
Enbridge Corporate Social Responsibility

CSR Report

**2013 Corporate Performance
Data on Key Governance,
Environmental, Social and
Economic Subjects**

Enbridge Corporate Social Responsibility Report

- 3 Message from Al Monaco, President & Chief Executive Officer
- 5 Message from Linda Coady, Chief Sustainability Officer
- 7 About Enbridge
- 10 Governance and Compliance
- 15 Reporting Boundaries and Methodologies
- 18 Discussion of Significant Challenges and Our Response
- 22 Operational Risk Management
- 25 Innovation
- 29 Material Subject:
 - 29 Material Subject #1: Human Health and Safety
 - 31 Material Subject #2: Asset Integrity and Reliability
 - 34 Material Subject #3: Emergency Preparedness and Response
 - 37 Material Subject #4: Spills, Leaks and Releases
 - 40 Material Subject #5: Energy and Climate Change
 - 47 Material Subject #6: Stakeholder Engagement
 - 49 Material Subject #7: Aboriginal and Native American Rights and Engagement
 - 52 Material Subject #8: Employees
 - 58 Material Subject #9: Community Investments
 - 61 Material Subject #10: Supply Chain and Procurement Practices
 - 63 Material Subject #11: Economic Benefits
- 65 Global Reporting Initiative G3.1 Content Index
- 69 Forward-Looking Information
- 70 CSR Awards and Recognition
- 70 Acknowledgements
- 70 Contact Information

Visit www.csr.enbridge.com to learn more.

Message from Al Monaco, President & Chief Executive Officer

Dear Reader:

At Enbridge, we deliver the energy that North Americans rely on each day to heat and light their homes, fuel their transportation, and access the essential products and services they need to live their lives. We transport crude oil and natural gas, process and distribute natural gas, and generate and transmit electricity, including solar, wind and geothermal power.

In carrying out our work, it's our responsibility to manage our environmental, social and economic impacts and to be accountable for our performance. To that end, I'm pleased to present Enbridge's 11th annual Corporate Social Responsibility (CSR) Report, in which we report on our 2013 social and environmental performance, including the progress we made and the challenges we faced.

Last year saw our enterprise-wide portfolio of commercially secured projects increase to \$36 billion and our focus on the safety, reliability and innovation issues that are key to the future of our business grow even stronger.

The Operational Risk Management (ORM) section of this report discusses the structural and other organizational enhancements we've made to further build our culture so that we proactively identify and mitigate risks, and are relentlessly focused on our top priority: safety and operational reliability.

While we have mandatory obligations at all of our operations regarding independent audits and verification of our compliance with regulatory standards, achieving our ORM goal of top industry performance requires continual improvement and external advice on leading practices. As a first step towards transparent reporting on our progress under our ORM plan, we worked with a third-party expert in 2013 to review our approach to operational risk management.

We've received a clear message from our stakeholders that the safety and reliability of our business is highly important to them – as it is to us. That's why, in addition to describing what we do and reporting on our performance in these areas in our CSR Report, we also publish a separate report, our [Operational Reliability Review](#), focused exclusively on our activities and initiatives related to safety and reliability goals.

Innovation that helps accelerate solutions to local and global sustainability challenges is a key element in our business strategy. Many of our stakeholders want to know more about what we are doing on issues such as climate change, energy conservation, renewable energy, and social inclusion in the benefits generated by our business. In this report, we discuss the innovative technologies, projects and companies in which we're investing to help reduce our environmental footprint, expand the supply of renewable energy and contribute to local economic growth and prosperity.

We're also investing in new technologies for pipeline routing and for leak prevention and detection that are enabling us to build better, safer pipelines. We're helping our customers use energy wisely and, since 1995, have reduced GHG emissions from natural gas consumption by eight billion cubic metres. This is the equivalent of taking 2.9 million cars off the road for a year or meeting the energy needs of 2.6 million homes.

Although it's clear the world will need all forms of energy for the foreseeable future, our growing position as a leader in renewable energy reflects our drive to be part of the changing energy mix that will characterize the transition to a lower emissions economy. We're pursuing technologies that are enabling us to provide more and cheaper renewable energy. We're investing in companies, such as Hydrogenics Corporation and Temporal Power, that are developing new technologies that will help solve energy storage problems and enable us to combine conventional and renewable systems in interconnected networks for sharing and using energy.

In this report, we also discuss how we're engaging with communities, landowners, and Aboriginal and Native Americans. Enbridge is at the centre of a rapidly changing energy landscape and our company is being transformed by the lessons we're learning as part of that process. Though the vast majority of our projects and activities occur without comment or incident, some—such as our Northern Gateway Pipelines Project in B.C. and our Line 9 Reversal Project in Ontario and Quebec—have attracted broader public debate.

What's clear from that debate is that economic benefits alone are not enough to gain public support for energy development. Leadership on energy issues and leadership on environmental and safety issues are two sides of the same coin. We know that our future depends on our ability to interact with and respond to those affected by our projects and operations.

In 2013, we created the role of Chief Sustainability Officer (CSO) to provide oversight at an enterprise-wide level on all of our CSR strategies and activities. Our CSO reports quarterly to the CSR Committee of our Board. This new role reflects our belief that CSR is a fundamental component of our business strategy and the creation of value for our shareholders and stakeholders. Our CSO also has a mandate to increase our level of engagement, both internally and externally, in discussions regarding how we should deal with the impact of climate change on our decision making and investments.

A key objective for us in 2014 is to continue to evolve our CSR goals and our strategies for integrating them into our business and governance systems. We'll also continue to evolve our CSR reporting to make it more accessible and interactive. And we'll continue to take the steps necessary to ensure we fully understand the local and global dimensions of the sustainability challenges and opportunities that lie before us.

If you have thoughts on how we can improve this report, we'd like to hear from you. Please see the back cover of this report for contact information.

I'd like to thank everyone at Enbridge for their contribution to our CSR initiatives. Each day, our employees live our corporate values of Integrity, Safety and Respect, laying the foundation upon which we are building our social and environmental performance.

Sincerely,

A handwritten signature in black ink, appearing to read 'Al Monaco', written in a cursive style.

Al Monaco

April 2014

Message from Linda Coady, Chief Sustainability Officer

Dear Reader:

Enbridge adheres to a strong set of corporate values and has adopted and implemented core CSR policies and practices that help guide the company's decisions and operations. In mid-2013, I welcomed the opportunity to help take the company to the next level in its sustainability strategy and actions.

Since then I have been working with our business units, Executive Leadership Team, Board of Directors, partners and stakeholders to review our progress to date on our CSR initiatives, and to develop a multi-year plan for addressing new challenges and priorities. Deeper integration of social and environmental performance goals into business systems and governance is part of that plan, as is laying the groundwork for achieving third-party verification on key sustainability indicators.

I also have a mandate to broaden the company's engagement on the role Enbridge can play in addressing energy and climate change issues. We are a business that connects the upstream and downstream components in a number of major energy systems for oil and gas in North America. This means we have a unique opportunity to collaborate with the various components of our value chain on the role that CSR practices and market-based innovation can play in reducing carbon emissions and improving other aspects of environmental performance.

This report marks the first time Enbridge's annual CSR Report has been released with the company's annual Financial Report, and the first time that both reports cover the same year. It is a change that will enable us to improve the relevance of our CSR reporting and begin to take a more integrated approach to reporting on Enbridge's financial and non-financial performance.

This report also begins our transition to reporting under new guidelines developed by the Global Reporting Initiative (GRI). The GRI is an independent global body whose guidelines for corporate sustainability reporting serve as a widely accepted framework for disclosing and evaluating an organization's performance in key economic, environmental, social and governance areas.

In May 2013, the GRI introduced its fourth-generation reporting guidelines, the G4, which will replace its G3.1 guidelines. The G4 are aligned with other global sustainable development frameworks developed by the Organization for Economic Cooperation and Development (OECD), the United Nations Global Compact, and the United Nations Guiding Principles on Business and Human Rights.

Of particular significance to Enbridge, the G4 guidelines strengthen the need for reporters to focus on those subjects that are most relevant—or material—to their business and their stakeholders. This focus makes the engagement of internal and external stakeholders even more central to CSR reporting, and should improve the relevancy of corporate sustainability objectives and performance.

Transition to the G4 guidelines will become mandatory after December 31, 2015 for companies that want their reports to be GRI-compliant. Enbridge, like other companies, has chosen to partially adopt the requirements now to help identify and manage any gaps that will have to be addressed in the transition process.

As part of our transition to G4, beginning in late 2013, we strengthened our annual consultation on material issues to include a more formal assessment. We describe the methodology we used in this assessment in the Reporting Boundaries and Methodologies section of this report. In separate consultation sessions, representatives from our business units and stakeholder groups identified a total of 28 subjects as being relevant, with nine of these subjects being considered by both groups as highly relevant.

In addition to reporting on core sustainability performance areas such as Governance, Compliance, Innovation and Operational Safety and Reliability, this report focuses on those nine highly relevant subject areas, as well as three others: Energy and Climate Change; Supply Chain and Procurement Practices; and Community Investments. Beginning in June 2014, you'll be able to find performance information on all 27 subjects on our CSR website.

During this initial stage of our transition to G4, we're continuing to align our reporting with the G3.1 guidelines. Please see the GRI G3.1 Content Index in this report for a summary of the G3.1 Performance Indicators that we cover both in this report and in our online data sheets (which will be available in June 2014) at csr.enbridge.com.

I would like to thank our CSR Team and all of the Enbridge employees involved in putting together the data and information presented in our CSR reporting. Closing the time gap between our annual financial report and our annual CSR Report meant they had to produce two reports in less than one year. Their dedication to embracing world-class standards for sustainability performance and to documenting the company's progress on managing its environmental, social and economic impacts was very apparent during this transition process.

Sincerely,

A handwritten signature in cursive script that reads "Linda Coady".

Linda Coady
Chief Sustainability Officer

April 2014

About Enbridge

Enbridge Inc. is a leader in energy transportation and distribution in North America. We also have a significant and growing involvement in natural gas gathering, transmission and gas processing businesses, and an increasing involvement in electricity transmission and renewable energy.

As a *transporter* of energy, we operate the world's longest crude oil and liquids transportation system. In 2013, we delivered more than two billion barrels of crude oil and liquids through our systems to customers in Canada and the U.S.

As a *distributor* of energy, we own and operate Canada's largest natural gas distribution company and provide distribution services in Ontario, Quebec, New Brunswick and New York State.

As a *generator* of electricity, we have interests in more than 1,800 megawatts of renewable and alternative energy generating capacity and are expanding our interests in wind, solar and geothermal energy.

As of December 31, 2013, we had approximately 8,600 permanent and 2,700 temporary and contract employees in Canada and the U.S.

Operations and Assets

Our activities are carried out through the following business units: Liquids Pipelines; Major Projects; Gas Distribution; Gas Pipelines, Processing and Energy Services (Gas Transportation); Sponsored Investments; and Corporate.

Liquids Pipelines (LP) consists of common carrier and contract crude oil, natural gas liquids (NGLs) and refined products pipelines and terminals in Canada and the U.S., including the Enbridge System, the Enbridge Regional Oil Sands System, Southern Lights Pipeline, Spearhead Pipeline, Seaway Crude Pipeline interest and other feeder pipelines.

Major Projects (MP) is a centralized corporate function that provides service to all of Enbridge's business units. MP focuses on delivering Enbridge's capital program safely, on time and on budget, and operates based on a project-centric model that is supported by enhanced project management processes and systems.

Gas Distribution (GD) consists of natural gas utility operations, the core of which is Enbridge Gas Distribution Inc. (EGD), which serves more than two million residential, commercial and industrial customers, primarily in central and eastern Ontario. This business unit also includes natural gas distribution activities in Quebec, New Brunswick and northern New York State.

Gas Pipelines, Processing and Energy Services (Gas Transportation or GT) consists of investments in natural gas pipelines and processing facilities, renewable energy projects, Canadian midstream businesses, Enbridge's energy services businesses and international activities.

Investments in natural gas pipelines include Enbridge's interests in the U.S. portion of Alliance Pipeline (Alliance Pipeline U.S.), Vector Pipeline, and transmission and gathering pipelines in the Gulf of Mexico. Investments in natural gas processing include Enbridge's interest in Aux Sable, a natural gas fractionation and extraction business, and an interest in the development of the Cabin Gas Plant in northeastern B.C., and processing facilities connected to the Gulf of Mexico system. The energy services businesses manage Enbridge's volume commitments on Alliance and Vector Pipelines, as well as perform natural gas, NGL and crude oil storage, transport and supply management services, as principal and agent.

Sponsored Investments include Enbridge's 21.1 per cent combined direct and indirect ownership interest in Enbridge Energy Partners, L.P. (EEP); Enbridge's 21 per cent indirect ownership interest in Midcoast Energy Partners, L.P.; Enbridge's 66.7 per cent investment in the U.S. segment of the Alberta Clipper Project through EEP and Enbridge Energy, Limited Partnership (EELP); and an overall 67.3 per cent economic interest in Enbridge Income Fund (EIF), held both directly and indirectly through Enbridge Income Fund Holdings Inc. (EIFH). Enbridge manages the day-to-day operations of, and develops and assesses opportunities for, each of these investments, including both organic growth and acquisition opportunities.

EEP transports crude oil and other liquid hydrocarbons through common carrier and feeder pipelines and transports, gathers, processes and markets natural gas and NGLs. The primary operations of EIF include interests in renewable power generation projects, a crude oil and liquids pipeline and gathering system, crude oil contract terminals and storage caverns, and a 50 per cent interest in the Canadian portion of Alliance Pipeline (Alliance Pipeline Canada).

Corporate consists of Enbridge's investment in Noverco Inc. (Noverco) and 100 per cent ownership of the Montana-Alberta Tie Line electrical transmission project, new business development activities, corporate investments, and financing costs not allocated to the business units.

Stakeholders

The stakeholders to whom we are accountable include:

- Associations and civil society groups
- Customers
- Debt holders
- Employees, contractors, unions, Board of Directors
- Environmental and other non-governmental organizations
- Governments and government regulatory bodies in Canada and the U.S.
- Landowners
- Media
- Right-of-way communities
- Shareholders (retail and institutional investors)

It is important to note that, in Canada, project proponents such as Enbridge, and the Crown (the federal and provincial governments) recognize Aboriginal groups as being separate and distinct from stakeholders, and have a legal duty to consult with them.

Scope and Definition of CSR at Enbridge

Since 2004, we have had a [CSR Policy](#) covering business ethics and transparency; environment, health and safety; stakeholder, Aboriginal and Native American relations; employee relations; human rights; and community investment. This policy applies to activities undertaken anywhere in the world by, or on behalf of, Enbridge and our subsidiaries and affiliates, whose operations we manage.

As we state in the policy, we define CSR as: conducting business in a socially responsible and ethical manner; protecting the environment and the safety of people; supporting human rights; and engaging, learning from, respecting and supporting the communities and cultures with which we work. In this report we use the terms CSR and corporate sustainability interchangeably.

CSR Policies and Values Statement

Our CSR policies, principles and practices help us integrate social and environmental considerations into all aspects of our decision making and performance. Enbridge's values—Integrity, Safety and Respect—serve as the foundation for our CSR practices and reporting. We also conduct business in accordance with our [Statement on Business Conduct](#), which outlines our commitment to specific standards of conduct expected of our directors, officers, employees, consultants and contractors in all countries in which we conduct business. As well, a variety of other policies and related documents provide direction for specific activities that pertain to CSR. They are:

- [Environment, Health and Safety Policy](#)
- [Aboriginal and Native American Policy](#)
- [Climate Change Policy](#)
- [Community Investment Program Criteria and Guidelines](#)

Our value statement is: Enbridge employees demonstrate Integrity, Safety and Respect in support of our communities, the environment and each other.

We are building on our foundation of operating excellence by adhering to this strong set of core values that reflect what is truly important to us as a company. These values represent a constant guide by which we make our decisions, as a company and as individual employees, every day.

We convey our values succinctly and effectively to employees so that they understand what it means to work for Enbridge and how we expect all employees to act when faced with decisions or choices. For new employees, our values provide a strong, clear and simple set of principles to help them integrate into the company.

For more information about Enbridge, please visit www.enbridge.com.

Our 10,000+ employees are working hard every day to safely meet the energy needs of North Americans

- 1 Enbridge Inc. Headquarters
Calgary, Alberta, Canada
- 2 Enbridge Energy Partners, L.P. Headquarters
Houston, Texas, USA
- 3 Enbridge Gas Distribution Headquarters
Toronto, Ontario, Canada

- Liquids Systems and Joint Ventures
- Natural Gas Systems and Joint Ventures
- Power Transmission
- ▨ Gas Distribution

- ⚙ Wind Assets
- ☀ Solar Assets
- 🌋 Geothermal Assets
- 🗄 Storage
- ⚡ Waste Heat Recovery
- 🔋 Fuel Cell



5 1.1 million bpd

With Bakken crude oil production expected to grow to approximately 1.1 million barrels per day in 2014, we're expanding access from the region to attractive refinery markets in Ontario, Quebec and the U.S. Midwest.

6 2 million+ customers

Enbridge Gas Distribution already has more than two million customers and is now investing in the largest system expansion in its over 160-year history.

7 4,000 jobs

By establishing a clear path for western Canadian and Bakken crude oil to refineries in Quebec, our Line 9B Reversal and Expansion Project is helping to protect critical refinery capacity and sustain more than 4,000 refining and petrochemical industry jobs.

8 1.6 million tonnes

Our renewable and alternative energy projects in Canada and the United States result in the avoidance of approximately 1.6 million tonnes of GHG emissions each year.

9 40%+ U.S. refining capacity

We're connecting Canadian heavy oil supply to the vast U.S. Gulf Coast refinery complex, which is the largest in the world and accounts for more than 40% of U.S. petroleum refining capacity.

10 45% total production

In the Gulf of Mexico, the large, new reservoirs are in the ultra-deepwater, where Enbridge already handles 45% of total natural gas production.

1 \$1.2 billion

Our proposed Northern Gateway Project would generate \$1.2 billion in tax revenue for British Columbia over 30 years—funds that support education, hospitals and infrastructure.

2 6 billion bcf/d

Our Alliance Pipeline system traverses the Montney and Duvernay plays, where production of liquids-rich gas is currently projected to grow to more than 6 billion cubic feet per day by 2025.

3 3 million bpd

With oil sands production expected to grow to more than 3 million bpd by 2020, we're enlarging our infrastructure in Alberta to help connect growing supply with the best markets.

4 300 MW

Our first power transmission project—the 300-MW Montana-Alberta Tie-Line—went into service in 2013, supporting the electric transmission needs of new wind power facilities in north-central Montana and strong power demand in Alberta.

Governance and Compliance

Governance

Enbridge is listed on the Toronto Stock Exchange (TSX) and the New York Stock Exchange (NYSE), and we are subject to a range of governance regulations, rules and standards.

We are committed to the principles of good governance, and employ a variety of policies, programs and practices to manage corporate governance and ensure compliance.

Board of Directors

Enbridge's Board of Directors is responsible for the overall stewardship of Enbridge and, in discharging that responsibility, reviews, approves and provides guidance with respect to our strategic plan and operational risk management plan, and monitors their implementation.

The Board:

- Monitors our risk management programs and helps us identify principal risks
- Ensures that we have appropriate internal control and management systems in place to manage money, compliance and risk, and that these systems are functioning appropriately
- Approves major projects, plans and initiatives that could materially affect the company
- Approves all major corporate communications policies, including our corporate disclosure guidelines and all corporate disclosure documents
- Appoints the President & CEO and other members of senior management, monitors senior management's performance and reviews the succession strategy for all senior management positions every year

The Board delegates day-to-day management of Enbridge to our President & CEO and to senior management, although the Board must approve all major capital expenditures, debt and equity financing arrangements, and significant acquisitions and divestitures.

Board Committees

The Board carries out many of its responsibilities through its standing committees:

- CSR
- Audit, Finance & Risk
- Governance
- Safety & Reliability
- Human Resources & Compensation.

CSR Committee: The CSR Committee reviews, approves or recommends to the Board the risk guidelines, policies, procedures and practices relating to CSR matters, which include: human rights, public awareness and consultation, issues management, environmental stewardship, external communications, government relations, stakeholder relations, Aboriginal and Native American relations, and community investments.

Audit, Finance & Risk Committee: The Audit, Finance & Risk Committee assists the Board in overseeing the integrity of our financial statements and financial reporting process. The Committee also oversees the integrity of our management information systems, disclosure controls, financial controls and internal audit function.

Governance Committee: The Governance Committee focuses on ensuring we have a comprehensive system of stewardship and accountability for directors and employees that is in the best interests of shareholders.

Safety & Reliability Committee: The Safety & Reliability Committee reviews, and makes recommendations to Enbridge's Board of Directors regarding matters such as the environment, health, safety, pipeline and facility integrity management, security (physical, data and cyber), emergency response preparedness and other operational risks.

Human Resources & Compensation Committee: The Human Resources & Compensation Committee reviews, approves or makes recommendations to the Board, or to the Boards of Directors of Enbridge's affiliates, with respect to Human Resources policies, practices and structures.

Executive Compensation

Enbridge has a pay-for-performance philosophy and compensation programs for senior management, including the executive team, that are aligned with corporate and shareholder interests.

To attract and retain top talent, we set total compensation targets around the median of the competitive market. A significant portion of our total direct compensation is dependent on actual performance measured against short- and long-term performance goals, as approved by the Board.

Short-term incentive compensation for senior management is based on company, business unit and individual performance. Since 2011, we have measured company performance based on an annual earnings per share (EPS) target, as this metric best reflects our overall corporate performance on an annual basis. EPS features prominently in Enbridge's quarterly results discussions with external stakeholders and it is a metric that investment analysts and shareholders broadly accept.

Business unit performance measures encompass a variety of metrics, including safety and system integrity. In addition, workplace health and safety, and environmental performance, are among the key performance indicators that the Human Resources & Compensation Committee of the Board reviews each year.

Longer-term incentives include performance-based components that create a strong linkage to earnings growth and share price appreciation.

Director Compensation

The Board develops and implements the directors' compensation plan and has delegated the day-to-day responsibility for director compensation to the Governance Committee. The directors' compensation plan is designed with four key objectives in mind:

- To attract and retain the most qualified individuals to serve as directors
- To compensate our directors to reflect the risks and responsibilities they assume when serving on our Board and Board committees
- To offer directors compensation that is competitive with other public companies that are comparable to Enbridge
- To align the interests of directors with those of our shareholders

Commitments to External Initiatives

We recognize the increasing public demand for corporations to be accountable and transparent in all of their business activities, and to be seen as proactively dealing with the issues of the day. With that in mind, and in keeping with our commitment to transparency and CSR, in 2002, we adopted the Voluntary Principles on Security and Human Rights, which the U.S. Bureau of Democracy, Human Rights and Labor established, and which address responsible corporate action in conflict zones. We have incorporated these principles into our Statement on Business Conduct.

In addition, in 2003, we signed on to the United Nations Global Compact (UNGC) and committed to following its principles. The UNGC is an initiative that brings companies together with UN agencies, labour and civil society to support principles in the areas of human rights, labour and the environment. We have committed to support and advance the UNGC's principles and to make them part of our strategy, culture and daily operations.

We maintain membership or associate status in a number of associations and advocacy organizations. You can find the complete list on www.csr.enbridge.com.

Compliance

We comply with all regulatory requirements, including those pertaining to employment practices, business conduct, air, water, land management, and conservation of biodiversity and species at risk.

We are also committed to stopping corruption in all forms, including extortion and bribery. Our commitment in this regard is derived from one of our core values: Integrity.

Our Integrity value is embodied in our Statement on Business Conduct, which requires employees to make decisions about Enbridge's business in a responsible, honest and ethical manner. Our Statement on Business Conduct and Whistle Blower Procedures require employees to report (either directly or anonymously) any fraudulent activities or potential or actual events that do not comply with applicable legal requirements or Enbridge policies.

Compliance Policy and Programs

We have established a Compliance Policy that defines clear responsibilities for Enbridge's Vice President & Chief Compliance Officer and the responsible business unit Compliance Officers who oversee our Compliance Program, which is designed to minimize unethical behaviour and support and demonstrate our commitment to corporate responsibility and good governance.

As part of our Compliance Program, we routinely undertake the following best practices to monitor and improve upon our compliance and ethics culture:

Policies: We have established a number of governance policies that are designed to ensure that our employees conduct their work activities in accordance with applicable laws. These policies include the [Statement on Business Conduct](#), the [Whistle Blower Procedures](#) and the Compliance Policy.

Ethics and Conduct Hotline: We provide information to all employees and contract workers on the avenues available to them to raise ethical or compliance issues directly with the responsible Compliance Officers or with other managers. We also maintain an [Ethics & Conduct Hotline](#) (Hotline) that employees can use at any time to raise issues anonymously through a third-party provider. Each report received through our Hotline is provided directly to Enbridge's Vice President & Chief Compliance Officer, as well as to the responsible business unit Compliance Officer, and is investigated to address and resolve any issues raised.

Tone At the Top: Since 2009, we have had a Chief Compliance Officer, as well as Compliance Officers in our three primary operating business units. In early 2012, we changed our management structure to demonstrate an even greater emphasis on compliance and ethics, and appointed our first dedicated enterprise-wide Vice President & Chief Compliance Officer. This position is responsible for the oversight of Enbridge's overall state of compliance and for enhancing our culture of ethics and integrity.

Internal Audit: Our Internal Audit Department plays a key role in monitoring compliance by providing assurance on the effectiveness of governance, risk management, and internal controls. Internal Audit is responsible for measuring efficiency and effectiveness of operations, safeguarding of assets, risk management, and monitoring the internal control framework and compliance with laws, regulations, policies, procedures and contracts. Internal Audit also assists with investigations into any unethical conduct, including allegations of bribery, fraud and corruption.

Training: In early 2014, we provided on-line training to all Enbridge employees and provisioned contractors on our [Statement on Business Conduct](#). The training required them to certify their compliance with the [Statement on Business Conduct](#) for 2013 and to declare any actual or potential conflicts of interest.

In 2013, we provided privacy training to targeted employees and provisioned contractors in Canada who have access to personal information.

Also, in December 2013, we formally rolled out our Compliance and Ethics Management System and compliance and ethics processes to LP employees.

We will be complementing this roll-out with an integrated management strategy and plan that we intend to implement throughout 2014 to ensure that we have targeted, efficient and streamlined training and education for employees and contract staff regarding the management systems.

Compliance Investigations and Reports: Our Compliance Officers coordinate investigations into material compliance matters, whether they arise directly from employees, through incidents or via reports to the Hotline. Enbridge's Vice President & Chief Compliance Officer reports all material events of non-compliance arising from Hotline reports, auditing matters and general ethics issues to the Audit, Finance & Risk Committee of Enbridge's Board of Directors. Additionally, since November 2013, we have reported all material reliability, environmental, health and safety non-compliance matters to the new Safety & Reliability Committee of our Board of Directors.

Non-Retaliation: We are committed to the principle that no retaliatory action may be taken against anyone who raises non-compliance issues in good faith. Adhering to the non-retaliation principle is a key component of a strong culture of compliance and it also ensures that employees, contract workers and the public can feel confident that we will review and address issues in a fair and impartial manner.

