuses on the importance of high energy activity and good nutrition to support brain health and success in school.

OSLI has five working groups covering land stewardship, sustainable communities, water management, technology breakthrough, and carbon management and energy efficiency.

#### Fresh Water Withdrawn and Consumed 1,2—Long Lake

(thousand m³ per year)



- 1 Water withdrawn and consumed includes total non-saline fresh surface and groundwater withdrawn and consumed (excluding run-off) for industrial use under license for 2008/2009
- 2 Excludes drilling and completion activities in 2008/2009 reporting years

Throughout 2010, as the ramp-up of the Long Lake facility continued, water use increased by 23%, to create greater steam volumes necessary to build bitumen production volumes.

#### **Environmental Exceedances**

In 2010, Nexen experienced an increase in environmental exceedances. A significant part of this increase was due to the complex integration of technologies at Long Lake, resulting in air exceedances over permitted levels, particularly nitrous oxides (NO<sub>x</sub>). We have taken actions to reduce these emissions and have reduced our exceedances by over 50% in the first half of 2011.

#### **Leading-edge Bitumen Recovery Research**

In 2010, the Climate Change and Emissions Management Corporation awarded funding of \$16.4 million for a clean technology joint venture called the Enhanced Solvent Extraction Incorporating Electromagnetic Heating (ESEIEH). Nexen is one of the four companies in the ESEIEH consortium, which will explore the combination of enhanced solvent extraction and electromagnetic power transmission for recovering in situ bitumen resources. This approach has the potential to greatly reduce the two major inputs—water and fuel for steam generation—most frequently employed by SAGD producers today. A field pilot test of the technology is being developed. If successful, ESEIEH has the potential to significantly reduce greenhouse gas emissions from SAGD processes.

For more data on our oil sands operations, please visit www.nexeninc.com/operations.

# External Reviews

Involving external advisors/stakeholders, listening to their input and considering their recommendations has been a part of Nexen's sustainability reporting practice since 2003.

#### **Environmental, Social and Governance Advisors**



**Dayna Linley**Associate Sustainability Analyst
Jantzi-Sustainalytics
Toronto, ON



Andrew Logan
Director, Oil & Gas and Industry
Programs
Ceres
Boston, MA

#### Offshore Advisors



**Dr. Steve Grigson**Honorary Research Fellow
School of Life Sciences
Heriot-Watt University
Edinburgh, UK

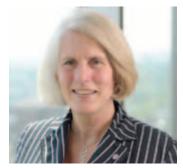


**Dr. Karlene Roberts**Professor Emeritus
University of California - Berkley
Haas Management of
Organizations Group
Berkley, CA

#### Oil Sands Advisors



Dr. George Dixon
Professor
VP University Research
University of Waterloo
Waterloo, ON



Kim Sturgess CEO and Founder Alberta WaterSmart Calgary, AB

#### **Shale Gas Advisors**



**Dr. Roger Slatt**Gungoll Chair in Petroleum
Geology and Geophysics
University of Oklahoma
Norman, OK



**Doug Walker**President
BC Nature Trust
North Vancouver, BC

"We are generally impressed with Nexen's approach to Environmental, Social and Governance (ESG) management and commend the company for its ongoing commitment to push the boundaries in engaging external advisors/stakeholders to improve sustainability management and disclosure."

(excerpt from Expert Advisory Group's Statement)

## **Advisory Group Statement**

For the eighth consecutive year, Nexen invited a diverse group of stakeholders to contribute to the development of our sustainability report. This group provided valuable input that helped improve our disclosure. The group was designed, organized and facilitated by Stratos Inc., a Canadian-based sustainability consultancy.

#### **EXPERT ADVISORY GROUP PERSPECTIVES**

#### **Process**

Nexen invited a group of experts to review and provide comments on how the company is managing environmental, social and governance (ESG) risks across three of Nexen's key operational assets—oil sands, shale gas and offshore development. We also provided comment on an early draft of the 2010 Sustainability Report.

We had access to internal documents about Nexen's ESG management, visited the Long Lake oil sands operations, interviewed three local stakeholders, and met with a range of Nexen staff and executives responsible for managing ESG both corporately, and within each operational asset. We comment on areas of strength and opportunities for improvement. Our views are expressed as individuals, not on behalf of our organizations. Our review did not include verification of the accuracy of performance data or interviewee comments.

