

# 2014 Sustainability Report

**Please note that this report will be produce as a website.  
Included in this package is full written content that has not  
been designed for specially formatted. To view the beta site of  
the website please visit [ARC.DEV.ZGM.CA](http://ARC.DEV.ZGM.CA)**

# ARC Resources 2014 Sustainability Report

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## **Purpose of Report**

### **Why we report:**

The purpose of this report is to share ARC's environmental, social and governance (ESG) performance. We publish a sustainability report on a biennial basis. The information presented in this report is put forth to assist all stakeholders in reviewing ARC's ESG performance, and to understand the company's vision and strategy as it relates to management of ESG risk and identification of opportunities. Responsible management of our ESG commitments and risks is as important to building and maintaining a long-term sustainable business as is top-tier operational and financial results.

### **Determining Materiality**

To determine the content included in this report we use the Global Reporting Initiative (GRI) and Canadian Association of Petroleum Producers (CAPP) reporting data as primary guides. Final content was determined through collaboration of internal subject matter experts including input from representatives from our Investor Relations, Health and Safety, Environment and Regulatory, Risk Management, Asset Integrity, Human Resources, Land and Operations teams. A review of ESG trends and best reporting practices was conducted and stakeholder questions and discussions were considered. Additionally, results from an external stakeholder survey administered through the 2012 Corporate Responsibility report was considered.

This is the second year the report has been produced as an online website. We believe offering the report in this format, as well printing a summary report, allows us to reach a wider audience.

## **Message from our President and Chief Executive Officer**

I am very pleased to welcome you to our 2014 Sustainability Report, which shares our Environmental, Social and Governance (ESG) performance for the years 2012 and 2013. ARC is committed to open, honest and transparent communications with stakeholders; this report is one of the many ways that we are acting on this commitment.

At ARC, we have a long track record of strong ESG performance. Our performance has been the outcome of a vision and strategy, which emphasizes sustainable, long-term value creation over short-term gains. We see value creation as encompassing shareholder returns and profitable growth, as well as building an organization where employees can succeed and where together we can make a positive contribution to the health and well-being of our communities. Our focus on building a sustainable business informs every decision that we make, from how we manage the balance sheet to our pace and approach to development. This approach progresses each part of our business and ultimately strengthens our company as a whole.

### *Common Ground*

In my role as President and Chief Executive Officer I have the great fortune to travel across Canada and abroad to share ARC's story and business plan. Having had the opportunity to personally connect with many of our stakeholders, I can say that at ARC we understand the issues that are important to you. As community members of the towns and cities where we operate everyone at ARC shares in the benefits as well as the concerns associated with resource development. It is for this reason that we are committed to running our business in a manner that protects the health and safety of those who work for us, the communities around our operations and the environment. It is also for this reason that we measure and report on our performance and continuously look for ways to improve.

### *Performance*

Across our operations in 2012 and 2013 we again delivered strong results. The pages of this report are dedicated to sharing many of these accomplishments. I would like to highlight just a few.

#### **Health and Safety**

There is nothing more important than the health and safety of our people and neighboring communities. Throughout 2012 and 2013, we continued to strengthen our health and safety program with an enhanced emphasis on communications and training, as well as aligning ourselves with contractors who share our values. In 2013, our efforts saw a 32 per cent decrease in total recordable incidents for employees and a 25 per cent decrease for contractors, compared to 2012. Impressively, these decreases were achieved in a year during which we constructed a major new facility and logged 1.2 million man-hours.

#### *Emissions Management*

Since 2010, ARC has achieved a seven per cent decrease in greenhouse gas emissions intensity. This reduction is largely the result of a focus on emissions management and clean development that began in 2010 with the construction of the Dawson gas plant as a low emissions facility. Dawson, which utilizes the cleanest available technologies and processes, has resulted in emissions reductions of over 220,000 tonnes of carbon dioxide equivalent, and has served as a template for the construction of subsequent facilities. To

date, we have constructed four large gas processing facilities in the Montney region with a similar approach, and have broken ground on a fifth. As we continue to expand and develop our resources, we will remain focused on continuous improvements in operational efficiency and investment in low-emissions technology with the objective of managing and reducing our greenhouse gas emission intensity.

#### Employee Engagement

ARC maintains a very low voluntary turn-over rate and a high level of employee engagement. Our 2013 internal employee *Strength of the Workplace* survey indicated a 90 per cent employee engagement score – meaning that 90 per cent of ARC employees reported that they feel highly engaged in their work. In addition, our people expressed pride in working for ARC and a shared vision for the company. We are very proud of these results as employee engagement is not only essential to an employee’s wellbeing, but is vital to the continued success of our company. We see our culture as a competitive advantage, and as we grow we are committed to maintaining a workplace in which employees are provided with meaningful work and where personal and career growth is supported.

#### Community Investment

Corporately in 2013, ARC donated \$2.3 million to not-for-profit organizations across western Canada. The objective of our community investment program is to support the volunteer efforts and charitable giving of our employees as well the needs of our operating communities. An incredible sense of community spirit and compassion exists at ARC. Throughout the organization, there are countless stories of the ways employees are giving back to their communities, and this energy is matched by a tremendous level of support from colleagues. Many of our employees have shared these stories in this report. At the time of writing there were over 10 ongoing ARC volunteer initiative being led by employees. In 2013, in an effort to better support our employees volunteer initiatives we created an internal website dedicated to the communication and facilitation of these events. The website has been an overwhelming success with over 80 per cent employee participation. Active involvement in our communities and charitable giving will remain an important part of who we are.

#### Awards and Recognitions

In the past two years ARC has received external recognition for our leadership in ESG performance and strategy. In 2014, we were ranked number one on the CDP (Carbon Disclosure Project) *Canadian 200 Leadership Index* for our climate change strategy and disclosure. In the same year we were included in the Corporate Knights *Future 40 Most Responsible Corporate Leaders in Canada*, and in 2013 the Dawson Gas Plant was awarded the Canadian Association of Petroleum Producers’ Responsible Canadian Energy Chair’s Award for its low emissions design and emission reductions. External awards and recognitions are not the motivation for our actions, however they serve as validation of our efforts and provide us with a valuable benchmark for how we can continue to improve our programs and processes.

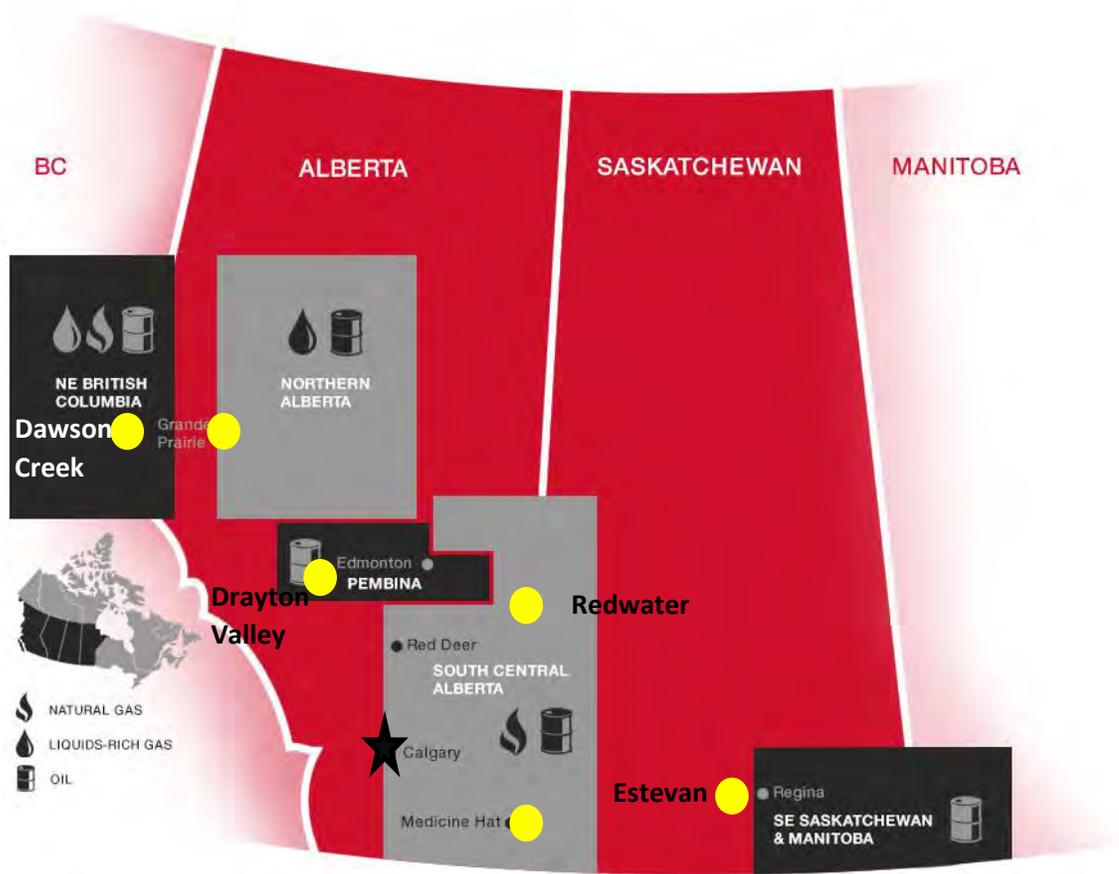
I am proud of these accomplishments and am honoured to be a part of a team that never fails to demonstrate passion, innovation and the commitment to be leaders in our field. Access to energy is critical to our lives and lifestyles today, as well as in shaping our future. The bar for responsible energy development will continue to be raised, and so too will our drive to meet these expectations.

In closing, I would like to extend a special thank you to all of ARC's employees and contractors for their hard work and dedication, as well as to all of our stakeholders who continue to support ARC and play a meaningful role in both our successful past and future.