Metrics: We maintain a compliance index metric that ties ethical conduct and compliance to employees' bonus incentives and that serves as a continuous reminder of the importance that we place on ethical behaviour. The metric includes data on the number of times Enbridge vice presidents and directors speak about ethics and compliance to groups of five or more employees or provisioned contract workers. It also measures the annual volume of medium and high-impact acts of non-compliance, ethics violations and regulatory actions.

Anti-Corruption & Compliance/Ethics Affiliations:

Our Compliance Officers and other employees participate in a number of organizations that provide training and promote the advancement of ethical conduct in organizations throughout North America. Some of the organizations to which we belong include: the Society of Corporate Compliance & Ethics (SCCE); the Open Compliance & Ethics Group (OCEG); the Compliance & Ethics Leadership Council of the Corporate Executive Board; the Association of Certified Fraud Examiners (ACFE); and the Corporate Ethics Management Council (Conference Board of Canada).

2013 Key Compliance Metrics

Ethics and Conduct Hotline Reports: In 2013, we received 107 new Hotline reports, of which 65 related to human resources issues, 17 related to financial concerns, eight related to allegations of misappropriation or misuse of assets, eight related to safety issues, five related to policy and process integrity, and four related to requests for information. In 2012 we received 58 reports to the Hotline. We believe that the increase in 2013 was due to the efforts we have made to ensure that employees and contractors know about the Hotline.

Number of grievances related to human rights filed, addressed and resolved through formal grievance mechanisms:

- One employment-related complaint was made against Enbridge Gas Distribution (EGD) in 2012. The complaint was resolved in June 2013.
- Two employment-related complaints were made against EGD in 2013, one of which has been resolved, while the other is still under review with the Ontario Human Rights Tribunal.
- Two employment-related complaints were made to the Canadian Human Rights Commission against Liquids Pipelines in 2013. Both of these complaints are still under review and have not yet been resolved.
- One employment-related complaint was made to the Canadian Human Rights Commission against Major Projects in 2013. It is under review and has not yet been resolved.

Actions taken in response to incidents of corruption:

- In 2013, we took action in response to several confirmed cases of material breaches of our [Statement on Business Conduct](#). Actions taken included terminations of employment, suspensions and reassignments.

Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations: In 2013, the following significant fines were imposed upon Enbridge subsidiaries or controlled entities, and/or paid by Enbridge:

- In August 2013, the [U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration](#) (PHMSA) issued a Final Order relating to a 2009 crude oil release that occurred on Line 61 in Superior, Wisconsin. A previous Notice of Probable Violation and Proposed Civil Penalty had been issued in August 2012. We paid a penalty of \$112,500, thus meeting the requirements of the Final Order.

- In August 2013, PHMSA issued a Final Order in connection with an audit conducted of our Toledo Line 17 in 2010, and issued a total civil penalty of US\$68,600. We paid the civil penalty, thus meeting the requirements of the Final Order.
- In September 2012, the U.S. Department of Justice sent a letter regarding violations we had made to the *Clean Water Act* as a result of discharging substances into a wetland and into the Mississippi River when conducting hydrostatic testing on two pipelines in 2009 and 2010. In 2013, a settlement agreement was executed, and we paid US\$425,000.
- In October 2011, an EGD contractor was fatally injured while performing landscaping near a natural gas pipeline in Mooretown, Ontario. In August 2012, the Ontario Ministry of Labour charged EGD with five counts under the *Ontario Occupational Health and Safety Act*. In November 2013, EGD pleaded guilty to one charge for failing to ensure that the seatbelt restraining device on the lawn mower had been maintained to operate as intended. In 2013, we were fined \$150,000, plus a 25 per cent victim surcharge, which we paid. The Ontario Ministry of Labour withdrew the four other charges.

Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations:

We manage compliance with laws and regulations through system controls and regular reviews that include training and awareness, adopting best practices, inspections and third-party audits. We consider any regulatory notification or penalty to be important and expect our employees and contractors to fully comply with all regulatory, legislative and permit requirements.

Regulatory notifications are formal written notices by regulators that we may not be adhering to legal, regulatory or permit requirements. Examples include enforcement actions, summonses, charges, stop and control orders, Notices of Violation (NOVs), Notices of Enforcement (NOEs) and formal warnings. In the event that our performance falls short of this expectation, we carry out rigorous reviews and institute corrective actions, as we did for each non-compliance issue noted below:

- Liquids Pipelines experienced 20 major environmental incidents in 2013. This total included 13 regulatory notifications (level three non-compliances), six spills greater than 100 barrels (commodity and non-commodity) and one material "Other Environmental Effect" environmental incident. LP was not issued any fines for environmental issues in the U.S. in 2013.

- Regulators conducted 82 inspections of Gas Transportation (GT) facilities in 2013, compared with 89 in 2012. In 2013, GT also received 13 NOVs and NOEs from regulatory agencies. GT incurred fines of \$15,800, for three violations in 2012, and paid them in 2013. This total compares with the 16 NOVs that GT received and the \$10,197 in fines it paid 2012. As part of Enbridge's Operational Risk Management plan, GT has implemented a program to develop a revised Environment, Health & Safety compliance database in an effort to improve compliance and reduce violations due to reporting and administrative oversights.
- Enbridge Gas Distribution (EGD) did not receive any notifications, fines or orders for non-compliance with environmental regulations in 2013.

Company-Wide Regulatory Notifications and Fines

	2013	2012	2011	2010	2009
Regulatory Notifications ¹	32	35	24 ²	25	25
Regulatory Fines Incurred (<i>thousands of Canadian dollars</i>)	\$15,800	\$3,714.6 ³	\$29.7	\$1,176 ⁴	\$1,159.3 ⁵

1 Enbridge responded promptly to address the concerns associated with all notifications.

2 Includes 19 NOVs for GT and 5 NOVs for LP. Please note that in Enbridge's 2012 CSR Report we incorrectly reported that GT had 20 NOVs in 2011 and that LP had none.

3 Includes payment by Enbridge of the US\$3,699,200 civil penalty levied in 2012 by the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) regarding the Line 6B pipeline release in 2010 near Marshall, Michigan.

4 Includes US\$1-million settlement agreement with the Wisconsin Department of Justice for air compliance violations received at our crude oil pipeline breakout storage terminal at Superior, Wisconsin. We reported many of the violations to the Wisconsin Department of Natural Resources after we discovered them during the course of a facility audit. Since then, we have corrected the issues or are in the process of correcting them.

5 A settlement regarding three NOVs issued by the Wisconsin Department of Natural Resources was reached in January 2009 and included a US\$730,000 fine and a US\$370,000 statutory assessment. The NOVs pertained to environmental infractions that Enbridge allegedly committed while constructing its Southern Access pipeline in 2007.

Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes:

We are not aware of any incidents of non-compliance taking place in 2013 concerning the health and safety impacts of Enbridge's products and services.

For More Information

Please see the Governance, Commitments and Engagements data sheet, which will be posted by June 1, 2014 on www.csr.enbridge.com.

Reporting Boundaries and Methodologies

Materiality

This report focuses on the CSR and sustainability-related subjects that reflect Enbridge's significant environmental, social and economic impacts that would substantively influence the assessments and decisions of stakeholders.

Determining Materiality

To determine the most material subjects for inclusion in this report, first we assembled possible subjects based on a review of:

- Stakeholder feedback and engagement
- Subjects identified in the [ISO 26000](#) social responsibility guidance
- Subjects identified in the [GRI's Oil and Gas Sector Supplement](#)
- Subjects identified in the [GRI's G4 reporting guidelines](#)
- Public debate in the media
- Best practice norms exhibited by our peer companies

Then, in November 2013, we conducted a materiality assessment with external stakeholders representing the following areas:

- Community Groups
- Landowners Associations
- Investors
- Customers
- Aboriginal Groups
- Sustainability Specialists.

We also asked these stakeholders to add to our list of possible material subjects if they felt any were missing.

In December 2013, we continued the materiality assessment with employee subject-matter experts representing the following areas:

- Aboriginal and Native American Relations
- Community Investment
- Community and Landowner Relations
- Compliance
- Economic Benefits/Finance
- Environment and Climate Change
- Governance
- Health and Safety
- Human Resources
- Technological Innovation
- Product Responsibility
- Supply Chain Management
- Systems Integrity

Then, in February 2014, we interviewed seven additional Enbridge employees in key leadership positions to validate the findings from our work with the first two groups.

The materiality assessments and the interviews that we conducted resulted in the following matrix, which ranks the various CSR and sustainability-related subjects based on their relevance to Enbridge employees and to our external (non-employee) stakeholders.

Materiality at Enbridge 2013

	Species Protection Industry Collaboration Land Management Community Investments Customer Protection Contributions to the local economy	Human Health and Safety Asset Integrity and Reliability Emergency Preparedness and Response Spills Leaks and Releases Compliance Stakeholder Engagement Aboriginal and Native American Rights & Engagement Employees Economic Benefits
Waste	Energy and Climate Change Supply Chain and Procurement Practices Renewable Energy Ethics/Fair Operations Practices Water Quality Protection	Government Relations
Materials Use Demand Side Management Unionized Labour	Air Emissions Human Rights	

Note: We have not ordered the subjects in each box by relative importance.

While all of the subjects shown in the matrix above are important to Enbridge and our stakeholders, the subjects appearing in the upper-right box are of highest relevance. With three additions, these subjects are the focus of this report.

The three additions are Energy and Climate Change, Supply Chain and Procurement Practices, and Community Investment. We chose to include these three subjects in this report because of their impact on environmental sustainability, the influence they exert beyond our own operations, and the responsibility we have to the communities in which we operate.

Information and performance data on the subjects that are not in the upper-right box (other than the three mentioned above) can be found in data sheets, which will be posted by June 1, 2014, on our CSR website, www.csr.enbridge.com.

We define the subjects in the upper-right box (high relevance to Enbridge, high relevance to stakeholders) as follows:

- **Human Health and Safety** – How we protect our employees, contractors and members of the public, and ensure compliance with safety policy and commitments.
- **Asset Integrity and Reliability** – How we protect people, ecosystems and resources around our areas of operation by preventing incidents.
- **Emergency Preparedness and Response** – How we prepare for and respond to incidents, including through our Public Awareness Programs.
- **Spills, Leaks and Releases** – Our spills, leaks and releases of commodity fossil fuel products that meet the thresholds required for reporting to authorities. Also, the impact that these spills, leaks and releases have on human health and the environment.
- **Stakeholder Engagement** – How we engage people who are affected by, or who can affect, our activities and operations.

- **Aboriginal and Native American Rights and Engagement** – How we consult and engage with Aboriginal and Native American communities, and handle issues associated with Indigenous rights and title.
- **Employees** – How we treat our employees, including our practices and performance pertaining to:
 - Fostering a diverse workforce and responding to discrimination cases
 - Ensuring equal opportunity
 - Attracting and retaining employees, and motivating them to remain engaged throughout their careers
 - Maintaining a healthy workplace, and ensuring compliance with health and wellness policies and commitments
- **Economic Benefits** – How stakeholders benefit economically from our business and operations.

We define the subjects in the other boxes as follows:

Middle right box (high relevance to Enbridge, medium relevance to stakeholders)

- **Government Relations** – Our public policy positions and how we engage with governments at the state, provincial and federal levels.

Middle upper box (medium relevance to Enbridge, high relevance to stakeholders)

- **Species Protection** – How we determine our impacts on biodiversity, and ensure that species and habitats (terrestrial and aquatic) are protected around our operations and facilities.
- **Land Management** – How we determine land use, remediate land (in the case of contamination), and reclaim land (after operations are completed).
- **Industry Collaboration** – How we work with industry colleagues to reduce our collective environmental impact, improve safety and develop innovative technology.
- **Customer Protection** – Our responsibilities to consumers, including engaging in fair marketing practices; protecting consumer data and privacy; ensuring access to essential services; and providing consumer service, support and dispute resolution.
- **Community Investment** – How we promote community development and well-being through investments of resources and time.
- **Contributions to the local economy** – Our commitments to local employment and procurement, and to enhancing local employability.

Middle middle box (medium relevance to Enbridge, medium relevance to stakeholders)

- **Energy and Climate Change** – Our initiatives to improve energy conservation and efficiency and reduce our direct GHG emissions.
- **Supply Chain and Procurement Practices** – How we promote our CSR commitments through our supply chain and tendering processes, including our use of environmental, social and human rights criteria in purchasing decisions.
- **Renewable Energy** – How and why we invest in renewable energy and related infrastructure.
- **Ethics/Fair Operation Practices** – Our commitment to ethical conduct, anti-corruption, responsible involvement in the public sphere, fair competition and respect for property.
- **Water Quality Protection** – How we protect the quality of the water we use or that we encounter through our operations.

Middle lower box (medium relevance to Enbridge, lower relevance to stakeholders)

- **Air Emissions** – Our air emissions—other than GHGs—from all of our operations.
- **Human Rights** – How we protect human rights.

Middle left box (lower relevance to Enbridge, medium relevance to stakeholders)

- **Waste** – How we manage the disposal of our hazardous and non-hazardous materials.

Lower left box (lower relevance to Enbridge, lower relevance to stakeholders)

- **Materials Use** – Our use of non-energy materials such as steel, wood, cement, gravel, etc.
- **Demand-Side Management** – The programs we have developed to encourage our natural gas utility consumers to reduce their natural gas consumption.
- **Unionized Labour** – How we respect freedom of association, including policies, protection and grievance mechanisms.

Discussion of Significant Challenges and Our Response

In recent years, a number of high-profile incidents and projects have elevated the level of attention that communities and stakeholders pay to energy production and transportation. From BP's 2010 Gulf of Mexico spill to our own 2010 Michigan release, and from opposition to TransCanada's proposed [Keystone XL Pipeline Project](#) to opposition to the [Northern Gateway Project](#), concern over the impact of fossil fuel development and infrastructure on the environment, the economy and public health and safety has increased.

In the midst of this increased attention, we are working on many large and small projects across North America that involve constructing new and upgrading existing energy infrastructure, including oil and gas pipelines, storage tanks, power transmission lines and renewable energy generation facilities.

As we plan, build and operate these projects, we are acutely aware that many groups—including land owners, local communities, Aboriginal and Native American groups and others—play a critical role in deciding how our projects will unfold. Will regulators approve them? Will local residents accept them in their communities? How will local groups benefit from new energy infrastructure?

The answers to these questions depend a great deal on how we conduct our business, and on how we engage and work with our stakeholders and partners.

As a starting point, we strive to comply with all relevant local, regional and national regulatory requirements regarding consultation, social and environmental impact assessments and independent review.

Beyond complying with regulations, we also comply with our own policies and objectives, including:

- Ensuring that safety and operational reliability remain our highest priorities
- Upholding strong corporate governance practices, including those we have committed to under our [Statement on Business Conduct](#) and [Whistle Blower Procedures](#)
- Operating our business to the highest ethical standards, with integrity, respect, honesty and transparency
- Meeting our corporate standards for health, safety and environmental management
- Investing in the tools, technologies and strategies that will ensure our energy transportation, transmission, generation and distribution systems perform safely, reliably and in an environmentally responsible manner

- Actively maintaining good working relationships and problem-solving capacity with customers, investors, employees, business partners and contractors, regulators, Aboriginal and Native American communities, communities in which we operate and NGOs
- Working with our industry partners to find solutions to sustainability challenges related to energy production and infrastructure
- Tracking and publicly reporting on GHG emissions from our operations, and actively participating in the transition to a lower-carbon economy by investing in renewable energy projects and in technological innovations that advance the integration of conventional and renewable energy systems
- Operating in a socially responsible manner and in alignment with our [CSR Policy](#), [Climate Change Policy](#), [Aboriginal and Native American Policy](#), [Environment, Health and Safety Policy](#), [Community Investment Program Criteria and Guidelines](#) and [Neutral Footprint commitments](#)

We are a \$40-billion company in terms of market capitalization and have \$36 billion of commercially secured growth projects currently in the works. The vast majority of our projects and operations occur without incident or controversy. However, some attract public debate and, in some instances, organized opposition and protests. Depending on the circumstances, that debate can involve issues that fall within our control—such as project design, routing, and safety and risk management—or it can involve issues that are outside the decision-making scope of an individual company. Examples of the latter can include public policy issues involving climate change, Aboriginal rights and title, the pace and scale of development of Canadian oil sands production and the design of public processes for regulatory review of major projects.

The public environment in which we now operate to secure project approvals and public acceptance has changed significantly. When it occurs, broader public debate over an individual project can affect our company's reputation. In response, we are adopting a much more proactive and rigorous approach to consultation and engagement. Our approach includes more frequent presentations to municipal governments, as well as open houses and information sessions in communities along our rights-of-way. It also includes more joint activities with community, educational and non-profit organizations, as well as enhanced collaboration with emergency first responders in our areas of operation.

The following discussion focuses on three of our biggest challenges—the Northern Gateway Project, the Line 9 Reversal Project, and the site of our 2010 spill near Marshall, Michigan—that were the focus of public controversy, including protests, in 2013. It summarizes our understanding of the fundamental issues involved and some of the steps we are taking to address them.

Northern Gateway Project: In May 2010, Northern Gateway Pipelines filed an application with the [National Energy Board](#) (NEB) to construct and operate the [Northern Gateway Project](#) (NGP), which, if approved, would create a new transportation route between Canadian and world oil markets. The project has three components:

- A 914-millimetre (36-inch) outside diameter pipeline that would carry an average of 83,400 cubic metres (525,000 barrels) of oil products per day west from Bruderheim, Alberta to Kitimat, B.C.
- A parallel pipeline, 508 millimetres (20 inches) in outside diameter, that would carry an average of 30,700 cubic metres (193,000 barrels) of condensate per day east from Kitimat, B.C. to Bruderheim, Alberta
- A terminal at Kitimat that would have two tanker berths, three condensate storage tanks, and 16 oil storage tanks

Following Northern Gateway Pipelines' application, the [Canadian Environmental Assessment Agency](#) (CEAA) and the NEB established a [Joint Review Panel](#) (JRP) to assess the NGP's social, economic and environmental impacts and make recommendations to the Government of Canada regarding whether the project should be permitted to proceed. The JRP review process began in 2010 and concluded in 2013. The public hearing phase involved 88 expert witnesses, 221 intervenors, 12 government participants, 5,680 letters of comment and 1,100 oral statements.

The JRP hearing process developed one of the most extensive records of scientific, technical, Aboriginal and community knowledge related to a major project application in Canada. The JRP received a large amount of correspondence and evidence and heard a wide range of expertise and opinion. The entire record, including oral testimony and written evidence, is available on the [National Energy Board website](#).

Aboriginal Context

In Canada, both the project proponent and the Crown (the federal and provincial governments) recognize Aboriginal groups as being separate and distinct from other stakeholders and are required by law to consult and engage with them. Aboriginal people in Canada have a constitutionally protected right to be consulted if any government decision has the potential to impact treaty or other Aboriginal rights. They can challenge or appeal

decisions made by regulatory authorities if they are not satisfied with the decision from a rights perspective.

Project proponents, such as Enbridge, must engage with Aboriginal communities to find ways to respect their rights and address their concerns. This often includes working with Aboriginal communities to identify and apply Aboriginal Traditional Knowledge (ATK) to the design, routing and construction of a pipeline and related infrastructure. It also includes working with interested Aboriginal communities to mitigate risks and create opportunities for investment in community development, training and employment, and Aboriginal business development.

Northern Gateway Pipelines has pursued an active program of Aboriginal engagement. Further information about it is available in the Aboriginal and Native American Rights and Engagement section of this report. In addition, the project has developed an Aboriginal Economic Benefits Package that includes equity ownership for eligible Aboriginal groups in Alberta and B.C. As of March 2014, Aboriginal communities representing almost 60 per cent of the combined First Nations and Métis population along the NGP's proposed right-of-way had elected to participate in the package, with the majority of them being located in Alberta and interior B.C. The majority of First Nations in the coastal region of B.C. oppose the project and have not participated in the economic benefits package.

Opposition

Environmental, Aboriginal and community groups that oppose the NGP have clearly identified their reasons for doing so. Foremost among them are: (1) the project's potential impact on climate change due to increased fossil fuel production, export and consumption; (2) the increased risk of marine and land-based oil spills and the social, cultural, economic and environmental impacts that could result; and (3) the impact the project could have on Aboriginal land, water and resource use.

At the JRP hearings, participants also expressed concern over the risk of pipeline corrosion from bitumen, the uncertainty regarding how bitumen behaves in water, the adequacy of the emergency response procedures in place to deal with spills and the need for equitable distribution of risk and benefit between communities in B.C. and Alberta. Participants also questioned whether the JRP process is fair and representative of all concerned parties.

Further Developments in 2013

In response to these and other concerns, a number of significant developments took place in 2013 with regard to the NGP:

- In the summer of 2013, the Government of B.C. reconfirmed the [five conditions](#) it wants to see the NGP satisfy. The conditions, which the B.C. government first communicated in 2012, emphasized

the need for equitable distribution of benefits and risks, recognition of Aboriginal and treaty rights and the provision of opportunities to Aboriginals to participate in and benefit from the project, and the development of world-class standards and practices for marine-based spill and emergency response.

- In November 2013, B.C. Premier Christy Clark and Alberta Premier Alison Redford agreed to establish a [joint working group](#) to discuss export opportunities for oil and gas. Energy and resources deputy ministers in both provinces are working together to evaluate current issues, possibilities and grounds for mutual cooperation. The working group will report on progress in 2014.
- In November 2013, Canada's Federal Government Expert Panel on Tanker Safety, which had been tasked earlier in the year with reviewing Canada's existing Marine Oil Spill Preparedness and Response Regime, provided phase one of its [report](#) on Canada's ship-source spill preparedness and response regime. The panel said that "Canadian taxpayers should not bear any liability for spills in Canadian waters," and provided 45 recommendations on how to improve Canada's liability and compensation regime, as well as its prevention, preparedness and response.
- In December 2013, Doug Eyford, a Special Envoy appointed by the Prime Minister of Canada to consult with First Nations on west coast energy infrastructure, released his [report](#) on approaches that could meet Canada's goals of expanding energy markets and increasing Aboriginal participation in the economy. Eyford's report followed months of consultation with Aboriginal communities in B.C. and Alberta that could potentially be impacted by future energy infrastructure development. He recommended that Canada "take decisive steps to build trust with Aboriginal Canadians, to foster their inclusion into the economy, and to advance the reconciliation of Aboriginal people and non-Aboriginal people in Canadian society."
- In December 2013, the JRP released its [final report](#), in which it recommended that the Government of Canada approve the NGP subject to 209 conditions. The JRP concluded that the project would be in the public interest and established a thorough regulatory framework for managing or mitigating environmental, safety and socio-economic risks.
- Within 30 days of the JRP's recommendation, three coastal First Nations and several environmental organizations filed applications for a judicial review of the decision. The groups are requesting that the Federal Court of Appeal conduct judicial reviews on the premise that the JRP erred in law with its decision, and have filed separate appeals against the JRP recommendations.

- The Government of Canada will consult with First Nations on the JRP recommendations and is expected to issue a final decision on the NGP by mid-2014.

Our Response

Throughout 2013 and in early 2014, we sought opportunities to build social license for the project by listening and responding to stakeholder and regulator concerns in ways that would make NGP a leader in pipeline safety in North America.

Some examples of our responses and commitments include:

- Changes to the NGP's safety measures, routing, emergency response and environmental risk mitigation plans
- Increased efforts to include local communities and Aboriginal groups in the economic benefits that the project would create
- Increased research and investment in marine and species protection issues
- Increasing the wall thickness of the oil pipeline by an average of 20 per cent, particularly in areas where the pipeline would traverse major tributaries to the Fraser, Skeena and Kitimat rivers
- X-ray or ultrasonic testing of all welds
- Isolation valves on both sides of major tributaries to the Fraser, Skeena and Kitimat rivers to protect salmon habitat
- Pump stations that would be staffed at all times for on-site monitoring, security, rapid response and to ensure public safety and environmental protection
- Continuous monitoring from our control centre with immediate shutdown due to any unexpected pressure drop
- Continuous monitoring of remote pump stations and twice-monthly aerial surveillance
- Use of previously disturbed lands for 70 per cent of the pipeline route
- 132 remotely operated isolation valves on each pipeline, dual leak detection analysis and additional in-line inspection systems to ensure safe operation of the pipeline
- Training and response equipment for local emergency responders
- Best practice marine safety measures, including double-hulled tankers, certified B.C. Coast Pilots, escort supertugs, including one tethered to loaded tankers, enhanced emergency response capabilities on all tankers and tugs, and enhanced radar, beacons, buoys and navigational aids

In March 2014, Enbridge and Northern Gateway Pipelines announced that the Hon. Jim Prentice will lead renewed efforts to consult and establish partnerships with First Nations and Aboriginal communities in B.C. and Alberta. Mr. Prentice's work will build on agreements already in place with 26 existing Aboriginal equity partners.

Mr. Prentice is a former federal Minister of Indian Affairs Northern Development, and has spent 30 years working closely with First Nations. In that capacity he negotiated the Residential Schools Settlement Agreement, which compensated 78,000 First Nations survivors and established the Truth and Reconciliation Commission to address the legacy of the Indian Residential School system. That accomplishment was followed in 2006 by his role in framing B.C.'s First Nations Education Agreement which gave First Nations formal jurisdiction over their schools. On the west coast of Vancouver Island, Mr. Prentice supervised the Maa-nulth Treaty Settlement, among the first Final Settlements reached under the B.C. Treaty process.

In 2007, Mr. Prentice oversaw the first Lower Mainland Final Agreement between the Tsawwassen First Nation of B.C. and the federal government.

Mr. Prentice also served as federal Environment Minister, during which time he oversaw the conclusion of an agreement with the Haida establishing the Gwaii Haanas Marine Conservation Area.

Mr. Prentice has taken on his role with Northern Gateway Pipelines in his capacity as Senior Executive Vice President and Vice Chairman of CIBC.

Line 9 Reversal Project: Line 9, the 194-kilometre (121-mile) 9A portion of which runs from Sarnia, Ontario, to North Westover, Ontario, and the 639-kilometre (397-mile) 9B portion of which runs from North Westover, Ontario, to Montreal, Quebec, was originally built in the 1970s to supply eastern Canadian markets with western Canadian crude oil. We've been operating it safely and reliably since 1976.

At the request of Canadian shippers, we reversed the line in 1999 as oil imports from other countries became more affordable. As a result of the increased affordability, refineries in Ontario and Quebec have been relying on a significant proportion of imported crude oil from areas such as the North Sea, West Africa and the Middle East (Quebec's two remaining refineries currently process approximately 90 per cent foreign-sourced crude).

However, given that western Canadian crude oil is priced lower than foreign-sourced crude oil, at the request of Ontario- and Quebec-based refiners we developed a plan to re-reverse Line 9 to enable western Canadian oil to again supply eastern Canadian markets.

We submitted an application to the NEB in August 2011 for the reversal of Line 9A, and the NEB approved it in July 2012.

Work with respect to the reversal has been completed to allow Line 9A to provide service in a west to east direction.

