Affordable Power. Jobs & Growth.

By the Numbers: Securing both affordable power and growing Ontario's economy from Bruce Power site.













A joint economic impact analysis from the Ontario Building and Construction Trades Council of Ontario, Southwest Economic Alliance, Canadian Manufacturers & Exporters, The Society of Energy Professionals, the Power Workers' Union and Bruce Power. This economic impact analysis has been developed using publicly available information that has been quoted throughout the document. It has not used any information that has not been previously disclosed in the public domain. The authors of the document sought to provide a directional sense of economic impacts and, although the figures may vary in the future depending on commercial negotiations to be concluded to turn the Long-Term Energy Plan policy position into action, they will not materially impact either the economic impacts from the investment program or the contribution of this electricity output to stable and affordable electricity rates.

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Executive Summary Affordable Power. Jobs & Growth.

That's what Ontario is trying to achieve through its Long-Term Energy Plan (LTEP), released in December 2013. It's the balance that many jurisdictions throughout the world are trying to achieve to not only ensure clean supply, but enable investment in infrastructure, while keeping electricity prices affordable and stable over the long term.

This report focuses on Bruce Power's role within the long-term plan.

It focuses on this source of clean, reliable electricity that provides more than 30 per cent of the province's energy needs in an affordable and flexible way, every day. More importantly, it factually outlines how Bruce Power's role is a 'one-two punch' for our province to achieve balance in generating affordable, stable electricity prices for Ontario families and businesses on the one hand, while securing investment that will be a key source of job creation and economic growth for the province on the other.

The six organizations that have come together to author this report are different in many ways – organized labour, an economic alliance focused on the success of southwestern Ontario, an organization of manufacturers and exporters which drives Ontario's economy, and Bruce Power, a Canadianowned supplier of a third of Ontario's electricity.

One thing these groups have in common is a shared desire to see both affordable and stable electricity prices, while securing jobs and economic growth.

Energy policy is often an area of debate and virtually every area of public policy comes into play when discussing what the right mix of electricity supplies should be. There are many views on these issues. However, all these groups agree the role of Bruce Power in Ontario's Long-Term Energy Plan is a key to the province's economic and energy future.

Key Source of Stable, Affordable Rates

As the report outlines, Bruce Power provides more than 30 per cent of Ontario's electricity every day from its site in rural southwestern Ontario, which is fully serviced by new transmission infrastructure. When looking at the electricity infrastructure for the province, supply sources and demand, Bruce Power is the electricity powerhouse for virtually all of southwestern Ontario, spanning into central and northcentral Ontario. Additionally, through the new Bruce-Milton line, the site is a key supply to the western portion of the Greater Toronto Area. Bruce Power is an essential resource for the most populated area of the province, using existing infrastructure to deliver a third of Ontario's electricity safely and reliably, 24 hours a day, 365 days a year.

Bruce Power nuclear is also affordable power that offers long-term price stability, providing the province with electricity at a rate 30 per cent below the average price in Ontario. Following the refurbishment of the six remaining units at Bruce Power, nuclear will offer stable prices for decades to come. Once the Bruce Power facilities have been refurbished, they are not subject to large changes in price due to surrounding market changes or increases in fossil fuel costs. Bruce Power nuclear is both affordable and stable.

Jobs and Growth

One of the most important untold stories in Ontario is the contribution the nuclear industry makes to the province's economy. Through the LTEP, Bruce Power will provide two-thirds of Ontario's nuclear in the decades to come, and it will be a source of jobs, tax



"The current investment and operation program at Bruce Power projects a contribution of 18,000 jobs and \$4 billion annually into our economy. This is critical for southwestern Ontario. Not only will Bruce Power create economic activity directly, it will play a key role by providing affordable electricity to families and businesses across the province."

SERGE LAVOIE, President, Southwest Economic Alliance

revenue and economic growth, while growing the skills and knowledge of a generation of workers.