Sincerely,

Myron M. Stadnyk  
President and Chief Executive Officer

## About Us



### Who We Are:

- We are one of Canada's Leading Oil and Gas Producers
- We are headquartered in Calgary, Alberta and have six regional offices across our operations
- Our diverse asset base produces a mix of approximately 60 per cent natural gas and 40 per cent crude oil and liquids
- Our business activities relate to the exploration, development and production of conventional oil and natural gas in Canada, with an emphasis on the acquisition and development of assets with a large volume of hydrocarbons in place commonly referred to as "resource plays"
- Our production is sold to a variety of refineries, marketers and end users within the North American commodity market
- We pay a monthly dividend to our shareholders
- We are a publicly traded company, and listed and traded on the Toronto Stock Exchange under the symbol ARX

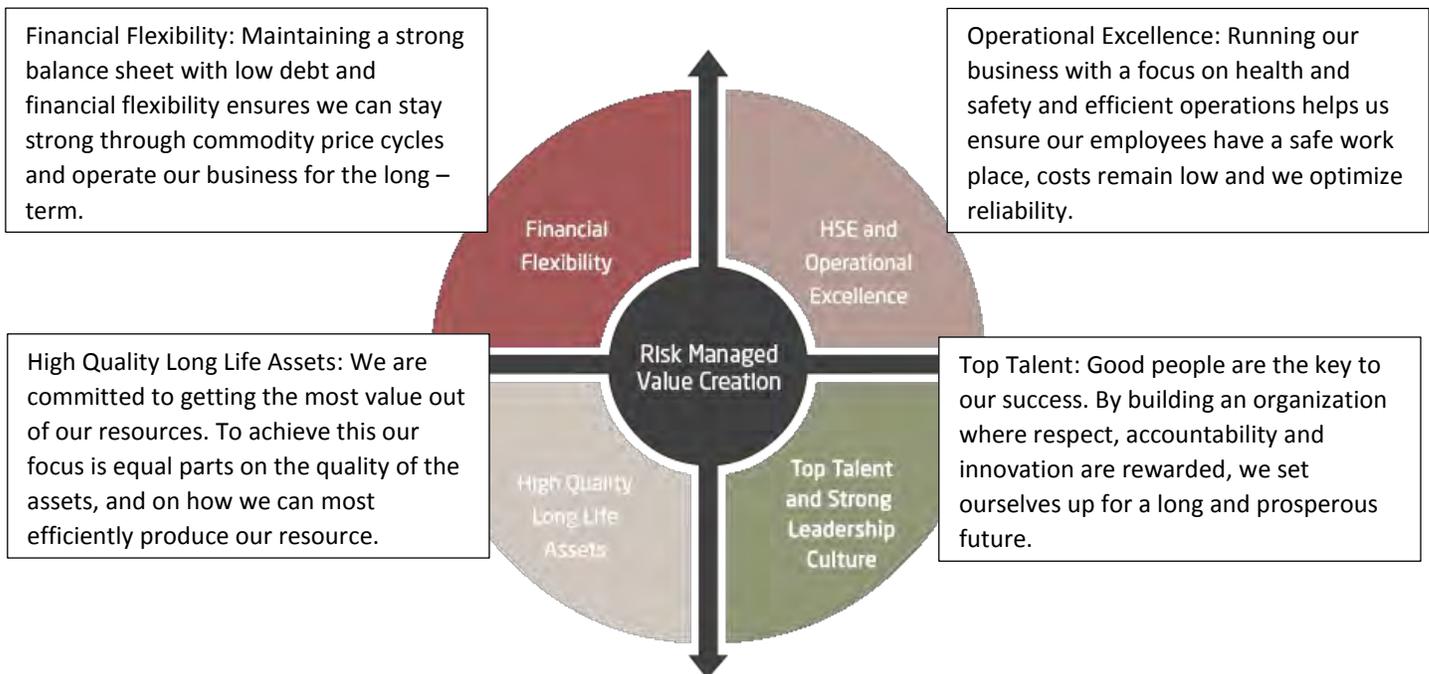
**Quick Facts:**

- Approximately 110,000 boe per day of production (second quarter 2014)
- 560 full-time employees
- 2013 Net Revenue of \$1.6 billion
- \$10.5 billion Enterprise Value (as at September 30, 2014)
- 18 year corporate history
- Over \$5 billion of dividends paid to shareholders since inception in 1996

**Value Creation Model**

ARC’s vision is to be a leading energy producer measured by the quality of assets, management expertise and long-term returns. This vision is realized through our business strategy of *risk managed value creation*. The objective of this strategy is to create value by: providing superior long-term financial returns to our shareholders; creating a culture where respect for the individual is paramount and action and passion are rewarded; and running our business in a manner that protects the health and safety of employees, communities and the environment. Our strategy is implemented through four pillars that serve to guide business decisions and allow ARC to leverage its competitive differentiators to their full potential.

Learn more about the four pillars of ARC’s strategy and how each supports long-term value creation:



## Governance and Risk

### 2013 at a Glance

- #1 ranking on 2013 CDP<sup>1</sup> Canada 200 Leadership Index

ARC's objective is to be a leading Canadian oil and gas producer. Achieving this objective requires strong leadership and an ethical, values-based culture where performance and innovation are rewarded. The role of ARC's corporate governance is to lead by example and ensure these corporate values and ethical guidelines are engrained in our business decisions.

#### *Board Composition*

ARC's board of directors consists of ten highly qualified individuals. All directors are Independent<sup>2</sup> with the exception of the Chief Executive Officer and the past Chief Executive Officer. The Chairman of the Board position is independent and separate from that of the Chief Executive Officer and President of the Company.

ARC believes that diversity brings breadth and depth to the boardroom, and as such has built a board that has broad experience and knowledge of areas important to oil and gas operations. Current members of ARC's board of directors possess knowledge and expertise including, upstream and downstream oil and gas, accounting, finance, transportation, power and utilities and general business and board governance. ARC's Policy and Board Governance committee reviews the make-up of the board and the competencies of directors on an annual basis and identifies potential new candidates as necessary. When identifying candidates, the Committee considers skills, experience, strengths and knowledge in addition to character and behavioral qualities. All directors are nominated annually by shareholders at the Annual General Meeting through a majority voting process.

The average director tenure on ARC's current board is eight years. ARC does not have a policy for director term limits. We believe long-term directors provide invaluable knowledge of our company, while new directors provide new perspectives and experience. As such, we aim to achieve a balance to ensure an effective board.

#### *Responsibilities and Structure*

The role of the board of directors is to provide stewardship of ARC with oversight for all business affairs. The board's responsibilities include:

- Strategic planning
- Identifying and managing risk
- Approval of capital expenditure budgets
- Succession planning
- Composition
- Establishment and enforcement of numerous organizational policies including the Standards of Business Conduct
- Issuance of Common Shares
- Approval of dividends paid on common shares

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<sup>1</sup> CDP was previously known as Carbon Disclosure Project

<sup>2</sup> Within the meaning of NI 58-101, a director is Independent if he or she has no material relationship with the organization.

### [Read Board of Directors Mandate](#)

To fulfill its oversight role, the board holds regular meetings on a minimum of a quarterly basis. In 2013, ARC's board held eight meetings with an average 96 per cent attendance rate. During quarterly meetings, the board is updated by company management on emerging trends and opportunities, risk and business activities. In addition to regular meetings the board and members of ARC's senior management attend an annual multi-day strategic planning session focused on long-term planning.

As ARC's business is multi-dimensional, the board must provide oversight on a variety of issues, including financial and operational, social, health, safety and environment. The board has created six committees to ensure effective oversight for all aspects of our business.

- Audit Committee
- Human Resources and Compensation Committee
- Policy and Board Governance Committee
- Health, Safety and Environment Committee
- Reserves Committee
- Risk Committee

### [Read more about committee membership and responsibilities in ARC's Information Circular](#)

#### *Upholding Ethical Business Practices*

ARC's board of directors sets the tone and standards for the organization, but it is the responsibility of each and every employee to comply with corporate policies and uphold standards. ARC's executive team ensures performance expectations are aligned with governance commitments and that expectations are clearly communicated to all staff. ARC has numerous policies in place that clearly communicate our values and accepted practices. ARC's policies are frequently reviewed and updated to meet our evolving business needs.

- The [Business Conduct and Ethics Code](#), broadly outline basic principles and policies, and must be read and signed by all employees on an annual basis. The Code addresses issues such as, equal opportunity, harassment, conflict of interest, confidentiality, compliance, environmental impact, corruption and bribery, among others. It also governs the political activities and contributions of employees and the corporation, stating that ARC does not contribute any funds to political organizations in Canada or abroad.
- The [Disclosure Policy](#) documents the disclosure policies and practices of ARC, extending to all directors, officers and employees. The policy is also intended to assist the Chief Executive Officer and Chief Financial Officer in making certifications with respect to the disclosure control of ARC required under National Instrument 52-109.
- ARC's [Whistleblower Policy](#), provides a mechanism by which employees, consultants and external stakeholders can raise concerns regarding violation of the Business Conduct and Ethics Code through their supervisor or through an anonymous process. A Whistleblower Hotline, where anonymous complaints and concerns can be lodged, is accessible from the policy document.

- The [Health, Safety](#) and [Environment Policies](#), outlines ARC’s mission and values in these areas, as well as accountabilities at all levels of the organization.

*Shareholder Engagement*

ARC’s board of directors understands the importance of timely and transparent communications with our shareholders. We constantly strive to improve our shareholder communications and to create avenues to facilitate increased engagement and interactive dialogue with investors. ARC’s website provides extensive and up-to-date information on the Company and its activities. We post regular video updates from senior management, providing the opportunity for investors to see and hear management’s views on quarterly results and the business environment. ARC was an early adopter of both individual director voting in 2010 and Say on Pay<sup>3</sup> advisory vote on executive compensation in 2011. The Whistleblower hotline provides a direct line of communication for employees and shareholders to put forth concerns or violations directly with the Chairman of the Audit Committee. ARC has further demonstrated its commitment to increased shareholder engagement through proactive meetings between management and Institutional Investors throughout North America and Europe, and with key members of the Board of Directors meeting with representatives from the Canadian Coalition for Good Governance.

*Role of the Board in ESG Performance*

ARC recognizes that the ESG metrics on which we report must be included in a formulated management approach that is incorporated at all levels of the organization. Daily management of such commitments and implementation of programs are led by ARC managers, who are supported by a wider team. However, ultimate decision making regarding these areas takes place at the board and senior management level. Of the six board committees, four have a direct focus on ESG issues: Health, Safety and Environment Committee, Human Resources and Compensation Committee, Policy and Board Governance Committee, and Risk Committee.

**Approach to Risk Management**

ARC’s corporate strategy of *risk managed value creation* informs all aspects of how we operate our business. Through a rigorous internal process we continuously identify, assess, monitor and manage risk associated with our assets and operations. This process engages all levels of the company from the board of directors to department teams and individual employees. By creating a culture of transparency where risks and opportunities are routinely considered, we create a strong, sustainable business that is focused and able to create value not just today, but over the long-term.

*Identifying Principal ESG Risks*

The following list identifies principal ESG risks that could potentially have a material impact on the operation and profitability of ARC’s business.