We filed an application with the NEB for the reversal of Line 9B in November 2012, proposing at the same time to expand the capacity of Line 9B from 240,000 barrels per day (bpd) to 300,000 bpd, and to have permission to use the line to transport a mix of light crude oil and diluted bitumen, with the majority of the oil transported being light crude. The estimated cost of the entire project is \$400 million. The NEB approved our application on April 3, 2014.

Opposition

Opposition to the Line 9 reversal project is based on general concerns about the impact of Alberta oil sands production on climate change, as well as specific concerns about: Our 2010 spill in Marshall, Michigan; the risk of spills due to pipeline age and corrosion; local oversight and involvement in safety and emergency response planning; and the adequacy of the NEB review process.

Developments in 2013 and early 2014

- In August 2013, an environmental organization filed a lawsuit against the federal government of Canada over NEB rules regarding participation in the Line 9 hearings.
- In December 2013, a Legislative Committee of the Government of Quebec held its own public hearings on the project and, in the same month, recommended that the provincial government support the project, subject to conditions.
- In October 2013, the NEB held oral final argument hearings for Line 9B in Montreal, Quebec, and in Toronto, Ontario. In March 2014, the NEB approved the flow reversal and expansion of Line 9B subject to fulfilment of conditions designed to enhance current and ongoing pipeline integrity, safety and environmental protection. The project does not require approval from other levels of government.

Our Response

Throughout the Line 9 review process, we conducted extensive engagement and outreach to all affected stakeholders, provinces, municipalities and Aboriginal groups. As the project involves an existing piece of infrastructure, most individuals and organizations requested information and answers to their questions regarding emergency response, improvements to our system since our 2010 Marshall incident, pipeline design and operation, and product to be shipped. Throughout the review process we also worked with refiners in Quebec and Ontario to clarify the economic benefits of the project, particularly the employment benefits that would be created by a more diversified supply. We also:

- Held eight community open houses in Quebec and 20 in Ontario
- Engaged more than 2,600 stakeholders in consultation, including landowners, municipalities, government, elected officials, First Nations, environmental groups, and first responders
- Filed a publicly available consultation report with the NEB that details contact with all project stakeholders since the consultation program was launched on May 17, 2012, including mailings of letters, notices, brochures and face-to-face meetings

During the NEB review process, we heard the concerns of stakeholders and regulators and, as a result, made a number of commitments with respect to the project. Some of these include:

- We committed to consulting with municipalities and relevant First Nations in developing and updating the emergency procedures manual in a specific, meaningful, ongoing and iterative fashion
- We committed to including details regarding discussions with municipal emergency responders in an Ongoing Engagement Report to be filed with the NEB every six months for the first three years of project operations
- We committed to filing with the NEB the results of our leak sensitivity study within 30 days following the NEB granting Enbridge permission to allow the pipeline to transport hydrocarbons

We will continue our consultation efforts with communities affected by the project and take action to address their concerns.

2010 Line 6B Release near Marshall, Michigan: In July 2010, our Line 6B pipeline ruptured, causing a spill of about 20,000 barrels of oil into the Kalamazoo River near Marshall, Michigan.

We have been complying with all requirements mandated by the [U.S. Environmental Protection Agency \(EPA\)](#) and the [Michigan Department of Environmental Quality](#), and have taken significant internal steps to ensure that an incident of this nature could not occur again in our system. While the Kalamazoo River was re-opened for recreational use, in June 2012, the EPA ordered us to dredge three major sections of the river as well as several smaller backwater areas. In 2013 we successfully completed the vast majority of the work related to the EPA Order. The most significant portion of the work that remains under the EPA Order is the dredge within Morrow Lake and its delta. This work was delayed due to land permitting issues which were resolved in early 2014.

In June and July 2013, several individuals protesting oil sands crude disrupted the rebuilding of Line 6B.

The impacts, costs and causes of our 2010 Marshall release were significant and have been extensively covered in earlier company reports, as has our response. Throughout 2013, we continued with all work ordered by the regulators and we continued to engage, inform and work with the communities along the Kalamazoo River. You can find updated information on our response to the Line 6B release on our [Line 6B Response website](#).

Operational Risk Management

In 2013, we continued to make structural changes to our organization to ensure that we are fostering a culture that proactively identifies and mitigates risks, and that is focused on our top priorities of safety and operational reliability.

To ensure that we have accountability at the senior executive level to promote and resource our commitment to safety, we created the centralized role of Senior Vice President, Enterprise Safety & Operational Reliability. This role, which reports to Enbridge's President & CEO, is accountable for defining and executing an enterprise-wide vision, culture and set of integrated strategies and policies that support our objective of being an industry leader in process, public and personal safety, operational reliability and environmental protection. It is also responsible for sharing, promoting and building industry-leading safety practices and culture, and building a common governance structure for safety across Enbridge.

The Senior Vice President, Enterprise Safety & Operational Reliability, is a member of Enbridge's Operations and Integrity Committee (OIC). The OIC, which is chaired by our President & CEO, is Enbridge's most important executive committee. It comprises the senior leaders responsible for all business units, and has four councils reporting to it:

- The Joint Business Unit Safety Council
- The Joint Business Unit Integrity Council
- The Joint Business Unit Process Safety Council
- The Joint Business Unit Crisis and Emergency Response Council

The OIC is accountable for safety, operations and asset integrity across the organization, and ensures that our executive management establishes and monitors key policies and programs, including the harmonizing of our safety management systems. The OIC also oversees preventative measures, reviews incidents, discusses lessons learned from incidents and how to apply them, and ensures effective internal and external communication of operational objectives and accomplishments. And the OIC has oversight

over our Operational Risk Management Plan, which has a mandate to identify key operational risk areas and undertake actions that will reduce risk and achieve industry leadership on safety and reliability.

Operational Risk Management Plan: In 2010 we established a dedicated initiative, our Operational Risk Management (ORM) plan, to drive and achieve measurable and verifiable improvement in our safety culture and practices. While each of our business units is directly accountable for managing their operating risks, their progress on our ORM goals is monitored by the OIC and overseen at the governance level by the Safety and Reliability Committee of our Board of Directors.

We also use compensation incentives to advance progress on our safety and reliability goals. In addition to a base salary, almost all regular (union and non-union) Enbridge employees participate in an annual incentive plan that rewards performance based on predefined targets established at the company, business unit and individual levels.

Our ORM plan has two overarching objectives: 1) to identify and mitigate key operational risk areas; and 2) to achieve an industry leadership position in six key operational risk areas.

Our ORM plan focuses on the six performance areas that we believe have the greatest impact on reducing risk:

- 1 Pipeline and facility (asset) integrity management
- 2 Third party damage avoidance and detection
- 3 Leak detection and control systems
- 4 Incident response capacity
- 5 Worker and contractor occupational safety
- 6 Public safety and environmental protection

At an enterprise-wide level, the ORM plan includes more than 200 initiatives across six business units and functions that, on an annual basis, represent thousands of hours of effort and more than a billion dollars of investment.

We provide examples of some of these initiatives at the end of this section.

External Review: We recognize that achieving our ORM goal of top industry performance requires continual improvement and expert advice on leading practices. In 2013 we took our first steps toward independent verification and monitoring of our ORM progress. While we have mandatory obligations regarding obtaining independent audits and verification of our compliance with regulatory standards for safety and operations, we are also committed to transparently reporting our progress on our internal goals. To ensure we are on the pathway to meeting this objective, we worked with a third-party expert to review our approach to operational risk management and our recent progress toward achieving our goal of top industry performance in each of the six ORM performance areas.

The initial review confirmed that we have made progress in our risk management and mitigation, and that we currently have a strong safety culture. It identified that we need to incorporate comprehensive change management programs into our business programs and initiatives to ensure that our culture continues to improve so that all Enbridge employees and contractors are properly engaged and equipped to support the continued success of our ORM plan.

The management action plans we have created as a result of the 2013 review have been approved by our Board of Directors. In 2014, we will continue to move toward our goal of independent monitoring of our performance under our ORM plan.

Additional Information: In addition to ORM information contained in Enbridge's annual Financial and annual CSR Reports, we report separately on our ORM progress and projects. For further information on our safety and operational reliability performance and projects please see our first [Operational Reliability Review](#), which we released in December 2013.

Some examples of ORM initiatives in each of the six performance areas are provided below.

1 Pipeline and facility (asset) integrity management:

This performance area includes the inspections we conduct on our systems using sophisticated inline inspection (ILI) tools. These tools, which incorporate medical imaging technology, enable us to examine our assets on a millimetre-by-millimetre basis so that we can identify and act on features that require closer attention.

It also includes the integrity and verification digs we conduct so that we can more closely examine our pipelines and repair them if necessary. The digs enable us to expose the sections of pipe where ILI data have indicated features of interest that require further investigation.

2 Leak detection capability and control systems:

This performance area includes our investments and participation in researching and developing systems and technology to advance the science and practice of leak detection. One of our many projects to advance our—and our industry's—leak detection capacity is the [External Leak Detection Experimental Research \(ELDER\)](#) test apparatus. Enbridge led what has now become an industry partnership to develop and use this tool to test promising new pipeline leak detection systems incorporating fibre-optics, acoustic-sensing, vapour-sensing and hydrocarbon-sensing technologies.

It includes our continuous improvements to the accuracy and sensitivity of our existing leak detection systems through our Supervisory Control and Data Acquisition (SCADA) system, scheduled line balance calculations and computational pipeline monitoring. These systems use information technology to monitor our pipelines and raise alarms in response to unexpected operational changes that could indicate leaks.

It includes our program of aerial, land and foot patrols of our pipeline rights-of-ways, coupled with Public Awareness Programs and third-party reports of crude oil or mercaptan odours (odours that are added to natural gas such that it can be detected), all of which help us identify and quickly respond to leaks.

It includes our new Control Centre, which we opened in December 2011, and which is specifically designed to enhance the safety and reliability of our pipeline operations by creating the optimal conditions to support our pipeline operators as they conduct our critical around-the-clock operations. Recent changes include our revision and enhancement of our pipeline operations procedures, our restructuring of the function to better support our pipeline operations, and our addition of technical support, engineering and operator positions and of enhanced training.

And it includes the continual surveys we conduct of our gas distribution systems using specialized leak detection equipment.

3 Third-party damage avoidance and detection:

This performance area includes our extensive and ongoing communication and outreach to landowners and communities along our rights-of-way to remind them of pipeline safety, particularly safe digging and ground disturbance activities. This outreach connects us with approximately one million stakeholders each year. Our focus is on excavators and farmers, who are more likely to be involved in digging and ground disturbance.

It includes our work with public officials and advocacy groups to support the adoption, promotion and effective communication of one-call safe digging programs that the public can use to identify underground utilities prior to any ground disturbance and leading to a reduction in the incidence of third-party damage to our pipelines and natural gas distribution infrastructure.

And includes our ongoing program of aerial, land and foot patrols of our pipeline rights-of-ways that help us identify and prevent any unauthorized excavation activity near our pipelines.

- 4 Incident response capacity:** This performance area includes the hundreds of drills, equipment deployments and emergency response exercises that we stage across our operations each year to help us prepare and train so that we can respond safely and effectively in the event of an incident. Our drills, deployments and exercises involve many hundreds of employees and contractors, as well as third-party observers such as regulators, public officials and first-response agencies so that our approach to emergency preparedness is comprehensive and transparent. Our emergency preparedness and ability to respond quickly, safely

and efficiently to incidents also contributes to public safety and environmental protection.

And includes our investment in extensive training for more than 1,000 employees and contractors (nearly nine per cent of our overall Enbridge workforce and essentially all of the personnel who we would anticipate to be involved in responding to incidents) in the Incident Command System (ICS), the common system used by first responders, the military and civil authorities across North America for responding to incidents. ICS training for our employees is ongoing, and we train more each year to enhance our overall preparedness.

It includes the \$50 million we invested over the past two years (2012 and 2013) to improve our equipment, training and overall response capabilities. The new equipment ranges from containment booms to boats, and is being deployed across our systems.

And includes our establishment of the Enbridge Enterprise Emergency Response Team (E³RT), a cross-business unit team designed to respond to large-scale events anywhere in North America that would require more resources than a single region or business unit could provide. The response team has been conducting major training exercises involving all of Enbridge's business units, emergency response contractors and consultants, and federal, state, provincial and local emergency response agencies.

5 Employee and contractor occupational safety:

This performance area includes our roll out of key programs to help prevent incidents, injuries and occupational illnesses. In 2012 we established the Enbridge Lifesaving Rules. These six fundamental safety rules for our employees and contractors are based on past incidents at Enbridge and focus on areas of high risk and high consequence. The Lifesaving Rules are mandatory and every member of the Enbridge team is required to know and follow them at all times. In 2013, we established our Health and Safety Principles, which outline how we think about health and safety at Enbridge and guide our actions, policies, procedures and culture. Both programs, and our other safety initiatives, are intended to strengthen our safety culture and to propel us towards our target of 100 per cent safe operations.

It includes our work to continually refine the process we use to vet, select and validate the safety performance of the contractors with whom we work. It also includes the initiatives we lead to support their safety. We have led the establishment of U.S. and Canadian Pipeline Construction Safety Roundtables, which include mainline pipeline construction contractors and the primary pipeline owners who gather to discuss the challenges and required improvements to raise the safety performance of the industry. Since mid-2012, we have held six Roundtable gatherings in Canada and the U.S.

And includes the Training and Operations Centre that Enbridge Gas Distribution opened in Markham, Ontario, in 2012. The centre, which complies with LEED requirements, contributes to employee and contractor safety by providing a realistic urban community streetscape, where workers are trained to deal with real-life situations, such as locating pipe, conducting leak surveys or extinguishing fires, in a safe, controlled environment where compressed air is used to simulate natural gas. Between July 2012 and June 2013, the centre saw more than 15,000 enrollments from Enbridge employees and contractors.

6 Public safety and environmental protection:

This performance area includes our extensive and ongoing communication and outreach to landowners and communities along our rights-of-way to remind them of pipeline safety, particularly safe digging and ground disturbance activities. This outreach connects us with approximately one million stakeholders each year. It includes the customized online training we provide to first responders and first response agencies near our operations to help prepare them to recognize and safely and effectively respond to incidents on our systems. Based on a program developed by the National Association of State Fire Marshals, we have made the training available to nearly 8,800 first response organizations across North America.

Innovation

We continually look for innovative ways to improve our leak prevention and detection capabilities. And we invest in companies and projects with emerging technologies that will help us contribute to a cleaner energy future. Here is background on some of our investments in those two categories.

Innovative Leak Prevention and Detection Investments:

Because our core business is to safely transport liquid hydrocarbons, we continually improve the methods we use to prevent and detect leaks, and have steadily increased our investments in innovative technologies since 2010. Following is an overview of some of the specific prevention and detection investments that our Liquids Pipelines (LP), Gas Transportation (GT), and Gas Distribution (GD)—including Enbridge Gas Distribution (EGD)—business units undertook in 2013.

Liquids Pipelines (LP)

LP focused on researching, testing and assessing the best new leak detection technologies that are commercially available. In conducting this work, one of LP's goals was to find the best possible Computational Pipeline Monitoring (CPM) systems.

CPM systems are computer-based systems that use pipeline measurements to detect the presence of leaks. So far, LP has identified and is piloting several technologies that have the potential to complement Enbridge's existing leak detection system and provide an extra layer of protection and surveillance capability. Northern Gateway Pipelines has committed to installing dual leak detection systems as a secondary safety measure and is working to find a CPM system that, when used with our existing CPM system, will give our pipeline controllers the best possible leak indicator data.

LP is also evaluating commercial technologies aimed at detecting very small leaks. For example, LP is assessing acoustic in-line inspection (ILI) tools, pressure wave systems and external sensor-based systems. LP is also exploring a promising technology that uses fibre-optic cables that serve as both a microphone that will enable us to listen for sounds produced at the onset of a leak, and as a localized temperature sensor that will enable us to detect variations in the ground temperature caused by the release of product from a pipeline.

To assess these technologies under near-real-world conditions, LP partnered with a research firm to design and build a world-class testing facility. In 2013, other pipeline operators committed to supporting this initiative.

In the area of pipeline integrity, LP developed "roadmaps" to guide its research, development and innovation investments, such that it can deliver the desired improvements in its focus areas:

- ILI technology advancement
- Inspection technology for "unpiggable" pipelines (pipelines through which we cannot run ILI tools called "pigs")
- Integrity threat management

LP also developed management systems to assist with deploying technologies as they become ready for use.

In 2013, LP also explored various pipeline integrity technologies that could improve inspection techniques, including:

- Magnetic tomography, a pipeline inspection technology that LP is currently evaluating for its effectiveness in helping us screen for defects on "unpiggable" or difficult-to-inspect pipelines that we cannot inspect using ILI tools due to the pipe size and configuration. In 2013, we conducted field tests on this technology. If it passes the tests, we may use it to improve our pipeline inspections and improve our overall system reliability.
- Armadillo, an innovative technology that could help us improve the above-ground tracking of our ILI tools. We pilot tested this technology in 2013 and, if we find

it effective, may use it to remotely track our ILI tools, thus reducing the number of employees needed for field inspections.

- An autonomous underwater vehicle (AUV) that we acquired in 2013 to enable us to map the bottom of pipeline water crossings. Paired with underwater sensing technology, the AUV could help us capture information about the interactions between pipelines and riverbeds, as well as profiles on waterway currents.

Gas Transportation (GT)

In the summer of 2012, GT was at the centre of a major field demonstration at Mineral Wells, Texas, showcasing some of the latest technology in leak detection. In addition to vendors, participants included experts from Petroleum Research Council International (PRCI), industry, GT and other Enbridge business units. Testing involved controlled, simulated gas leaks along a stretch of GT's gas transmission pipeline network. One of the vendor companies used laser technology to detect gas emissions, while another used reflected refracted sunlight, measuring changes in the quality of light to detect leaks. Yet another used a gas-sniffing device to take air samples to detect traces of gas indicating a possible leak.

In 2013, GT began exploring the application of SmartBall technology, which was originally developed as a means of finding small internal corrosion leaks in water pipes, and which may be a technology that is also applicable to LP. A SmartBall is about the size of a softball, with an instrument-filled metal core, surrounded by a protective foam shell. Inserted through a small tap into the pipeline, the ball travels through the pipeline with product flow, using an integrated computer to listen for acoustic signals of tiny leaks or structural defects. Results of the SmartBall's inspection are captured on a memory card for later retrieval and analysis.

The moment the SmartBall hears a leak, it marks the location of the leak so that analysts can later do a full physical assessment of the pipe. The technology can be easily and cost-effectively inserted and retrieved from operating pipelines. GT has already successfully deployed the technology on its liquids pipelines.

GT is also evaluating the use of small micro-sensors powered by cathodic protection—an electrochemical technique used to control pipeline corrosion. The sensors can be embedded onto the pipeline to monitor a whole suite of pipeline data in real time.

Another area of interest for GT is the emerging development of “smart liners”—high-density polyethylene (HDPE) pipe liners fitted with detection sensors. The industry is already inserting HDPE liners to create a protective barrier for metal pipe in areas of high corrosion risk. GT would use the additional detectors to track pressure, stress and pipe temperatures.

Gas Distribution (GD) and Enbridge Gas Distribution (EGD)

Systematic leak detection is a top priority for GD and EGD. Every day, GD crews scan the surface, hunting for minute signs of leaks from GD's vast underground network of pipes in an effort to identify any network deterioration.

In 2013, EGD workers conducted leak surveys on 10,269 kilometres (6,380 miles) of distribution mains in its franchise area—which equals about a quarter of its system. They also surveyed close to 448,000 “services” (gas pipes used to carry gas from the mains to customers' residences).

To conduct the surveys, EGD crews carried out foot patrols or drove vehicles equipped with special leak detection equipment. Their toolbox of hand-held survey equipment includes flame ionization, infrared optical gas detection and remote laser gas sampling devices. Many of EGD's mobile surveys employ a vehicle-mounted optical methane detection unit, which EGD helped to develop in the 1990s. Based on infrared absorption spectroscopy technology, the devices send out a light source, measuring the interaction between gas molecules and light, to detect any trace of leaking gas.

While these methods continue to provide reliable results and are currently considered industry norm or better, EGD constantly searches for new leak detection innovations that promise increased efficiency and accuracy.

In August 2012, EGD participated in a NYSEARCH-led industry evaluation and field trial of a cavity ring-down spectroscopy (CRDS) analyzer. This new technology measures the levels of methane gas in a sample based on laser light absorption, promising to be a highly sensitive and specific detection method for natural gas leaks. As a continuation of that research initiative, EGD has now procured new CRDS methane analyzers manufactured by Los Gatos Research (LGR), and is conducting field trials to determine the optimal solution for integrating this technology with our existing leak survey practices. One of the LGR analyzers has been installed in an EGD fleet van equipped with other technologies to help locate the direction and strength of a leak indication. So far, the technology's ability to detect natural gas leaks from remote distances has been successfully verified while travelling at normal speeds of vehicle traffic. Studies are ongoing to determine the detection range of this CRDS system under a variety of environmental conditions, as well as to determine when the CRDS system fails to adequately detect a leak indication. Another application for the CRDS analyzer is to identify what methane species is detected (i.e. pipeline gas versus marsh gas or other microbial methane sources). Work is ongoing on integrating the CRDS with other technologies, custom software and EGD's IT systems.

In addition to leak detection technologies, EGD has partnered with 3-GIS LLC to develop a new Leak Survey Management System (LSMS). The new system, which is slated for deployment in early 2014, will provide clearer guidance to our leak surveyors of the assets that need to be surveyed for leaks by providing detailed information and a geospatial view of the assets requiring a leak survey. The system will also enable us to more accurately measure compliance of the leak survey programs. And the system will give us a greater ability to make decisions regarding the integrity of our pipelines.

EGD is also leading the evaluation of fibre optic damage prevention technologies. In 2014, EGD will be running a pilot along a section of NPS 24 high pressure reinforcement pipeline in the Ottawa region. The project will test the capability of the system to detect and alarm from threats of manual and mechanical digging, well in advance of any damage, while keeping false alarms to a minimum. EGD has partnered with other North American utilities and energy partners on this innovative project, which will compare the capabilities of three different fibre-optic monitoring systems under identical test conditions, to determine the capabilities, strengths and weakness of each system. The goal will be to deploy the most effective system or systems to protect critical pipelines from third-party damages.

Innovative Investments in Companies and Projects:

Since 2002, the value of our renewable energy assets has grown to more than \$3 billion. In addition to investing in the renewable energy assets listed in the Energy and Climate Change section of this report, we have made the following investments in companies and projects that strengthen our commitment to innovation:

Company (Equity) Investments

- **Coastal Hydro Power Corporation**—Coastal Hydropower is a run-of-river hydro developer. It utilizes a Very Low Head (VLH) turbine that can be used for unconventional hydroelectric projects, including water control weirs, navigation canals, irrigation canals, dams built in small communities and municipal water intakes. With Coastal, Enbridge, in 2011, invested in the Wasdell Falls Run-of-River Hydroelectricity Project on Ontario's Severn River, located about an hour north of Toronto. The project, which is currently under construction, will generate 1.65 megawatts (MW) of hydroelectricity using highly efficient VLH turbines.
- **Genalta Power Inc.**—In 2010, Enbridge invested in Genalta Power Inc., a privately held Canadian corporation that owns and operates independent power plants that produce and sell environmentally friendly electricity generated from waste energy sources. Genalta works with site owners to provide base-load green energy; increased plant efficiencies; operating cost reductions; greenhouse credits and emissions reductions; and long-term sustainable energy. Genalta also capitalizes on opportunities in the independent power market by developing dependable, cost-effective and environmentally responsible power generation facilities.
- **Sea NG Corporation**—In 2010, Enbridge invested in Sea NG, which is developing a system to transport compressed natural gas by sea. The technology will open up new markets to transport quantities of gas that are too small to make LNG transport economically feasible. The gas will be held in purpose-built modules called Coselles (a blend of the words “coiled pipe” and “carousel”) that are designed to hold large amounts of compressed natural gas. Sea NG's Coselle™ technology also has the potential to reduce GHG emissions by displacing the diesel currently used in many markets.
- **N-Solv Corporation**—Enbridge invested in N-Solv in 2001. N-Solv's Bitumen Extraction Technology process builds on the commercial success achieved by the Steam Assisted Gravity Drainage (SAGD) process. Heated solvent vapour is injected into the gravity drainage chamber of an oil sands extraction operation instead of steam, enabling the valuable components in the bitumen to be extracted while leaving problematic asphalt behind.
- **Value Creation Inc.**—In 2005, Enbridge and Value Creation announced a strategic alliance to pursue oil sands energy infrastructure development. The Value Creation Group of Companies focusses on developing oil sands processing improvements.
- **Hydrogenics Corporation**—In 2012, Enbridge entered into a partnership with Hydrogenics to develop large-scale electricity storage. Hydrogenics' water electrolysis technology can convert surplus renewable energy into hydrogen gas, and Enbridge's expertise in the ownership and operation of natural gas pipelines will enable the partnership to offer seasonal electricity storage capability to the electricity sector. The technology could be particularly advantageous in markets with large amounts of renewable energy from intermittent sources such as wind. By converting the electricity to gas and storing it in vast natural gas pipeline networks, more renewable energy can be stored for long periods, increasing the amount of clean energy that is available for consumers.
- **Morgan Solar Inc.**—In 2011, Enbridge invested in Morgan Solar, a next-generation solar technology company. Enbridge's investment is intended to help Morgan Solar commercialize a new line of concentrating photovoltaic (CPV) panels, which use

plastic lenses to boost solar cells' power output. This technology provides an innovative means of generating solar power more efficiently, at less cost and with a lower environmental footprint.

- **Syscor Controls & Automation Inc.**—In 2012, Enbridge invested in [Syscor](#), a company focused on commercializing wireless sensors for hydrocarbon storage tanks. Syscor's wireless sensors are capable of detecting temperature, pressure, inclination and vapour, thereby mitigating the risks associated with tank failures. Through our investment in Syscor, we are furthering our vision of being the safest operator of hydrocarbon facilities.
- **Temporal Power**—In 2013, Enbridge invested in [Temporal Power](#), an Ontario-based manufacturer of electrical energy storage systems called flywheels. Temporal's technology consists of spinning cylinders (flywheels) that are accelerated to a high speed by an electric motor. The spinning cylinders store the electrical energy as kinetic energy through their continuous high-speed rotation. Electricity can then be extracted when needed by using the kinetic energy to spin an electricity generator. The fast-responding technology offers a cost-effective solution for utilities and power generators for balancing energy and improving power quality on the electrical grid.
- **On-Ramp Wireless Inc.**—In 2013, Enbridge invested in [On-Ramp Wireless](#), a California-based developer of wireless solutions for energy automation and machine-to-machine (M2M) communications. On-Ramp's technology is the first purpose-built wireless network designed for connecting a large number of devices with very small data requirements. It is a powerful technology that has the potential to efficiently connect and monitor millions of unconnected sensors, meters and other industrial devices.
- **Smart Pipe Company Inc.**—In 2013, Enbridge invested in [Smart Pipe](#), which develops, manufactures and installs high-strength, spool-able, composite high-density polyethylene (HDPE) pipe. The technology, developed by the Katy, Texas-based company, is highly applicable in difficult-to-access areas such as river crossings and urban areas, as it does not require trenching of a right-of-way. In addition, the Smart Pipe technology does not rely on the structural integrity of the carbon steel pipe through which it is pulled.
- **IntelliView Technologies Inc.** – In 2013, Enbridge invested in [IntelliView](#), a Calgary based developer of intelligent video solutions for industrial video surveillance applications. The real-time threat detection technology is scalable and can be configured for a variety of environments, including river crossings, pump stations and perimeter security.