By securing the future of the Bruce Power site, the long-term, annual economic impact of the facility will result in:

- 18,000 direct and indirect jobs annually.
- \$4 billion in annual Ontario economic benefit through the direct and indirect spending in operational equipment, supplies, materials and labour income.

Over the next 20 years, as Bruce Power renews its fleet as outlined in Ontario's LTEP, the following additional annual economic impacts will benefit the province:

- Over 5,000 direct and indirect jobs annually.
- \$960 to \$1,200 million in labour income into the Ontario economy annually.

• \$735 million to \$1,050 million in annual economic benefit through equipment, supplies and materials both directly and indirectly.

There is no single, well-established project, facility or infrastructure project in Ontario that will have such a significant economic impact. The jobs, investment and economic impacts will make a significant overall contribution to Ontario's economy, and are critical to providing a stable foundation for economic growth in southwestern Ontario. After having its economy disproportionately challenged – especially in the area of manufacturing – during the recent global economic downturn, refurbishing Bruce Power's six remaining units will allow southwestern Ontario to re-emerge stronger than it has been in decades.

Most of the supply chain manufacturing, engineering and specialty companies that will support the refurbishment and operation of Bruce Power, are located in Ontario and many of them in the southwest.







An Innovative Economic Engine

Bruce Power is Canada's largest public-private partnership. The assets on the Bruce site remain owned by the province and operated by Bruce Power, a private company. Bruce Power's partners meet all investment requirements, including \$7 billion of their own money since 2001. This means that all the investment required to secure the role of Bruce Power as outlined in the LTEP can be achieved without impacting the balance sheet of the taxpayers of Ontario, allowing the government to stay focused on priorities like health care and education, while also working to balance the provincial budget.

This innovative economic engine also has a unique ownership structure with Ontario Municipal Employees Retirement System (OMERS), which represents half-a-million plan members in the province's public services. OMERS has invested billions in the site to contribute to the long-term security of their pension plans. Additionally, the Power Workers' Union, The Society of Energy Professionals and a majority of employees are also owners and investors in the business.

Since it was formed in 2001, Bruce Power has fostered innovation to become the world's largest operating nuclear facility, as well as Canada's largest publicprivate partnership. While returning four dormant units to service over the past decade, Bruce Power and its industry partners have engineered and developed first-of-a-kind technology to do what many thought was impossible – breathe new life into reactors that were shut down by the former Ontario Hydro in the 1990s.

This has also been a significant boost to the economy in southwestern Ontario, the province's manufacturing



sector and a reliable source of building trade work, providing highly paid employment and numerous opportunities for skills development and training.

This ability to face challenges and develop ways to safely overcome them has earned Bruce Power recognition as a world leader in the energy industry. As the company prepares for future refurbishment projects on six of its units, this groundbreaking technology will play a key role in infusing more than 30 additional years of life into the reactors – providing safe, reliable and carbon-free electricity for generations.

These economic impacts will make a significant overall contribution to Ontario's economy, and are critical to providing a stable foundation for economic growth in southwestern Ontario. "The Bruce Power project achieves a number of key goals for the province including keeping prices low for families and businesses, and investing private dollars into public assets without impacting the province's balance sheet in the process. This is a model that has served Ontario well over the last decade and will be essential moving forward."

> MARK ROMOFF President and Chief Executive Officer Canadian Council for Public-Private Partnerships

Stable & Affordable Rates

The Bruce Power site has been, and will continue to be, key to providing both price stability and a longterm source of affordable power that continues to be significantly below the average price families and business pay for electricity in the province.

The cost of electricity is often a misunderstood issue, as there is confusion on the role of the Hourly Ontario Energy Price (HOEP) and the Global Adjustment Mechanism (GAM). Figure 1 below illustrates the percentage of supply from each energy source in 2013 and their contribution to the GAM. As the figure illustrates, the lower-cost sources of electricity, such as nuclear and hydro, contribute to GAM on a lower percentage than the volume of electricity they produce due to the fact they provide large volumes of clean electricity, keeping costs low for Ontario ratepayers.