Risk	Why it Matters	How it is Managed
Policy Impact	Changes to policy specifically relating to climate change, air, land or water regulations which may affect our ability to	We routinely review policy, engage with industry and regulatory bodies to identify and provide input into

<sup>3</sup> Say on Pay is a process by which shareholders have the opportunity to vote on the approach to director and executive compensation.

	develop or produce our assets, or impact our competitive position.	potential policy changes. Such reviews are incorporated into long-term strategic planning.
Carbon Pricing	Changes in carbon pricing via taxes or carbon cap and trade schemes which may affect project economics.	Materiality assessments are completed for new projects which include the cost of carbon. Several different carbon cost scenarios, baseline years, reduction targets and growth factors are included in scenario planning.
HSE regulation non-compliance	Risk of being materially offside health and safety or environment related regulation – causing financial penalties or shut-in production.	ARC continually reviews changes to regulation and compliance. Our goal is to stay ahead of possible changes to regulation and to meet or exceed all requirements.
Major environment or health and safety incident	An incident that causes harm to people or the environment may result in production loss, damage to ARC's reputation and impact stakeholder trust.	ARC has a Health and Safety Management System in place that works to mitigate incidents before they occur. Safety is our top priority and we are continuously striving to improve our systems and educate employees and contractors as to how they can protect themselves and others.
Corporate Reputation	Risks to our reputation that may result in loss of stakeholder trust and affect our ability to operate our business.	ARC strives for high levels of transparency in all corporate disclosure and engages in continuous dialogue with stakeholders to ensure our business strategy and objectives are understood as addressing the needs and concerns of our stakeholders.
Transportation & Market Access	Changes to regulation involving transportation (rail, pipeline, truck) may reduce our ability to bring production to markets.	Transportation and market access risks are mitigated through the use of long-term firm commitments with mid-stream companies and diversified marketing arrangements that provide access to multiple markets.

For a full review of risks to ARC's business plan please see the [2013 Annual Information Form](#).

### *Risk Oversight*

ARC's board established a risk committee in 2008 to assist the board in identification of principal risks to the business and to ensure procedures and systems are in place to manage or mitigate such risks. The Risk Committee considers the following organizational risks:

- Strategic Risk
- Financial Risk
- Operational Risk
- Culture/ Organizational Risk
- Governance, Regulatory/ Legal and Compliance Risk

In addition to the role of the Risk Committee in identifying and managing risk, each committee of the board has assigned risk oversight appropriate to the focus of the committee.

Committee	Risk Oversight Responsibility	Specific Risk Oversight
Risk	<ul style="list-style-type: none"> <li>• Identify principal business, financial and organizational risks</li> <li>• Take adequate steps to mitigate risks</li> <li>• Establish accountability for such mitigation</li> </ul>	<ul style="list-style-type: none"> <li>• Commodity price risk</li> <li>• Hedging program</li> <li>• Credit risk monitoring and mitigation</li> <li>• Insurance</li> </ul>
Audit	<ul style="list-style-type: none"> <li>• Financial Reporting</li> <li>• Financial compliance</li> </ul>	<ul style="list-style-type: none"> <li>• Internal controls</li> <li>• Integrity of reporting systems</li> <li>• Compliance with financial and regulatory requirements</li> <li>• Compliance with financial contractual requirements</li> </ul>
Human Resources and Compensation	<ul style="list-style-type: none"> <li>• Talent management</li> <li>• Succession</li> <li>• Compensation</li> </ul>	<ul style="list-style-type: none"> <li>• Succession planning</li> <li>• Compliance with contractual requirements</li> </ul>
Governance	<ul style="list-style-type: none"> <li>• Governance and regulatory</li> </ul>	<ul style="list-style-type: none"> <li>• Compliance with corporate governance, legal and regulatory requirements</li> </ul>
Reserves	<ul style="list-style-type: none"> <li>• Reserves evaluation and reporting</li> </ul>	<ul style="list-style-type: none"> <li>• Accuracy and integrity of reserves evaluation and reporting</li> <li>• Compliance with regulatory requirements</li> </ul>

Health, Safety & Environment	<ul style="list-style-type: none"> <li>• Health, safety and environment risk</li> <li>• Infrastructure integrity and security risk</li> <li>• Operational Risk</li> </ul>	<ul style="list-style-type: none"> <li>• Operating performance monitoring and reporting</li> <li>• Compliance with operational regulatory requirements</li> </ul>
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**Score Card**

2010/2011 Objectives	2012/2013 Results	2014 -2015 Objectives
<ul style="list-style-type: none"> <li>• Continue to monitor emerging issues and trends in corporate governance and to evolve our processes, where appropriate, to meet best practice standards.</li> </ul>	<ul style="list-style-type: none"> <li>• Effective CEO, CFO and COO transitions with appointment of long-term internal ARC candidates.</li> <li>• Appointment of new Directors, adding new perspectives and experience.</li> <li>• Introduced new “Director Education” series to provide insight on relevant industry topics.</li> <li>• Conducted annual Field Trip to enhance director’s knowledge of ARC’s operations and asset base.</li> <li>• Board Chair and Vice-Chair meet with Canadian Coalition for Good Governance to discuss corporate governance policies and recommendations.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to monitor emerging issues and trends in corporate governance and to evolve our processes, where appropriate, to meet best practice standards.</li> <li>• Consideration of new recommendations regarding Board, Management and Employee Diversity. Consideration of new recommendations regarding Director Tenure.</li> </ul>

## **Environment**

### 2013 at a Glance

- 7% reduction in GHG emission intensity since 2010
- 253 active reclamation sites
- Developing long-term water management strategy

### **Vested Interest**

ARC's commitment to meeting high standards of environmental performance shapes our business decisions every day. Not only does a focus on environmental performance help us fulfill our responsibilities of environmental stewardship, it aligns with our business objectives of delivering sustainable and profitable growth.

- Investment in facility upgrades and low-emissions technology result in improved efficiencies and ultimately reduced environmental impact over the long-term.
- Responsible operating practices enable us to develop strong and trusting relationships with stakeholders.
- Long-term development plans, which take into account climate related risks and opportunities ensure we are effectively managing operational risks.

### **Climate Change Strategy**

ARC's climate change strategy is focused on mitigating risks associated with current or potential policy and regulatory changes, as well as identifying opportunities to reduce our environmental impact and improve the efficiency of our operations. Carbon related risks and opportunities are evaluated in relation to current operations and integrated into development plans and budgeting processes. This is achieved, in part, by including the cost of carbon into capital project evaluations at early stages of planning, and evaluating long-term carbon liability and policy updates with senior management and the board of directors.

#### Priorities of Our Climate Change Strategy:

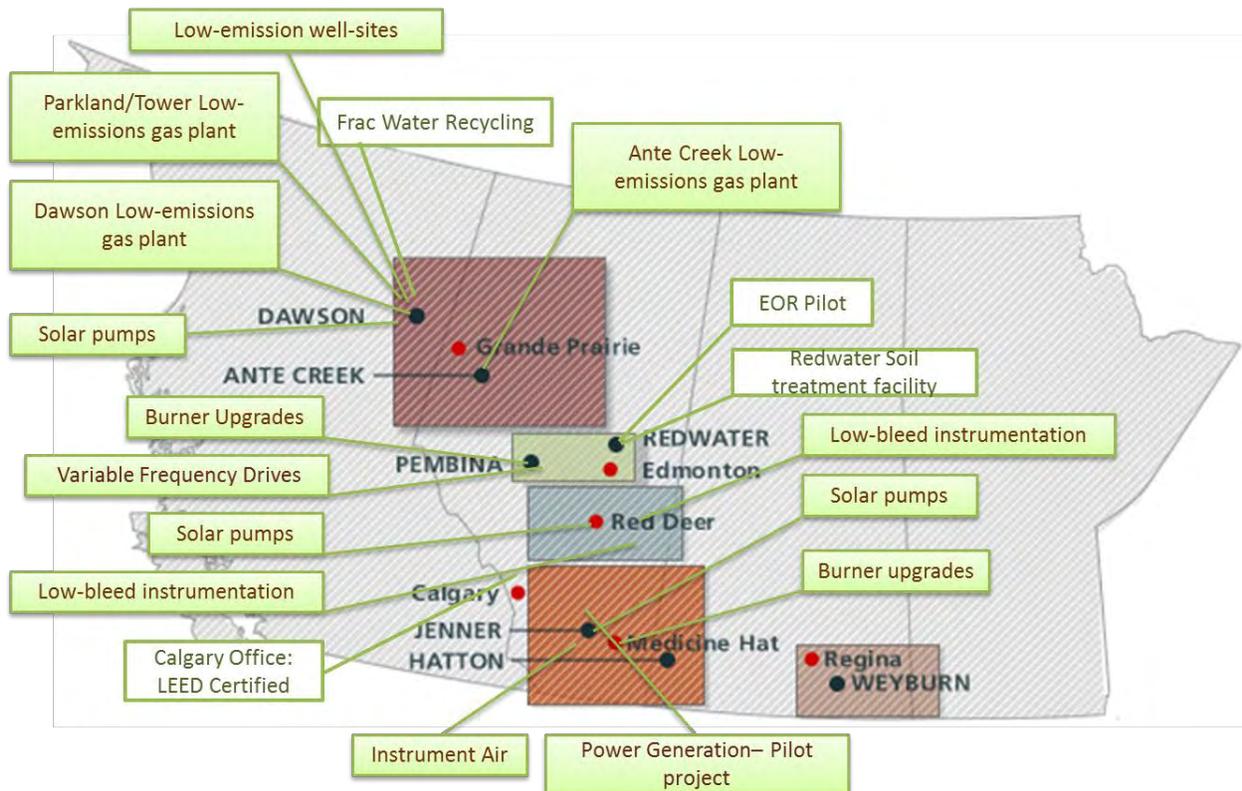
- Promoting energy efficiency
- Utilizing existing technology to reduce emissions
- Engaging in research and development of emerging low emissions technology
- Participation in carbon offset markets

### Feature Story: Investment in Innovation

ARC commits time and resources to research and development of new technologies and innovations that economically improve our environmental performance and the efficiency of our operations. Much of this work has been led by our Eco-Efficiency program, which brings together staff members from

multiple disciplines to focus on emissions reduction and environmental mitigation projects. Since the program began in 2009, 33 projects have been completed and an estimated 27,000 tonnes of CO<sub>2</sub> per year of total reductions has been achieved.