- **NRGreen Power Limited Partnership**— Heat is a by-product of the process used to compress natural gas so that it can be transported through pipelines for consumer use. Rather than allowing the heat exhaust to escape into the atmosphere, waste heat recovery units convert it into emissions-free electricity by using it to heat and condense fluids that drive turbines. The resulting electricity is then fed to the electricity grid.

Enbridge's interests in waste heat recovery and power generation units are through Enbridge Income Fund, which owns 50 per cent of [NRGreen Power Limited Partnership](#) (NRGreen). Under a 20-year power agreement with SaskPower, NRGreen has constructed four waste heat power generation units along the Alliance Pipeline in Saskatchewan. These four facilities combined produce approximately 20 MW of power.

A fifth station, which is being built at Alliance's Windfall compressor station near Whitecourt, Alberta, will deliver up to 14 MW of electricity. It was expected to be in service in the second half of 2013, but has experienced a number of construction delays. We now expect that it will be completed in the second quarter of 2014.

Project Investments

- **Aquistore**—Enbridge is a partner in Project [Aquistore](#), one of the first Canadian projects to field-study the storage of carbon dioxide in a deep saline aquifer. The Saskatchewan-based project aims to prove that deep saline aquifer storage of carbon dioxide is a safe and effective solution for GHG emission reductions, and to assess the costs associated with carbon capture and storage (CCS). The results of the project will be made available to inform future CCS projects, and for government policy regulation and development.
- **Neal Hot Springs**—In late 2012, the Neal Hot Springs Geothermal Project in which Enbridge invested with [U.S. Geothermal Inc.](#), became operational. The project generates about 22 MW net of renewable geothermal electricity. The project is located in eastern Oregon, about 145 kilometres (90 miles) northwest of Boise. Geothermal energy is renewable energy from the heat of the earth's core. Subsurface hot water is brought to the surface through production wells. The heat from this water is utilized to run an organic rankine cycle power plant. The water is then re-injected below the surface, where it is reheated for future use. Geothermal is baseload power, which means that it is generated and dispatched to the grid 24 hours a day.

Material Subject #1: Human Health and Safety

Context

As we strive to achieve industry leadership in pipeline and system facility integrity, process safety and environmental responsibility, we also strive to be a leader in human health and safety.

Through the structural changes we have made to our company and through the many initiatives we have in place under our Operational Risk Management (ORM) plan, we have improved our performance in the areas of employee and contractor occupational safety and public safety. We have not yet achieved our goal of 100 per cent safe operations but we have established policies, systems and procedures that ensure we are continuously make progress toward it.

2013 Key Performance Areas

#1. Achieve 100 per cent safe operations: zero injuries and zero incidents

We did not achieve a perfect safety record in 2013.

Tragically, on August 31, a multi-vehicle accident at our Flanagan South Project in Kansas took the life of a contractor and seriously injured another. Immediately following the incident, we initiated a public awareness program using road signage and radio advertisements to warn the public of the increased vehicle traffic due to construction activities. We updated our hazard assessments and reviewed our journey management practices pertaining to defensive driving training, reduced speed limits, use of hazard lights, stopping at uncontrolled intersections, avoiding high-traffic areas, avoiding left hand turns and minimizing vehicle traffic through carpooling. We also formed a corporate-level task force to identify opportunities to reduce the number of motor vehicle incidents across the company.

In addition to the incident mentioned above, our health and safety performance included the following metrics:

- 82 recordable employee injuries (compared to 87 in 2012)
- 1.14 recordable injuries per 200,000* employee hours worked (compared to 1.27 in 2012, representing an improvement to our six-year average of 1.45)

- 0.17 lost-days injuries per 200,000* employee hours worked (compared to 0.32 in 2012, and representing an improvement to our six year average of 0.27)

*The formula for calculating injury rate (whether it be recordable injuries or lost-days injuries) is: number of injuries X 200,000 / employee hours worked, where the 200,000 hours in the formula represents the equivalent of 100 employees working 40 hours per week, 50 weeks per year.

In 2013, our employees worked over 14.4 million hours, which is an increase of over 675,000 hours above the number they worked in 2012 (13.7 million hours). While our 1.14 recordable injuries per 200,000 employee hours worked and 0.17 lost-days injuries per 200,000 employee hours worked rates did not equal zero, they were the second lowest and lowest, respectively, that they have been since we began tracking them—all during a time when the number of hours that employees worked increased.

#2. Establish a world-class safety culture

We recognize that a strong safety culture is critical to our ability to achieve our target of 100 per cent safe operations. To that end, we have deliberately built safety and operational reliability into our accountability structure. In 2013, we:

- Created Enbridge's Operations and Integrity Committee (OIC), which our President & CEO chairs, and which is accountable for safety, operations and integrity across our organization. Please see the Operational Risk Management section of this report for more information.
- Created the Enterprise Safety and Operational Reliability team, a small corporate group that reports to our President & CEO, and that has centralized accountability for policy direction and strategic oversight across all of our business units (although the business units maintain direct accountability for safety and operational reliability).
- Established the Safety and Reliability Committee of Enbridge's Board of Directors. Please see the Governance and Compliance section of this report for more information.

In addition, to the structural changes, in 2013 we took numerous other steps to engrain safety into our culture.

Our leadership team took every opportunity to talk about our safety goals. Throughout 2013, they visited field sites throughout our operations to listen to employees and contractors, and to share Enbridge's vision. The interactions encouraged a free flow of information and clearly demonstrated our "tone at the top." They also provided OIC members with learnings to share at their meetings, advancing our overall safety culture.

We look to the continual efforts of our project teams to anticipate, adapt, respond and manage the changing conditions they face in their work. By understanding how and when things go right, and by acknowledging the contributions of engaged, committed project teams and support groups in ensuring that they go right, we change the game around what is possible with regard to safe performance.

We challenge our employees and contractors to continually innovate, adapt and define a new future for their teams. They do this by harnessing their skills, knowledge and experience to improve our systems and practices. We ensure that everyone is involved.

We worked with [DuPont](#) to conduct a company-wide safety-culture perception survey, using a recognized world-class approach that enabled us to compare Enbridge to other companies in the oil and gas industry as well as to companies in best-in-class industries. We achieved a 90 per cent participation rate in the survey, suggesting that we are on the path to achieving an interdependent safety culture.

Every single employee at Enbridge now has a safety objective within his or her annual job objectives, and is rated on how well the objective is met.

We implemented a common incident management system (IMS) across our company. The IMS enables us to analyze trends and to share lessons learned across departments and business units, helping us become a “learning organization.”

Our Major Projects business unit has included safety objectives in the Master Service Agreements it signs with its suppliers. Please see the Supply Chain and Procurement Practices section of this report for more information.

Every quarter, we analyze our safety incidents from several angles, including injured body parts, nature of the injury and root cause. Our analysis leads us to take specific actions to drive incidents down and repeatable safety performance up.

We require our contractors to conduct hazard assessments before they start their work. Our inspectors review the assessments every day to ensure that they’ve been implemented.

We published our first [Operational Reliability Review](#) in December 2013, and distributed over 35,000 copies to internal and external stakeholders. Our President & CEO sent copies to his counterparts, as well as to stakeholders.

Because our employees and contractors learn about safety practices from many different companies, one of our priorities is to influence our industry to develop a consistent approach to safety. As such, we reached out to other companies in our industry to identify, compare and lead best practices. We plan on sharing our learnings from our own

incidents throughout the industry, and establishing common core training expectations for all positions on a pipeline construction job.

We met with the [National Aeronautics and Space Administration](#) (NASA) to begin the process of benchmarking Enbridge against organizations that are global leaders in safety.

We developed and implemented a Corporate Crisis Management Plan (CMP)—including enterprise-wide incident screening and notification protocols—that ensure that our corporate activities are tied to the Emergency Response and Crisis Management Plans that each of our business units now have.

Each of our business units has evaluated the training that its employees need to safely complete their jobs and has created position-specific descriptions. Using this information, we have created training matrices that enable us to ensure that each employee has the necessary training and knowledge.

Management Approach and Background

Our approach to health and safety is governed by our [Environment, Health and Safety Policy](#).

Our target is to establish a world-class safety culture—one that achieves zero incidents and in which our safety priority is engrained throughout our employee and contractor workforce. To that end, in April 2013, we introduced our Health & Safety Principles to guide our safety actions, policies, procedures and culture. All employees are responsible for knowing these principles and using them as a basis for their day-to-day actions.

Enbridge’s Health & Safety Principles are:

- All injuries, incidents and occupational illnesses can be prevented
- All operating exposures can be controlled
- Management is accountable for safety performance
- All employees/contractors are responsible for safety
- Assessment and improvement are a must
- We promote off-the-job health and safety for our employees 24/7

The Health & Safety Principles are fundamental expectations for all employees and contractors. They define our Path to Zero incidents, injuries and occupational illness. They define a workplace in which safety is everyone’s responsibility, leadership is accountable for safety performance,

continuous improvement is required, hazards are controlled and our commitment to caring extends beyond the workday.

Whereas our enterprise-wide values of Integrity, Safety and Respect help define who we are and lay the foundation for how we approach our business, the Health & Safety Principles make our core value of Safety real. They outline our expectations and employee obligations regarding health and safety at Enbridge.

The Health & Safety Principles complement our six Lifesaving Rules, which we introduced in January 2012.

The Lifesaving Rules are:

- 1 Hazard Management:** Always ensure an analysis of potential hazards has been completed and proper authorization received prior to starting the work
- 2 Driving Safety:** Only drive a vehicle or operate equipment when not under the effect of alcohol or any substances that cause impairment
- 3 Confined Space Entry:** Always follow procedures for confined space entry
- 4 Ground Disturbance:** Always follow procedures for locating, positively identifying and excavating buried facilities
- 5 Isolation of Energized Systems:** Always follow procedures for Lockout / Tag-out
- 6 Reporting of Safety-Related Incidents:** Always report significant safety related incidents

Whereas the Health & Safety Principles outline how we think about health and safety at Enbridge and define our philosophy and approach, the Lifesaving Rules are concrete and absolute. Backed up by detailed policy and procedure, the Lifesaving Rules define specific actions and behaviours that all Enbridge employees and contractors are obliged to follow.

At Enbridge, all safety incidents, whether regulatory authorities consider them to be reportable or not, must be reported to local supervisors, as well as to our Health & Safety Department for tracking, trending and communications regarding potential lessons learned.

For More Information

Please see the Human Health and Safety data sheet, which will be posted by June 1, 2014, and which will include a link to Enbridge's complete health & safety statistics, both consolidated and by business unit, on <http://csr.enbridge.com/>. Please also see Enbridge's [Operational Reliability Review](#).

Material Subject #2: Asset Integrity and Reliability

Context

It's our responsibility to prevent incidents, stay safe and reduce our environmental impact.

Over the past decade, our Liquids Pipelines business, has transported approximately 14 billion barrels of crude oil with a safe delivery record of 99.9993 per cent. However, for us, that's not good enough. We believe all incidents can be prevented.

Our goal is to achieve industry leadership in the safety and reliability of our pipelines and facilities, and protection of the environment. Being a leader in these areas enables everything else we do, so we're investing heavily in asset integrity, reliability and maintenance, as well as innovation.

2013 Key Performance Areas

#1. Invest in asset integrity, reliability and maintenance to prevent spills, leaks and releases from occurring in our energy transportation and distribution systems

Since 2012, we've invested more than \$4 billion in programs and initiatives to maintain and further enhance our pipelines and facilities in all parts of our business, including \$2.4 billion in 2013 alone.

We regularly assess our pipelines both internally, with in-line sensing devices (smart pigs), and externally, with sensing devices and test excavations. In 2013, our Liquids Pipelines business unit conducted 211 in-line inspections and 2,548 integrity digs.

#2. Invest in pipeline integrity and leak detection innovation

In 2013, Enbridge invested in On-Ramp Wireless Inc., a developer of wireless solutions that enable us to better connect with and monitor assets such as transmission pipelines in a more reliable manner than conventional wireless technologies currently allow.

In 2013, our Gas Transportation business unit invested in Smart Pipe Company Inc., which has developed a new internal liner that can be used to remediate existing pipelines. Smart Pipe is highly applicable in difficult-to-access areas such as river crossings and urban areas, as it does not require trenching of a right-of-way. Smart Pipe also features an embedded fibre optic inspection system that allows pipeline operators to continually monitor and instantly detect and locate possible leaks (to within one

metre), abnormal temperature changes, third-party impacts or ground movement.

On an ongoing basis, Gas Distribution actively participates in industry research consortiums—specifically, with NYSEARCH and the Gas Technology Institute—for new technologies that support the safe and reliable distribution of natural gas. For example, the objective of EGD’s Right-of-Way (ROW) Protection Program is to review available high-pressure-pipeline-monitoring technologies to protect against excavation damages. Currently, EGD is involved in the development of a video analytics-based intelligent damage prevention system trial, as well as an embedded sensor-based damage prevention system.

Management Approach and Background

Our target of preventing all spills, leaks and releases from our energy transportation and distribution systems is underpinned by our [Environment, Health and Safety Policy](#), which states that “our goal is to have no accidents and to cause no harm to the environment.” To that end, we invest heavily every year in asset integrity and maintenance. We also build in rigorous processes to ensure the integrity of our assets at every stage.

Design, Materials and Construction Stage: Our focus on pipeline integrity and reliability begins at the design, materials and construction stages. We implement stringent processes and practices on all major projects during these stages, some of which include:

- A rigorous, multi-disciplinary route selection process that identifies pipeline corridors and line locations that achieve an acceptable balance of engineering, environmental and economic considerations
- Standards for engineering and design, including meeting all special design requirements for areas such as road, river and creek crossings
- Standards for materials procurement, including selection of pipeline materials, corrosion inhibiting coatings and cathodic protection
- Construction practices that identify and mitigate potential environmental impacts from construction activities and also pay close attention to environmentally sensitive areas and at-risk species

Monitoring and Preventative Maintenance Stage:

Pipeline safety and reliability begins with prevention. For this reason, we monitor and mitigate conditions that can cause pipeline failures by:

- **Detecting Leaks:** Our leak detection capabilities meet or exceed all regulations.

We use the latest technologies for leak detection. The methods we employ fall into three categories, each with a different focus and featuring differing technology, resources and timing. These categories are: monitoring; visual surveillance and odour reports; and predictive modeling. Used together, these methods provide overlapping and comprehensive leak-detection capabilities.

Our Gas Distribution (GD) business unit has enhanced its knowledge of the characteristics of its distribution system through targeted risk studies of assets. This has allowed it to better prioritize leak surveys and repair response based on risk levels. New protocols have been established and implemented for conducting condition-based leak surveys, and inspections are done through mobile and walking surveys. Also, the average repair time of leaks classified as “B” leaks (leaks that are recognized as being non-hazardous at the time of detection but require scheduled repair based on probable future hazard or to avoid calls from the public) has been reduced to an average repair time of four months, versus GD’s standard repair within 15 months of discovery.

In 2013, Enbridge Gas Distribution (EGD) employees conducted leak surveys on 10,269 kilometres (6,380 miles) of distribution mains in its franchise area—which equals about a quarter of its system. They also surveyed close to 448,000 “services” (gas pipes used to carry gas from the mains to customers’ residences).

- **Combating Corrosion:** Due to environmental factors such as the presence of water or bacteria, and due to the products transported, steel pipelines can corrode internally and externally. We mitigate corrosion by:
 - Using high-quality materials and anti-corrosion coatings that are specified during the design phase of the pipeline
 - Using cathodic protection (a low-level electric current applied to the pipe, or sacrificial anodes connected directly to the pipe) to inhibit external corrosion of underground pipelines
 - Using modeling to predict corrosion growth rates along pipelines
 - Using specialized corrosion inhibitors injected directly into the crude fluid being shipped to address internal corrosion
 - Scheduling regular monitoring and in-line inspections (ILIs) to check for corrosion
 - Using in-line devices known as “pigs” to clean and inspect pipelines from the inside
 - Scheduling excavation and repair programs identified by ILIs

- Ensuring that all product transported does not exceed the maximum water and sediment content set down in our tariff

We continually pursue new methods to prevent or manage corrosion. Currently, we are helping to lead research and development that will further cathodic protection, coating science, ILI technologies, and improved methods to monitor and mitigate internal corrosion.

- **Managing Cracks:** Cracking is a phenomenon that can occur in metals, including steel pipelines.

We manage cracks throughout the life cycle of a pipeline—from design and pipe manufacture through operations. We consider cracking during the design phase of new pipelines when we are determining the required pipe characteristics. We also inspect newly manufactured pipe for cracking using non-destructive testing techniques. We perform mill inspections to ensure that the highest quality pipe is manufactured for our use; and we monitor pipelines to gauge the potential impact to our operations and to the environment on the initiation or propagation of cracks.

We are committed to being at the forefront of technological developments and research relating to cracking and its diagnosis. Our efforts have resulted in rigorous programs for monitoring and managing cracking, with the key activity being our use of ultrasonic ILI technologies for our liquids pipelines. Over the past 15 years, we have influenced the development of advanced ILI technologies and field evaluation methods within the industry. We also continue to explore the use of new inspection science and techniques, and actively participate in a variety of industry forums that are focused on cracking.

- **Managing Damages:** Mechanical damage describes conditions on a pipeline such as dents, gouges, strain, scrapes, etc., that can be created by a variety of outside forces, such as rocks, impact from equipment during construction, or impact from third-party excavating equipment while the pipeline is in service. These types of conditions may result in either a penetration of the pipeline at the time of occurrence or the initiation and growth of a crack within the area of mechanical damage over time.

Managing mechanical damage requires that we integrate data from several inspection technologies, including caliper tools (deformation sizing), metal-loss tools and crack tools, as each of these provides detail that we can use to detect and characterize these conditions. Through sponsorship and technical leadership of joint industry research projects, we have improved both ILI technologies and the engineering models that characterize the pipe

condition. Our work has given the industry improved methods of managing mechanical damage to pipelines.

GD's largest operational threat is third-party damage to its natural gas pipeline infrastructure. Preventing these damages improves worker and public safety, as well as the integrity of GD's distribution assets. A key prevention measure is to provide information about underground infrastructure to individuals interested in excavating—before they conduct any excavations. EGD strongly influenced the passing in 2012 of the *Ontario Underground Infrastructure Notification System Act*, into law. Under this legislation, all underground utility operators are required to participate in Ontario One-Call, a call centre that provides answers to third-parties wanting to excavate for any reason in Ontario. With the passing of the legislation, excavators can easily get the information they need with just one call. Ontario was the first of Canada's provinces and territories to pass such legislation.

EGD was also actively involved in developing and implementing effective regulations for this legislation.

In 2012, GD also implemented a High Risk Excavation Program where damage prevention inspectors proactively engage with contractors performing excavations that have traditionally resulted in multiple damages (e.g. deep excavation work such as sewer and water main work). Through these efforts and others, GD has been successful in reducing normalized damages per thousand locate requests, as well as absolute damages.

- **Inspecting Pipelines:** Sophisticated ILI technology is a vital element in our pipeline integrity program. We use sensitive ILI tools to detect, characterize and size features, and to gather information about the frequency and location of pipeline anomalies. We then further investigate these findings by carrying out investigative digs in the field. Each dig involves excavating a section of buried line and examining, and, if needed, repairing and recoating the pipe and then reburying the line. Before beginning this work, we complete screening tests to identify environmental issues and the measures needed to minimize the impacts to land, vegetation and wildlife. Although most of the anomalies we discover are minor and do not threaten system integrity or reliability, we analyze all findings. In addition, we have a team focused on Advanced Tool Development that evaluates new or advanced ILI tool developments, including the operationalization of these new technologies.
- **Patrolling Pipelines:** Prevention depends on frequent inspections to identify potential trouble spots along pipeline rights-of-way. Using aircraft, land vehicles or foot patrols, we regularly monitor major pipeline

routes to identify potentially damaging activities, such as unauthorized digging and construction, and then take action to mitigate them.

- **Monitoring Depth:** We have implemented a pipeline depth monitoring program to ensure that our major pipelines are covered by the appropriate amount of soil. To monitor pipeline depth, we use specialized electronic equipment that locates and records the pipeline depth for these pipelines every 50 metres. In addition to monitoring the pipeline depth, we also use a global positioning system (GPS) to record pipeline coordinates and observe right-of-way conditions, such as terrain, land use, damages or deficiencies.
- **Monitoring Facilities:** We operate and maintain all of our facilities, including pump stations and terminals, in a safe, responsible manner using: proper design standards; equipment and construction specifications; commissioning, operating and maintenance procedures; and targeted inspections.

Long-Term Infrastructure Planning Stage: Through the various monitoring measures we use, we evaluate the condition of our pipeline systems to identify and select the optimal methods of ensuring their long-term integrity and reliability. At various stages we may replace or repair pipe based on factors such as ease and safety of implementation, economic evaluations, and operational expectations, all with the requirement that we will not compromise on integrity, reliability and safety.

Innovation

In addition to the steps outlined above, each year we invest in numerous innovations that improve the asset integrity and reliability of our operations.

In 2013, our Liquids Pipelines (LP) business unit participated in, sponsored or led approximately 190 research and development (R&D) projects—including four joint-industry projects—in the areas of leak detection and pipeline integrity.

The projects that focused on leak detection involved investments of almost \$6.3 million, while those focused on pipeline integrity involved investments of more than \$3 million. Many of the other projects fell under our involvement with the Pipeline Research Council International (PRCI), in which LP invests approximately \$300,000 each year.

LP selects R&D projects based on how well they could improve our ability to detect and respond to spills and leaks, how well they could help us prevent, monitor or mitigate integrity threats such as corrosion, cracking and deformation (e.g. dents or strain in the pipe), and how well they could be adopted by other business units, including Gas Transportation (GT), Gas Distribution (GD) and Enbridge Gas Distribution (EGD). The projects pertain to areas as varied as aerial

surveillance, fibre optics, in-line leak detection tools, on-water leak detection technologies, pipeline coatings, corrosion prevention, defect assessment, reliability-based design, facilities integrity and ILI tool development.

Most of LP's innovation investments involve technology-based solutions such as magnetic tomography. For more information on these investments, please see the Innovation section of this report.

LP also works continually with ILI vendors to improve existing inspection technologies, and to investigate opportunities to apply pipeline technologies that are used in other industries.

For its part, in 2012, EGD eliminated its top integrity risk by completing its work to replace all of its cast iron and bare steel mains within its distribution system. When natural gas distribution systems (as well as sewer and water systems) were first installed in the early to mid-19th and 20th centuries, the pipes installed were made of cast iron and bare steel. Over time, cast iron becomes brittle and can crack, and bare steel corrodes, which can lead to leaks. EGD recognized the risk of these materials early on, and replaced the cast iron and bare steel in its system with coated steel and plastic pipe. Between the start of the pipe replacement program in the early 1990s and its completion in 2012, EGD replaced approximately 1,800 kilometres of cast iron in Toronto. This is a considerable accomplishment given the challenges of performing such work in a densely populated urban environment.

For More Information

Please see the Innovation data sheet on www.csr.enbridge.com. Please also see Enbridge's December 2013 [Operational Reliability Review](#).

Material Subject #3: Emergency Preparedness and Response

Context

While our pipeline and system integrity initiatives contribute to reducing the risk of spills, leaks and releases and mitigating their impacts, these measures cannot completely eliminate risk. Therefore, we have comprehensive emergency preparedness and response and environmental mitigation plans in place to respond rapidly and completely if an emergency does occur.

Our target is 100 per cent safe operations of our systems and we are committed to preventing all incidents. To that end, we invest in equipment and emergency response supplies staged at strategic locations along our pipeline routes.

We also continually train our employees and contractors, and provide training to first responders in our areas of operation throughout North America to help prepare them should an incident occur. The training involves staging hundreds of drills, emergency exercises and equipment deployments each year involving federal, state, provincial and municipal agencies, and testing and refining our response plans so that we have the shared knowledge and experience to respond to any incident.

Our commitment to emergency preparedness and response also includes our work to ensure that the public is aware of our operations and can help us prevent third-party damage to our facilities from unauthorized excavation. Our public awareness work helps landowners, community members and first responders recognize and report incidents, and instructs them on how to stay safe if an incident occurs.

When we experience a spill, leak or release, our highest priority is the safety and protection of people and the environment. We develop plans for remediation and reclamation with the input of affected stakeholders and environmental regulators. We strive to address all regulator and stakeholder requirements, and to restore impacted areas to a state that is acceptable to the local community. We investigate each release to determine causes, and incorporate recommendations for prevention and improvement into our Integrity Management programs.

2013 Key Performance Area

#1. Successfully roll-out and continue to operate the Enbridge Enterprise Emergency Response Team (E³RT), Enbridge Safe Community Program and Emergency Responder Education Program

The E³RT responds to large-scale emergency events anywhere in North America that would require more resources than a single Enbridge region or business unit could provide. Through our Safe Community Program, we provide grants to first responder organizations in our areas of operation. The Emergency Responder Education Program gives first responders a solid foundation in pipeline emergency response.

Management Approach and Background

We are enhancing our incident management capabilities throughout our company. Our aim is to consistently capture, report, and manage activities to resolve incidents and reduce the likelihood of a reoccurrence. Our integrated approach and use of common methodologies will enable us

to better share information between our business units and benchmark our performance against other organizations.

In responding to spills and leaks of liquids products, our Liquids Pipelines (LP) business unit typically takes the following steps:

- Minimize environmental impact through containment
- Capture and safely remove the product from the environment, and take care to keep it from spreading to uncontaminated vegetation, water or soil
- Recover a high percentage of the product and inject it back into our pipelines
- Dispose of contaminated water, soil and vegetation at appropriate waste disposal facilities.
- Establish what needs to be removed based on a comprehensive clean-up plan, environmental testing and monitoring, physical inspection and guidance from government regulators
- Work closely with experts to minimize impacts on wildlife, and assist with the rehabilitation of animals that have come in contact with the product
- Develop and execute rehabilitation plans for water, soil and vegetation with the input of affected stakeholders and environmental regulators
- After determining the cause or causes of a spill or leak, implement corrective actions and apply lessons learned to our wider system and share our learnings with the pipeline industry

In responding to natural gas releases, our Gas Transportation (GT) and Gas Distribution (GD) business units (including Enbridge Gas Distribution, EGD) typically take the following steps:

- Identify the location of the leak
- Ensure the safety of public, employees and the environment
- Isolate the leak
- Repair and verify the repair has corrected the problem
- Remediate
- Apply lessons learned and share learnings with the natural gas industry

Timely response to leaks is critical to ensuring the safety of the public. EGD set out to reduce its response time and, since June 2012, has maintained a 45-minute response rate more than 90 per cent of the time. Its previous response rate was 60 minutes. Also, proper coordination between EGD and external parties when responding to emergencies is critical to reducing the risk of damage and injury. First responder notification is now done every time damage occurs.

Further, EGD is taking a risk-based approach to prioritize fire department training to focus on those departments that would benefit most from natural gas awareness training.