Members of the Expert Advisory Group (EAG) were offered an honorarium in recognition of our time and expertise, payable to us individually or to an organization of our choice. Nexen also paid for all expenses related to our travel and accommodations.

#### **EAG Perspective on Cross-Cutting Issues**

We believe that Nexen has in place the policies, plans and procedures that provide the foundation for the robust management of ESG risks within each operational asset. This perspective is strengthened by observations of a values-based culture focused on integrity, safety, transparency and industry collaboration. We would also like to highlight Nexen's:

- scientific approach to and use of innovative technology in the management of environmental risk;
- board review of ESG incidents, near misses, and emergency response plans; and
- what appears to be a strong community engagement program, including effective community relations, local employment policy, and thoughtful community investments.

There are always areas for improvement and we feel that to strengthen its management of ESG risks, Nexen should:

- formalize the process by which ESG risk information is integrated at a corporate level to encourage cross-organizational learning and informed decision making;
- develop an integrated environmental management strategy (i.e., water, energy, waste) for each operation to facilitate the management of trade-offs and the minimization of overall environmental impact;
- continue to strive towards public ESG goals, targets and benchmarking performance, as identified by previous Advisory Groups, in order to help stakeholders measure Nexen's management of ESG risks; and
- significantly enhance its climate change mitigation efforts given Nexen's planned expansion of carbon-intensive unconventional energy.

#### **EAG Perspective on ESG Risk Management in Oil Sands**

Two of Nexen's major risks from an economic sustainability perspective are the heightened global anti-oil sands campaigns and operational challenges in meeting production goals at the Long Lake oil sands facility. Despite this, the Oil Sands EAG members feel that Nexen is managing its oil sands-related ESG risks.

Evidence of this exists in the facility design (i.e., environmental benefits associated with a first of its kind integration of Steam Assisted Gravity Drainage (SAGD) and upgrader technology), and operations (i.e., strong safety culture and commitment to continual improvement). However, Nexen's risk management is dependent on the operation of this technology providing a decreased environmental footprint. The effectiveness of this strategy, and the technology, will only become clearer with time. We would also like to highlight the following:

- Risks associated with access to water are being mitigated through collaboration with industry, government, and community stakeholders, and the exploration into non-traditional water sources.
   We feel that once the system is fully operational, Nexen will be in a better position to strongly manage the use and treatment of water. We encourage Nexen to make its water management strategy more ambitious than simply to "comply with all relevant international, national, regional laws and regulations".
- Nexen has successfully minimized most traditional waste streams at Long Lake, and has found secondary markets for others as an alternative to landfill.

- Nexen has a strong relationship with surrounding communities
  as a result of its hiring of local individuals as community liaison
  officers, its employment policy, local habitation policy, and
  investment strategy. Nexen is also working to reduce cumulative
  traffic impacts in the region.
- A complicated, but important issue, where Nexen could look to play a more significant role, is the better management of cumulative impacts associated with transient labour in local communities.

#### **EAG Perspective on ESG Risk Management in Shale Gas**

While there are certainly areas for improvement, overall, Shale Gas EAG members feel that Nexen is managing ESG risks associated with its shale gas operation, but feel that Nexen should improve its articulation and communication of 'worst-case scenarios' and response plans. We would also like to highlight the following:

- We recognize Nexen's leadership in working with the Horn River Basin Producers Group (HRBPG) in a collaborative approach to address industry's potential cumulative impacts, both positive and negative.
- Nexen is leveraging the latest technology and investing in research to effectively minimize the use of water. It should also continue to develop its approach to disclosing the composition of hydraulic fracturing fluids as this will remain an issue of concern to stakeholders and a reputational risk. We further encourage Nexen to continue to find ways to reduce the use of water and toxicity of fracturing chemicals. The development of public-facing goals and targets in this area is advised.
- We commend Nexen's science-based approach to gathering baseline information on wildlife populations, and in complementing this with information from Aboriginal Peoples.
   We saw evidence that Nexen applies this information by shutting down operations during the caribou calving season, for example.
- Nexen clearly sees community and Aboriginal engagement as a long-term investment. The public perception of shale gas operations remains a key risk, and we encourage Nexen to better highlight its innovation and commitment to safety in its approach to public engagement and communication.