Figure 1:

2013 Percentage of Global Adjustment Mechanism Compared to Percentage of Generation

Source	Percent of Supply	Percent of GAM	
Nuclear	57.9%	43%	Supply % > GAM %
*Hydro	23.4%	6%	Supply % > GAM %
Gas	10.9%	27%	Supply % < GAM %
Coal	2%	5%	Supply % < GAM %
Wind	3.9%	6%	Supply % < GAM %
Solar	.8%	6%	Supply % < GAM %

*Price of existing heritage hydro assets with existing transmission infrastructure

There is also the perception the large capital requirements for nuclear projects equate to a high price of power for consumers – this is not the case. Since nuclear plants generate a large volume of electricity, with a high degree of reliability, the capital requirements of the facility are spread over significant amounts of generation, meaning the cost to ratepayers is affordable. In the case of Bruce Power, the price paid for the electricity covers all costs, including decommissioning of the facility when it reaches its end of life, the management of low-, medium- and highlevel waste, and capital investments in the facility.

While there are many comparators available related to the economics of nuclear plants, the only one that matters to consumers is the price of electricity. The price of power for the output from Bruce B is supported by a price floor with the Ontario Power Authority (OPA) and is \$52 per megawatt/hour (MWh). This is the lowest-cost generation under contract with the OPA and the lowest-cost nuclear output in the province.

As outlined in Figure 2, the price of nuclear in 2013 was 30 per cent below the average cost of energy.

Figure 2:

2013 Electricity Prices per MWh

Solar // \$500

Gas // \$150		
Wind // \$110		
Average Price 2013 // \$85		
Nuclear // \$60		
'Hydro // \$45		

The price of electricity from the output from Bruce A is \$74 MWh and is reflective of the billions of investment related to the refurbishment



"Over the last 12 years, we have worked closely with Bruce Power to create economic opportunities for our manufacturers in the province, and the company's \$7 billion investment program has been, and will continue to be, a major boost to the province. While these projects will have significant economic impacts, they will also continue to provide Ontarians with affordable, reliable electricity, which is important to our manufacturing sector in particular."

> IAN HOWCROFT, Vice-President Ontario Canadian Manufacturers & Exporters

and life extension of the Bruce A units. By any measure this is competitively priced power for Ontario ratepayers.

From an overall supply mix perspective, the role of nuclear today and refurbished nuclear in the future will play a critical role in keeping electricity costs low for Ontario families and businesses. Figures 3 compares the relative cost of electricity from all the various sources, in a report recently released by the Ontario Ministry of Energy. As the figure illustrates, the cost of nuclear refurbishment remains highly competitive and a key element to keeping electricity costs low and bending the forward price curve.

Figure 3:

Relative Cost of Electricity



Critical Source of Electricity Supply

The Bruce Power site is the largest nuclear facility in the world and supplies more than 30 per cent of Ontario's electricity. Situated along the shoreline of Lake Huron, the site is an important energy source for the province and is embedded in Ontario's electricity system in a way that provides critical baseload supply to most of southwestern Ontario, the western Greater Toronto Area and central Ontario.

As illustrated in Figure 4, there are a number of key electricity supply lines from the Bruce Power site that run to major supply centres throughout a large portion of the western part of the province. The Bruce Power site is fully serviced with new transmission that came into operation in 2012 when Hydro One completed the largest new transmission project in a generation, the Bruce-Milton line.

"The Bruce Power site provides a reliable source of electricity that is fully serviced by new transmission infrastructure that meets the needs of southwestern Ontario and the growing northern and western Greater Toronto regions."