In 2013, we continued to improve our overall emergency preparedness and response capabilities, particularly with regard to:

- **Resourcing:** We have dedicated resources to support the creation and maintenance of an emergency plan. These resources include project support personnel and regional emergency response coordinators.
- **Programs:** We developed the Emergency & Security Management System (ESMS), which establishes accountabilities for the emergency management and asset security functions, details expectations of management, and describes how we will recognize, understand and manage our emergency preparedness and response and asset security risks.
- **Plans:** In August 2013, LP's U.S. operations introduced its new Integrated Contingency Plan (ICP). The ICP follows an industry-recognized format for response planning and is based on the Incident Command System (ICS), which promotes an integrated and coordinated response and is the common system used by first responders, the military and civil authorities across North America for responding to incidents. Our ICP received its five-year approval from the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) in July 2013. Enbridge's ICP is the first and only industry plan to undergo an extensive review process, which included the U.S. Environmental Protection Agency, the U.S. Coast Guard and Canada's National Energy Board. The ICP addresses the gaps identified in the U.S. National Transportation Safety Board report on our July 2010 Line 6B oil spill near Marshall, Michigan, and strengthens our emergency response capabilities to any incident that might occur on our pipelines.
- **Capability:** We continued placing emergency response equipment along our pipeline system, determining where to place it based on criteria such as targeted rapid response times.
- **Training and Exercises:** We provided ICS training to essentially all of the individuals across our company who could fill leadership and response roles during an incident.

Also in 2013, we rolled out, or continued operating, the following programs related to emergency preparedness and response:

- **Enbridge Enterprise Emergency Response Team (E³RT):** Through E³RT, employees throughout Enbridge's business units in Canada and the U.S. participate in regular emergency response exercises

to test and improve our capacity to respond to large-scale emergency events. These exercises range from tabletop simulations, where employees discuss responses to various scenarios, to full-scale deployment drills with local emergency agencies, using equipment to practice recovery and clean-up in various terrains and on water, as applicable.

- **Enbridge Safe Community Program:** Maintaining strong relationships with emergency responders in our areas of operation throughout North America is a priority for us. One of our flagship community investment programs is our Safe Community Program, under which we provide grants to the first responders, police agencies, fire-fighters, emergency medical services and other related health providers who would respond to emergency situations in or near communities along our pipeline rights-of-way. The grants help eligible organizations acquire new safety-related equipment, obtain professional training and deliver safety education programs in their communities. Since the program's inception in 2002 through to the end of 2013, our Safe Community Program grants to first responder organizations in Canada and the U.S. have totaled approximately \$7 million.
- **Emergency Responder Education Program:** We rolled out the Enbridge and Vector Pipeline Emergency Responder Education Program in the U.S. in December 2012 to more than 8,000 emergency response agencies, and rolled it out in Canada in April 2013 to approximately 800 first response agencies. The online training program features 3-D, interactive graphics to help first responders visualize their response to pipeline incidents. Content includes the basics of natural gas and crude oil pipeline operations information, how to safely handle products transported by pipelines, pipeline emergency response tactics and pipeline emergency scenarios. The program material is based on Pipeline Emergencies, an industry-leading pipeline emergency response training program developed by the National Association of State Fire Marshals (NASFM) in the U.S. We adapted the NASFM materials to provide information specific to our pipelines. In 2013, we also rolled out an in-person outreach component of the program and developed a new training module that targets 911 dispatch centres covering the areas in which we operate and fire departments close to our pipelines and facilities.

For More Information

Please see Enbridge's December 2013 [Operational Reliability Review](#).

Material Subject #4: Spills, Leaks and Releases

Context

High-profile incidents, such as our July 2010 oil spill into the Kalamazoo River near Marshall, Michigan, together with increased scrutiny and rapidly changing expectations on the part of regulators and stakeholders, have led us to re-engineer our practices and policies relating to safety and spills, leaks and releases.

Specifically, we are adopting the mindset of industries such as aerospace, airlines, nuclear and chemical processing, in which there is refusal to accept that any incident is inevitable or acceptable. Companies in these industries—and now Enbridge—strive to become what are known as High Reliability Organizations (HROs), in which the consequences of failure are top of mind; disciplined processes are developed, implemented and continually improved; and strong safety cultures are cultivated.

Toward this end, we have adopted the targets of zero incidents and zero injuries, and are on a Path to Zero by stepping up our efforts to reduce operational risks.

Spills, Leaks and Releases Profile

The majority of our spills, leaks and releases in 2013 were:

- Small in volume (less than 10 barrels each)
- Contained within our own facilities, such as pump stations and terminals, and prevented from entering the natural environment and quickly cleaned up
- Discovered soon after they occur, allowing for quick response and clean-up, and resulting in limited impact

In addition, our spills, leaks and releases are infrequent relative to the volume of the products we transport. For over the past 10 years, our Liquids Pipelines (LP) business unit delivered approximately 14 billion barrels of crude oil and liquids, and safely delivered 99.9993 per cent of that volume.

2013 Key Performance Area

#1. Achieve zero incidents

In 2013, LP had 114 reportable commodity (liquids) spills and leaks totaling approximately 4,298 barrels. Of these 114 spills:

- Five were “significant,” which we define as any reportable commodity spill or leak that is greater

than 100 barrels or that entails clean-up costs of \$1,000,000 or more. Please see the reports below about our response to those five incidents.

- 104 had a volume of 10 barrels or less
- 100 occurred at Enbridge facilities
- 14 occurred on Enbridge rights-of-way

Management Approach and Background

To continuously improve the operational reliability of our system, we will continue to implement preventative measures, thoroughly investigate every spill, leak and release, including those that do not meet the threshold requirements for regulatory reporting, and apply lessons learned. For information on the numerous actions and initiatives we are taking enterprise-wide to reduce spills, leaks and releases, please see the following sections of this report: Operational Risk Management; Innovation; Asset Integrity and Reliability; and Emergency Preparedness and Response.

Background on Enbridge’s company-wide liquids

spills and leaks: Company-wide (including LP and Gas Transportation) GT, in 2013, Enbridge had 117 reportable commodity (liquids) spills and leaks totaling approximately 4,325 barrels, broken down by business unit as follows:

- LP: 114 spills and leaks, totaling 4,298 barrels
- GT: three spills and leaks, totaling 27 barrels

“Reportable” refers to a spill, leak or release that is large or significant enough to require Enbridge to formally notify a regulatory agency. “Commodity” refers to a marketable hydrocarbon product transported in a pipeline, such as crude oil or natural gas.

Of our 117 company-wide reportable commodity (liquids) spills and leaks:

- 106 of them, or approximately 90 per cent, had a volume of 10 barrels or less
- 101 of them, or approximately 86 per cent, occurred at Enbridge facilities (onsite)
- 16 of them, or approximately 14 per cent, occurred on Enbridge rights-of-way or not located on Enbridge property (offsite)

For comparison purposes, our company-wide reportable commodity¹ spills and leaks over the last five years were:

- 2013: 117 spills and leaks, totaling 4,325 barrels
- 2012²: 85 spills and leaks, totaling 10,224² barrels
- 2011: 94 spills and leaks, totaling 2,366 barrels

- 2010: 91 spills and leaks, totaling 34,258 barrels
- 2009: 103 spills and leaks, totaling 8,441 barrels

1 Beginning in 2013 and in all future CSR reports, we are reporting only commodity spills and leaks (i.e. marketable hydrocarbon products such as crude oil and natural gas transported to market in an Enbridge pipeline) in our company-wide spills and leaks statistics, and are not reporting spills of non-commodities such as brine. Previous years' statistics have not been adjusted to reflect this change.

2 The volume reported includes 4,246 barrels of crude oil product released to a tank roof that did not result in any environmental damage. However, since the release was reported to the regulator, we have included it in the total volume.

Background on LP's spills and leaks in 2013: In 2013, LP recorded 114 reportable commodity liquids spills and leaks totaling approximately 4,298 barrels (LP's 114 spills and leaks comprised the majority of Enbridge's 117 company-wide spills and leaks in 2013).

Of LP's 114 spills and leaks in 2013:

- The majority of the spills were small in terms of volume, although LP experienced more spills in 2013 than it did in each of the previous four years. Approximately 91 per cent of them (104), had a volume of 10 barrels or less
- 100 of them, or approximately 88 per cent, occurred at Enbridge facilities (onsite)
- 14 of them, or approximately 12 per cent, occurred on Enbridge rights-of-way or were at least partially located outside of the facility boundary (offsite)

For comparison purposes, LP's reportable commodity¹ spills and leaks over the last five years were:

- 2013: 114 spills and leaks, totaling 4,298 barrels
- 2012¹: 77 spills and leaks, totaling 10,178 barrels
- 2011: 58 spills and leaks, totaling 2,283.5 barrels
- 2010: 80 spills and leaks, totaling 34,122 barrels
- 2009: 89 spills and leaks, totaling 8,353 barrels

1 Beginning in 2013 and in all future CSR reports, we are reporting only commodity spills and leaks (i.e. marketable hydrocarbon products such as crude oil and natural gas transported to market in an Enbridge pipeline) in our company-wide spills and leaks statistics, and are not reporting spills of non-commodities such as brine. Previous years' statistics have not been adjusted to reflect this change.

2 The volume reported includes 4,246 barrels of crude oil product released to a tank roof that did not result in any environmental damage. However, since the release was reported to the regulator, we have included it in the total volume.

In 2013, LP transported approximately two billion barrels of crude oil and liquids on its systems in Canada and the U.S., representing a safe delivery record of 99.9997 per cent. In 2012, LP delivered approximately 1.8 billion barrels and had a safe delivery record of 99.9994 per cent.

Background on GT's gas releases in 2013: GT had one onsite gas release totaling 0.128 million standard cubic feet (MMSCF), which met the reportable incident criteria of the

U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA).

We define "significant spill or leak" as any reportable commodity spill or leak that is greater than 100 barrels or entails clean-up costs of \$1,000,000 or more. One barrel of oil is equal to approximately 159 litres or 42 U.S. gallons.

Background on Enbridge's Significant Spills, Leaks and Releases in 2013: Neither GT nor our Gas Distribution business unit experienced any significant spills, leaks or releases. LP experienced the following significant spills and leaks in 2013:

- **Near Storthoaks, Saskatchewan:** On February 2, 2013, approximately 220 barrels of crude oil leaked from one of our gathering lines near Storthoaks. We immediately shut down and drained the line and reported the leak to regulatory authorities. The surface area of the leak was approximately 280 square metres (approximately 335 square yards) and the subsurface contamination reached 2,800 square metres (approximately 3,348 square yards). We recovered all contaminated snow and free fluid, and excavated all contaminated soil, which we delivered to a waste handling facility.

We cut out the failed section of the pipeline and sent it to a laboratory for analysis. The leak had been caused by corrosion damage that had, in turn, been caused by the failure of the external coating of the pipe's surface. We replaced the failed section of pipe, conducted an in-line inspection of the line, and returned the line back into service on March 15, 2013. This incident did not impact the community, wildlife or water.

- **Cushing, Oklahoma:** On May 13, 2013, approximately 2,200 barrels of crude oil leaked from one of our trunk lines at our South Terminal in Cushing. Although the leak took place outside of the terminal's containment area, the oil made its way via a ditch to a small containment pond near one of our tanks. (Our facilities feature berms and containment areas that we have designed specifically to prevent offsite contamination.) The oil flowed from the small containment pond into an adjacent creek and then into a large containment pond, where it was confined. We constructed dams and installed booms to ensure that the oil remained within our facility. We removed approximately 5,853 square metres (7,000 square yards) of impacted material from the leak area, the small pond, the creek and the large pond, as well as from the land that is farmed on-site. This incident involved several animal fatalities and rehabilitations. We completed our cleanup on June 7, 2013, and our restoration on June 21, 2013.

- **Near Cheecham, Alberta:** On June 22, 2013, as a result of heavy rainfall that led to 1-in-100-year water levels and flooding that triggered ground movement on our Line 37 pipeline right-of-way, approximately 1,300 barrels of light synthetic crude oil leaked from the pipeline approximately two kilometres (approximately 1.3 miles) north of our Cheecham Terminal, which is approximately 70 kilometres (45 miles) southeast of Fort McMurray. Line 37 is part of the Enbridge Regional Oil Sands System and connects facilities in the Long Lake area to our Cheecham Terminal.

The leak caused the oil to migrate to the soil surface and over land, then into a nearby lake. We immediately shut down the line, notified regulatory authorities and Aboriginal and Métis communities in the area, and contained the oil in the lake using containment booms and absorbent booms and pads. We also deployed wildlife deterrents around the affected area.

As a precaution, we also shut down the pipelines that share a corridor with Line 37, including the Athabasca, Waupisoo, Wood Buffalo and Woodland pipelines.

We recovered the oil from the impacted areas using various remediation techniques. This process resulted in the removal of approximately 6,800 tonnes of impacted soil and sediment, and the collection and treatment of approximately 3,000 cubic metres (approximately 3,924 cubic yards) of water. We recovered approximately 93 per cent of the oil from the area.

We conducted environmental site assessments concurrently with our remediation work. The assessments included investigations to quantify the leak's impacts to the soil, groundwater, sediment and surface water. In addition, we completed wildlife surveys, vegetation surveys, an aquatic sampling program, an amphibian relocation program and shoreline cleanup and assessment.

Throughout our response, we worked closely with regulatory agencies and local stakeholders to establish a comprehensive response and remediation plan. Our response was effective in mitigating the environmental impacts while minimizing further impacts to the local environment.

On July 11, 2013, we returned Line 37 back to service at a reduced operating pressure. We restored the normal operating pressure on July 29, 2013, after we had completed geotechnical analysis.

- **Near Griffith, Indiana:** On August 3, 2013, approximately 140 barrels of crude oil leaked from our Griffith Terminal. The leak, which impacted approximately three hectares (approximately 7.33 acres) of land, was fully contained within Enbridge's facility. We immediately reported the leak to the regulatory authorities and mobilized our emergency response efforts. There were no impacts to the local community, wildlife or water.

We recovered the oil from areas where it had pooled using vacuum-powered tanker trucks, and remediated the impacted roads and gravelled areas. Following our emergency response and cleanup efforts, we remediated the impacted areas. We excavated approximately 322 tonnes (355 tons) of impacted soil and transported it offsite for proper disposal. We completed cleaning and restoring the area on August 14, 2013.

- **Near Stoughton, Saskatchewan:** On November 21, 2013, a crude oil leak was identified on Line NB-07 near Stoughton. We immediately shut down and isolated the line and notified regulatory authorities. We excavated all contaminated soil and transported it to a waste handling facility. The volume was confirmed to be 101 barrels. We cut out the failed section of the line and sent it to a laboratory for analysis. At the time of publication of this report the investigation was in progress. This incident did not impact the community, wildlife or water.

For More Information

Please see the Spills, Leaks and Releases data sheet on www.csr.enbridge.com. Please also see Enbridge's December 2013 [Operational Reliability Review](#).

Material Subject #5: Energy and Climate Change

Context

We recognize that climate change is a critical global issue and believe that meaningful greenhouse gas (GHG) reductions require governments to collaborate with industry and consumers to establish clear, realistic GHG emissions objectives, public policies and effective regulations.

We also recognize that climate change is a critical issue for us, given that our business is focused on transporting fossil fuels.

While we don't produce the fossil-fuel-based products we ship, we understand that some stakeholders oppose our pipeline projects due to their connection to climate change. We address this issue by working with all of our stakeholders and all levels of government to ensure that our industry is a proactive participant in the development and implementation of climate change solutions. We track and publicly report on our own GHG emissions and continue to take steps to lower them.

We are also actively diversifying our business by investing in alternative and renewable energy technologies that support the development of a low carbon economy. Since 2002, we have invested more than \$3 billion in wind, solar, geothermal, waste heat recovery, and a host of other alternative energy technology projects that, together, have the capacity to generate more than 1,800 megawatts of emissions-free energy and result in the avoidance of approximately 1.6 million tonnes of GHG emissions each year. We plan to add to this capacity by 2016.

In addition, as we generate more renewable energy, we are participating in efforts to find ways to store it—particularly during non-peak demand hours—which is why we invest in technologies that support large-scale electricity storage. By investing in these technologies, we are helping to advance society's use of intermittent energy sources such as wind and solar.

And we continue to support our Neutral Footprint commitments. Currently, our commitments are to plant a tree for every tree we remove; help conserve an acre of natural habitat for every acre we permanently alter when building new energy infrastructure; and generate a kilowatt hour of renewable energy for every kilowatt hour of additional energy our expansion projects consume.

2013 Key Performance Areas

#1. Invest in renewable and alternative energy technologies, with the aim of doubling Enbridge's clean energy capacity in the five years from 2011 to 2016

In Quebec, the 308-megawatt (MW) Lac Alfred Windfarm, in which we hold a 50 per cent interest, reached commercial operation in two stages in January and August 2013.

The 153-MW Massif du Sud Windfarm in Quebec, in which we hold a 50 per cent interest, began delivering emissions-free energy to the Quebec grid in January 2013.

In April 2013, we secured a 50 per cent interest in the development of the 300-MW Blackspring Ridge Windfarm in Alberta, which will be the largest wind project in western Canada when operational, which we expect to occur in mid-summer 2014.

In July 2013, we acquired a 50 per cent interest in the 82-MW Saint-Robert-Bellarmin Windfarm in Quebec.

#2. Invest in energy innovation

In 2013, we made an equity investment in Temporal Power, an Ontario-based developer and manufacturer of electrical energy storage systems.

#3. Reduce direct GHG emissions company-wide

In 2005, we achieved our initial corporate target to reduce our Canadian direct GHG emissions by 15 per cent below 1990 levels and, in fact, achieved an 18 per cent reduction. We subsequently set a new Canadian operations reduction target for the 2010 inventory year of a 20 per cent reduction in direct GHG emissions below 1990 levels and, in 2011, we determined that we had achieved a 21 per cent reduction below 1990 levels, primarily through upgrading facilities and equipment. We are currently in the process of developing more accurate inventory data to help us establish a more robust baseline for new targets.

For our Enbridge Gas Distribution (EGD) business unit in Canada (but excluding EGD's storage operations), we have set a direct emissions intensity target of five per cent reduction based on 2011 emissions and number of customers (i.e. the metric is tonnes of carbon dioxide equivalent per number of customers) to be achieved by 2015.

Our Gas Transportation (GT) business unit in the U.S. has set a target of creating a comprehensive GHG emissions estimation methodology across all of its facilities for the 2015 calendar year using Enbridge's newly created Emissions Data Management System (EDMS). Using a 2015 baseline, GT will determine whether methane emissions reductions are achievable and, if so, will set reduction targets.

#4. Help customers use energy wisely through demand-side management (DSM) programs

Cumulatively, between 1995 and 2012, Enbridge Gas Distribution's DSM programs collectively saved approximately 7.8 billion cubic metres of natural gas or 14.9 million tonnes of carbon dioxide emissions. See below for more information.

Management Approach and Background

Climate Change Policy: Under our [Climate Change Policy](#), we are committed to reducing our consumption of energy and our GHG emissions. We are also committed to working, both within our individual business units and at a broader collaborative level with external stakeholders and decision makers, to advance climate solutions.

Renewable and Alternative Energy: Our renewable and alternative energy portfolio is diversified and growing. Our interests in wind, solar, geothermal and waste heat recovery, as well as a fuel cell/turbo-expander, have a total generating capacity of more than 1,800 megawatts, enough to meet the needs of approximately 600,000 homes. Our renewable and alternative energy investments also result in the avoidance of approximately 1.6 million tonnes of GHG emissions each year.

The following table provides an overview of our current renewable and alternative energy projects that are, or will soon be, operational.

Enbridge's Renewable Energy Projects

Project Name	Type	Total Generating Capacity	Ownership	Location	In-service Date
<i>(100 per cent owned and operated by Enbridge and our affiliates, except where less than full ownership/operatorship is indicated)</i>					
SunBridge	wind	11 MW	Enbridge Income Fund (50%)*	Gull Lake, Saskatchewan	2002
Magrath	wind	30 MW	Enbridge Income Fund (33%)*	Magrath, Alberta	2004
Chin Chute	wind	30 MW	Enbridge Income Fund (33%)*	Taber, Alberta	2006
Cruickshank	wind	8 MW	Enbridge Income Fund*	Bruce County, Ontario	2009
Underwood	wind	182 MW	Enbridge Income Fund*	Bruce County, Ontario	2009
Talbot	wind	99 MW	Enbridge Income Fund*	Chatham, Ontario	2010
Greenwich	wind	99 MW	Enbridge Income Fund*	Dorian, Ontario	2011
Cedar Point	wind	250 MW	Enbridge Inc.	Limon, Colorado	2011
Lac Alfred	wind	308 MW	Enbridge Inc. (50%)	Amqui, Quebec	2013
Saint-Robert-Bellarmin	wind	82 MW	Enbridge Inc. (50%)	Saint-Robert-Bellarmin, Quebec	2012
Massif du Sud	wind	153 MW	Enbridge Inc. (50%)	Chaudière-Appalaches Region, Quebec	2013
Blackspring Ridge	wind	300 MW	Enbridge Inc. (50%)	Vulcan County, Alberta	2014
Keechi Wind Project	wind	110 MW	Enbridge Inc. (100%)	Jack County, Texas	2015
Sarnia Solar Project	solar	80 MW	Enbridge Income Fund*	Sarnia, Ontario	2009 (20 MW) 2010 (60 MW)
Tilbury Solar Project	solar	5 MW	Enbridge Income Fund*	Tilbury, Ontario	2010
Amherstburg II Solar Project	solar	15 MW	Enbridge Income Fund*	Amherstburg, Ontario	2011
Silver State North Solar Project	solar	50 MW	Enbridge Inc.	Primm, Nevada	2012
Neal Hot Springs	geothermal	23 MW	Enbridge Inc. (40%)	Malheur County, Oregon	2012

Enbridge's Alternative Energy Projects

Project Name	Type	Total Generating Capacity	Ownership	Location	In-service Date
<i>(100 per cent owned and operated by Enbridge and our affiliates, except where less than full ownership/operatorship is indicated)</i>					
NRGreen Power	waste heat recovery	20 MW	Enbridge Income Fund (50%)*	Saskatchewan	2008
NRGreen Power	waste heat recovery	10 MW	Enbridge Income Fund (50%)*	Alberta	2014
Fuel Cell/Turbo-expander	fuel cell	2 MW	Enbridge Inc.	Toronto, Ontario	2008

*Through our investment in Enbridge Income Fund and our common and preferred interest in Enbridge Income Fund, Enbridge Inc. retains a 67.8 per cent interest in the Fund.

Investments in Energy Innovation: In addition to investing in renewable energy projects, we are investing in new technologies and businesses that are strategically aligned with our business interests. Two of the companies in which we have invested—Temporal Power and Hydrogenics Corporation—are working on renewable energy storage solutions. For more information on these companies please see the Innovation section of this report.

Efforts to Reduce Direct GHG emissions: We continue to evolve our Carbon Management Strategy, which will include further actions to reduce our own direct emissions. As the majority of our direct emissions emanate from our Enbridge Gas Distribution (EGD) and U.S. Gas Transportation (GT) business units, we are particularly focused on finding ways to reduce those emissions. As such, for our EGD business unit in Canada (but excluding EGD's storage operations), we have set a direct emissions intensity target of 5 per cent reduction based on 2011 emissions and number of customers (i.e. the metric is tonnes of carbon dioxide equivalent per number of customers) to be achieved by 2015 (i.e. approximately a one per cent per year reduction, which is consistent with our previous target performance for this business unit). Direct emissions make up the majority of emissions for our EGD business unit.

We have designed and installed an Emissions Data Management System (EDMS) covering both GHG and criteria air contaminant emissions data. The system will facilitate compliance with emissions reporting requirements in both Canada and the U.S.

Enbridge's Direct and Indirect GHG Emissions: The term direct emissions refers to emissions (fugitive, combustion, vented) that result from activities associated with company-owned facilities and from company-owned vehicles and are also referred to as Scope 1 emissions. The term indirect emissions refers to emissions from purchased electricity where the emissions occur at facilities owned by a third party and are also referred to as Scope 2 emissions. Please note that 2012 is the latest year for which we have data.

Liquids Pipelines (LP)

The tables below summarize total direct (Scope 1) and indirect (Scope 2) GHG emissions associated with Enbridge's LP operations in Canada and the U.S. The emissions are measured by tonnes of carbon dioxide equivalent (t CO₂e). In addition, estimated Scope 1 GHG emissions for Vector Pipeline Ltd., which is operated by the U.S. Liquids Pipelines business unit, are provided in a separate table below.

Scope 1 (t CO ₂ e)	2012	2011	2010	2009
Liquids Pipelines—Canada	13,072	12,388	12,367	11,971
Liquids Pipelines—U.S. ¹	4,714	7,282	5,758	2,980
Total	17,786	19,670	18,125	14,951

1 The Scope 1 estimates for the U.S. subsidiaries include vehicle emissions and fugitives (CH₄ and CO₂) from terminal operations. Line heater, fire pump, and emergency generator combustion-related GHG emissions are also included for Enbridge Energy, Limited Partnership. Currently, the Scope 1 inventory does not include emissions from space heating, water heating, and other small combustion sources; however, these sources are minor in terms of U.S. LP total Scope 1 and 2 emissions profile.

2 The above data exclude emissions data for certain, smaller U.S. offices due to the unavailability of data at these sites.

Scope 2 (t CO₂e)	2012	2011	2010	2009
Liquids Pipelines—Canada	1,183,013	1,114,698	1,138,296	1,103,801
Liquids Pipelines—U.S.	1,598,450	1,573,849	1,630,793	1,624,746
Total	2,781,463	2,688,547	2,769,089	2,728,547

Scope 1 (t CO₂e)	2012	2011	2010	2009
Vector Pipeline L.P.	356,396	383,391	377,010	337,586

1 Table notes: The Scope 1 estimate for Vector Pipeline includes stationary combustion (primarily the gas-fired compressor turbines), vehicles and system vented and fugitive emissions. Scope 2 emissions for Vector Pipeline have not been estimated at this time, but would be comparatively minor relative to the company's Scope 1 emissions profile.

2 The above data exclude emissions data for certain, smaller U.S. offices due to the unavailability of data at these sites.

Gas Transportation (GT)

GT implemented a GHG database in 2010 to calculate carbon dioxide equivalent emissions. GT's estimated emissions for 2012 were:

Scope 1 – Direct—2,194,817 tonnes of carbon dioxide equivalent (t CO₂e), compared with 2,175,400 tonnes in 2011. GT's Scope 1 estimate for 2012 combines combustion data calculations and estimates based on 2008 emissions data extrapolated to GT facilities existing in 2012. The GHG numbers in this CSR Report will not be the same as those reported by GT to the U.S. Environmental Protection Agency (U.S. EPA) in March 2013 for two main reasons: (1) the numbers in this report reflect emissions from all GT facilities, whereas the U.S. EPA only requires submissions from facilities that exceed reporting thresholds; and (2) the calculation method used for facilities not subject to EPA reporting is different than that used for facilities that are subject to EPA reporting requirements.

Scope 2 – Indirect—204,936 t CO₂e, compared with 311,846 t CO₂e in 2011. The decrease in Scope 2 emissions is primarily due to further refinement of GT's electricity database.