#### **EAG Perspective on ESG Risk Management in Offshore**

Offshore EAG members are impressed with how comprehensively Nexen is thinking about ESG issues and proactively trying to manage its risks. We support the company changes and industry collaboration taking place as a result of the lessons learned from the Gulf of Mexico oil spill. We would also like to highlight the following:

- The large percentage of contractors and sub-contractors working on Nexen's offshore rigs can make it difficult to create a proactive ESG culture. Nexen has a number of processes in place to manage this risk and appears to work to create a culture of feedback, learning, and safety (i.e., one in which anyone can shut down operations if there are concerns). We encourage Nexen's continued diligence in this regard.
- While Nexen has implemented strong management of change processes, these are not equally applied in joint ventures in which Nexen is not the operator. We believe this is a risk and encourage Nexen to continue to work proactively with its partners.
- Nexen appears to go beyond compliance in its environmental survey work and understanding the impact of its operations on the marine environment. We recognize Nexen's obligation is to meet regulations, but encourage Nexen to: ensure these proactive practices are applied across its worldwide offshore operations; deepen the integration of knowledge across offshore assets; and work to standardize best practices across operations (e.g., the management of drill cuttings and produced water discharges).
- Nexen should continue striving towards the use of environmentally friendly chemicals, where operationally feasible and safe to do so.
- We feel that Nexen is proactively addressing spill prevention and management, but encourage the company to revisit its major spill scenario to address a case in which oil from its UK operations reaches the coast.
- Nexen should further develop its offshore social responsibility strategy, engage with stakeholders, and continue its successful volunteer program which encourages workers to integrate into local communities.

We are generally impressed with Nexen's approach to ESG management across its operational assets and would like to commend the company for its ongoing commitment to push the boundaries in engaging external advisors/stakeholders to improve sustainability management and disclosure.

Nexen Expert Advisory Group June 30, 2011

## **Independent Assurance Report**

To the Board of Directors and Management of Nexen Inc. ("Nexen")

We have reviewed selected quantitative indicators (the "Subject Matter") presented in Nexen's Sustainability Report (the "Report") for the year ended December 31, 2010. We did not review all information included in the Report.

#### **Subject Matter**

We reviewed the selected qualitative indicators listed below set out in this Independent Assurance Report:

- CO<sub>2</sub>-equivalent emissions;
- Production carbon intensity;
- Fresh water withdrawn and consumed in onshore assets;
- Reportable environmental spills;
- Environmental exceedances;
- Employee total recordable injury frequency;
- Contractor total recordable injury frequency;
- · Combined total recordable injury frequency;
- Employee lost time incident rate;
- · Percentage of Yemeni national employees;
- Employee engagement score;
- Voluntary employee turnover rate;
- Community investment;
- Active employees attending improper payments workshop;
- Active employees attending integrity guide roadshow; and
- · Reported and substantiated integrity incidents.

The selected quantitative performance indicators were chosen by Nexen primarily on the basis of perceived external stakeholder interest. We did not review the narrative sections of the Report, except where they incorporated the Subject Matter.

#### Responsibilities

Nexen management is responsible for the collection and presentation of the Subject Matter set out in the Report. Our responsibility is to express a conclusion, based on our assurance procedures, as to whether anything has come to our attention to suggest that the Subject Matter is not presented fairly in accordance with the relevant criteria.

#### **Methodology & Assurance Procedures**

We conducted our work in accordance with the International Standard on Assurance Engagements (ISAE) 3000, "Assurance Engagements Other than Audits or Reviews of Historical Financial Information", issued by the International Federation of Accountants. As such, we planned and performed our work in order to provide limited assurance with respect to the Subject Matter.

We obtained and evaluated evidence using procedures including:

- Interviewing relevant Nexen management and staff responsible for data collection and reporting;
- Obtaining an understanding of the management systems, processes, and controls used to generate, aggregate and report the data:
- Reviewing relevant documents and records on a sample basis;
- Testing and re-calculating quantitative information related to the selected performance indicators on a sample basis;
- Assessing the information collected for completeness, accuracy, adequacy and consistency; and
- Reviewing and discussing the final version of the Report with Nexen Management to confirm that it reflected our findings.

Our evidence-gathering procedures were more limited than required for a reasonable assurance engagement and, consequently, we do not express an audit opinion on the Subject Matter.