> DON MACKINNON President Power Workers' Union

Kitchener/Waterloo/Guelph and Cambridge Region

The Bruce Power site is one of the main feeds into the Detweiler Electrical Station, which is a main source of energy for the Kitchener, Waterloo, Cambridge and Guelph region (KWCG), which saw a peak demand of 1,400 megawatts (MW) in 2012. To put this into perspective, this peak demand is met by two of Bruce Power's eight units. Based on the Integrated Regional Resource Plan published by the OPA, this area relies heavily on the electrical supply feeding into the Detweiler station, and electricity growth is expected to rise at a pace of nearly three per cent until 2023. Although nearly 150 MW of renewable generation will come online in 2016, intermittent distribution sources like wind and solar are not always available at the time of system peak. The full installed capacity therefore cannot be relied upon to meet the KWCG area's electricity needs. Therefore, the reliability of the output from the Bruce Power site is critical to this fast-growing region.

London/Windsor/Essex/Sarnia

The Bruce Power site is also the main feed into the London electrical stations that, in addition to the City of London, also sends power to Windsor-Essex region, an area of Ontario that still has high demands given it's a hub of the automotive and manufacturing industry.

Specifically focusing on the southwest, the Bruce Power site is a main economic engine of the area and is critical to the continued re-growth and stability of the area, which was hit hard by the 2008 recession, and is home to more than 2.5 million Ontarians. This site provides stable electricity supply and prices, two things that are critical for areas trying to recruit commercial businesses and industrial facilities.

Western GTA

The Bruce Power site also provides electricity to the Greater Toronto Area (GTA) West region, which is divided into northwest and southern sub-regions, receiving its electricity through the Bruce-Milton line connection. The northwest portion of GTA West encompasses the municipalities of Brampton, Milton, Halton Hills and southern Caledon, and has a population of more than 700,000 and a peak demand

Figure 4:

Showing Key Electricity Supply Lines from the Bruce Power Site with Typical MW Flow



of 1,150 MW, which is equivalent to the electricity from 1.5 Bruce Power units. This area has seen one of the highest electrical load growths in Ontario over the past 10 years and is projected to continue rising. Output from the Bruce Power site has contributed to continued development in this area.

Barrie/Central Ontario

Output from the Bruce Power site is also transmitted to central Ontario through existing infrastructure to Orangeville and Barrie, powering the growing central Ontario region. This area represents approximately 4 million people and 30-35% of Ontario's demand

Economic Benefits of Bruce Power's Operation

Direct and Secondary Benefits of Operation

Assuming the indicative refurbishment schedule in Ontario's Long-Term Energy Plan (LTEP), the Bruce Power site will continue to operate until 2065, with its units providing electricity over the next 50 years. The benefits of the continued operation of the site are focused on eight units of operation, supporting activities and sustaining capital investments. The operational costs from the Bruce Power facility are well understood and consist primarily of staffing, operations, maintenance and fuel costs. These expenditures support the safe, reliable operations of the site. All benefits in this section are expressed in constant dollars (2010\$) unless otherwise indicated.

Employment Estimates

Current employment levels at Bruce Power are estimated at 4,200 permanent employees, in addition to approximately 400 staff on a levelized basis that support peaking work on site, such as projects and planned maintenance outages. This corresponds to approximately 500 permanent employees and 50 levelized peaking employees per operating reactor. This number is used in this analysis. This number is consistent with employment levels at other nuclear facilities in North America, which range from 400 to 700 full-time employees per operating reactor, based on industry data.