Scope 1 (t CO₂e)	2012	2011	2010	2009
Gas Transportation	2,194,817	2,175,400	1,020,388	1,077,900

Scope 2 (t CO₂e)	2012	2011	2010	2009
Gas Transportation	204,936	311,846	95,327	135,000

Gas Distribution (GD)

GD includes Enbridge Gas Distribution (EGD, in Ontario), as well as three smaller gas distribution companies: Enbridge Gas New Brunswick (in New Brunswick), Gazifère (in Quebec), and St. Lawrence Gas (in upper New York State). Each of the three smaller companies' emissions is approximately one per cent of those of Enbridge Gas Distribution.

Scope 1—Direct Emissions (t CO₂e)	2012	2011	2010	2009
Gas Distribution	251,387	269,524	319,486	315,806

Table note: A new quantification method was introduced in 2011 for buried pipe fugitive emissions. Prior emissions have not been re-stated and, therefore, cannot be compared.

Scope 2—Indirect Emissions (t CO₂e)	2012	2011	2010	2009
Gas Distribution	2,872	2,164	2,616	2,653

Table note: The Scope 1 and Scope 2 GHG numbers in these two tables differ by approximately 7 per cent from those we reported to the CDP in 2013. This is due to minor data entry changes we made in our carbon data management system since we submitted the data to the CDP.

Renewable and Alternative Electricity Generation

The following summarizes total direct (Scope 1) and indirect (Scope 2) GHG emissions associated with Enbridge's renewable and alternative electricity generation business unit:

Scope 1 (t CO ₂ e)	2012	2011
Renewable and alternative electricity generation	480	1,340

Scope 2 (t CO ₂ e)	2012	2011
Renewable and alternative electricity generation	778	892

Corporate: The following summarizes total direct (Scope 1) and indirect (Scope 2) GHG emissions associated with Enbridge's corporate offices.

Scope 1 (t CO ₂ e)	2012	2011
Corporate	2,341	2,509

Scope 2 (t CO ₂ e)	2012	2011
Corporate	2,426	2,253

Table notes: Prior to the 2011 reporting year, GHG data for our corporate offices were included in the LP data. We have not reported immaterial emissions associated with our offices in two of our Calgary buildings.

Enbridge Gas Distribution's GHG Reduction Initiatives: Since the early 1990s, EGD in Ontario has undertaken many initiatives to reduce GHG emissions from its natural gas distribution operations. The largest of these initiatives historically has been the multi-year, multi-million dollar cast iron pipe replacement program, which EGD started in the early 1990s and completed in 2012. Through this program, EGD replaced approximately 1,800 kilometres of aging—and leaking—cast iron and bare steel pipe with coated steel and plastic pipe and reduced its leaks and, consequently, its annual GHG emissions by approximately 122,000 tonnes of carbon dioxide equivalent.

EGD's ongoing efforts to save energy and reduce GHG emissions from line heater fuel use—for example, the installation of new heater technologies and application of improved temperature control strategies—also continue to yield reductions.

EGD's management of GHG emissions from its operations extends to many other activities that are more difficult to quantify. For example, emissions resulting from third-party damages are reduced through public awareness campaigns, the Ontario One-Call service, our work through the Ontario Common Ground Alliance and installation of excess flow valves on all new service line installations. Also, newer station designs now incorporate more welded connections, reducing the number of threaded or flanged connections where fugitive emissions can occur.

As of 2012, approximately 95 per cent of EGD's light-duty fleet vehicles, as well as six of its heavy-duty dump trucks, run on natural gas, reducing EGD's GHG emissions by 460 tonnes of carbon dioxide equivalent per year compared to operating them on gasoline and diesel. Also, EGD continues to show leadership through continued efforts to have its buildings become LEED-compliant, as is the case with its new Training and Operations Centre located in Markham, Ontario.

Enbridge's Direct and Indirect Energy Consumption: Enbridge's LP systems in Canada and the U.S. primarily use electric pumps to move product through their pipelines, while our natural gas gathering, transmission and distribution systems use natural gas as fuel for the compressors that move the gas along their pipelines. Enbridge's gas distribution systems in Ontario, Quebec, New Brunswick and New York State are powered by electricity and natural gas. We use diesel fuel and natural gas to drive pumps in remote locations along the Enbridge Norman Wells Pipeline system in the Northwest Territories.

Direct Energy Consumption

The table below summarizes direct energy consumption associated with operations of: LP (Canada); LP (U.S.); Vector Pipeline (U.S.); GT; EGD; Enbridge's renewable and alternative energy facilities; and Enbridge's corporate offices. All units in these tables are in gigajoules (GJ). Please note that 2012 is the latest year for which we have data.

Liquids Pipelines (Canada) (GJ)	2012	2011	2010	2009
Stationary equipment—natural gas	78,842	83,300	74,033	84,661
Stationary equipment—propane, diesel	51,903	44,535	43,179	35,745
Mobile sources—all fuel types	50,467	48,492	63,103	57,205
Total	181,213	176,327	180,315	177,611

Table note: The above data include natural gas energy used at our LP offices in Edmonton.

Liquids Pipelines (U.S.) (GJ)	2012	2011	2010	2009
Stationary equipment—natural gas	27,968	79,252	52,237	–
Stationary equipment—propane, diesel	211	82	64	32
Mobile sources—all fuel types	43,523	42,401	40,585	38,352
Total	71,702	121,735	92,886	38,384

Table note: The above data exclude energy data for certain, smaller U.S. offices due to the unavailability of data at these sites.

Vector Pipeline (U.S.) (GJ)	2012	2011	2010	2009
Stationary equipment—natural gas	6,324,572	6,165,554	6,071,251	5,295,566
Mobile sources—all fuel types	1,377	1,425	1,580	1,364
Total	6,325,949	6,166,979	6,072,831	5,296,930

Gas Transportation (GJ)	2012	2011	2010	2009
Stationary equipment—natural gas	34,321,847	–	–	–
Mobile sources—gasoline	98,627	95,200	86,457	137,184
Mobile sources—diesel fuel	504,694	524,867	414,190	153,048
Total	34,925,168	620,067	500,647	290,232

Table note: Regarding "Stationary equipment—natural gas," this is the first time we have reported this figure, which covers energy consumption from all combustion operations at GT's facilities. All equipment is operated using best management practices to maximize efficiency, thus reducing excess emissions from these sources. Best management practices include all recommended routine maintenance, such as oil and air filter changes, along with monitoring the operations of individual engines and ensuring the optimization of operating conditions.

Gas Distribution (GJ)	2012	2011	2010	2009
Buildings and Operations				
Natural gas combustion	522,793	657,359	540,795	480,362
Fleet and Equipment				
Diesel vehicles	46,438	49,073	50,195	46,154
Gasoline vehicles	51,042	53,520	53,499	55,844
NGV (natural gas vehicles)	47,358	45,860	50,847	44,534
Total	667,631	805,812	695,336	626,894

Renewable and alternative electricity generation (GJ)	2012	2011
Stationary equipment—natural gas	7,797	24,786
Stationary equipment—liquid fuels	397	410
Mobile sources—all fuel types	862	907
Total	9,056	26,103

Corporate (GJ)	2012	2011
Stationary equipment—natural gas	17,161	16,798
Stationary equipment—liquid fuels	397	410
Mobile sources—all fuel types	21,648	24,597
Total	38,809	41,395

Table notes: Prior to the 2011 reporting year, energy data for Enbridge's corporate offices were included in the data for LP. Enbridge has not reported immaterial energy use data associated with its offices in two of its Calgary buildings.

Indirect Energy Consumption

The table below summarizes indirect energy consumption associated with operations of: LP (Canada); LP (U.S.); GT; EGD; Enbridge's renewable and alternative energy facilities; and Enbridge's corporate offices. Data on electricity consumption on the Vector Pipeline (U.S.) system have not been compiled but they are comparatively minor relative to the direct energy use on this natural gas transmission pipeline operation. All units in these tables are in gigajoules (GJ). Please note that 2012 is the latest year for which we have data.

Liquids Pipelines (Canada) (GJ)	2012	2011	2010	2009
Electricity	7,125,134	6,612,792	7,247,633	7,243,904

Table note: The above data include the electricity used in Enbridge's Liquids Pipelines offices in Edmonton.

Liquids Pipelines (U.S.) (GJ)	2012	2011	2010	2009
Electricity	7,785,871	7,351,434	7,591,274	7,576,462

Table note: The above data exclude energy data for certain, smaller U.S. offices due to the unavailability of data at these sites.

Gas Transportation (GJ)	2012	2011	2010	2009
Electricity	1,371,244	1,968,522	601,758	665,399

Enbridge Gas Distribution (GJ)	2012	2011	2010	2009
Buildings and Operations				
Electricity	64,583	58,724	71,825	73,261

Renewable and alternative electricity generation (GJ)	2012	2011
Electricity	13,727	10,345

Corporate (GJ)	2012	2011
Electricity	10,314	9,146

Table note: We have not reported immaterial energy use data associated with our offices in two of our Calgary buildings.

Efforts to help customers use energy wisely through demand-side management (DSM) programs: We are committed to helping customers use energy wisely. To that end, EGD has a range of DSM programs designed to meet the needs of our customer groups and market sectors. From homeowners to large industrial facilities, and everything in between, EGD encourages, educates, facilitates and incentivizes customers to adopt energy-savings equipment and operating practices to reduce consumption of natural gas.

Cumulatively, between 1995 and 2012*, our DSM programs collectively saved approximately 7.8 billion cubic metres of natural gas or 14.9 million tonnes of carbon dioxide emissions¹. Those reductions would be similar to taking approximately 2.9 million cars off the road² for a year or serving approximately 2.6 million homes³ for a year.

* 2012 results subject to Ontario Energy Board Clearance of Accounts

¹ Assumes 1.89kg of CO₂ are emitted for each m³ gas that is consumed

² Assumes the average automobile produces 5.1 tonnes of CO₂ per year

³ Assumes a typical residential customer uses 3,064 m³ per year to heat their home and water

Enbridge's Neutral Footprint Commitments: In 2009, we announced a plan to reduce our environmental impact where it is felt most: on the trees we remove and the natural habitat we permanently alter when building new energy infrastructure, and the energy we use to power our expansion projects.

Our target is to counteract our environmental impacts within five years of their occurrence by:

- Planting a tree for every tree we remove to build new pipelines and facilities (Tree for a Tree)
- Helping to conserve an acre of natural habitat for every acre we permanently alter to build new pipelines and facilities (Acre for an Acre)
- Generating a kilowatt hour of renewable energy for every kilowatt hour of additional energy (above December 31, 2008 levels) that our expansion projects consume (Kilowatt for a Kilowatt)

With regard to our Tree for a Tree and Acre for an Acre commitments, as of December 31, 2013, we had:

- Removed 596,443 trees and planted 825,445 tree seedlings
- Disturbed 2,932 acres of natural habitat and helped conserve 52,303 acres (we will apply the surplus of 48,611 acres to future projects)

With regard to our Kilowatt for a Kilowatt commitment, as at December 31, 2013, our annual renewable energy production was 2,802 gigawatt hours (GWh). As of February 28, 2014, we are forecasting that the power consumption from our Liquids Pipelines operations in 2015 will be 3,609 GWh over its December 31, 2008 level, while our annual renewable energy production is expected to exceed 4,000 GWh.

We are currently reviewing our Neutral Footprint program with a view to incorporating the learnings and experience we've gained from the current program into a version that includes fulsome stakeholder engagement regarding the program's future scope and direction.

For More Information

Please see the Climate Change, Renewable Energy, Air Emissions and Demand-Side Management data sheets on www.csr.enbridge.com. For the current status of our Neutral Footprint progress, please see our [Neutral Footprint dashboard](#).

Material Subject #6: Stakeholder Engagement

Context

Public focus on safety and environmental incidents in the North American energy sector has increased dramatically in recent years. This focus has manifested itself in increased scrutiny by governments, regulators, landowners, the media, shareholders, local communities, NGOs, Aboriginal and Native American communities and the general public. In some instances it has also manifested itself in organized opposition campaigns against specific projects or activities, affecting the business and reputation of companies such as Enbridge.

This increased focus means that for Enbridge to be successful, we must have a solid understanding of our stakeholders' views and expectations. We will always need government licenses and permits to operate. But we also require social license. We recognize that earning and maintaining that social license means we must not only comply with regulatory requirements for stakeholder and community engagement, but must also continually interact with our stakeholders to meet their expectations.

For this reason, many of our projects and operations have customized public involvement and awareness plans that provide management systems, standards and accountabilities for ensuring that we know our stakeholders, engage with them to understand their interests and perspectives, and respond appropriately to their concerns.

2013 Performance Area

#1. Continually engage our stakeholders through our community relations practices and initiatives.

We engage our stakeholders and the communities in which we operate through plans designed to reach out to them at the inception of new projects, as well as through activities designed to maintain public awareness of and involvement in our ongoing operations.

Understanding our stakeholders and their concerns is critical to making good business decisions and mitigating risk. There is a direct link between our ability to respond effectively to public concerns and our ability to manage costs and regulatory approval times. Similarly, strong landowner and public involvement and awareness across the life cycle of a project or operation enhances all aspects of our performance as well as our ability to find solutions that benefit everyone concerned.

We list our stakeholder groups in the About Enbridge section of this report.

Aboriginal and Native American groups are also extremely important to us, but are not included on this list because we recognize them as being separate and distinct. For further information on how we engage with Aboriginal and Native American communities, please see the Aboriginal and Native American Rights and Engagement section of this report.

Management Approach and Background

Public Involvement Programs (PIPs): We are currently undertaking dozens of large projects across North America and, whether they pertain to pipelines, storage tanks, power transmission lines or renewable energy projects, as soon as they have been proposed we develop and implement a PIP.

PIPs are proactive, two-way communication and consultation programs aimed to build public awareness and understanding, gather stakeholder input, answer questions, learn about community interests and perspectives and, whenever possible, implement changes. Under a PIP, we provide regular project updates to landowners, Aboriginal and Native American communities, community residents, stakeholder organizations, public officials, chambers of commerce and the media via newsletters, posters, regulatory compliance mailings, telephone calls, community open house meetings and in-person visits.

While some stakeholders prefer to receive information at the start of a project and then to be kept informed only from time to time, others have concerns that require extensive consultation. The format these consultations take varies, and can include

everything from negotiations with individuals on specific issues and multi-stakeholder advisory groups, to discussions about economic opportunities with local contractors and multi-party collaborations on shared objectives.

Following are some examples of various engagement formats that took place in 2013:

- Pump station tours to show how our new Line 61 will look and operate (Illinois)
- Impromptu coffee shop sessions in communities close to our proposed Norlite Pipeline Project (Alberta)
- Lunch-and-learn presentations regarding our Line 10 and 11 Segment Replacement Projects (Ontario)
- Tours of our 2010 spill site near Marshall, Michigan, for leaders from communities along the proposed Northern Gateway Project right-of-way

Public Awareness Programs (PAPs): Our PAPs focus on improving awareness of pipelines in communities and on the importance of calling a local One-Call centre or 811 before excavating. They also focus on ensuring that stakeholders know how to recognize the warning signs of a potential pipeline emergency. The following are a few examples of PAPs:

- **Damage Prevention Program:** We meet regularly with local emergency responders, excavators, schools, public officials and other community stakeholders along our rights-of-way to share important safety information about our pipelines, and to work proactively with them to prevent personal injury, damage to the environment or damage to the pipeline system.
- **Enbridge's Safe Community and Emergency Response Education Programs:** Please see the Emergency Preparedness and Response section in this report for more information.

Moving forward, we are expanding our stakeholder relationship management systems such that they enable us to be more accountable and to track outcomes. We also want to achieve more robust integration between all of our ongoing stakeholder and community relations activities and our Safe Community program. And, we intend to strengthen our evaluation processes to help us identify areas for performance improvement.

For More Information

Please see the Stakeholder Engagement data sheet, which will be posted by June 1, 2014 on www.csr.enbridge.com.

Material Subject #7: Aboriginal and Native American Rights and Engagement

Context

We consistently and rigorously strive to uphold the highest human rights standards in all of our work. This commitment applies to all aspects of our business, but is particularly relevant to our extensive relations with Aboriginal and Native American communities.

More than 60 First Nations communities are located along our rights-of-way in Canada alone; and, in both Canada and the U.S., energy infrastructure development requires the involvement of Aboriginal and Native American persons who live and work in areas where development is located.

Additionally, in Canada, Aboriginal persons have a constitutionally protected right to be consulted if any government decision has the potential to impact treaty or other Aboriginal rights. Therefore, both the project proponent and the Crown (the federal and provincial governments) recognize Aboriginal groups as being separate and distinct from other stakeholders. Aboriginal groups can challenge or appeal decisions made by regulatory authorities if they are not satisfied with the decision from a rights and title perspective.

In the U.S., as required under [Section 106 of the National Historic Preservation Act](#), the federal government must consult with recognized Native American tribes and other designated agencies on projects that have the potential to cause adverse effects on historic properties. Under federal law, the U.S. Bureau of Indian Affairs must grant a right-of-way before a company can proceed with construction on any Indian Reservation; lands held in trust for a tribe, band or individual Indian; or lands held by individual Indians or Indian tribes or bands that are subject to restraints against alienation.

Given our commitment to human rights, as well as the regulatory framework within which we operate, our intention is to engage with Aboriginal and Native American communities regularly, consistently and respectfully over the life of our projects—from the planning and regulatory approval phases all the way through to and during the operational phase. In acknowledgement of our efforts in 2013, the Canadian Council for Aboriginal Business (CCAB) awarded Enbridge its [Progressive Aboriginal Relations \(PAR\)](#) Silver-level certification, which recognizes excellence in

Aboriginal relations in the areas of employment, business development, community investment and community engagement.

While our work has resulted in many examples of successful consultation, engagement and collaboration with Aboriginal and Native American communities, we do face a number of significant challenges. Some communities, for example, have opposed some of our projects based on a number of issues. Please see the Discussion of Significant Challenges and Responses section of this report for more information.

Despite the challenges, we continue to look for ways to collaborate and find common ground with these important communities, and have highlighted a number of initiatives related to that objective in this report.

2013 Key Performance Areas

#1. Respect Aboriginal and Native American rights and values through consultation and engagement with communities that are close to, or in some significant way affected by, our projects and operations

To protect human rights and comply with Canadian and U.S. regulatory requirements, we assess the potential social, economic and environmental impacts of all of our projects through socio-economic and environmental studies, during which we consider:

- The biophysical elements of the terrestrial and marine environment, including key receptors that could potentially be affected
- The project's economic impacts, including its effects on the national and regional economy
- Aboriginal and Native American rights and interests, including the current use of lands and resources for traditional purposes by Aboriginal and Native American persons
- The safety of project workers, and the safety of the communities in which the project would operate
- Potential human health impacts, including changes in the natural environment that could affect the physical health of people

In evaluating these various areas, we also view them from the perspective of our [CSR Policy](#) and our [Aboriginal and Native American Policy](#), under which:

- We recognize that governments have the primary responsibility to promote and protect human rights, and that we will work with governments and agencies to support and respect human rights within our sphere of influence

- We respect Aboriginal and Native American rights, land, heritage sites, environmental protocols and traditional knowledge, and are committed to a consistent and thorough approach to consultation, engagement and shared benefits
- We will not tolerate human rights abuses, and will not engage or be complicit in any activity that solicits or encourages human rights abuse
- We will always strive to build trust, deliver mutual advantage and demonstrate respect for human dignity and rights in all relationships we enter into, including respect for cultures, customs and values of individuals and groups

In addition, we strive to improve our performance in all of these areas by upholding our commitments as a signatory to the [United Nations Global Compact \(UNGC\)](#) and a supporter of the [Voluntary Principles on Security and Human Rights](#).

#2. Help achieve mutually beneficial goals by working with Aboriginal and Native American communities to create opportunities

We worked with Aboriginal communities and member-owned businesses in Canada and the U.S. to help them access over \$58.4 million in economic opportunities, in 2013.

We also worked with Aboriginal and Native American communities to create new opportunities for community development, business development, education and training.

Management Approach and Background

Economic Participation Initiatives: In 2013, we worked with Aboriginal communities and member-owned businesses in Canada and the U.S. to help them access over \$58.4 million through various economic participation initiatives. Among the various economic participation initiatives are contracting opportunities that we offer to qualified Aboriginal and Native American suppliers and contractors and to joint ventures between Aboriginal/Native American businesses and non-Aboriginal/Native American businesses.

Since 2009, we have spent approximately \$150 million on services provided by Aboriginal businesses for our pipeline expansion and extension projects in Canada. For example, an Alberta First Nation community provided critical services to us during the planning and early construction phase of our Athabasca Pipeline Twinning Project through several of its businesses. We anticipate that the value that these businesses will ultimately realize through direct and indirect contracts with us will be approximately \$20 million by the time we have completed the project.

We also work with Native American communities in the U.S. to create similar shared economic value opportunities. For example, in August 2013 we began building our Flanagan South Pipeline Project, a crude oil pipeline that will run from Pontiac, Illinois, to Cushing, Oklahoma. We contacted representatives of the Osage Nation of Oklahoma in early spring 2012, and, soon after, began discussing opportunities for tribal members to work on the project. The Osage Nation developed a three-month training program to prepare tribal members for the work, and between August 2013 and December 2013, Osage Nation workers earned \$2.4 million and put in more than 80,000 person hours working on the project.

Community Development Initiatives: In 2013, we invested over \$2.6 million in community development initiatives focused on Aboriginal and Native American housing, education and language retention. Among these initiatives were:

- We presented the first of five annual payments of \$200,000 to [Habitat for Humanity's National Building Program](#) under the [Enbridge Aboriginal Home Program](#). Under the program, our funding will help provide affordable housing for Aboriginal families across Canada from 2013 through to 2017. In 2013, the funding contributed to the construction of houses in Ontario, Manitoba, Saskatchewan and Alberta—some of which Enbridge employees helped build.
- We sponsored a one-year pilot program, called the Aboriginal Youth Environmental Program, under the [First Nations \(Alberta\) Technical Services Advisory Group \(TSAG\)](#). TSAG designed the program to promote environmental stewardship and awareness among Aboriginal youth. It completed four water sampling sessions with youth from the [Frog Lake First Nation](#) and the [Kehewin Cree Nation](#).
- We continued our support of Aboriginal language and literacy initiatives by supporting the [Canadian Indigenous Languages and Literacy Development Institute \(CILLDI\)](#) at the University of Alberta. Since 2007, we have supported CILLDI through a variety of programs such as Elder in Residence, and the Young Women's Circle of Leadership in Partnership with Women Building Futures. In 2013, we also continued our support of CILLDI's Language Leadership Awards, through which we encourage Aboriginal educators to attend the institute. To that end, we offer up to eight awards of \$2,500 each to support teachers from the Treaty 6, 7, and 8 areas in Alberta to take summer training at CILLDI.

Connecting Aboriginal Businesses with Opportunities

in the Energy Industry: Under a 2013 partnership with the Canadian Council for Aboriginal Business (CCAB), we contributed \$20,000 to the Certified Aboriginal Business Program to support the development of the CAB directory, an online database that links Aboriginal businesses in Canada with non-Aboriginal businesses to create more bid opportunities for Aboriginal businesses interested in working with industry. Certified businesses can access tender opportunities posted by CCAB members such as Enbridge.

Enriched Education for Aboriginal Students: Our School Plus Program, which we developed in partnership with the Assembly of First Nations (AFN) in Canada, supports enriched programming and extracurricular activities in First Nations schools near our major pipeline routes in Canada. The intention behind this program is to encourage First Nations youth to stay in school by assisting schools in offering sports activities, music or arts programs, field trips and school clubs.

The initial three-year pilot program, launched in 2009, provided funding to 42 eligible First Nations schools located close to our mainline right-of-way between central Alberta and southwest Manitoba, and close to our windfarm near Kincardine, Ontario. Thanks to the success of our pilot School Plus Program, in 2012 we expanded it to include communities along our mainline right-of-way in Ontario and Quebec, and along the proposed Northern Gateway Project (NGP) right-of-way in Alberta. The expansion brings the number of schools that are eligible to participate in the School Plus Program to 91.

In 2013, we made School Plus grants totaling more than \$673,000 to 31 eligible First Nations schools and urban partnerships, and over 5,400 First Nations youth benefited from the program. Since 2009, the program has enriched the education of more than 15,000 youth in more than 90 schools by providing more than \$3.7 million in grants in support of educational programming.

Northern Gateway Project (NGP) Initiatives:

Northern Gateway Pipelines has introduced a number of initiatives designed to create value for Aboriginal communities near the proposed NGP:

- **Aboriginal Economic Benefits Package:** Northern Gateway Pipelines developed an Aboriginal Benefits Package that includes equity ownership for eligible Aboriginal groups in Alberta and the interior and coastal regions of B.C. For more information about the package, please see the Discussion of Significant Challenges and Responses section in this report.
- **Community Advisory Boards (CABs):** Northern Gateway Pipelines supports discussion about all aspects of the NGP through Community Advisory Boards (CABs). The CABs comprise a cross-section of interested groups, including First Nations, Métis

organizations, business leaders, local elected officials, environmental organizations and the general public.

In 2013, Northern Gateway Pipelines facilitated three rounds of regional CAB meetings in Grande Prairie, Edmonton, Prince George, Terrace and Kitimat. In addition, Northern Gateway Pipelines hosted two CAB Sharing Tables and a CAB Conference in Richmond, B.C., which brought together CAB members from the Alberta and B.C. regional CABs, and well as from other communities in which we operate, including Marshall, Michigan.

- **Skills Development and Training Initiatives:**

In anticipation that Northern Gateway Pipelines could receive the regulatory approvals and social license that it needs to build the NGP, it invested in skills development and training initiatives that will help communities (Aboriginal and non-Aboriginal) participate in the project. Many of the communities along the proposed NGP right-of-way face socio-economic challenges. Northern Gateway Pipelines works closely with interested local Aboriginal communities to help address barriers to participation in new training and economic opportunities and, by the end of 2013, had supported over 30 initiatives, including:

- Pipe trades foundation training (level 1 apprentice)
- Marine skills training (entry level)
- Driller helper training (entry level)
- Construction craft worker training (level 1)
- Youth leadership camps
- Small business sub-contracting information sessions
- B.C. post-secondary bursaries
- Workforce Connections conferences (Alberta and B.C.)

Northern Gateway Pipelines' commitment to skills development and training is based on its intention to ensure that local communities are well positioned to participate in the employment opportunities that would arise from the NGP. Northern Gateway Pipelines' commitment is also based on the fact that the initiatives would be mutually beneficial. Communities would benefit from our investment, while Northern Gateway Pipelines would benefit by having ready access to a skilled workforce.

Northern Gateway Pipelines' investments in development and training extend beyond the actual funding of the initiatives to the manner in which the initiatives are developed. Taking the position that the community knows best what it needs, Northern Gateway Pipelines works with the communities to understand their needs and to co-create the initiatives.

Northern Gateway Pipelines' investments in skills development and training are funded under the NGP Education and Training Fund, which is part of the NGP 2011 Education, Training and Employment Strategy. In December 2012, Northern Gateway Pipelines increased the size of the fund from \$1.5 million to \$3 million and, by the end of 2013, had invested over \$1.4 million of the \$3 million total.