We carried out our work on the Subject Matter at Nexen's offices in Calgary, Long Lake and the United Kingdom. Information relating to other operations was collected and reviewed at the Calgary head office. Our assurance criteria comprised the Global Reporting Initiative Sustainability Reporting Guidelines (2006), industry standards, and Nexen's internal management definitions as disclosed in the Report, informed by relevant regulations. Our assurance team included individuals with backgrounds and experience in environment, health and safety, social and economic assurance.

#### Conclusion

Based on our work as described in this report, nothing has come to our attention that causes us to believe that the Subject Matter is not, in all material respects, presented fairly in accordance with the relevant criteria.

Pricewaterhouse Coopers LLP

PricewaterhouseCoopers LLP Calgary, Canada September 28, 2011

## **Reporting Guidelines**

This report provides a snapshot of Nexen's sustainability performance. Our website, www.nexeninc.com, will house more information and we will update our performance more frequently.

We continue to use the Global Reporting Initiatives G3 Guidelines. We also consider reporting guidance provided by the Canadian Association of Petroleum Producers (CAPP), the Chemistry Industry Association of Canada's Responsible Care® Ethic and

Principles for Sustainability, IPIECA's Oil and Gas Industry Guidance on Voluntary Sustainability Reporting, and the United Nations Global Compact.

A content index prepared in accordance with GRI G3 Application Level B+ is available on our website at www.nexeninc.com. This index will assist readers in locating information corresponding to selected GRI and API/IPIECA indicators.

This report has been prepared using the Global Reporting Initiative's (GRI) G3 Sustainability Reporting Guidelines. We self-declare this report as achieving Application Level B+. For more information on the GRI visit www.globalreporting.org.

## **Awards and Recognition**

We are proud of the awards and recognition we receive. They help us benchmark against other companies, confirming what we do well and where we can improve. Most importantly, they reflect what we value—experienced and energized talent, high-quality disclosure, sound governance, strong community consultation, responsible environmental stewardship and strong safety performance.

#### Canada's Top 100 Employers

from Mediacorp Canada for Best Employer for New Canadians and Best Diversity Employer

#### **Corporate Reporting Award of Excellence**

from the Canadian Institute of Chartered Accountants (CICA) for top governance disclosure across all sectors

#### **Corporate Reporting Award of Excellence**

from CICA for top financial, governance, electronic and sustainability disclosures in oil and gas

#### **Top 50 Socially Responsible Corporations**

by Maclean's magazine and Jantzi Sustainalytics

#### **Best Sustainability Report**

from Oilweek magazine/ATB Financial for top sustainability report overall

## Global Ranking Corporate Governance 10 out of 10

from GovernanceMetrics International for governance disclosures and practices

#### **Global 100 Most Sustainable Corporations**

from Corporate Knights magazine

#### **Goldman Sachs SUSTAIN Report**

ranked first among upstream oil and gas companies for environmental, social and governance management

#### Carbon Disclosure Project

2010 Carbon Disclosure Leader

#### **CAPP Steward of Excellence Award**

from the Canadian Association of Petroleum Producers for the social performance of the Horn River Basin Producers Group

#### Top 50 Corporate Citizens in Canada

from Corporate Knights magazine

## **Associations**

Nexen participates in a number of industry associations and multi-stakeholder initiatives to share information and promote best sustainability practices. These include:

CAPP Responsible Canadian Energy Program

Carbon Disclosure Project

Clean Gulf Associates (US)

