



Generation Energy: A vision for Canada's Energy Sector

September 29, 2017

- Our vision for Canada's energy sector is one of shared prosperity – where Canadian ingenuity combined with our tremendous natural resources improve global livelihoods. We want to be part of the solution to address the challenges of climate change through the responsible production and export of energy and technologies.
- The 2050 challenge has been framed as “Nine billion people not just living on the planet, but living well and within the limits of the planet”¹. As demand for liquid fuels continues to grow, increasingly so in developing, non-OECD countries, Canada has a role to play in helping those countries meet their needs.
- Climate change is a reality and we have a responsibility to our planet and future generations to bend the curve on global GHG emissions. Suncor supports the national commitments to reduce carbon emissions made in accordance with the Paris Agreement reached in 2016.
- Canada's oil and gas sector is investing over \$1.3 billion annually in research and development to improve its environmental performance. In 2017, Suncor will invest approximately \$200 million in research and development. And, by leveraging collaborative relationships across multiple sectors we are developing and enabling technologies for a low carbon energy future that can be exported globally.
- We believe that Canada's oil and gas sector has a role to play in the global challenge to tackle climate change and meet future energy needs. Our sector is a global hub of innovation, and through innovation, there is a coherent path to a low carbon economy that includes both traditional and new sources of renewable energy.
- Building on its innovation history, we see the industry going beyond producing new, low-carbon energy products - we will also export the technologies necessary to produce these energy products and thereby chart a transformative and potentially disruptive path towards a low carbon energy system.

Suncor is Canada's leading integrated energy company, an active player in Canada's natural resources sector and a significant contributor to Canada's economy. Suncor is a responsible producer of crude oil both from resources in Canada's oil sands and from offshore projects on Canada's east coast. We operate three refineries in Canada and are a major supplier of refined products across Canada. We distribute fuel through approximately 1,800 Petro-Canada retail and wholesale locations across Canada. Suncor spent more than \$6 billion in capital in 2016 and paid over \$418 million in royalties and taxes to government. Suncor is an employer to over 13,000 Canadians and purchases goods and services from over 4,800 different companies across all ten provinces, of which approximately \$600 million annually is from Indigenous businesses.² To strengthen our relationship with Indigenous Peoples we have set long term goals to increase the participation of Canada's Indigenous Peoples in energy development. In addition to the sources of energy derived from Canada's hydrocarbon resources, Suncor has also

¹ World Business Council for Sustainable Development: <http://www.wbcsd.org/contentwbc/download/1746/21728>

² Since 1999, Suncor has spent approximately \$3.4 billion with Indigenous businesses, nearly half of which was spent since 2011. We prefer to use local vendors whenever possible. (<http://sustainability.suncor.com/2016/en/economy/contribution-to-economy.aspx>)

developed renewable energy resources with four wind power projects currently operating in three provinces. Suncor also owns and operates the largest ethanol production facility in Canada.

Suncor believes climate change is a reality and that we have a responsibility to our planet and future generations to be part of the solution. This means that although our emissions are growing due to increased demand for our products, we are dedicated to continuously improving our environmental performance as we find new ways to supply markets. We have set a target to reduce our emissions intensity by 30% by 2030³ and will invest over \$200 million in 2017 in technology and innovation. In collaboration with other oil and gas producers, over \$1.3 billion is invested annually to develop technologies that can transform our industry while creating value from Canada's natural resources.

Canada is home to the third largest oil reserves in the world. Over 95% of these reserves are comprised of Alberta's oil sands, which contain 170 billion barrels of oil that can be economically extracted with existing technologies.⁴ Canada has approximately 77 trillion cubic feet of proven natural gas reserves.⁵ These reserves represent approximately \$750 billion in potential value.^{6,7}

The Canadian oil and natural gas industry provides economic benefits to all Canadians. Such benefit accrues through the production of energy products, but through direct and indirect economic activity and employment. In 2016 the sector directly contributed \$129.9 billion to Canada's GDP and directly and indirectly provided over 640,000 jobs⁸. Exports from the sector were \$69.2 billion and, after adjusting for imports the balance of trade in 2016 was \$43.6 billion.