Operating Cost Estimates

Operating cost estimates have been summarized in Figure 5 to illustrate the cost of fuel, operations, maintenance and administration. A wide variety of technical and operational areas of expertise are required to support the operation of the Bruce Power site. These include but are not limited to:

Operations & Support	Engineering & Professionals	
Nuclear Operators	Engineers (Mechanical, Chemical, Civil, Nuclear)	
Control Technicians		
Mechanical Maintainers	Environmental Specialists & Scientists	
Chemical Technologists		
Radiation Protection Technicians	Industrial Health Nurses,	
Safety Technicians	Physiotherapist, Chiropractor)	
Boiler Makers	Health Physicists	
Electricians	Financial Analysts	
Sheet Metal Workers	Communications Specialists	
Instrumentation Technicians	Purchasing Specialists	
Welders	Safety Specialists	
Emergency Response	Information System Analysts	
& Security Personnel		
Information Technology Technicians		

Direct and Secondary Ontario Economic Benefit

The Bruce site is not only a stable and affordable electricity source, it is also an economic and innovation engine for the Province of Ontario. In this section, the direct and secondary economic benefits are evaluated with the anticipated operation of the eight nuclear reactor units at the Bruce site from 2014 to 2050 and beyond.

Figure 5:

Showing the Estimated Annual Operating Costs of the Bruce Power Site



Figure 6:

Showing the Overall Annual Economic Benefits of Operations

	Direct Benefit	Secondary Benefit	Total Benefit
Ontario Employment (1)	4,600	13,892	18,492
Fuel Cost ⁽²⁾	\$117 million	\$128 million	\$245 million
Ontario Purchased Equipment, Materials and Supplies (including staffing costs) ⁽³⁾	\$1,794 million	\$1,973 million	\$3,767 million
TOTAL	\$1,911 million	\$2,101 million	\$4,012 million

(1) Bruce Power Annual Review 2013, NEI 2014 Local and State/Provincial Multipliers

(2) Canadian Manufacturers & Exporters 2010 and 2012. It is assumed 50% of the full cost is spent in Ontario because of refining and manufacturing. Secondary benefits are assumed to be 110% of direct spending on fuel is spent and re-spent in Ontario.
(3) Secondary impacts occur when other Ontario industries and businesses supply goods and services to meet the needs of operating

the Bruce Power nuclear fleet. It is assumed that 110% of direct spending on equipment, materials and supplies is spent and re-spent in Ontario.

Notes:

Bruce Power Annual Review 2013
 Bruce Power 2010 Year in Review extrapolated for eight (8) units and escalated to 2014s
 Bruce Power 2010 Year in Review extrapolated for eight (8) units and escalated to 2014s

"Bruce Power has been a positive contributor to Ontario's economy over the last decade and is a key strategic player in the energy sector. The innovation demonstrated at the Bruce Power site is recognized globally."

> ALLAN O'DETTE, President and Chief Executive Officer Ontario Chamber of Commerce

Direct Benefits

Direct impacts of operating the eight nuclear reactor units at the Bruce site are considered to be the total value of all equipment, materials and supplies purchased in Ontario, plus all wages paid to Ontario workers. Spending on equipment, materials and supplies outside of Ontario was considered in this analysis.

Secondary Benefits

Secondary benefits include the jobs created based on the need to supply the Bruce site, as well as the spending and re-spending by employees. Secondary job creation is calculated using information provided in the 2014 Nuclear Energy Institute evaluation of 100 nuclear facilities in the U.S., which found that for every 100 full-time nuclear jobs, 66 local jobs are created and 236 state jobs are created (state and provincial jobs are considered equivalent).

Total Benefits of Annual Operations

Total benefit of the Bruce Power site can be seen in Figure 6, which outlines the direct and secondary benefits of the Bruce site.

The annual economic benefits to Ontario summarized in Figure 6 are something that cannot be ignored, including the more than 18,000 high-paying jobs per annum, and a total overall annual economic benefit of nearly \$4 billion. Estimates are conservative and have been developed using modest multipliers for secondary effects. These benefits have been, and will continue to be, occurring annually throughout the operation of the reactors, for 50-plus years.



Procurement

Over 90 per cent of the total Bruce Power spend occurs within Ontario.

"The Bruce Power site has a tremendous economic reach with over 90 per cent of its current and future spend taking place throughout Ontario – supporting jobs and economic growth across the entire province."