Explore the map to see environmental mitigation and efficiency driven projects that have been implemented across our operations:

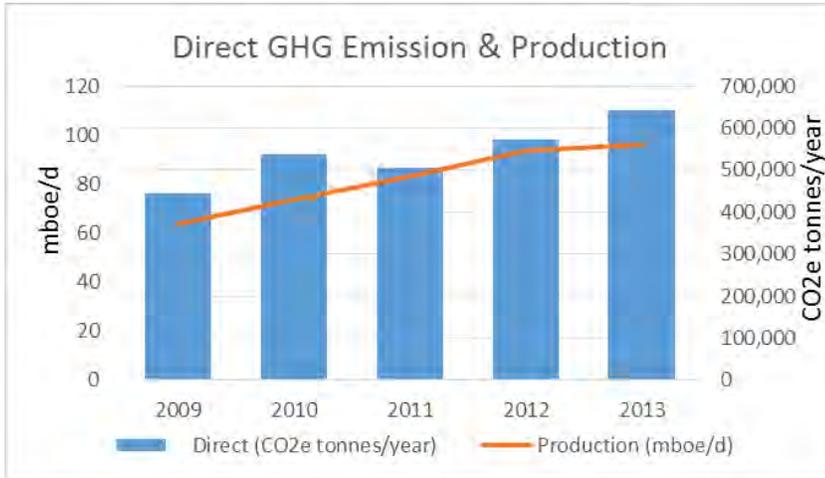


## AIR

### GHG Emissions

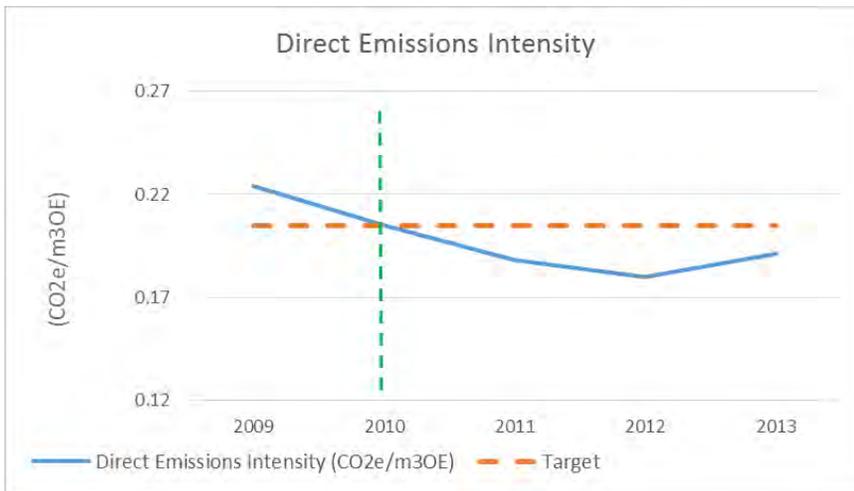
Managing Greenhouse Gas Emissions (GHG) is a significant challenge in our industry, and an area in which ARC has taken a proactive approach. As we continue to create value for our shareholders through the development and expansion of our resources, we expect our absolute GHG emissions will increase. Given this reality, ARC is focused on the management and reduction of our GHG intensity through continuous improvements in operational efficiency and investment in emerging low-emission technology. In the development of our Montney resources in northeast British Columbia, we have taken a clean development approach. One of the outcomes of this approach has been the construction of low-emissions facilities which has helped us meet our goals of GHG intensity management – reducing our GHG intensity by 7 per cent since 2010. The Dawson Creek low-emissions facility is an award

winning<sup>4</sup> example that has achieved emission reductions of over 220,000 tonnes of carbon dioxide equivalent since its completion in 2011. Our focus on clean development does not stop at facilities; ARC has implemented low-emission processes and technologies such as instrument air and variable frequency drives at well-sites and is employing in-line testing and frac-water recycling during completions operations.



Across our operations we emitted 643,890 tonnes of direct carbon dioxide equivalent in 2013. Between 2011 and 2013 our emissions increased by 118,000 equivalent tonnes of carbon dioxide. The increase in reported emissions is the result of a number of factors. The scope of our reporting expanded to include a broader and more accurate data set. The British Columbia government updated the pneumatic device emission calculation methodology,

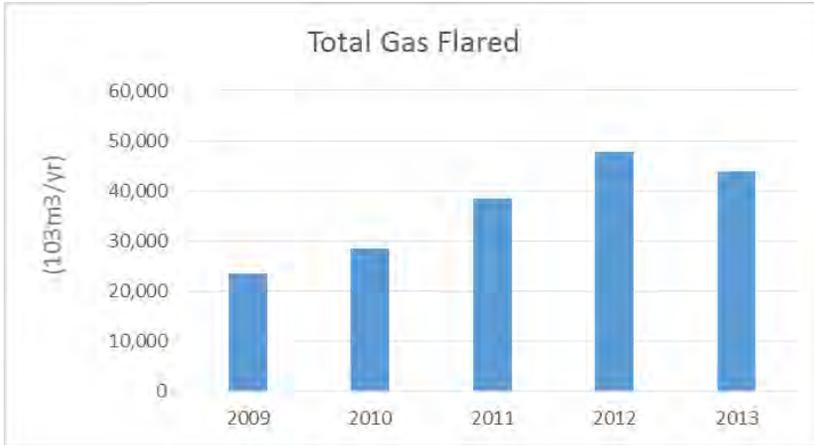
which resulted in an upward revision of reported emissions. Additionally, during the same period, ARC grew production 15 per cent, as such development activities associated with this production growth also contributed to the increase.



Tracking emissions intensity is the best indicator of how we are doing on emissions management. Emissions intensity measures the GHG emitted per barrel of production. As the graph shows, ARC has consistently achieved our goal of remaining at or below 2010 levels. This is a result of our focus on operational efficiency, investment in low-emissions technologies, and the construction of low-emissions facilities and

well-sites. A small increase to GHG emission intensity was seen in 2013 compared to 2012 as a result of improvements in the scope and quality of data. Compared to Canadian Association of Petroleum Producer (CAPP) data for conventional producers, ARC's 2013 emissions intensity is approximately 40 per cent below industry average.

<sup>4</sup> The Dawson gas plant was awarded the Canadian Association of Petroleum Producers Responsible Canadian Energy Chair's Award in 2013 for its low-emission design and emission reductions.



During oil and gas operations, flaring of natural gas may occur when recovered natural gas is unable to be tied into pipelines for a period of time or where the volumes of gas are considered un-economic. Such practices can occur during the testing phase of a new well or at oil dominated assets where the volume of associated natural gas is extremely small. All flaring is done within government guidelines. The increase in flared volumes in 2012, was the result of the development

of new key growth properties as well as improvements in data collection. On average ARC conserves 94 per cent of solution gas.

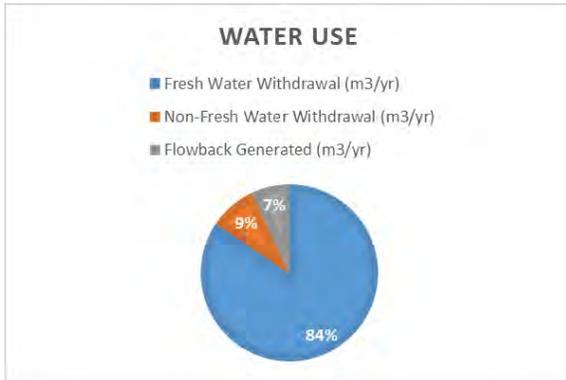
## WATER

ARC's operations draw on water sources for the drilling and completion of wells, hydraulic fracturing, well optimization, injection and reservoir voidage replacement<sup>5</sup>. As we continue to grow our operations, we expect our demand on water to increase as well. Responsible water management is a key component of our commitment to operational excellence and we aim to realize and optimize value from all aspects of the water cycle. In our last report, we stated that we were working on a long-term water management strategy. While, the development of this strategy is still in progress, in 2014 a water strategy function was formalized within ARC and internal targets were set around the percentage of recycled flowback fluid, and number of source and disposal wells. Additionally, we have identified the following three focus areas and implemented initiatives to improve our performance in each area in 2013 and to-date in 2014.

- **Measurement and Reporting:** Improving our internal mechanisms for measurement and reporting of water is a critical component of our long-term water management strategy. Since 2012, water reporting has become a standard measurement included in internal records and reporting. Developing better data around our water use is crucial in both identifying current usage and future water needs as well as determining areas where our processes could be improved.
- **Needs Analysis:** An analysis of future water needs has been included in our long-term development plans. As water is an essential part of our operations, this approach ensures we can meet our future water needs, proactively secure alternative sources where necessary, and balance our needs with those of the communities in the regions of our operations.
- **Recycling Opportunities:** ARC was the first operator in the northeast British Columbia region to successfully develop a frac water recycling program in 2009. Frac water recycling is a process for

<sup>5</sup> Reservoir Voidage Replacement refers to replacing the volume of oil and gas and water produced from the reservoir by injecting fluids.

recycling the water used in fracturing operations during the completion of wells. The use of frac water recycling has helped decrease demand on local water supply and reduce disposal of flow-back water. Frac water recycling will continue to be an important part of ARC's water management strategy as we continue to grow our production and evolve our well completions procedures.



In 2013, ARC's operations used a total of 893,400 cubic meters of water. Of this total, 84 per cent was fresh water sourced as per provincial licenses. ARC makes an effort to utilize non-fresh water wherever possible and is actively exploring solutions for the extraction and use of saline water. In 2013, non-fresh water withdrawal represented nine percent of total water use. We expect the portion of non-fresh water withdrawal to increase as ARC's water management strategy implements alternative sourcing solutions.

### Feature Story: Hydraulic Fracturing and Groundwater Protection

Hydraulic fracturing, also known as "fracking", is a technique that has been widely and safely used in the oil and gas industry for over 60 years, as a method to optimize production. In recent years, the progression of hydraulic fracturing technology has allowed industry to unlock production in previously trapped reserves in tight rock formations.

Hydraulic fracturing is a controlled operation that pumps a mixture consisting primarily of water, as well as sand and small amounts of chemical additives, down the wellbore at high pressures into the target rock formation. As the mixture is forced into the rock it causes the rock to fracture, thereby creating fairways for the flow of hydrocarbons up the wellbore. The targeted zone where the fracturing operation takes place is located deep below the earth's surface and over a kilometer below the lowest groundwater zone. Many of ARC's fracturing operations take place almost two kilometers below surface. These depths are over three times the height of the CN Tower, which stands at 550 meters.

In all of our fracturing operations, ARC takes great care to protect all land and water sources. Before any operation begins, computer modeling programs are used to determine the optimal height and complexity of the fractures to ensure they do not extend beyond the target rock formation. During the operation, various monitoring methods are used to assess all operations are carried out according to plan. This includes monitoring of existing wellbores in the near-by area.

Sound wellbore construction is essential to the protection of ground water sources. Each wellbore has an engineered steel casing system, which is cemented into place to prevent the migration of fluids into groundwater. Wellbore design is strictly controlled by provincial regulators to ensure high standards of wellbore integrity. All casing is constructed and pressure tested prior to commencing fracturing operations. Wellbore integrity is monitored throughout the life of the well.