The largest aggregate private sector investments in the country are made in the oil and gas industry. Over the last decade its annual capital investments have been in the \$40-80 billion range and even with the continued low oil and gas price environment, investment is expected to be over \$40 billion in 2017.⁹ The sector accounted for 27% of Alberta GDP in 2014¹⁰ and in addition, the sector provides the largest share of federal government revenues (9.1%) - an average of \$22.2 billion over the last five years. These benefits are shared across Canada with oil and gas companies located in every province and territory.¹¹

Domestic and international demand for Canada's energy resources continue to increase, creating further jobs and opportunities. This has translated into increased shared prosperity for Canadians resulting from the development of its natural energy resources and has shaped its industrial and service sectors, positioning Canada as a strong trading nation.

Across Canada and around the world, people expect all industries, including energy resources, to be developed responsibly and with a focus on environmental protection and performance, while addressing climate change. We lead in the implementation of measures to protect the environment, public health and safety, and to provide more information and increased transparency about energy

³ Suncor Energy GHG sustainability goal: <http://www.suncor.com/sustainability/ghg-goal>

⁴ Alberta Government: <http://www.albertacanada.com/business/industries/og-about-the-industry.aspx>

⁵ International Energy Agency: <http://www.iea.org/>

⁶ Statistics Canada. Table 153-0121 - Value of selected natural resource reserves, annual (dollars)

⁷ NRCan: https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/energy/pdf/EnergyFactBook_2016_17_En.pdf

⁸ When including the number of induced jobs, the figure increases to over 880,000 jobs. Source: Prism Economics Calculations from Statistics Canada Input / Output Tables cited in draft CAPP (2017) report entitled: "Towards Shared and Responsible Prosperity: Embracing the Contribution of Canada's upstream Oil and Gas Industry in Canada's Energy Future."

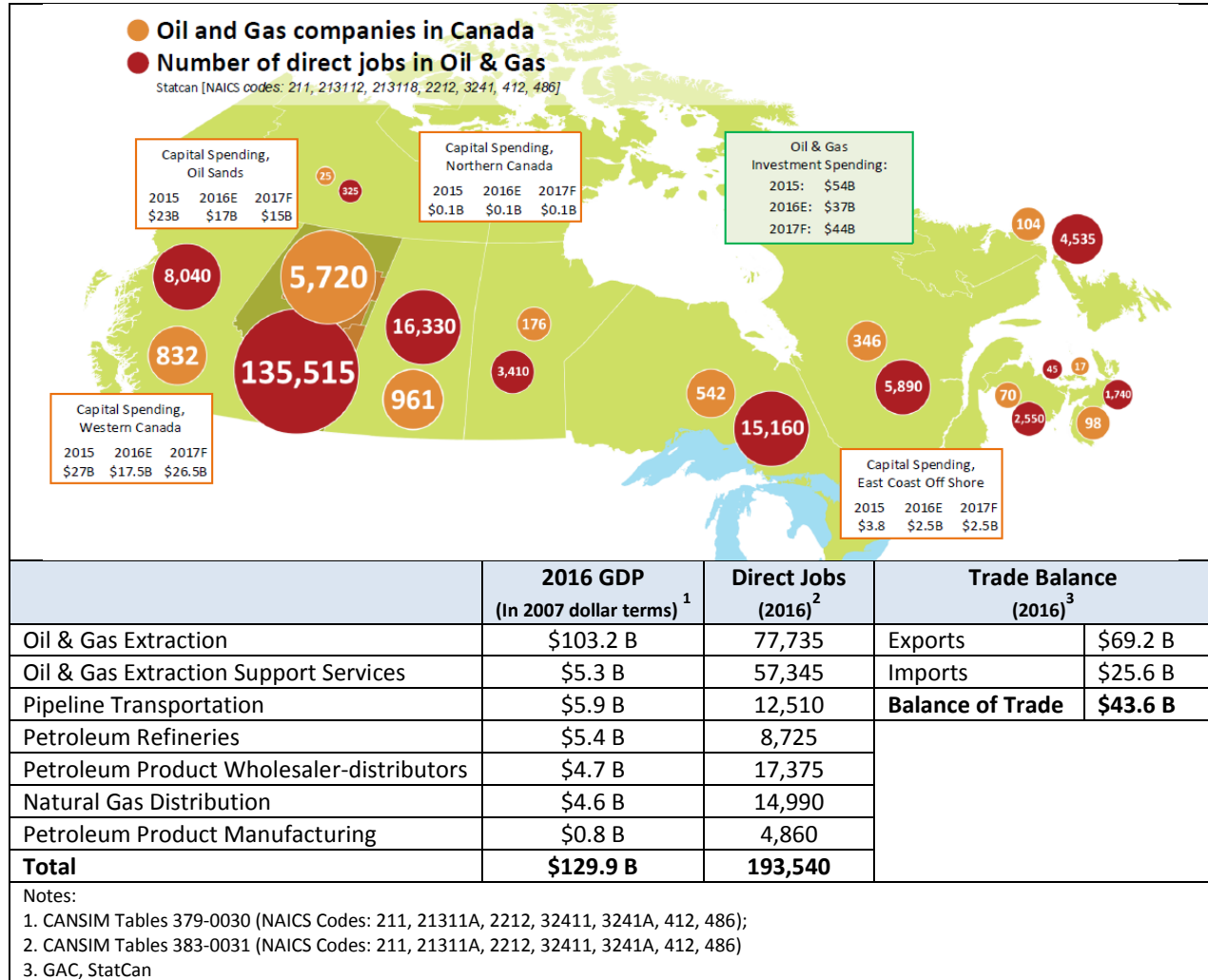
⁹ CAPP Competitiveness Report (2017): <http://www.capp.ca/publications-and-statistics/publications/304673>