> IAN HOWCROFT, Vice-President Ontario Canadian Manufacturers & Exporters



"The economic reach of the Bruce Power site is significant throughout southwestern Ontario, supporting many large and small businesses that are critical to the economic success of the region."

> SERGE LAVOIE, President Southwest Economic Alliance

Sustaining Capital

All nuclear facilities have ongoing annual costs required to maintain their assets, which is outside of the operational, maintenance and administration costs. This cost is often referred to as 'sustaining capital,' which is money spent to ensure optimal efficiency, production and longevity of the assets. Industry standards indicate that sustaining capital for a single nuclear unit is about \$25 million dollars annually. The Bruce Power site has eight nuclear units, as well as support infrastructure, and the facility annually spends about \$225 million on sustaining capital projects, leading to another influx of investment in Ontario's economy.

Economic Benefits of Renewing the Bruce Power Fleet



The 2013 Long-Term Energy Plan outlined an indicative refurbishment schedule for the Bruce Power site that will generate significant economic impact from now until 2040, related to the renewal of the fleet, in addition to core operations. There will be many more economic benefits of fleet-renewal outside of the Operational Direct and Secondary Benefits, which are over \$3 billion annually (Figure 8).

Renewal of the Bruce Power fleet will consist of both asset management and major component replacements. This process will use principles based on lessons learned from previous refurbishment projects, to ensure success from both a cost and schedule perspective. Focus during refurbishments will include reactor shutdown and defuelling, reactor

preparation, reactor re-tubing, steam generator replacement, asset management activities and return to service – all of which Bruce Power has successfully completed on site over the past decade.

Additionally, the company will conduct an extensive asset management program, outside of refurbishment activities, that will continually invest in major components of the facility to support its long-term operations. This approach is based on lessons learned and optimizing the value of investment in the assets to the benefit of the ratepayer.

The analysis estimates that the direct and indirect benefit to Ontario's manufacturing sector during the nuclear renewal program will be between \$200 and \$250 million annually. This will primarily be focused in specialized areas of advanced manufacturing, and will keep many of these operations viable for decades.

Figure 8:

Annual Ontario Economic Benefits of Renewing the Bruce Power Nuclear Fleet

	Direct Benefit	Secondary Benefit	Total Benefit
Employment ⁽¹⁾	1,300	3,926	5,226
Labour Income ⁽²⁾	\$400 to \$500 million	\$560 to \$700 million	\$960 to \$1,200 million
Ontario Purchased Equipment, Materials and Supplies (no staffing costs) ⁽³⁾	\$350 to \$500 million	\$385 to \$550 million	\$735 to \$1,050 million
TOTAL	\$750 to \$1,000 million	\$945 to \$1,250 million	\$1,695 to \$2,250 million

(1) Canadian Manufacturers & Exporters 2012, NEI 2014 Local and State/Provincial Multipliers

(1) Canadian Manufacturers & Exporters 2012, VEL 2014 LOCal and State/ Provincial Multipliers. (2) Canadian Manufacturers & Exporters 2010 and 2012. It is assumed 140% of direct labour would be spent and re-spent in Ontario. (3) Secondary impacts occur when other Ontario industries and businesses supply goods and services to meet the needs of operating the Bruce Power nuclear fleet. It is assumed that 110% of direct spending on equipment, materials and supplies is spent and re-spent in Ontario.

Securing Skills, Knowledge & Innovation

"It's absolutely critical that Ontario not only invest in infrastructure but also in people, so we have the skills and knowledge within our workforce to ensure long-term success. The investment plan we have been working on with Bruce Power does just that – as we meet the immediate needs to renew the fleet, we will be establishing a workforce capability that will serve the province well for decades to come."

> PATRICK DILLION Provincial Building and Construction Trades Council of Ontario

The nuclear energy sector has, for over six decades, provided over 60,000 direct and indirect jobs for engineers, scientists, labourers, miners and others on an average annual basis. The industry has experience building, maintaining and refurbishing reactors for power generation. Operations and renewal of the Bruce Power nuclear fleet has the potential to sustain many high-quality jobs through 2050 and beyond, if plans for refurbishments are realized. Jobs within this industry last five to 50 years, and are well paid and knowledge rich.