Management and safe disposal of flowback fluid is a critical component of safe operations. Flowback fluids is the fluid that returns to surface following hydraulic fracturing. In addition to the mixture used in the operation, flowback fluids can contain water originally housed in the rock, called produced water. Produced water can have a high concentration of salt making it unsuitable for use. Wherever we are unable to reuse or recycle flowback fluid and produced water, the fluids are safely disposed of through reinjection into licensed disposal wells. Stringent wellbore integrity and safety precautions are in place for disposal wells similar to producing wells.

ARC is a participant in [FracFocus](#) – a public website that reports information on the chemical components used in fracturing fluids on a well-by-well basis.

## LAND

ARC's operations span western Canada, touching many diverse landscapes. Each site has its own unique considerations and environmental needs. As stewards of our land and natural resources, ARC makes every efforts to mitigate effects on the land.

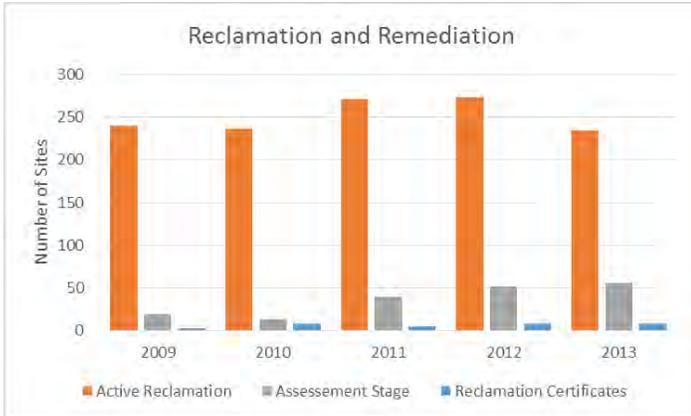
### *Reducing Our Footprint*

Our industry continues to progress in finding increasingly efficient ways to access resources. Many of these improvements have resulted in a reduction to our surface land footprint. An example is the advancement of horizontal drilling and the move to multi-well pad drilling. Horizontal drilling decreases surface land disturbance, allowing a greater area to be accessed from one single well. In the past, numerous vertical wells would have been needed to access the same area. Similarly, multi-well pad drilling, where multiple wells are drilled from a single well pad as opposed to numerous surface locations, can decrease surface land used per well by more than 75 per cent. This reduction is achieved as a result of the ability to utilize equipment and surface structures among multiple wells, and to minimize the number of access roads and pipelines.

### *Reclamation and Remediation*

Once a well comes to the end of its useful life and is deemed no longer productive, the process of reclamation and/or remediation begins. The objective of these activities is to restore a site as close to its natural productive state as possible. In 2013, ARC had 235 abandoned wells undergoing active reclamation. All ARC wells are tracked and managed throughout their lifetime. We have a long-term strategy in place to manage inactive wells, and a paced and consistent approach to our well abandonment and reclamation responsibilities. As part of ARC's risk management activities we estimate the costs for abandonment and reclamation for all of our inactive and producing wells, pipelines and facilities for a 60 year period. This proactive approach ensures consistent management of our liability rating with regulators. ARC has a dedicated reclamation fund associated with the Redwater property, which as one of Canada's oldest producing fields imposes larger demands on our reclamation and remediation program. As at December 31, 2013 the balance of this fund was over \$32 million. For all

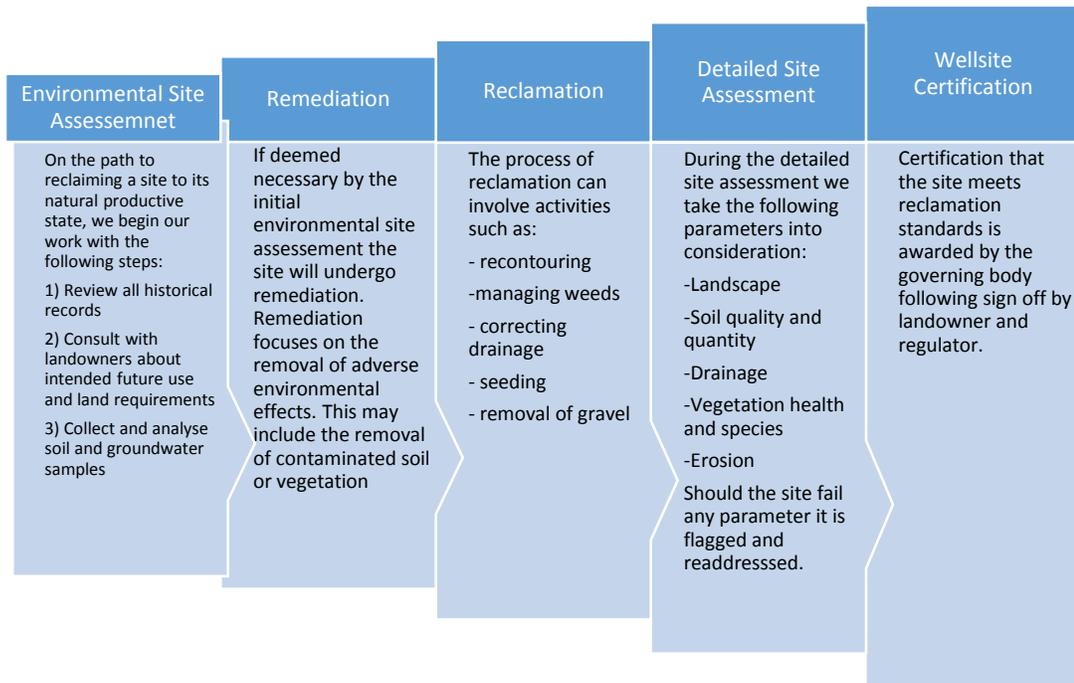
other operating areas ongoing abandonment and reclamation activities are funded with funds from operations.



As at December 31, 2013, ARC had a total of 1,070 abandoned wells. In 2013, ARC received eight reclamation certificates. ARC takes a consistent and conscientious approach to our reclamation program.



Learn more about the steps and procedures:



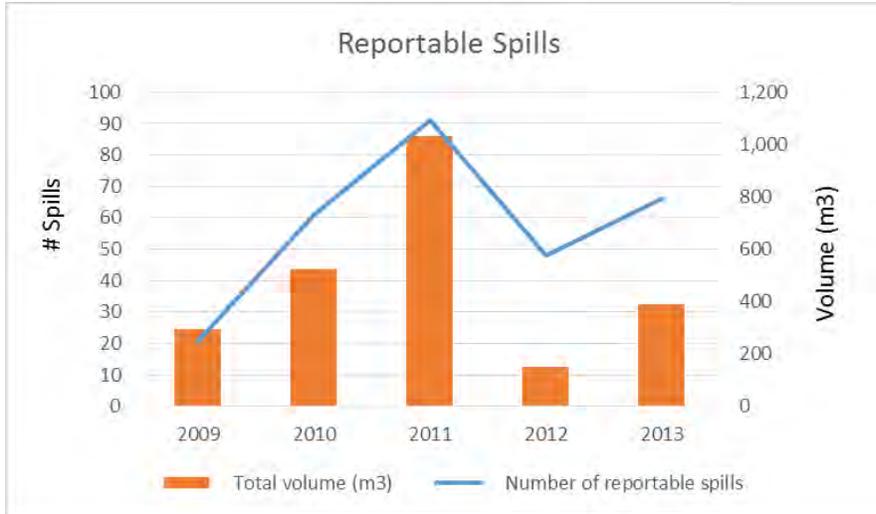
### Feature Story: Redwater Soil Treatment Facility

In 2008, ARC constructed the Redwater Soil Treatment Facility to aid ARC with ongoing reclamation activities in the area. The facility treats hydrocarbon contaminated soil through a process which employs turning of the soil piles, aeration, fertilizers and nutrients to facilitate the biodegradation of the hydrocarbons. As a result of the treatment previously contaminated soil may be returned to the original site or to another formerly contaminated site, saving the soil from being disposed of in a landfill.

The facility has the capacity to treat 30,000 tonnes of soil (equivalent to 20,000 m<sup>3</sup>), which is enough to cover one football field with nearly four meters of soil. To-date, the facility has treated over 20,000 tonnes of soil that would have otherwise gone to the landfill.

### *Spill Prevention and Response*

Spill prevention and response is an important aspect of the work of our asset integrity and emergency response team. Across our operations ARC manages nearly 9,000 kilometers of pipeline, 11 major gas processing facilities, over 300 field sites and 8,500 pieces of pressure equipment. Our number one defense against spills is managing the integrity of these assets. To achieve this, ARC performs frequent audits and proactively remedies concerns before they become a problem. In the event that spills or leaks do occur, ARC has emergency response plans in place for all of our operating locations to address spill response.



In 2013, ARC had 45 reportable leaks from pipelines resulting in 390 m<sup>3</sup> of spilled product, and 21 reportable non-pipelines spills resulting in 355 m<sup>3</sup> of spilled product. As reported in our 2012 Report the increase in 2011 spills was largely to the result of a 500 cubic meter fresh water spill.

### Scorecard

2010/2011 Objectives	2012/2013 Results	2014/2015 Objectives
<ul style="list-style-type: none"> <li>Continue to evaluate opportunities for emission reductions where practical.</li> <li>Eco-Efficiency program will remain focused on evaluating and piloting emerging energy generation technologies.</li> <li>Continue to target water use reductions through recycling programs, alternative sourcing and implementation of new technology; and improve internal tools for measuring water use at our operations.</li> </ul>	<ul style="list-style-type: none"> <li>Continued work on a long-term water management strategy.</li> <li>Improvements were made to internal measurement tools for all environmental data.</li> <li>8 reclamation certificates awarded.</li> <li>Expanded internal and external communications of carbon initiatives.</li> </ul>	<ul style="list-style-type: none"> <li>Formalize water management strategy.</li> <li>Complete pilot testing of emerging emissions mitigation technologies.</li> </ul>

## Health and Safety

### *2013 at a Glance*

- *Increased field visits by senior management by 18%*
- *32% decrease in employee total recordable incident frequency \* compared to 2012*
- *25% decrease in contractor total recordable incident frequency \* compared to 2012*
- *Held 10<sup>th</sup> Annual Safety Workshop*

There is nothing more important than protecting the health and safety of those who work for us and the residents near our operations. ARC has health and safety management systems and policies in place that are designed to minimize the risk of injury and to foster a culture where safety is always a priority. We have worked hard to promote open and constructive dialogue with front line employees and contractors to identify improvements to our systems and to ensure that all parties have the education and training necessary to keep themselves, their colleagues and the community safe. Safety is our top priority and as such we demand the same of the contractors who work with us.