¹⁰ Derived from Statistics Canada Table 379-0028 and Table 379-0030.

¹¹ Statistics compiled by Natural Resources Canada (2017).

resources and how they are developed. The Canadian oil and gas sector is responding to these needs as it repositions itself to provide increasingly clean, reliable and affordable energy to meet increasing global demand.

Table 1 - Economic contribution of oil and gas development to Canada



There is a coherent path to a low carbon future that includes both traditional and new sources of renewable energy. In a world of increasing energy demand, it is not a choice of one or the other; we will need many forms of energy to meet the world’s needs, including fossil fuels. The wealth and economic stability created by traditional sources of energy are part of the transition to a new low carbon economy – after all, we do not need to abandon our stable and affordable oil and gas energy resources if we are successful in decoupling the “carbon” from “fossil fuels” to create new fuels for the future economy.

The World Business Council for Sustainable Development has framed the 2050 challenge as “Nine billion people not just living on the planet, but living well and within the limits of the planet.” The goal of the global energy system can therefore be interpreted to deliver to nine billion people clean, reliable, and affordable energy. Energy is the backbone of the economy and delivers much of our well-

being and high quality of life, including heating our homes, enabling transportation and commerce, and powering manufacturing. The ability to move goods across the continent to markets and for people to be able to travel and work relies on robust, affordable transportation systems. Given what energy delivers each day, it is critical to maintain the integrity of the physical system and, understanding that energy is also part of a bigger financial and social system, maintain user utility and confidence.

Suncor supports Canada's commitments to reduce carbon emissions made in accordance with the Paris Agreement reached in 2016. There is general consensus that limiting the impact of climate change requires the global average increase in temperature to remain below 2°C, relative to pre-industrial levels. To achieve this objective, there must be significant advances in technology, a shift in consumer choice and the development of new energy systems that are affordable, reliable and clean over the next 50 years.

While Canada's oil and gas industry is an extractive sector, it is equally a technology and an innovation sector. The industry has faced many technical, economic, environmental and social challenges over its long history, and has responded by deepening its understanding of the problem and finding practical solutions. The challenges presented by climate change mean industry must work to accelerate solutions to respond to the global climate challenge and increased energy demand:

- The number of patents related to the oil and gas industry more than doubled from 2005 to 2010 – an indication of the acceleration of innovation and technology in the sector. Jurisdictions and companies with an edge in innovation have a significant advantage over their competitors.
- According to the State of the Nation Report, prepared by Industry Canada, the oil and gas sector increased investment in research and development (R&D) from 2009 to 2015 by 1400% - leading R&D investment in the country.