Horn River Basin Producers Group

International Association of Oil & Gas Producers

IPIEC/

London Benchmarking Group (LBG) Canada

Oil & Gas UK

Oil Sands Leadership Initiative

Responsible Care®

United Nations Global Compact

World Petroleum Council

## Forward-Looking Statements

Certain statements in this report constitute "forward-looking statements" (within the meaning of the United States Private Securities Litigation Reform Act of 1995, as amended) or "forwardlooking information" (within the meaning of applicable Canadian securities legislation). Such statements or information (together "forward-looking statements") are generally identifiable by the forward-looking terminology used such as "anticipate", "believe", "intend", "plan", "expect", "estimate", "budget", "outlook", "forecast" or other similar words and include statements relating to or associated with individual wells, regions or projects. Any statements as to possible future crude oil, natural gas or chemicals prices; future production levels; future royalties and tax levels; future capital expenditures, their timing and their allocation to exploration and development activities; future earnings; future asset acquisitions or dispositions; future sources of funding for our capital program; future debt levels; availability of committed credit facilities; possible commerciality of our projects; development plans or capacity expansions; the expectation that we have the ability to substantially grow production at our oil sands facilities through controlled expansions; the expectation of achieving the production design rates from our oil sands facilities; the expectation that our oil sands production facilities continue to develop better and more sustainable practices; the expectation of cheaper and more technologically advanced operations; the expected design size of our operations; the expected timing and associated production impact of facilities turnarounds and maintenance; the expectation that we can continue to operate our offshore exploration, development and production facilities safely and profitably; future ability to execute dispositions of assets or businesses; future sources of liquidity, cash flows and their uses; future drilling of new wells; ultimate recoverability of current and long-term assets; ultimate recoverability of reserves or resources; expected finding and development costs; expected operating costs, future cost recovery oil revenues from our Yemen operations; the expectation of negotiating of an extension to certain of our production sharing agreements; the expectation of our ability to comply with the new safety and environmental rules enacted in the US at a minimal incremental cost, and of receiving necessary drilling permits for our US offshore operations; future demand for chemicals products; estimates on a per share basis; future foreign currency exchange rates, future expenditures and future allowances relating to environmental matters and our ability to comply therewith; dates by which certain areas will be developed, come on stream or reach expected operating capacity; and changes in any of the foregoing are forward-looking statements. Statements relating to "reserves" or "resources" are forward-looking statements, as they involve the implied assessment, based on estimates and assumptions that the reserves and resources described exist in the quantities predicted or estimated, and can be profitably produced in the future.

All of the forward-looking statements in this report are qualified by the assumptions that are stated or inherent in such forward-looking statements. Although we believe that these assumptions are reasonable, this list is not exhaustive of the factors that may affect any of the forward-looking statements and the reader should not place an undue reliance on these assumptions and such forward-looking statements. The key assumptions that have been made in connection with the forward-looking statements include the following: that we will conduct our operations and achieve results of operations as anticipated; that our development plans will achieve the expected results; the general continuance of current or, where applicable, assumed industry conditions; the continuation of assumed tax, royalty and regulatory regimes; the accuracy of the estimates of our reserve volumes; commodity price and cost assumptions; the continued availability of adequate cash flow and debt and/or equity financing to fund our capital and operating requirements as needed; and the extent of our liabilities. We believe the material factors, expectations and assumptions reflected in the forward-looking statements are reasonable, but no assurance can be given that these factors, expectations and assumptions will prove to be correct.

The forward-looking statements are subject to known and unknown risks and uncertainties and other factors which may cause actual results, levels of activity and achievements to differ materially from those expressed or implied by such statements. Such factors include, among others: market prices for oil and gas; our ability to explore, develop, produce, upgrade and transport crude oil and natural gas to markets; ultimate effectiveness of design or design modifications to facilities; the results of exploration and development drilling and related activities; the cumulative impact of oil sands development on the environment; the impact of technology on operations and processes and how new complex technology may not perform as expected; the availability of pipeline and global refining capacity; risks inherent to the operations of any large, complex refinery units, especially the integration between production operations and an upgrader facility; availability of third-party bitumen for use in our oil sands production facilities; labour and material shortages; risks related to accidents, blowouts and spills in connection with our offshore exploration, development and production activities, particularly our deepwater activities; direct and indirect risks related to the imposition of moratoriums, suspensions or cancellations of our offshore exploration, development and

production operations, particularly our deepwater activities; the impact of severe weather on our offshore exploration, development and production activities, particularly our deepwater activities; the effectiveness and reliability of our technology in harsh and unpredictable environments; risks related to the actions and financial circumstances of our agents, counterparties, contractors, and joint venture parties; volatility in energy trading markets; foreign currency exchange rates; economic conditions in the countries and regions in which we carry on business; governmental actions including changes to taxes or royalties, changes in environmental and other laws and regulations including without limitation, those related to our offshore exploration, development and production activities; renegotiations of contracts; results of litigation, arbitration or regulatory proceedings; political uncertainty, including actions by terrorists, insurgent or other groups, or other armed conflict, including conflict between states; and other factors, many of which are beyond our control. The impact of any one risk, uncertainty or factor on a particular forward-looking statement is not determinable with certainty as these factors are interdependent, and management's future course of action would depend on our assessment of all information at that time. Although we believe that the expectations conveyed by the forward-looking statements are reasonable based on information available to us on the date such forward-looking statements were made, no assurances can be given as to future results, levels of activity and achievements. Undue reliance should not be placed on the forward-looking statements contained herein, which are made as of the date hereof and, except as required by law. Nexen undertakes no obligation to update publicly or revise any forwardlooking statements, whether as a result of new information, future events or otherwise. The forward-looking statements contained herein are expressly qualified by this cautionary statement. Readers should also refer to the Risk Factors contained in our 2010 Annual Information Form, and to the Quantitative Disclosures about Market Risk and our Forward Looking Statements contained in our 2010 Management Discussion and Analysis, available under our profile on SEDAR at www.sedar.com.