### *Safety Training*

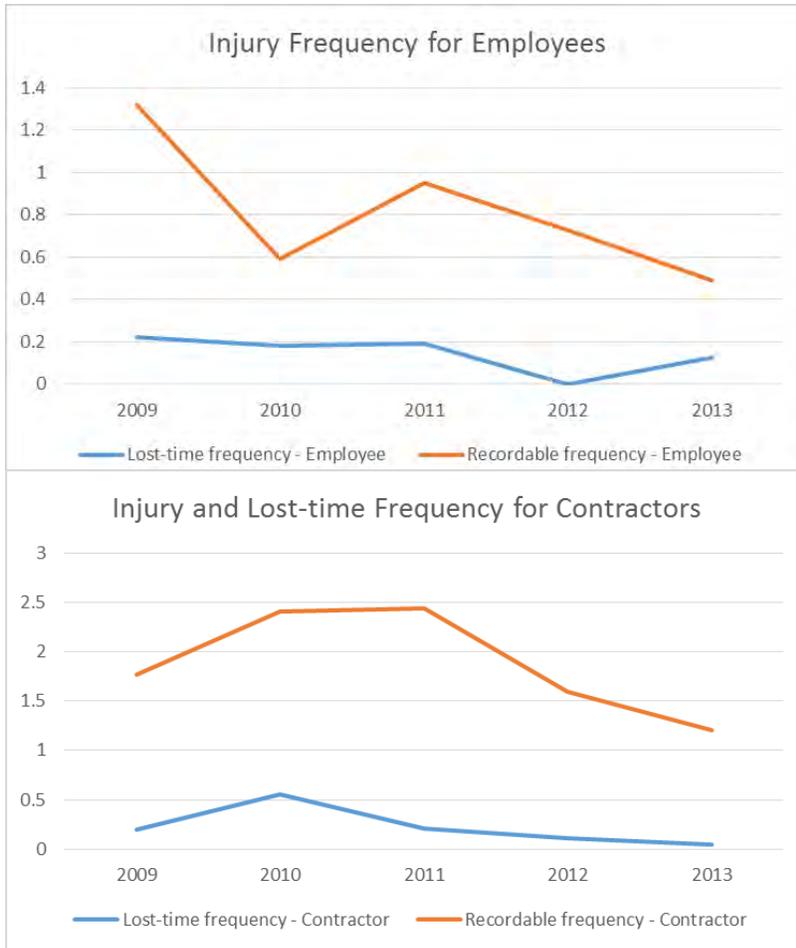
Training is the first step to helping meet our target of zero lost-time incidents. Employees receive training on standard safety procedures such as hazard recognition, evaluation and control. This training is given to front-line employees as part of the onboarding process, after which time it is mandatory for employees on a three year cycle. In addition to frequent safety training, employees take part in company-wide safety meetings and front-line workers receive regular safety bulletins with updates and best practice reminders.

Contractors make up a large part of the workforce at many of our operations. It is critical that contractors understand and adhere to ARC's safety standards. To facilitate this, all contractors undergo an initial health and safety orientation, participate in daily safety meetings and are audited periodically during their contract with ARC. In 2013, we held our tenth annual safety workshops to review procedures and expectations and invite feedback from contractors on how we can improve our system. In an effort to keep incidents low and maintain adherence to safety procedures, ARC aims to work with the same contractors on multiple projects to help facilitate a healthy working relationship and build shared safety expectations.

### *Measuring Performance*

Tracking recordable injuries and lost-time incidents is essential to measuring our safety performance. When incidents do occur we undergo an investigation to determine the root cause and review what changes could be made to avoid a similar injury in the future. In order to continue to improve our safety program, ARC encourages the reporting of all near miss incidents and potential hazards. This approach results in a culture where safety is a common dialogue and where we can learn from our mistakes.

The charts below show the recordable and lost-time injury frequencies for both employees and contractors. The recordable incident frequency measures lost-time incidents, medical aid events and restricted work cases per 200,000 man hours. And the lost-time frequency measures solely lost-time incidents per 200,000 man hours.



With a continued focus on health and safety ARC's employee incident rates have been steadily declining since 2011. In 2012, we achieved our goal of zero employee lost-time incidents. In 2013 our employees worked 1.2 million man hours and we unfortunately experienced one employee lost-time incident.

Since our last report we have seen a significant decrease in contractor recordable and lost-time incidents. Our strong focus on aligning ourselves with contractors that have the same commitment to health and safety as ARC, and on frequent measurement of their performance through audit and inspections has led to this success.

### *Public Safety & Emergency Response*

Prevention is our number one focus in ensuring the health and safety of those who work for us and those who live in proximity to our operations. In the case of an emergency ARC has detailed emergency response plans for each of our field locations and a multi-disciplinary team trained in the execution of this plan. In 2013, 25 table top emergency response exercises were held with a total of 284 ARC responders participating. During the year, ARC also undertook a revision of its emergency response communications plan, helping to ensure that we can successfully communicate with the media and general public during an emergency.

Scorecard

2010/2011 Objectives	2012/2013 Results	2014/2015 Objectives
<ul style="list-style-type: none"> <li>• Streamline contractor and employee orientation process.</li> <li>• Continue to internally and externally audit our Health and Safety Management System.</li> <li>• Increase level of communication with contractors.</li> <li>• Continue to build capacity through training and mentorship. Reduce incident frequency for employees and contractors through targeted initiatives.</li> <li>• Work with industry associations to develop competency assessment framework for contract supervision.</li> </ul>	<ul style="list-style-type: none"> <li>• Evolved employee and contractor onboarding process to further promote health and safety at ARC.</li> <li>• ARC completed an external audit of our Health and Safety Management System, and achieved our certificate of recognition through ENFORM with a score of 91 per cent.</li> <li>• Increased our level of communication with our contractors through targeted initiatives both in the field and corporate office to strengthen relationships.</li> <li>• Continued to build capacity throughout the company making health and safety a focal point.</li> <li>• Revised and expanded Emergency Response Communications Plan.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase focus on health and safety throughout the organization by fostering an environment where health and safety is integrated into the day-to-day activities of all employees.</li> <li>• Align ourselves with best in class contractors through evolving our contractor management program and audit process.</li> <li>• Develop, coach and mentor ARC employees and company representatives in health and safety.</li> <li>• Increase focus on health and safety communication throughout the organization.</li> </ul>

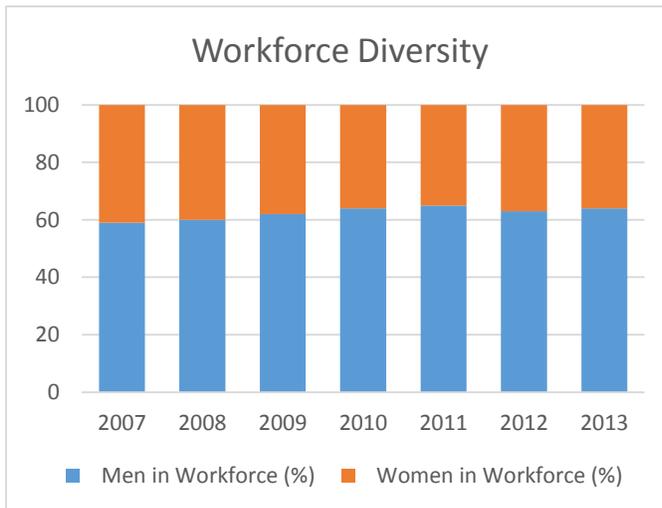
## Our People

### 2013 at a Glance

- **90% of workforce are permanent employees**
- **Over 90% employee engagement score**
- **4.7% voluntary turn-over rate**

A team of passionate and highly-skilled people is the key ingredient to successfully executing our strategy and continuing to deliver industry leading results. This is why a focus on building and maintaining a team of top talent and a strong leadership culture is fundamental to our vision and strategy. ARC makes the following commitments to our people:

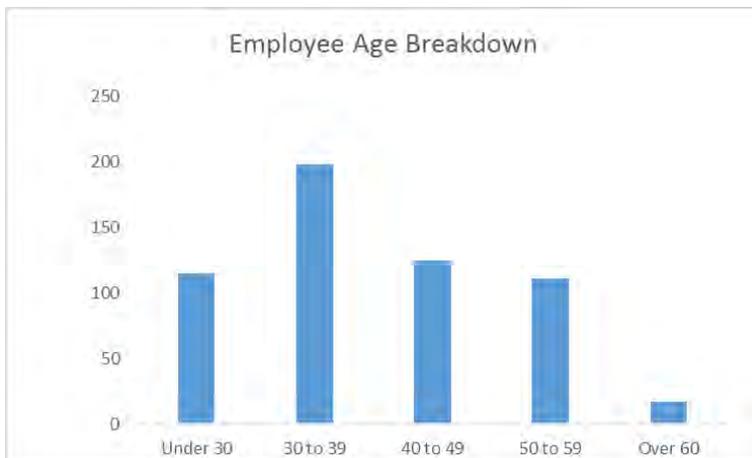
- We are committed to creating an environment where people can become their best;
- We value all employees and treat people with dignity, respect and fairness;
- We provide equal opportunity in all aspects of employment;
- We offer a competitive compensation package that rewards performance and shares in the company's success;
- We are committed to providing employees with meaningful work;
- We encourage personal and career growth;



In 2013, 64 per cent of ARC's workforce was comprised of male employees and 36 per cent by female employees. At our corporate office 53 per cent of roles were filled by females, while females made up 10 per cent of field based employees.



In 2013, females represented, 9 per cent of the executive team and 25 per cent of management roles. As of 2014, female representation on the executive team has increased to 17 per cent.



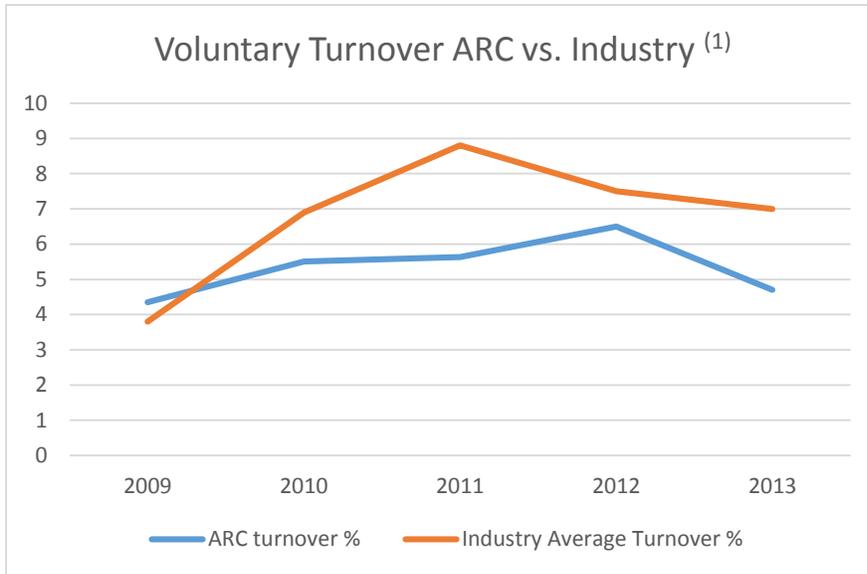
ARC believes that a broad age range of employees contributes to the advancement of learning and innovation, and helps build a talent pipeline. In 2013, the average age among ARC employees was 40 years.