The Canadian oil and gas sector is investing over \$1.3 billion annually in research and development. This investment leads to improved environmental performance, improved resource efficiencies, cost-competitiveness, secure high-paying jobs and a vibrant innovation community that is inclusive of many small and medium enterprises. This in turn supports economic diversification of Canada's economy and positions Canada's as a leading producer of clean, affordable and reliable liquid fuels and exporter of technologies and expertise to the rest of the world.

Canada's oil and gas sector has a role to play in the global challenge to tackle climate change. Not by cutting production as some would suggest – but by lowering the carbon intensity of production and removing carbon from the fuels produced. Our sector is investing billions of dollars to decarbonize Canada's resources and to remain both cost and carbon competitive. This will ensure that we preserve the value of our tremendous natural resources by producing reliable, affordable and low carbon intensity energy products for Canadians and the rest of the world.

More than a quarter of the 800 clean tech firms in Canada have received public funding, and in 2016 nearly 75% of the \$2 billion invested in clean tech R&D in the energy sector was related to oil and gas resources, much of which is transferable to other industries.^{12,13} For example, emerging CO₂ utilization

¹² Standing Committee on Nature Resources, De-risking the Adoption of Clean Technology in Canada's natural Resource Sector: <http://www.publications.gc.ca/site/eng/9.838060/publication.html>

technologies aimed at harnessing CO₂ produced from hydrocarbon production and fuels manufacturing are projected to generate \$1 trillion in new revenue by 2030. Imagine if Canada can capture our share of this global clean tech market valued at over \$1 trillion in 2015.¹³

The result is a transformative and potentially disruptive path towards a low carbon energy system. The technology opportunity is to make Canada's fuel system the lowest carbon-intensity system in the world.

A global environmental leader, Canada can export both its technologies and low carbon-intensity products worldwide thereby doing its part to address global climate change. By not only reducing its own emissions through the introduction of renewable energy and development of low-carbon intensity fuels, Canada can use its experience, technology and innovations to assist other countries in meeting their own targets. Canada is one of few oil and gas producing regions that has embraced climate change policies giving us an important head start¹⁴. Most other producing jurisdictions do not have equivalent technological capacity combined with environmental regulation to compete in this area. As the application of carbon pricing is adopted globally, Canadians will hold a technological first mover advantage.

Canada has a comparative advantage in natural resource production, and its energy sector has proven time and time again to be able to innovate a path forward. Fifty years ago, the multimillion dollar investment in the oil sands was dubbed "the biggest gamble in Canadian history" - it was the largest single private investment in Canada at the time. Now, oil and gas companies represent some of the largest companies trading on the Toronto Stock Exchange with market capitalisations amounting to multiple tens of billions of dollars and employing nearly two hundred thousand Canadians directly.

Our vision for Canada's energy sector is one of shared prosperity – where Canadian ingenuity combined with our tremendous natural resources improve global livelihoods. As a sector, we want to be part of the solution and address the challenges of climate change through the responsible production and export of energy and the necessary technologies. Through developing low carbon solutions, Canada has a unique opportunity to secure a leadership position in a growing market, while still responsibly developing our natural resources. In doing so, we can create markets for SMEs who develop climate smart technologies and diversify our economies while contributing globally to technologies that help to address climate change.

For more information about Suncor, visit our website at suncor.com, follow us on Twitter @SuncorEnergy or together.suncor.com

For more information please contact:

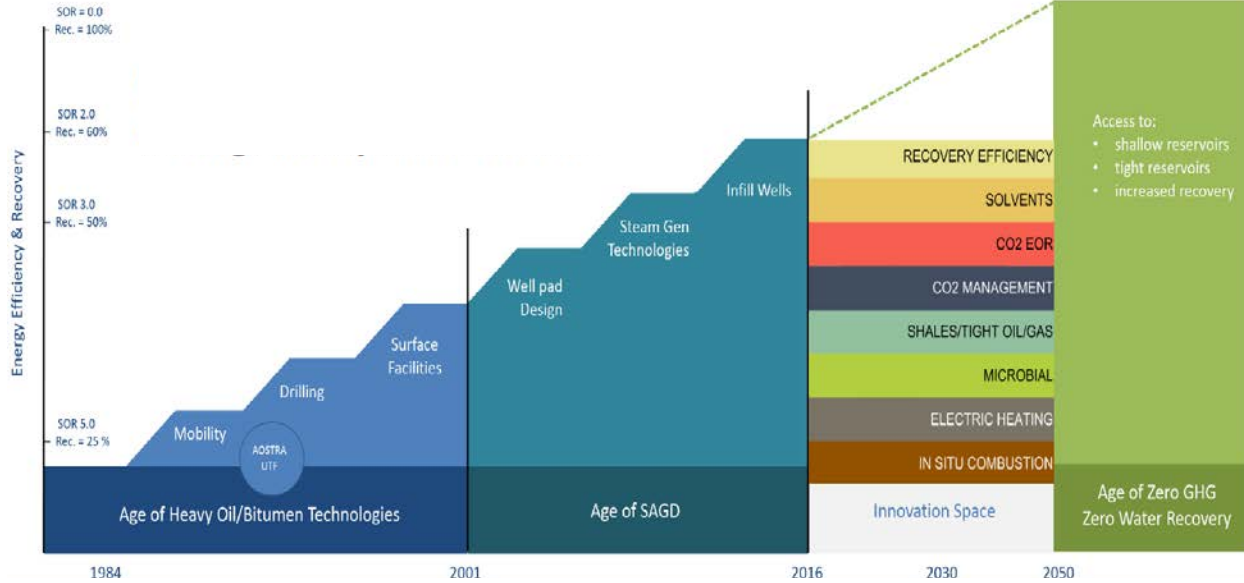
Media inquiries:
403-296-4000
media@suncor.com

¹³ Analytica Advisors 2017 Canadian Clean Technology Industry Report: <http://analytica-advisors.com/publications/2017-canadian-clean-technology-report-launch>

¹⁴ World Bank Group: <https://openknowledge.worldbank.org/handle/10986/26565>

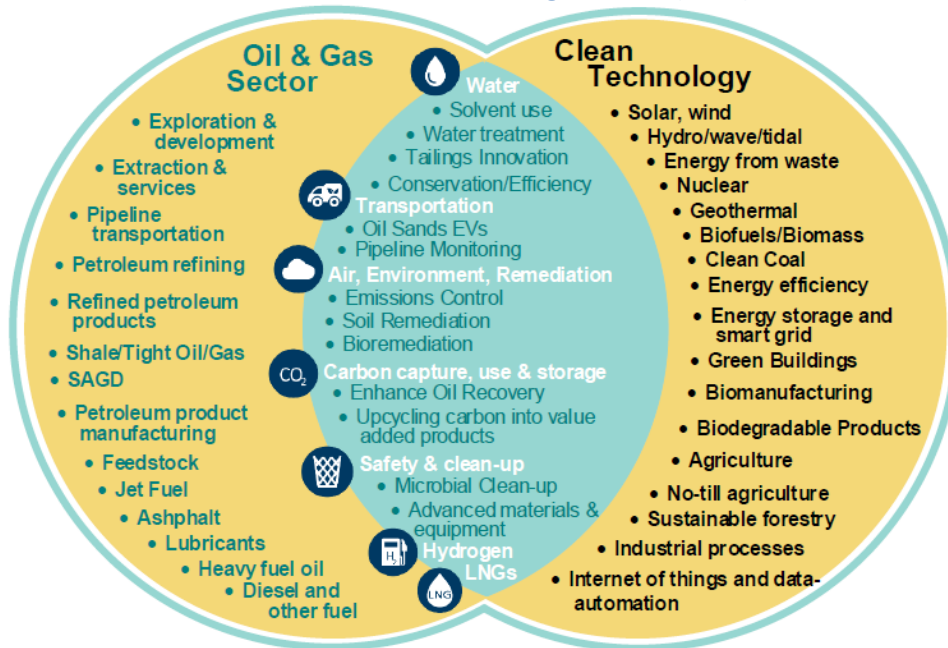
A long history of delivering innovation with a focus on resource efficiency....

R&D focus areas in oil and gas sector (1984-2016)



...is being refocused to deliver on environmental performance.

R&D focus areas in oil and gas sector (2017)



Sources: NRCan Energy Factbook 2017, NRCan Clean Taxonomy, Government of Canada Working Group on Clean Technology, Innovation, and Jobs Report 2016