Crisis Communications: Our June 22, 2013 oil spill on Line 37 near Cheecham, Alberta, provides an example of what our engagement looks like during a crisis. On that day, approximately 1,300 barrels of light synthetic crude spilled from our Line 37 pipeline. (Please see the Spills and Releases section for more information.) Immediately after we had shut down the line, we notified the First Nations and Métis communities in the area to let them know what was happening. A few days later, we invited these communities to tour the spill site, employed community members on-site to help oversee remediation efforts, and began providing regular reports to keep them informed. We also met with them several times throughout the incident to listen to and resolve any concerns. Our existing relationships with these communities enabled us to more effectively manage the challenges created during and following the crisis.

For More Information

Please see the Aboriginal and Native American Rights and Engagement data sheet, which will be posted by June 1, 2014 on www.csr.enbridge.com.

Material Subject #8: Employees

Context

People are the basis of our success, and we know that engaging and retaining a highly skilled workforce is critical to our ability to achieve our business goals.

Our business is growing quickly and, for that reason, our key challenges with regard to employees centre around attracting, developing, engaging and retaining them.

In 2013, we added 778 permanent employees (full time and part time). At the end of the year, we had 8,598 permanent employees (full time and part time) in Canada and the U.S., as well as 252 temporary employees and 2,397 provisioned contractors who support seasonal and project work associated with specific projects.

With such a significant growth rate, leadership is also integral to our success. As such, our people priorities in 2013 included designing and implementing a new process for succession planning and talent assessment, as well as launching our leadership development program.

2013 Performance Areas

#1. Attract the best talent and develop, engage and retain our workforce

To ensure that we develop, engage and retain our employees and contractors, we have put in place comprehensive programs for talent management, leadership development and succession management. We also have a full array of compensation and benefit programs designed to attract and retain talent, and are committed to developing and maintaining a diverse, inclusive, healthy and positive work environment.

#2. Maintain employee turnover rate in the range of two per cent to 4.5 per cent; maintain new hire-voluntary turnover in the range of 3.5 per cent to 6.5 per cent

In 2013, our voluntary turnover as a percentage of our total workforce population was 3.2 per cent. Our new-hire voluntary turnover rate was 5.3 per cent.

#3. Sustain levels of employee engagement (Maintain Best Employer Status at 65 per cent or higher)

Our enterprise-wide employee engagement score from our 2012 Employee Perspectives Survey (which we issue every two years, with the next being scheduled for 2014) was 79 per cent, well above our goal.

#4. Implement an enterprise-wide Leadership Development Program to broaden our leadership base and accelerate the pace of leadership development; enhance succession management practices within business units and across the enterprise

In 2013, we launched our Leadership Development Program and a new succession management process. We also developed and launched a new talent assessment process in 2013 to supplement our succession planning.

#5. Maintain employee training investment at between 1.25 per cent and 1.5 per cent of salary costs

On average, we spend \$1,698 per employee on learning and development. This amount equals approximately 1.5 per cent of the amount we spend on salaries.

Management Approach and Background

Resourcing Strategy: The comprehensive resourcing strategy we launched in 2011 continued to guide and support our workforce growth efforts in 2013, during which we hired almost 3,600 employees and contractors. As of December 31, 2013, we employed 8,598 permanent employees, broken down as follows:

	Male	Female	Total
Liquids Pipelines (Canada & US)	2,335	1,008	3,343
Major Projects (Canada & US)	368	269	637
Gas Transportation	1,265	453	1,718
International	17	7	24
Gas Distribution	1,480	941	2,421
Corporate	234	221	455
Enterprise	5,699	2,899	8,598

A large majority (99 per cent) of our permanent workforce is full time. The breakdown is 8,490 full-time and 108 part-time permanent employees.

As of December 31, 2013, we also employed 252 temporary employees—136 male and 116 female. There were 2,397 contractors working at Enbridge in various capacities at that point in time. We do not track contractor gender. The contractor workforce can be divided as follows:

	Total
Liquids Pipelines (Canada & US)	881
Major Projects (Canada & US)	775
Gas Transportation	137
International	4
Gas Distribution	308
Corporate	292
Enterprise	2,397

Talent Management: Talent management is a critical component of the value proposition we offer our employees. Strong talent management processes support our success during periods of growth and change, and ensure a seamless transition when we lose experienced employees due to retirement.

Our commitment to effective people management practices, including employee recognition, identification of high-potential and succession candidates and enhanced employee development and career planning, have contributed to securing our position as an employer of choice within the various markets in which we operate.

Our leaders actively manage the attraction, retention, development and transition of our workforce, with support from our HR department. Their work focuses on employee engagement, leadership and employee development, succession and career management, mentorship, managing performance and knowledge transfer.

In addition to offering a broad array of in-house and external leadership and employee development programs, we offer a Tuition Reimbursement Program, which provides financial support to employees who advance their education through external learning programs in support of their current and future careers at Enbridge. We also offer a company-wide scholarship program to help employees' children access post-secondary education.

Leadership Development: We recognize that we must build on our leadership strength to meet the challenges and opportunities we face in achieving our key business priorities.

Our Leadership Development initiative provides a company-wide leadership development framework and has begun to cultivate a shared leadership philosophy among our leaders since we launched

it in 2013. We have established clear accountabilities for leadership development, and key leadership competencies now guide broad-based development and behavioural change.

Leaders' capability and effectiveness is being enhanced for succession purposes, and we have elevated our commitment to developing and retaining top leaders.

Succession Management: Succession management is a significant focus as we seek to attract, develop, engage, retain and promote leaders of today and tomorrow. A strong succession management program is a key to sustaining consistent, long-term growth and success for the company. In 2013, we:

- Implemented a more rigorous talent-review structure, process and tool
- Synchronized timing of succession planning enterprise-wide
- Expanded succession management to all parts of the enterprise
- Standardized the succession discussion process
- Renewed the organization's critical talent list

This initiative was and continues to be a top priority for Enbridge's senior leadership team.

Total Compensation: We have a full array of compensation and benefit programs designed to attract and retain talent. In addition to base salary, almost all regular (union and non-union) employees participate in an annual incentive plan, which rewards performance relative to a combination of predefined targets established at company, business unit and individual levels. Mid-term incentive plans are also extended to management-level roles.

On the benefits side, we offer a comprehensive selection of life, health and dental coverage, along with defined-benefit and defined-contribution pension plan options. We review these programs regularly to maintain our competitive position and to ensure they are meeting employees' needs.

Our total compensation programs continue to evolve to meet business needs. Beyond delivering a competitive level of total compensation, the programs' design and flexibility will be critical in helping us respond to changing workforce demographics and evolving employee needs.

Ratio of CEO's Base Salary to that of Average Employee:

In 2013, the ratio of Enbridge's President & CEO's base salary to that of the average employee salary was 10.83. This ratio does not include variable compensation (bonus), information about which was reported in Enbridge's [2013 Management Information Circular](#). Enbridge's President & CEO's base salary in 2013 was \$1,040,000. To calculate average employee salary, we included only salaries of permanent, active, non-union, full-time employees.

Our executive compensation programs are designed to motivate management to deliver strong corporate performance and invest the company's capital in ways that minimize risk and maximize return, while supporting our core business goals.

We benchmark our executive compensation programs against a group of similar companies in Canada and the U.S. to ensure we are rewarding our executives at a competitive level.

Our base salaries offer fixed compensation for performing day-to-day responsibilities, while balancing the individual's role and competency, market conditions, and attraction and retention issues.

Positive Work Environment: We are committed to developing and maintaining a diverse and inclusive work environment, and promoting a healthy and positive work environment.

Our human resources policies affirm our strong commitment to treating all employees with dignity and respect. We also subscribe to the principles of a fair and equitable work environment.

Our work environment promotes a diversity of roles and enriched job experience through project work, secondment opportunities, cross-business unit mobility and participation on cross-functional teams. We also support employees who are interested in actively contributing to the communities in which they live and work, through a variety of volunteer opportunities and through our annual employee-led United Way campaign.

We annually recognize employees who significantly contribute to their communities on their own time and, under our Volunteers in Partnership program, we donate to their respective charities.

Our [energy4everyone \(e4e\)](#) initiative offers another opportunity for employees to donate their time to participate in project delivery in locations such as Costa Rica, Ghana, Nicaragua, Peru and Tanzania. The e4e initiative seeks to implement practical and sustainable solutions to improve access to energy for communities in need. For more information, please see the Community Investment section of this report.

The value of mentoring and being mentored contributes to a positive work environment. Our mentorship programs, both internal and external, offer an additional opportunity for us to support employees in their roles and enhance their workplace experience. Our internal mentoring program now operates across the enterprise.

We regularly recognize our employees' achievements through a range of formal activities and programs, including service awards, monetary gifts and recognition through internal communications channels and creating opportunities for challenging assignments.

Turnover: Our total turnover for 2013 was 549 permanent employees. For the year ended December 31, 2013, the turnover rate breakdown by gender and business unit was as follows:

Turnover rate breakdown by gender and business unit (voluntary and involuntary)

		Liquids Pipelines (Canada & US)	Major Projects (Canada & US)	Gas Transportation	Gas Distribution	Corporate & International	Enterprise-wide
Voluntary	Male	2.5%	3.5%	6.6%	1.8%	2.0%	3.3%
	Female	4.0%	4.1%	3.8%	1.1%	5.3%	3.1%
	Total	3.0%	3.8%	5.8%	1.5%	3.5%	3.2%
Involuntary	Male	1.3%	1.4%	3.3%	0.7%	2.4%	1.7%
	Female	0.7%	1.9%	2.0%	0.9%	3.5%	1.3%
	Total	1.1%	1.6%	3.0%	0.8%	2.9%	1.5%
Retirement	Male	1.1%	0.3%	0.7%	3.4%	0.4%	1.5%
	Female	0.5%	1.1%	0.9%	3.4%	1.3%	1.6%
	Total	0.9%	0.6%	0.8%	3.4%	0.8%	1.6%
Death	Male	0.0%	0.0%	0.1%	0.2%	0.0%	0.1%
	Female	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
	Total	0.0%	0.0%	0.1%	0.2%	0.0%	0.1%
Total Turnover	Male	5.0%	5.2%	10.7%	6.1%	4.8%	6.6%
	Female	5.2%	7.1%	6.6%	5.4%	10.1%	6.0%
	Total	5.1%	6.0%	9.6%	5.9%	7.3%	6.4%

Employee Perspectives Survey: We offer a dedicated channel for employees to communicate their feedback to their leaders through the Employee Perspectives Survey. The survey is administered every second year, with the next one scheduled for 2014.

The survey is an important component of our commitment to our people and is an important gauge of employee engagement levels. Our employees are invited to provide their feedback on a wide variety of subjects, such as benefits, work-life balance, work processes, CSR and more. The results are then used to generate insights and identify opportunities for improvement that are incorporated in the development of business and people-focused strategies. To allow for the full involvement of employees at all levels in determining solutions and to provide sufficient time to implement action plans, we conduct this survey every two years. The survey is administered by the third-party consulting firm Aon Hewitt.

Our 2012 employee engagement score of 79 per cent was up four percentage points compared with our previous survey in 2010 and placed Enbridge within the Best Employer zone, significantly exceeding the North American average and several other benchmarks, including the averages for all Alberta employers, the Canadian oil and gas industry, and the North American energy industry. Engagement scores are based on responses to key engagement questions that reflect the percentage of team members who are emotionally and intellectually committed to the company. Team member engagement is a vital measure for any company because high engagement scores correlate with high organizational performance, productivity, team-member satisfaction and retention.

Training and Education: In 2013, our investment in training and development was approximately 1.5 per cent of total salary costs. This equated to \$1,698 per employee.

We use a learning management system to track training information pertaining to our employees. However, because our business units have specific training needs and training programs that are not centrally managed, no data are available to report enterprise-wide statistics on the yearly average number of training hours.

Our investment in training and education provides internal technical training, functionally specific training, and leadership and core competency training, enabling our employees to acquire and enhance the skill sets needed to perform their best in their current roles and to prepare for future roles.

Safety and Awareness: Before our employees are authorized to perform any job that may have health or safety risks associated with it, they must complete mandatory training. As well, within each of our business units and at each of our sites, we have established health and safety committees, which meet regularly to discuss and proactively implement changes in response to: legislation; new company policies and practices to continuously improve safety performance; and new understandings gained from analyzing incidents.

Employee Assistance: If a serious injury occurs, we arrange for counselors to be brought in for the team. We also offer the Employee and Family Assistance Program (EFAP) to employees and their families in need of help in a variety of areas. In addition to providing assistance in dealing with an illness or injury, employees and their families can access help related to:

- Alcohol and drug dependencies
- Marital and family concerns
- Outplacement and retirement issues
- Bereavement
- Depression, stress and anxiety
- Long-term or major illness

All services under the EFAP are provided by, or coordinated through, an independent consulting firm with certified professional counselors. All EFAP counselors are qualified psychologists or social workers, who are required to maintain employees' confidentiality.

Diversity, Inclusion and Equal Opportunity: We support employment equity legislation requiring that fair and equitable employment opportunities be available to all people. We are also committed to the principles and practices of an inclusive workplace, to creating a workforce that, at all levels, is representative of the diverse population we serve, and to providing a working environment that encourages all people to participate on an equitable basis in employment, training and career advancement opportunities consistent with their abilities, qualifications and aspirations.

Our employment equity and affirmative action programs have the following principal objectives:

- The achievement and maintenance of a workforce in compliance with relevant legislation, taking into account such factors as workforce availability
- The identification and removal of systemic barriers in employment systems, policies, procedures and practices that may have an adverse effect on the employment or career progression of any employee
- The implementation of special measures and programs to correct the effects of employment disadvantages and to promote the workforce participation of designated groups

- The development of initiatives that ensure employees can work at their full potential

In light of these objectives, we:

- Hire based on merit and job requirements, ensuring that the recruitment lens captures the available labour force in its entirety
- Treat employees equitably with respect to access to developmental and career advancement opportunities, training and other conditions of employment consistent with their performance and qualifications
- Support and remain committed to programs and initiatives that foster equal employment opportunity and non-discriminatory employment practices

Our Liquids Pipelines (LP) business unit has created three dedicated positions led by the Manager, Diversity, and is implementing a three-year Employment Equity, Diversity and Inclusion Plan for all LP operations in Canada. We have formed a Diversity Steering Committee, and have undertaken a number of activities and initiatives that promote diversity and inclusion across LP.

LP (Canada) complies with the regulations of the Employment Equity Act and, as such, is required to report annually on workforce composition in relation to the four equity groups covered by the Act: women; people with disabilities; visible minorities; and Aboriginal people. Each new employee receives a workforce survey questionnaire, asking him or her to voluntarily self-identify if he or she is a member of one or more of the four groups. We provide this information to the federal government and use it internally to determine areas of under-representation both in terms of aggregate representation and representation at various levels of the organization. The information guides our strategic diversity and equity initiatives with the intention of developing a workforce that aligns with the availability of the equity groups in the labour force, as well as becoming more representative of the communities in which we operate. We do not keep employment statistics based on membership in identified diversity groups on an enterprise-wide basis.

We understand that the organizational culture must support voluntary self-identification, and we will be launching a full Count Yourself In strategy in 2014 to encourage employees to self-identify in the designated groups.

Our U.S. operations routinely track the minority composition of their workforce to comply with government reporting. Effective October 1, 2010, we implemented an Affirmative Action Plan in the U.S. In compliance with the plan, we track the ethnicity of all job applicants and employees based on a self-identification process. Through tracking efforts, we identify specific jobs in which we have an under-representation of minority groups. Through analysis of this information, we have established placement targets and

have enhanced recruitment efforts to diversify our applicant pool, with the intention of establishing a workforce that is more representative of the geographic areas in which Enbridge operates.

We are currently developing a Diversity Dashboard that will look at other breakdowns of interest to us, including categories not captured by legislation. We know that diversity and inclusion metrics will enable us to track and measure our progress in this area, and we intend to establish benchmarking tools to supplement the legislative data requirements described above.

We have also instigated a network of employees, Diversity Liaisons, who will be able to communicate ideas and issues from a local and regional perspective.

A key foundational initiative for us in 2013 was the creation of five new Employee Resource Groups. These groups provide benefits to members through networking, professional development, peer support and specific activities to meet the needs of the constituent groups, and support the organization through enhancing attraction, engagement and retention by providing insights into the strengths and opportunities of the employees. These groups address the needs and challenges of women, women engineers, the LGBT and allied community, parents, internationally educated professionals and global talent, and young professionals.

Breakdown of Permanent Employees by gender and age: As of December 31, 2013, Enbridge employed 8,598 permanent employees. The approximate breakdown by gender was 66 per cent male and 34 per cent female. The breakdown by age group was as follows:

Age Group	Employee Count
up to 24	270
25 to 29	997
30 to 34	1,273
35 to 39	1,184
40 to 44	1,145
45 to 49	1,151
50 to 54	1,184
55 to 59	892
60 and above	502
Enterprise Total—Permanent	8,598

The average age was 42.8 years. The average age of females was 42.2 and the average age of males was 43.1.

As of December 31, 2013, Enbridge's senior management, which is defined as director level and above, included 57 females and 234 males. This equates to 80 per cent male and 20 per cent female.

Breakdown of Temporary Employees by gender and age: Enbridge employed 252 temporary employees as of December 31, 2013. The approximate breakdown by gender was 54 per cent male and 46 per cent female. The breakdown by age group was as follows:

Age Group	Employee Count
up to 24	63
25 to 29	56
30 to 34	26
35 to 39	21
40 to 44	19
45 to 49	14
50 to 54	9
55 to 59	15
60 and above	29
Enterprise Total—Temporary	252

There are 18 individuals who are senior executives (senior vice presidents and above). Three are females and they comprise 17 per cent of this group.

Average salary ratio male to female by job ladder level (%)—2013

Level 1 (Entry)	100.1
Level 2 (Intermediate)	99.0
Level 3 (Fully qualified)	100.4
Level 4 (Specialist 1/Team Lead)	100.9
Level 5 (Specialist 2/Supervisor)	104.4
Level 6 (Specialist 3/Manager)	100.1
Level 7 (Sr. Specialist/Senior Manager)	102.1

For More Information

Please see the Employee Relations data sheet, which will be posted by June 1, 2014 on www.csr.enbridge.com.

Material Subject #9: Community Investments

Context

By investing our dollars, partnerships and human capital in charitable, non-profit and community organizations that have the skills and expertise to affect change, we are able to contribute to the economic and social development of communities near our operations. We believe these investments are essential to us being a good neighbour, and that they contribute to our ability to earn and maintain our social license to operate.

2013 Key Performance Area

#1. Invest approximately two per cent of Enbridge Inc.’s Canadian pre-tax profits

In 2013, we invested approximately \$14 million in 750 organizations. This amount represents approximately two per cent of Enbridge Inc.’s profits.

As part of our investment, we responded to the urgent needs of the communities in which we operate. In response to the June flooding in Southern Alberta, we contributed \$200,000 to the Canadian Red Cross Alberta Floods Relief Fund and organized employee volunteer efforts. In September 2013, we partnered with the City of Minot and the North Dakota Petroleum Council to organize the Minot River Valley Cleanup to help restore Minot’s river valley to its former beauty following flooding in 2011.

Management Approach and Background

Community Investment Program Criteria and Guidelines: Our approach to community investment is governed by our Board of Directors and by our [Community Investment Program Criteria and Guidelines](#), which specify that we invest in charitable, non-profit and community organizations that:

- Are located in communities within a 20-kilometre (10-mile) radius of our pipeline rights-of-way or near our operations
- Are important to our communities, as determined by best-practice comparisons, community-based research and information we gather through our stakeholder relationships
- Benefit the greatest possible number of people

- Create significant long-term benefits for our communities
- Align with at least one of our three focus areas

Under our criteria and guidelines, we invest in organizations involved with medical research and infrastructure; community-based emergency services, health, education, social services, environmental and safety initiatives, and arts and culture (professional and amateur).

We structure our community investments around three focus areas:

- Everyone's Community
- Everyone's Wellbeing
- Everyone's Environment

Following is a description of each focus area, as well as a few highlights from our 2013 community investments:

Everyone's Community: This focus area centres around social, educational and cultural enrichment and is based on our belief that thriving communities offer enrichment opportunities to everyone.

We champion organizations that target social issues and that are committed to making a positive, lasting impact on their communities.

Recognizing that education is one of the most powerful gifts, we invest in lifelong learning to help students in all stages of life get ahead. Our support of education is central to our relationships with Aboriginal and Native American organizations in Canada and the U.S. and, in addition to supporting school programs for youth in grades K through 12 through our School Plus program (for more information please see the Aboriginal and Native American Rights and Engagement section in this report), we provide scholarships, skills-development training, and leadership and management training.

Believing that theatre, dance, music, the visual arts and all forms of expression help give our communities a unique identity and serve as sources of inspiration and beauty, we help create vibrant communities by investing in the visual and performing arts.

Highlights from our 2013 investments in Everyone's Community include:

- **Investments in Arts and Culture:** We invested over \$800,000 in arts and cultural organizations ranging from Houston's [Alley Theatre](#) to the [Alberta Ballet](#) to Canada's [Power of the Arts National Forum](#). Our investments in these organizations help stimulate the cultural sector which, in Canada, accounts for about 7.1 per cent of the country's total employment and about 1.1 million jobs, generates about \$25 billion in taxes for all levels of government, and creates the communities we want to live in.

- **Volunteers in Partnership (VIP) Program:**

We encourage our employees to actively participate in their communities and, through our Volunteers in Partnership (VIP) program, recognize their contributions of time and dollars to charitable organizations by providing paid volunteer time and top-up financial contributions. Specifically, we support employee volunteer opportunities by:

- Providing grants of \$500 to non-profit organizations where employees have donated at least 40 hours or more of volunteer service per year outside of business hours in countries where we have operations; or providing grants to match an employee's individual fundraising efforts for one event per year up to a maximum of \$500
- Providing the opportunity for employees to take one paid day or eight hours off per year to volunteer at a non-profit organization of their choice in countries where we have operations
- Providing one paid day (or eight hours) off per year for supervisor-led team-building volunteer activities in countries where Enbridge has operations

Through this support, we gain a better understanding of the communities in which we operate, the challenges they face and the ways we can best contribute.

In 2013, our VIP program engaged over 1,370 employees who donated over 4,000 work hours and nearly \$360,000 to their communities. Also in 2013, the VIP program, then in its third year, reached a milestone. It engaged over 3,900 employees who donated over \$1 million and nearly 8,600 work hours to their communities in Canada and the U.S.

- **energy4everyone (e4e) Foundation:** People in developing countries don't always have access to affordable energy, a situation that has a negative impact on the quality and length of their lives. Through the [e4e](#) Foundation, which Enbridge founded in 2009, we tackle energy poverty by working with the North American energy industry and third-party project delivery partners to improve access to affordable, sustainable and reliable energy for those who need it.

As a result of e4e's work, in 2013, over 2,500 people directly benefited from improved lighting and cooking. In addition, 22 Enbridge employees volunteered to install solar panels in homes in rural Peru. In 2013, e4e also supported the first-ever [Enablis Entrepreneurial Network Business Plan Competition](#) in Dar es Salaam, Tanzania. Our involvement in this competition involved funding training and education for over 300 entrepreneurs. Four Enbridge volunteers facilitated the training sessions, which also involved one-on-one coaching sessions.

Everyone's Wellbeing: This focus area centres around safety, physical health and disaster relief. We live and work in our communities and, like all residents, worry about illness, safety and how we'll cope in an emergency. We feel better knowing that we're safe and protected, and that we have access to emergency aid and services to support our health and wellness.

At Enbridge, safety, both within our company and in our communities, is our highest priority. As such we invest in local safety initiatives and the organizations that keep our communities healthy and secure.

Our health care support focuses on supporting cancer research and other initiatives. And we support organizations such as the Red Cross.

Highlights from our 2013 investments in Everyone's Wellbeing include:

- **The Enbridge Ride to Conquer Cancer:** The 2013 Enbridge Ride to Conquer Cancer proved itself again to be Canada's premier and most successful cycling event, bringing 8,463 cyclists together to raise over \$32.9 million to fight cancer across Canada. Since its inception in 2008, The Ride has raised over \$220 million to support world-renowned local beneficiaries across Canada.

In addition to our role as sponsor, our employees were active participants, and 300 employees, friends and family members raised over \$1 million in support of cancer research. Over 160 of our employees, family members and friends also participated as volunteers.

- **Southern Alberta Flood Relief:** In response to flooding in Southern Alberta, we contributed \$200,000 to the Canadian Red Cross Alberta Floods Relief Fund. In 2013, 202 of our employees donated \$54,827 to the fund, with Enbridge matching all donations up to \$1,000 per person. Additionally, we were a Gold Sponsor for the sold-out Halo High Water Benefit Concert and telethon, which was organized by Canadian actor and singer Tom Jackson. We invited 100 employees who were affected by the flood and/or volunteered in the cleanup and 100 first responders and their families to the event, which included members of the Calgary Fire Department, Calgary Police Department and community partners who were impacted by the flood. The benefit concert raised \$130,000 in tickets sales and \$72,540 through online donations.

Everyone's Environment: This focus area centres around environmental stewardship and awareness, and energy conservation.

Highlights from our 2013 investments in Everyone's Wellbeing include:

- **Citizens' Projects Quebec:** In collaboration with Citizens' Projects Quebec and Quebec municipalities, we initiated an ambitious urban reforestation project called the Enbridge Green Corridor in 2013. Under the project, unused lands located in several municipalities around Montreal (Rigaud, Mirabel and Sainte-Annes-Plaines) will provide those communities along our Line 9B with benefits such as green public spaces, an improved local biodiversity and improved quality of life for generations to come.
- **River Valley Clean Up:** The City of Minot, Enbridge, and the North Dakota Petroleum Council organized the Minot River Valley Cleanup in September 2013, to help restore the North Dakota city's river valley to its former beauty following flooding in 2011. During the two-day volunteer event, crews removed grass, weeds, and debris from more than 80 lots of abandoned homes that had been acquired by the city since 2011, as well as from publicly owned property along the riverbank. In mid-November, the cleanup effort earned an Above and Beyond Award from the Minot Area Chamber of Commerce.

Investments in communities near our 2010 Michigan spill site: In addition to investing in Everyone's Community, Everyone's Wellbeing and Everyone's Environment, we continued investing in the communities of Marshall and Battle Creek, Michigan, and in areas along the Kalamazoo River, where our 2010 oil spill took place.

Our continued commitment to those communities extends beyond simply cleaning up the spill. We have committed to supporting programs that will provide a long-lasting benefit to the community.

The Kalamazoo River is a recreational hub for fishing, kayaking, canoeing and enjoying the beauty of the river. After consulting with residents, community leaders and recreation groups, we worked with them to create five river access sites to encourage recreation. We also donated \$400,000 toward connecting the trails along the Kalamazoo River that will eventually cross the state from Lake Michigan to Lake Huron.

And we contributed approximately US\$600,000 to organizations including the Marshall Historical Society, the Wilder Creek Conservation Club, the United Way of the Battle Creek and Kalamazoo Region, the Marshall United Way, the American Red Cross South Central Michigan Chapter, the Food Bank of South Central Michigan, and the Michigan Envirothon.