\*Based on 2013 data

### Strength of Our Culture

We see the strength of our culture as a differentiator and a driver for both attraction and retention of employees. A deliberate and focused approach is taken to attracting and retaining the best and the brightest at all levels within the company from students and new graduates to seasoned professionals. Our culture is one of trust and respect, in which all employees are given high levels of responsibility and where leadership is seen as an action – not a title. All permanent employees receive competitive compensation and benefit plans, and have access to career training and development opportunities. Flexible work arrangements support work/life balance and allow changing life circumstances to be accommodated.

To learn more about ARC’s compensation and benefits plan view the [2013 Information Circular](#)



ARC continues to maintain very low voluntary turnover. This low rate is evidence of our strong culture and positive work environment. In 2013, ARC's voluntary turnover was 4.7 per cent. Since 2010, ARC's voluntary turnover rate has consistently been well below the industry average.

(1) Industry Turnover rate provided by Mercer.

### *Strength of the Workplace Survey*

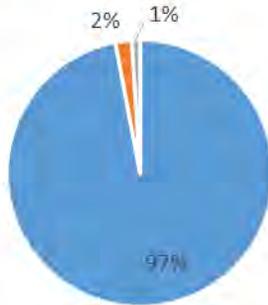
ARC conducts an annual mandatory company-wide survey to measure the strength of its workplace. In the survey employees answer a broad range of questions covering all parts of our business. As part of the survey, employees also have the opportunity to provide candid feedback to management on improvements they feel could be made. In 2013, 90 per cent of ARC employees reported feeling engaged in their role. This is an outstanding result when compared with benchmarking data that indicates that in the average organization only 33 per cent of employees report to feel engaged<sup>6</sup>. For ARC, the bottom line is that engaged employees have a direct influence on superior business outcomes, and are healthier overall.

View selected highlights from the survey:

<sup>6</sup> Based on Gallup research.

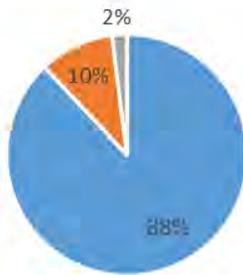
### I Understand ARC's Vision

■ Agree ■ Neither Agree or Disagree ■ Disagree



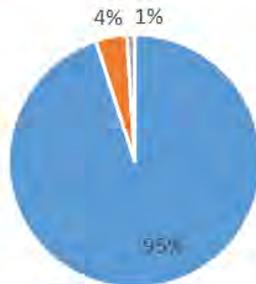
### My Supervisor or Someone at Work Encourages My Development

■ Agree ■ Neither Agree or Disagree ■ Disagree



### ARC has a Culture of Trust, Integrity, Respect and Accountability

■ Agree ■ Neither Agree or Disagree ■ Disagree



### Training and Development

We work in a fast-paced and ever changing industry, and it is crucial that everyone on our team has access to the training and development opportunities they need to succeed. In 2013, ARC spent over \$1.2 million on training and development for employees. This includes access to technical and leadership skills development.

ARC has an in-house training facility, which offers for a wide range of training programs in Calgary and across all of ARC's field locations. In 2013, ARC held almost 150 courses reaching 395 employees. To foster the development of leaders throughout the organization, we offer leadership training as well as a formal mentorship program. The mentorship program leverages individual experience to create broad learning opportunities, increased inter-departmental communications and heightened information sharing.

### Scorecard

2010/2011 Objectives	2012/2013 Results	Forward Looking Objectives
<ul style="list-style-type: none"> <li>• Continue to focus on improved communication as a key driver of employee engagement and corporate success.</li> <li>• Strengthen approach to recruitment for field positions.</li> <li>• Continue to build management bench strength.</li> <li>• Focus on recognition and reward of individual performance.</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced employee communication through continued quarterly staff meetings to review performance results as well as employee town halls to discuss long-term strategy and vision.</li> <li>• Developed and expanded our approach to building a skilled talent pipeline in the field. Part of this effort included the introduction of field summer student roles in 2013. In addition we expanded our early career development program to include field experience.</li> <li>• Enhanced our Succession, Progression and Development program to include greater focus on development plans for high potential leaders to ensure they are ready to fill future senior roles.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to expand current communication efforts with focus on employee engagement and knowledge sharing.</li> <li>• Proactively identify staffing requirements for key growth areas.</li> <li>• Continue focus on differentiation in regards to compensation related rewards</li> <li>• Introduce new learning and development opportunities to provide recognition to key individuals.</li> </ul>

	<ul style="list-style-type: none"><li>• Held "Supervisory Skills" training for front-line supervisors and leaders.</li></ul>	
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## Communities

### 2013 at a Glance:

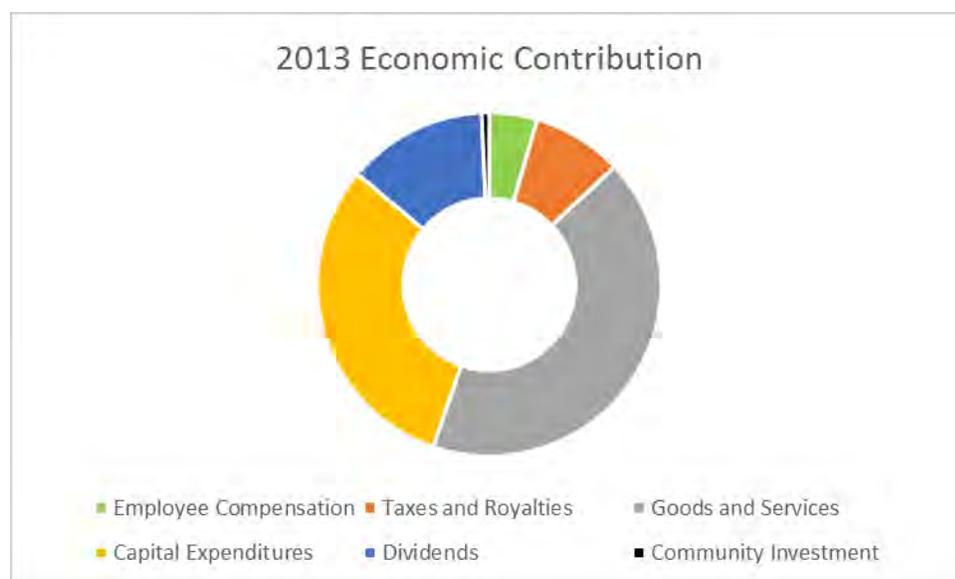
- \$2.3 million donated to not-for-profit organizations
- \$1.2 billion spent on local Western Canadian goods and services
- Over \$5 billion of dividends paid to shareholders since inception

### Supporting and Engaging Our Communities

At ARC, we are active members in our communities and aim to make a positive and lasting impact through all of our interactions. We actively support our communities by contributing to local economies with business and employment opportunities, charitable giving to not-for-profit organizations and by engaging in ongoing dialogue with all stakeholders.

### Economic Contribution

The execution and success of ARC's business plan directly benefits the local economies in our operating regions. The impact of our success goes beyond strong returns to our shareholders, passing benefits onto numerous stakeholders such as employees, contractors, and business partners, multiple levels of government, landowners and charitable organizations.



Employee Compensation	In 2013, total employee compensation was \$129 million.
Taxes and Royalties	In 2013, ARC paid \$40 million in taxes, comprised of \$18 million of business and property taxes, \$6 million of provincial sales tax and \$16 million of income taxes.

	In 2013, ARC paid \$223 million of royalties to the provinces of Alberta, British Columbia, Saskatchewan and Manitoba.
Community Investment	ARC contributed a total of \$2.3 million to support local not-for-profit organizations in 2013.
Dividends	ARC paid dividends of \$374 million to shareholders during 2013.
Capital Expenditures	ARC executed a robust capital program of \$915 million in 2013 to continue with the development and growth of our asset base.
Good and Services	In 2013, ARC worked with over 3,500 local suppliers throughout Western Canada, resulting in \$1.2 billion of spending on goods and services. ARC makes every effort to work with local suppliers wherever possible.

**Stakeholder Engagement**

Creating ongoing dialogue and positive, trusting relationships with all stakeholders is a priority at ARC. Our relationships with stakeholders are not only critical to our ability to operate and develop our assets, but are necessary to continue to find innovative and forward thinking solutions across our operations. In order to better understand the views and concerns of our stakeholders we engage with active dialogue throughout the planning and developing stages.

Stakeholders	How We Engage
Employees	<ul style="list-style-type: none"> <li>• Follow open door policy where employees are encouraged to ask questions and provide feedback to all levels of management</li> <li>• Hold an annual town hall to discuss strategy and long-term vision with all employees</li> <li>• Hold quarterly staff presentation to review and explain performance results</li> <li>• Regular internal communications around corporate responsibility and community investment through employee newsletter and community focused employee website</li> <li>• Conduct annual employee survey</li> <li>• Each employee participates in annual career development meeting</li> </ul>
Investors	<ul style="list-style-type: none"> <li>• Regularly meet with institutional investors in Canada, US, Europe and Asia to ensure a firm understanding of our business</li> <li>• Hold annual general meeting of shareholders</li> <li>• Hold annual Investor Day in Calgary and Toronto</li> <li>• Host tours of our operations</li> <li>• Share details on financial and operational performance through news release and public disclosure filings</li> </ul>

	<ul style="list-style-type: none"> <li>• Create website content such as quarterly videos with management specifically directed to retail investors who may not have the opportunity to meet management in person</li> <li>• Frequently update the Investor Relations section of our corporate website to ensure all investors have access to relevant information</li> <li>• Webcast the annual general meeting and annual investor day to provide access to investors who cannot attend in person</li> <li>• Hold retail broker meetings to provide information on business and allow brokers to ask questions to senior management</li> </ul>
Business & Industry Partners	<ul style="list-style-type: none"> <li>• Communicate directly with business partners on an ongoing basis</li> <li>• Hold annual health and safety workshop with ARC contractors</li> <li>• Participate in several Canadian Association of Petroleum Producers committees</li> </ul>
Landowners & Community	<ul style="list-style-type: none"> <li>• Communicate directly and frequently with landowners to address any concerns</li> <li>• Hold community open houses to provide consultation or updates on project plans</li> <li>• Volunteer at community events and with local organizations</li> <li>• Provide monetary support and partnerships for not-for-profit organizations</li> </ul>
Government and Regulatory Agencies	<ul style="list-style-type: none"> <li>• Participate in public policy processes and discussions with regulators and several industry groups</li> <li>• Meet frequently with regulators to ensure we understand the latest changes and expectations</li> </ul>
General Public & Media	<ul style="list-style-type: none"> <li>• Provide broad range of up-to-date corporate information on company website</li> <li>• Enable contact with ARC staff members</li> <li>• Participate in media interviews and information requests</li> </ul>