#### Resources

The resource estimates contained in this report were made on September 30, 2010 and were prepared by qualified reserves evaluators. The estimated contingent and prospective resources in this report reflect all of our low, high and best case of recoverable resources. A "best estimate" is the best estimate of the quantity of resources that will actually be recovered. It is equally likely that the actual quantities recovered will be greater or less than the best estimate. Those resources that fall within the best estimate have a 50% confidence level that the actual quantities recovered will equal or exceed the estimate. The 'low estimate' and 'high estimate' are considered to be conservative and optimistic estimates of resources with 90% and 10% confidence respectively. Nexen's estimates of contingent and prospective resources are based on definitions set out in the Canadian Oil and Gas Evaluation Handbook. Contingent resources are quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations using established technology or technology under development, but which are not currently considered to be commercially recoverable due to one or more contingencies. Prospective resources are quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects.

Contingencies on resources may include, but are not limited to, factors such as economic, legal, environmental, political and regulatory matters or a lack of markets. Specific oil sands contingencies precluding these contingent resources being classified as reserves include but are not limited to: project sanction, the cost and effectiveness of steam-assisted gravity drainage application, stakeholder and regulatory approvals, access to required services and infrastructure, oil prices and a demonstration of economic viability. There is no certainty that it will be commercially viable to produce any portion of these contingent oil sands resources.

Specific shale gas contingencies precluding these contingent resources being classified as reserves include but are not limited to: future drilling program and testing results, project sanction, the cost and effectiveness of fracing optimization, stakeholder and regulatory approvals, access to required services and field development infrastructure, gas prices and a demonstration of economic viability. There is no certainty that it will be commercially viable to produce any portion of these contingent shale gas resources. In the case of shale gas prospective resources there is no certainty that any portion of the resources will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the resources.

Readers should also refer to the "Cautionary Note to US Investors", "Cautionary Note to Canadian Investors", "Special Note to Canadian Investors" and "Cautionary Statement" on pages xxi and 34 of our 2010 Annual Report, available on our website at www.nexeninc.com, for additional information concerning reserves estimates and related disclosures and the differences between United States Securities and Exchange Commission and Canadian requirements.

# Learn More

This report summarizes Nexen's way of doing business, including our approach to health and safety, the environment and social responsibility. Find out more about Nexen's performance, plans and how we work at www.nexeninc.com or in any of these publications.

#### 2010 Annual Report

Contains our 2010 Annual Information Form, Management's Discussion and Analysis and Financial Statements.

#### 2011 Management Proxy Circular

Outlines Nexen's corporate governance practices, including our approaches to executive compensation and shareholder engagement.

#### Corporate Profile

Provides an overview of Nexen's assets and strategies, how we create value and how we work.

#### Contacts

Kelly Kowalchuk Vice President, Health, Safety, Environment & Social Responsibility kelly\_kowalchuk@nexeninc.com

#### Jeff Flood

General Manager, Social Responsibility jeff\_flood@nexeninc.com

COVER PRINTED ON FSC-Certified Productolith which contains 10% post consumer waste This project resulted in:

6 lbs water-borne waste not created

🗮 821 gal wastewater flow saved

91 lbs solid waste not generated

★ 1,368,500 BTUs energy not consumed

#### TEXT PAGES PRINTED ON

FSC-Certified Mohawk Options which contains 100% post consumer waste. This project resulted in:

\$\text{\$\tilde{\text{C}}\_{\text{\$\exititt{\$\texititt{\$\text{\$\text{\$\text{\$\text{\$\text{\$\tex{

120 lbs water-borne waste not created

\$\iff 17.699 gal wastewater flow saved



#### MOHAWK

equivalent to not driving 1,937 mi