For More Information

Please see the Community Investment data sheet, which will be posted by June 1, 2014 on www.csr.enbridge.com.

Material Subject #10: Supply Chain and Procurement Practices

Context

Our supply chain and procurement management activity is primarily carried out through our Major Projects (MP), Liquids Pipelines (LP), Gas Distribution (GD) and Gas Transportation (GT) business units.

The policies, practices and procedures that these business units use are currently relatively distinct from each other, so efforts are under way to better align and coordinate them.

One of the first steps toward achieving this alignment has been the recent formation of an enterprise-wide Supply Chain Council, consisting of procurement leaders from each of the business units noted above. This council is paving the way for the development of a comprehensive and consistent approach to supply chain management throughout Enbridge.

2013 Key Performance Area

#1. Develop a comprehensive and consistent set of policies and practices to govern supply chain and procurement

MP, LP, GD and GT formed a Supply Chain Council so that they can work together to develop comprehensive and consistent governing policies.

Management Approach and Background

Business units throughout Enbridge have incorporated our core values—Integrity, Safety and Respect—and our [Statement on Business Conduct](#) into their supply chain management policies, practices and procedures. MP, for example, has adopted a Supply Chain Management Protocol that states that all supply chain management activities must be conducted in an ethical manner that delivers the best value for Enbridge, while ensuring adherence to our values, [Statement on Business Conduct](#) and Compliance Policy.

MP has also incorporated Social License Guiding Principles for Enbridge Projects that state that:

Enbridge's commitment to Corporate Responsibility performance goes beyond compliance with regulations, to living our values and engaging stakeholders in ways that are beneficial to both the company and our stakeholders. It is evident

that our customers, investors, internal and external stakeholders, landowners, the public, suppliers and regulators want to deal with responsible and reputable organizations that continue to earn and maintain their social license to operate. Enbridge is committed to meeting or exceeding their expectations.

Our Social License Guiding Principles complement our values and guide our actions. For example, in alignment with them, and to the extent possible, we ensure that the pipe we buy to build our pipelines is made from recycled content. In 2013, MP purchased approximately 380,000 tonnes of steel pipe, almost 95 per cent of which was recycled.

For its part, in 2013, GD purchased approximately 9,718 tonnes of steel pipe. Approximately 36 per cent of the total comprised steel that had recycled content of 96 per cent, while the remainder comprised steel that had recycled content of between 25 to 100 per cent. GD also purchased approximately 1,051 tonnes of polyethylene pipe in 2013. Fifty-one per cent of that total comprised polyethylene that had recycled content of up to 30 per cent.

In addition to our Social License Guiding Principles, the business units noted above have established the following principles and policies in various areas that provide guidance on the way we relate with communities and the stakeholders affected by our activities:

- [Enbridge Values—Integrity, Safety and Respect](#)
- [Statement on Business Conduct](#)
- [Corporate Social Responsibility Policy](#)
- [Aboriginal and Native American Policy](#)
- [Environment, Health and Safety Policy](#)
- Enbridge's Safety and Environmental Guidelines for Contractors
- Enbridge's Environmental Guidelines for Construction
- Enbridge's Major Projects Environment Policy

Compliance with these policies and statements of principle is a condition of conducting business with and on behalf of Enbridge.

Pre-qualification: For many years, LP, MP and GT have used ISNetwork (ISN), a global resource for connecting corporations with safe, reliable contractors and suppliers, as a pre-qualification standard for service-providing suppliers, and GD has started to incorporate the use of this resource, too. Through ISN, GT is also a member of the Facility Audit Network (FAN) through which five pipeline companies agree to perform standardized audits of contractors and share the results with the other members.

In addition, MP and LP utilize a Pre-qualification Committee consisting of a diverse range of leaders representing MP and LP Supply Chain Management, Engineering, Operations, Control Systems and MP Quality. The committee provides an important forum to obtain input into supplier pre-qualification and disqualification processes, and for the group to share emerging issues. It also ensures that our standards regarding safety, quality, human rights and environmental practices are upheld throughout the supply chain.

For the same purpose, GD employs a Vendor Policy that outlines the qualifications that suppliers must have before they can be hired. These qualifications include financial stability, product quality, technical competence, quality assurance programming, and adherence to our Corporate Social Responsibility Policy. GD's Vendor Policy also includes criteria on how GD must select and evaluate suppliers, and the environmental responsibility criteria that suppliers must meet.

Contracts: Some of our supplier contracts, in addition to incorporating our [Statement on Business Conduct](#), also incorporate scorecards focused on financial and non-financial criteria. For example, MP employs Master Service Agreements (MSAs), which incorporate scorecards based on safety, quality, corporate responsibility, financial, environmental and customer service objectives.

Similarly, GD uses Extended Alliance contracts to govern its relationships with its three largest suppliers (which include a customer services firm and two large pipeline construction companies). These contracts include scorecards for safety, quality, customer care and delivery-related objectives. GD gives each objective a weighting and a target score, and then scores each supplier against the objectives. The supplier's actual score becomes a variable that determines the rate at which GD pays the supplier. In areas where the supplier does not meet objectives, GD meets with the supplier to discuss appropriate corrective actions.

Suppliers with Extended Alliance contracts must also meet regularly with GD, undergo various types of audits (quality assurance audits, for example), and meet the requirements of GD's stringent quality assurance program.

Supplier Development/Relationships: While all of the business units noted above have always maintained informal relationships with their suppliers, most of them are also developing formal meetings with key suppliers to ensure that existing agreements and supplier performance are reviewed, tracked and updated on a regular basis. For example, MP has created formal governance structures between Enbridge and key MP suppliers, such that their performance can be tracked and improved, and such that MP can better manage its supplier relationships (which include senior executives from both MP and from suppliers).

In addition, in 2013, LP and MP joined forces to hold their first-ever supplier forums, with the intent to build and renew sustainable supplier relationships. The two one-day-long forums were held in Calgary, Alberta, and Minneapolis, Minnesota, for Canadian and U.S.-based suppliers, respectively. Each forum involved approximately 100 representatives from over 60 of LP's and MP's key suppliers of materials and services. The forums underscored the reality that the market for materials and services is tight, and that, in order to obtain quality service providers and good suppliers, Enbridge must be a customer of choice. The forums also highlighted the reality that, in order for us to maintain our social license to operate, our suppliers must be aligned with our values and with our expectations for quality and timely delivery. We plan to continue to host similar supplier events in the future in both Canada and the U.S.

Safety Roundtables: Because safety is one of our values, we have a vested interest in ensuring that this value is extended to our suppliers of services and materials. As such, we have begun to involve our suppliers in industry-organized safety roundtables.

The principal safety roundtable that we participate in is the Pipeline Construction Safety Roundtable (PCSR), which helps us raise the overall caliber of safety among pipeline owners and main-line construction contractors. We understand that many of the major contractors we hire are also being hired by other North American companies. By inviting all of the parties to join the conversation on how best to organize practices, training, equipment safety and leadership competency, we can help turn good practices into industry standards.

Restricted-party Screening: Working with our Law department, MP, GD and GT are cross-referencing the suppliers with which we do or intend to do business against various databases to ensure that we do not inadvertently contract with suppliers who have behaved in a socially irresponsible manner anywhere in the world. This recent initiative has proved invaluable because it enables us to be aware of supplier restrictions throughout our company. LP also screens its suppliers with the assistance of Enbridge's Risk, Compliance and Law departments.

For More Information

Please see the Supply Chain and Procurement Practices data sheet, which will be posted by June 1, 2014 on www.csr.enbridge.com.

Material Subject #11: Economic Benefits

Context

As attested by the [financial documents](#) we filed for the year ended December 31, 2013, Enbridge experienced good financial performance in 2013 with an increase in adjusted earnings per share (EPS) of 11 per cent. We continued to show the consistency and reliability of our strategy of safely delivering critical energy supplies to our customers, while at the same time delivering steady earnings and dividends to our investors.

We also made good progress in securing the continued future growth of our company. We are now developing a total of \$36 billion of commercially secured growth projects—across all of our key business units—that will be in service between now and 2017.

Our financial success creates economic value for our shareholders and for stakeholders such as:

- Lenders
- Employees
- Governments
- Suppliers

We believe that we are responsible for ensuring that others can also participate in the economic benefits that our business generates. Specifically, we look for ways to ensure that local businesses and communities, as well as Aboriginal and Native American businesses and communities, are included. Finding meaningful ways for us to involve these groups is a key challenge for us in this area.

2013 Key Performance Areas

#1. Maintain strong economic health by delivering superior long-term value to Enbridge shareholders, demonstrating high-quality and sustainable earnings per share growth, and paying out a high proportion of earnings in the form of a growing dividend stream to Enbridge shareholders

In 2013, Enbridge's adjusted earnings per common share rose 11 per cent in 2013 to \$1.78. We paid a dividend of \$1.26 per common share in 2013, up 12 per cent from 2012. Our Total Shareholder Return in 2013 was 11 per cent.

#2. Support the communities in which we operate through economic participation initiatives, investments in training and education, and community investments

In 2013, we worked with Aboriginal and Native American communities and member-owned businesses in Canada and the U.S. to help them benefit from approximately

\$58.4 million in economic participation initiatives. We invested \$1.4 million between 2011 and 2013 in skills development and training in B.C. and Alberta under the Northern Gateway Project's Education and Training Fund. And we invested approximately \$14 million in more than 750 charitable, non-profit and community organizations.

Management Approach and Background

In helping to satisfy society's need for safe and secure supplies of energy through our core business of transporting natural gas and petroleum products, our business provides significant and quantifiable direct economic benefits to a broad group of stakeholders:

Shareholders: Enbridge Inc. shareholders realize returns through a combination of capital appreciation and dividends. In 2013, Enbridge Inc. experienced another strong year in share price performance on the Toronto Stock Exchange. Investors holding Enbridge Inc. stock for the entire year realized share price appreciation of eight per cent. As a result, our overall market value increased by \$4 billion to approximately \$39 billion. Furthermore, in 2013, we paid dividends of \$1.26 per common share or a total of \$1,035 million to Enbridge Inc. shareholders. The combination of compounding dividends and capital gains equated to a total shareholder return of 11 per cent in 2013.

Ongoing support for our share price comes in part from indices and rankings based on information about companies' social, ethical and environmental policies and practices. These indices and rankings are based on the concept that a company's commitment to CSR and sustainability will sustain and grow long-term shareholder value. As a result, a certain segment of investors choose to direct their investments toward these companies. Over the past several years, we have been included in the following indices/rankings:

- CDP
- Dow Jones Sustainability Index (World and North America indices)
- Global 100 Most Sustainable Corporations in the World

Lenders: Enbridge Inc. lenders realize returns through interest payments on short- and long-term debt and repayment of principal at maturity. Enbridge Inc. once again met all contractual debt obligations for the year. Interest payments made to lenders during 2013 totaled \$1,097 million.

Employees: Our business operations provide jobs and contracting opportunities in many communities in Canada and the U.S. Headquartered in Calgary, Enbridge has major offices in Edmonton, Toronto and Houston and numerous field offices in our areas of operations. At the end of 2013, we had

8,598 permanent employees (full time and part time) in Canada and the U.S., as well as 252 temporary employees and 2,397 provisioned contractors who support seasonal and project work associated with specific projects.

In 2013, our payroll totaled almost \$800 million. We also provide direct economic benefits to employees through savings plans, retirement/pension plans, training programs, and health benefit plans.

Governments: Our tax governance system is based on our tax mandate, our code of conduct and our risk philosophy. Our tax mandate is to comply with all applicable tax laws, pay our fair share of tax in every community in which we operate and carry out business transactions in a tax-efficient and legal manner.

Our tax code of conduct upholds our core values and requires that we act with integrity and demonstrate respect for the tax laws and tax authorities in all jurisdictions in which we operate through timely and accurate compliance, transparent communication and a spirit of cooperation.

Our tax risk philosophy aligns with Enbridge's overall low risk tolerance and seeks to minimize tax uncertainty and tax risk through strong leadership, engagement in the organization, compliance and executive accountabilities. As a result of our tax mandate and our operations within communities across North America, we pay income, property, business and other required taxes to local, state, provincial and federal governments in Canada and the U.S. In 2013, we paid \$461 million in income taxes, property, business and other taxes and sales and use taxes.

	2013
<i>In millions of dollars</i>	
Income Taxes*	\$107
Property, Business & Other Taxes*	\$279
U.S. Sales & Use Taxes	\$75

*includes taxes paid in all jurisdictions in which Enbridge operates.

Suppliers: Our Corporate Social Responsibility Policy states that “Enbridge will strive to provide employment and economic opportunities in the communities where we operate.” While we do not have a formal policy regarding buying from locally-based suppliers, in practice, we meet the majority of our needs through local suppliers. In 2013, our direct spend on capital projects was over \$7 billion, and our direct spend on operations was approximately \$1.7 billion. We have not yet calculated what the indirect economic benefits are as a result of our 2013 spends on capital projects and operations.

Communities: By investing our dollars, partnerships and human capital in charitable, non-profit and community organizations that have the skills and expertise to affect change, we are able to contribute to the economic and social development of communities near our operations.

In 2013, we invested approximately \$14 million in 750 organizations. This amount represents approximately two per cent of Enbridge Inc.'s Canadian pre-tax profits. For more information please see the Community Investments section of this report.

Aboriginal and Native American Individuals and Communities: We offer contracting opportunities to qualified Aboriginal and Native American suppliers and contractors where appropriate, and encourage joint ventures between Aboriginal/Native American businesses and non-Aboriginal/Native American businesses. This commitment is a shared responsibility involving Enbridge and our subsidiaries, employees and contractors and is more fully explained in our Aboriginal and Native American Policy.

Since 2009, we have spent over \$208 million with Aboriginal businesses for the provision of services for our pipeline expansion/extension projects in Canada. Included in this amount is the \$58.4 million in economic participation initiatives that Aboriginal and Native American communities and member-owned businesses benefitted from in 2013. For more information please see the Aboriginal and Native American Rights and Engagement section of this report.

For More Information

Please see the Economic Benefits data sheet, which will be posted by June 1, 2014 on www.csr.enbridge.com.

Global Reporting Initiative G3.1 Content Index

Although we are transitioning to reporting under the Global Reporting Initiative (GRI) G4 guidelines, we have based this report on the GRI G3.1 Performance Indicators.

In this report, we have focused on the G3.1 Performance Indicators that best align with the subjects that our stakeholders have deemed to be most material for Enbridge.

We have included information pertaining to other G3.1 Performance Indicators in data sheets that we will post by June 1, 2014 on www.csr.enbridge.com.

The table below indicates where you can find data pertaining to each G3.1 core Performance Indicator.

GRI G3.1 core Performance indicators	Information available in this report	Information available in online data sheets by June 1, 2014 (www.csr.enbridge.com)
Standard Disclosures: Profile		
Strategy and Analysis	CEO Message, CSO Message; Discussion of Significant Challenges and Responses section; Management Approach section for each material subject	Client Collaboration; Ethics/Fair Operations data sheets
Organizational Profile	About Enbridge section	
Report Parameters	CSO Message and Reporting Boundaries and Methodologies section	
Governance, Commitments and Engagement	Governance section	Governments, Commitments and Engagement data sheet
Environmental Performance Indicators		
EN1 – Materials used by weight or volume		Materials Use data sheet
EN2 – Percentage of materials used that are recycled input materials		Materials Use data sheet
EN3 – Direct energy consumption by primary source	Energy and Climate Change section	
EN4 – Indirect energy consumption by primary source	Energy and Climate Change section	
EN8 – Total water withdrawal by source		Water Use and Quality data sheet
EN11 – Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas		Biodiversity and Land Management data sheets
EN12 – Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas		Biodiversity and Land Management data sheets
EN16 – Total direct and indirect GHG emissions by weight	Energy and Climate Change section	
EN17 – Other relevant indirect GHG emissions by weight	Energy and Climate Change section	
EN18 – Initiatives to reduce GHG emissions and reductions achieved	Energy and Climate Change section	
EN19 – Emissions of ozone-depleting substances by weight		Air Emissions, Effluents and Waste data sheet
EN20 – NO _x , SO _x and other significant air emissions by type and weight.		Air Emissions, Effluents and Waste data sheet
EN21 – Total water discharge by quality and destination		Air Emissions, Effluents and Waste data sheet
EN22 – Total weight of waste by type and disposal method		Air Emissions, Effluents and Waste data sheet
EN23 – Total number and volume of significant spills	Spills and Releases section	Air Emissions, Effluents and Waste data sheet

GRI G3.1 core Performance indicators Information available in this report

Environmental Performance Indicators

EN26 – Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation	Asset Integrity and Reliability; Emergency Preparedness and Response; Energy and Climate Change sections	Asset Integrity and Reliability; Emergency Preparedness and Response; Energy and Climate Change; Renewable Energy; Innovation; and Demand-Side Management data sheets
--	--	---

Environmental Performance Indicators

EN27 – Percentage of products sold and their packaging materials that are reclaimed by category		Products and Services data sheet
EN28 – Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations		Compliance data sheet

Social Performance Indicators: Human rights

HR1 – Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns, or that have undergone human rights screening		Human Rights data sheet
HR2 – Percentage of significant suppliers, contractors and other business partners that have undergone human rights screening, and actions taken		Human Rights data sheet
HR3 – Total hours of employee training or policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained		Human Rights data sheet
HR4 – Total number of incidents of discrimination and corrective actions taken		Human Rights data sheet
HR5 – Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk and actions taken to support these rights		Human Rights data sheet
HR6 – Operations and significant suppliers identified as having significant risk for incidents of child labour, and measures taken to contribute to the effective abolition of child labour		Human Rights data sheet
HR7 – Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labour, and measures to contribute to the elimination of all forms of forced or compulsory labour		Human Rights data sheet
HR9 – Total number of incidents of violations involving rights of indigenous people and actions taken.		Human Rights data sheet
HR10 – Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments		Human Rights data sheet
HR11 – Number of grievances related to human rights filed, addressed and resolved through formal grievance mechanisms		Human Rights data sheet

GRI G3.1 core Performance indicators Information available in this report

Social Performance Indicators: Labour Practices and Decent Work

LA1 – Total workforce by employment type, employment contract, and region, broken down by gender	Employees section	Labour Practices and Decent Work data sheet
LA2 – Total number and rate of new employee hires and employee turnover by age group, gender, and region	Employees section	Labour Practices and Decent Work data sheet
LA4 – Percentage of employees covered by collective bargaining agreements		Labour Practices and Decent Work data sheet (including information on Unionized Labour)
LA5 – Minimum notice period(s) regarding operational changes, including whether it is specified in collective agreements		Labour Practices and Decent Work data sheet

Social Performance Indicators: Labour Practices and Decent Work

LA7 – Rates of injury, occupational diseases, lost days, and absenteeism and number of work related fatalities by region and by gender	Human Health and Safety section	Human Health and Safety data sheet
LA8 – Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members		Labour Practices and Decent Work data sheet
LA10 – Average hours of training per year per employee by gender, and by employee category		Labour Practices and Decent Work data sheet
LA13 – Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	Employees section	Labour Practices and Decent Work data sheet
LA14 – Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	Employees section	Labour Practices and Decent Work data sheet
LA15 – Return to work and retention rates after parental leave, by gender		Labour Practices and Decent Work data sheet

Social Performance Indicators: Society

SO1 – Percentage of operations with implemented local community engagement, impact assessments, and development programs		Stakeholder Engagement; Aboriginal and Native American Rights and Engagement; and Community Investment data sheets
SO2 – Percentage and total number of business units analyzed for risks related to corruption		Society data sheet
SO3 – Percentage of employees trained in organization's anti-corruption policies and procedures		Society data sheet
SO4 – Actions taken in response to incidents of corruption	Governance and Compliance section	Compliance data sheet
SO5 – Public policy positions and participation in public policy development and lobbying		Government Relations data sheet
SO8 – Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with laws and regulations	Governance and Compliance section	Compliance data sheet
SO9 – Operations with significant potential or actual negative impacts on local communities		Society data sheet

GRI G3.1 core Performance indicators Information available in this report

Social Performance Indicators: Society

SO10 – Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities	Emergency Preparedness and Response section	
--	---	--

Social Performance Indicators: Product Responsibility

PR1 – Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures		Product Responsibility/Customer Protection data sheet
PR3 - Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements		Product Responsibility/Customer Protection data sheet
PR6 – Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion and sponsorship		Product Responsibility/Customer Protection data sheet
PR9 – Monetary value of significant fines for noncompliance with laws and regulations concerning the provision and use of products and services	Governance and Compliance section	Compliance data sheet

Economic Performance Indicators

EC1 – Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations, and other community investments, retained earnings, and payments to capital providers and governments	Economic Benefits section	Economic Benefits/Contributions to Local Economy data sheet
EC2 – Financial implications and other risks and opportunities for the organization's activities due to climate change		Risk data sheet
EC3 – Coverage of the organization's defined benefit plan obligations		Coverage of defined benefit plan obligations data sheet
EC4 – Significant financial assistance received from government		Financial assistance data sheet
EC6 – Policy, practices, and proportion of spending on locally based suppliers at significant locations of operation		Economic Benefits/Contributions to Local Economy data sheet
EC7 – Procedures for local hiring and proportion of senior management hired from the local community at locations of significant operation		Economic Benefits/Contributions to Local Economy data sheet
EC8 – Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement		Economic Benefits/Contributions to Local Economy data sheet

Forward-Looking Information

Forward-looking information, or forward-looking statements, have been included in Enbridge's 2013 Corporate Social Responsibility Report to provide the company's shareholders, potential investors and other stakeholders with information about the company and its subsidiaries and affiliates, including management's assessment of Enbridge's and its subsidiaries' future plans and operations. This information may not be appropriate for other purposes. Forward-looking statements are typically identified by words such as "anticipate," "expect," "project," "estimate," "forecast," "plan," "intend," "target," "believe" and similar words suggesting future outcomes or statements regarding an outlook. Forward-looking information or statements included in this document include, but are not limited to, statements with respect to: expected earnings or adjusted earnings; expected earnings or adjusted earnings per share; expected future cash flows; expected costs related to projects under construction; expected in-service dates for projects under construction; expected capital expenditures; estimated future dividends; expected costs related to leak remediation and potential insurance recoveries; the expected impact and cost of complying with current and proposed new environmental regulations, including GHG emissions regulations; business opportunities expected to arise due to the climate change issue; and future power consumption by the company and its subsidiaries.

Although Enbridge believes that these forward-looking statements are reasonable based on the information available on the date such statements are made and processes used to prepare the information, such statements are not guarantees of future performance and readers are cautioned against placing undue reliance on forward-looking statements. By their nature, these statements involve a variety of assumptions, 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. Material assumptions include assumptions about: the expected supply and demand for crude oil, natural gas and natural gas liquids; prices of crude oil, natural gas and natural gas liquids; expected exchange rates; inflation; interest rates; the availability and price of labour and pipeline construction materials; operational reliability; customer project approvals; maintenance of support and regulatory approvals for the company's projects; anticipated in-service dates; the implementation of proposed environmental regulations, including GHG emissions regulations; future demand for renewable energy and alternative energy technologies; and weather. Assumptions regarding the expected supply and demand of crude oil, natural gas and

natural gas liquids, and the prices of these commodities, are material to and underlie all forward-looking statements. These factors are relevant to all forward-looking statements as they may impact current and future levels of demand for the company's services. Similarly, exchange rates, inflation and interest rates impact the economies and business environments in which the company operates, may impact levels of demand for the company's services and cost of inputs, and are therefore inherent in all forward-looking statements. Due to the interdependencies and correlation of these macroeconomic factors, the impact of any one assumption on a forward-looking statement cannot be determined with certainty, particularly with respect to expected earnings or adjusted earnings and associated per share amounts, or estimated future dividends.

The most relevant assumptions associated with forward-looking statements on projects under construction, including estimated in-service dates, and expected capital expenditures include: the availability and price of labour and pipeline construction materials; the effects of inflation and foreign exchange rates on labour and material costs; the effects of interest rates on borrowing costs; and the impact of weather and customer and regulatory approvals on construction schedules. Enbridge's forward-looking statements are subject to risks and uncertainties pertaining to operating performance; changes to regulatory parameters, including those related to GHG emissions; project approval and ongoing support; weather; economic and competitive conditions; exchange rates; interest rates; commodity prices; and supply and demand for commodities. These include, but are not limited to, those risks and uncertainties discussed in this 2013 Corporate Social Responsibility Report and in the company's filings with Canadian and U.S. securities regulators.

The impact of any one risk, uncertainty or factor on a particular forward-looking statement is not determinable with certainty as these are interdependent and Enbridge's future course of action depends on management's assessment of all information available at the relevant time. Except to the extent required by law, Enbridge assumes no obligation to publicly update or revise any forward-looking statements made in this 2013 Corporate Social Responsibility Report or otherwise, whether as a result of new information, future events or otherwise. All subsequent forward-looking statements, whether written or oral, attributable to Enbridge or persons acting on the company's behalf are expressly qualified in their entirety by these cautionary statements.

CSR Awards and Recognition

Enbridge received the following CSR-related awards and recognition in 2013:

- RobecoSAM and KPMG recognized Enbridge as a Gold Class Sustainability Leader (in the Pipeline sector) in their *Sustainability Yearbook 2013*. RobecoSAM and KPMG publish the yearbook to be used as a guide for investors on which companies are doing the most to address the risks and opportunities of sustainability.
- Corporate Knights included Enbridge Inc. on its 2013 Global 100 Most Sustainable Corporations in the World ranking.
- The editors of Alberta's Top Employers named Enbridge to the Alberta's Top Employers list for 2013.
- *Forbes* Magazine listed Enbridge Energy Partners, L.P. on its list of America's 100 Most Trustworthy Companies (large-cap category).
- Mediacorp Inc., publishers of Canada's Top 100 Employers, named Enbridge one of the Best Employers of Canadians over 40.
- The *Houston Business Journal* ranked Enbridge 6th in its Healthiest Employer survey for 2013. The survey gauges the effectiveness of companies' wellness programs.
- For the 11th consecutive year, Corporate Knights included Enbridge Inc. on its Best 50 Corporate Citizens in Canada list.
- Options Bytown presented Enbridge Gas Distribution with the Make Homelessness History Award, which recognizes outstanding contributions to the effort to improve the lives of homeless people in Ottawa.
- Mediacorp Inc., publishers of Canada's Top 100 Employers, named Enbridge one of Canada's Top 100 Employers for 2014, setting the company up for possible wins in the Top Employers categories for Green, Diversity, Young People, Over 40 and Top Alberta Employer.
- The Dow Jones Sustainability Index named Enbridge to both its North America and World indices.

- The CDP (formerly the Carbon Disclosure Project) included Enbridge on its Global 500 List of the top 500 companies in the area of GHG disclosure and management.
- CPA Canada recognized Enbridge with a 2013 Corporate Reporting Award for excellence in corporate reporting. Sustainable development reporting was one of the categories.

Acknowledgements

Enbridge's CSR Reporting Team would like to thank the members of Enbridge's subject-matter expert teams under whose guidance this report was created.

Contact Information

If you have questions comments or requests for more information, please contact:

MaryAnn Kenney
Manager, CSR & Sustainability
Telephone: 403.508.3184
maryann.kenney@enbridge.com