**Community Investment**

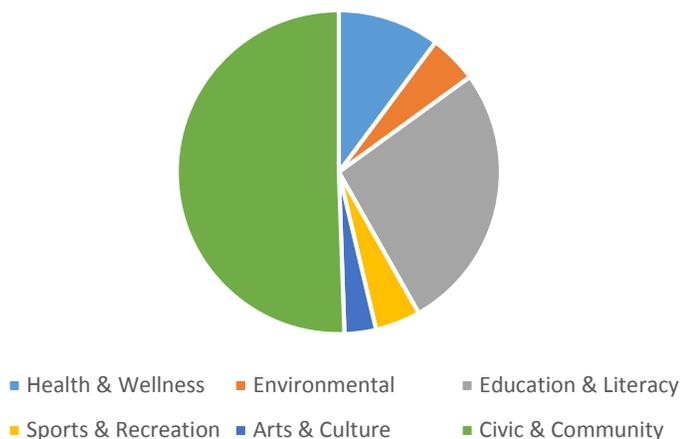
Giving back to our communities through monetary support and volunteerism is a core part of who we are at ARC. Our approach to community involvement and investment creates stronger relationships with our community partners, and amongst our employees - as they come together and roll up their sleeves to support worthy causes. In 2013, ARC contributed a total of \$2.3 million to charitable and not-for profit organizations across our operating communities.

ARC’s strategic priorities in community investment are:

- Supporting the volunteer efforts and charitable giving of our employees
- Supporting the needs – as identified by local groups - of the communities in which we operate

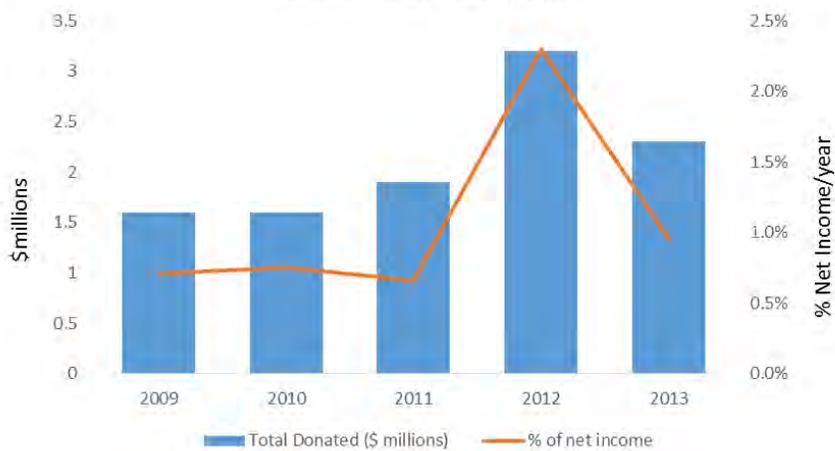
ARC aims to enter into multi-year commitments with select community partners. By engaging in multi-year commitments organizations can effectively budget and optimize the reach of their services and program, and move towards financially viable operating models. Visit the [Community Investment](http://www.arcresources.com) section at [www.arcresources.com](http://www.arcresources.com) to learn more about some of ARC’s key partnerships.

Spending By Focus Area



ARC's charitable efforts are focused in the following areas: Civic and Community Building, Health and Wellness, Sports and Recreation, Arts and Culture, Environmental and Education and Literacy.

Community Investment



Since 2009, ARC has donated over \$10 million to not-for-profit organizations, an average investment is one percent of annual net income.

2010/2011 Objectives	2012/2013 Results	Forward Looking Objectives
<ul style="list-style-type: none"> <li>- Continue improving stakeholder communications through increased communication.</li> </ul>	<ul style="list-style-type: none"> <li>• Launched internal employee community connections website focused on increasing awareness and engagement in volunteer and community activities.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to expand the means by which we communicate with stakeholders.</li> </ul>

## Performance Summary

	2007	2008	2009	2010	2011	2012	2013	G3.1 Indicator
Production (boe/day)	62,723	65,126	63,538	73,954	83,416	93,546	96,087	
<b>Environment</b>								
Energy Consumption (GJ)	6,646,215	6,876,351	7,104,648	8,257,576	8,554,136	9,361,557	9,082,501	EN3
Production Energy Intensity (GJ/m3OE)	1.91	1.91	1.97	1.90	1.78	1.74	1.66	
Greenhouse Gas Emissions								
Direct (CO2e tonnes/year)	398,352	408,085	445,054	537,507	506,467	572,777	642,890	EN16
Indirect (CO2e tonnes/year)	327,418	342,501	360,924	353,478	393,817	426,087	402,479	EN16
Intensity (CO2e/m3OE)	0.209	0.208	0.224	0.205	0.188	0.180	0.191	EN16
SO <sup>2</sup> (tonnes/year)	2,796	2,724	2,663	2,688	2,521	3,100	2,979	EN20
Flared gas (103m3/year)	16,550	17,984	23,351	28,412	38,316	47,816	43,987	OG6
Vented Gas (103m3/year)	725	591	623	655	637	959	1,746	OG6
Solution gas conservation rate (%)	97.7	96.1	95.9	96.7	94.9	93.6	94.8	
Water <sup>(1)</sup>								
Fresh water withdrawal (m3/y)	NPR	NPR	514,210	457,000	514,209	539,905	754,421	EN8
Non-fresh water withdrawal (m3/yr)	NPR	NPR	165,475	215,219	165,475	98,891	76,481	EN8
Flowback generated (m3/yr)	NPR	NPR	NPR	NPR	NPR	30,131	62,206	EN8
Flowback reused (m3/yr)	NPR	NPR	NPR	NPR	NPR	3,646	317	EN10
Reclamation								
Abandoned wells	985	1,051	1,099	1141	1093	1109	1070	EN13
Active Reclamation ongoing	190	222	240	237	271	274	235	EN13
Reclamation Complete	485	634	619	604	612	620	628	EN13
Certificates received	11	25	3	8	5	8	8	EN13
Spills and Leaks								
Number of reportable spills	32	25	21	61	91 <sup>(2)</sup>	48	66	EN23
Total volume (m3)	440	387	293	522	1,033	150	390	EN23
Number of fines and penalties	0	0	0	0	0	0	0	
<b>Health &amp; Safety</b>								
Lost-time frequency - Employee	0	0.23	0.22	0.18	0.19	0	0.126	LA7
Lost-time frequency - Contractor	0.0	0.17	0.2	0.55	0.21	0.11	0.04	LA7
Recordable frequency - Employee	0.94	0.23	1.32	0.59	0.95	0.73	0.49	LA7
Recordable frequency - Contractor	1.88	2.0	1.77	2.41	2.44	1.59	1.2	LA7
Fatalities - Employee/Contractor	0	0	0	0	0	0	0	LA7
<b>Social</b>								
Workforce profile								
Full-time	378	403	427	465	511	523	542	LA1
Part-time	18	26	23	25	23	24	24	LA1
Contractors and Temporary Employees	NPR	NPR	NPR	NPR	NPR	66	54	LA1
Diversity- Permanent Only (percentage)								
Men in Workforce	59	60	62	64	65	63	64	LA13
Women in Workforce	41	40	38	36	35	37	36	LA13
Management & Executive Team gender ratio (percent)								
Male	73	71	70	76	72	76	66	LA13
Female	27	29	30	24	28	24	34	LA13
Supervisory/Professional Position gender ratio (percent)								

Male	69	67	66	67	64	60	62	LA13
Female	31	33	34	33	36	40	38	LA13
Board of Directors Gender ratio (percent)								
Male	100	100	87	89	89	87	89	LA13
Female	0	0	13	11	11	13	11	LA13
ARC turnover (percentage)	4.83	6.71	4.35	5.51	5.63	6.5	4.7	LA2
<b>Employees By Location</b>								
Field (Permanent)	NPR	NPR	NPR	NPR	NPR	220	230	LA1
Office (Permanent)	NPR	NPR	NPR	NPR	NPR	327	336	LA1
Field (Contractors and Temporary)	NPR	NPR	NPR	NPR	NPR	24	20	LA1
Office (Contractors and Temporary)	NPR	NPR	NPR	NPR	NPR	42	34	LA1
<b>Economic</b>								
Revenues	1,251.6	1,706.4	978.2	1,213.7	1,438.2	1,389.4	1,624.3	EC1
Royalties	219.4	307.7	147.8	192.8	219.3	195.7	223.1	EC1
Capital Expenditures <sup>2</sup>	397.2	548.6	359.6	590.9	726.0	608.0	874.2	EC1
Dividends <sup>3</sup>	498.0	570.0	298.5	313.5	344.0	357.4	374.0	EC1
Net Income	502.1	539.9	225.1	212.2	287.0	139.2	240.7	EC1
Funds from operations	704.9	944.4	497.4	667.0	844.3	719.8	861.8	EC1
Capital and other taxes	12.0	15.0	16.5	16.3	16.4	16.3	17.9	EC1
Total Royalty and Lease Rentals								
Canadian Royalties	219.4	307.7	147.8	192.8	219.3	195.7	223.1	EC1
Crown Royalties	177.2	249.0	115.3	151.2	172.1	142.0	187.3	EC1
Freehold Royalties	23.1	31.8	19.2	21.5	22.4	24.4	26.6	EC1
Crown Surface Lease Rental	1.0	1.2	1.3	1.4	1.6	1.5	1.0	EC1
Stakeholder Economic Benefits								
Employee payroll and benefits <sup>4</sup>	60.4	75.3	64.5	99.1	97.0	117.4	128.5	EC1
Operating Expenses	218.4	241.5	236.2	261.9	295.3	321.8	338.7	EC1
Community Investment <sup>5</sup>	1.8	1.9	1.6	1.6	2.0	3.2	2.3	EC1

(1) Note on how water is measured and what is included.

(2) Excludes corporate acquisitions and property acquisitions net of property disposition

(3) Prior to January 1, 2011 payment to shareholders were in the form of distributions

(4) Total employee compensation costs included in the operating and general and administrative expense line items in the statements of income.

(5) Contributions to charitable and non-profit organizations

\*NPR: Not Previously Reported