Of the 4,600 people working on the Bruce Power site (full- and part-time employees and contractors), almost half are over the age of 46 and eligible to retire within the next 10 years. This means upwards of 2,000 full-time workers will be needed over the next decade to fill this gap, and take part in knowledge-transfer and training to ensure the safe, long-term operation of the site.

Ensuring the next generation of workers is equipped to fill the upcoming years of employment, Bruce Power provides funds to and partners with various skilled trades, engineering and science organizations.

Bruce Power's partnerships with the Electric Power Research Institute, Power Workers' Union and trade unions have increased the number of staff available in the union hiring halls. To improve the skills in the hiring halls, Bruce Power provided an infrastructure that clearly identifies what skills and knowledge Bruce Power seeks as an employer and provides the opportunity to develop and qualify staff to meet its expectations via an internationally recognized EPRI program known as the Task Performance Evaluation Program.

The company has also issued 605 apprenticeship Certificates of Qualification. These include operators, maintainers, millwrights and electricians. There are over 1,200 registered in the apprenticeship program to date and employees continue to work their way through with significant corporate support in the form of classroom training, job rotations and competency checkouts.

In-house programs provide training for every person who joins the company, both permanently and temporarily. Each year, Bruce Power invests \$100 million in training – 39 per cent is the cost to deliver the training, while 61 per cent is the cost of staff to attend training. There is an average of over 300 regular staff attending training every day. Highly skilled and well-trained employees are key to Bruce Power's uncompromising focus on safety.

Summary of Benefits

The Bruce Power site is an economic engine for the Province of Ontario, and one of the main energy sources for southern Ontario.

In 2013, the energy sector as a whole contributed \$175 billion to Canada's total gross domestic product, of which the Bruce Power site contributed around \$4 billion. This site provides long-term, high-paying jobs in the area of skilled trades, engineering and professionals, realized through both direct and secondary benefits.

There is no other single infrastructure investment in the province that will have a sustained economic benefit of this nature, while also contributing to stable and affordable electricity prices over the long term. Although the economic benefit impacts the entire province, it is particularly important for southwestern Ontario and will be a stable source of jobs and investment. Figure 9 outlines the combined annual economic benefit that would be realized from 2016 through to 2031, with the renewal and operation of the Bruce Power site.

Figure 9:

Combined Annual Ontario Economic benefit of Refurbishment and Operations from 2016 to 2031

	Total Operational Benefits	Total Nuclear Fleet Renewal Benefits	Total Overall Economic Benefit
Ontario Employement ⁽¹⁾	18,492	5,226	23,718
Fuel Cost ⁽²⁾	\$245 million	Not Applicable	\$245 million
Ontario Purchased Equipment, Materials and Supplies (includes staffing costs) ⁽³⁾	\$3,767 million	\$1,695 to \$2,250 million	\$5,462 to \$6,017 million
TOTAL ⁽⁴⁾	\$4,012 million	\$1,695 to \$2,250 million	\$5,707 to \$6,262 million

(1) Total benefit Figure 6 and Figure 8.
 (2) Benefit of fuel purchase to Ontario economy based on numbers from Figure 6.
 (3) Figure 6 total Ontario Purchased Equipment, Materials and Supplies (includes staffing costs) and Figure 8 overall total benefit.
 (4) Total does not include benefits from sustaining capital.

"I believe that by working together with business, communities, organized labour, post-secondary institutions, investors and the province, we can successfully deliver our nuclear renewal program at Bruce Power, and will do so in a way that keeps electricity prices stable and affordable over the long term, while also being a major source of jobs and economic growth for the province."

> DUNCAN HAWTHORNE President and Chief Executive Officer Bruce Power

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