



# 2013

ONTARIO POWER GENERATION

## ANNUAL REPORT



# 2013 OVERVIEW

## Financial Highlights

(millions of dollars – except where noted)

	2013	2012
<b>REVENUE</b>		
Revenue	4,863	4,732
Fuel expense	708	755
Gross margin	4,155	3,977
<b>EXPENSES</b>		
Operations, maintenance and administration	2,747	2,648
Depreciation and amortization	963	664
Accretion on fixed asset removal and nuclear waste management liabilities	756	725
Earnings on nuclear fixed asset removal and nuclear waste management funds	(628)	(651)
Restructuring	50	3
Property and capital taxes	53	47
	3,941	3,436
Income before other income, interest and income taxes	214	541
Other income	(38)	(10)
Net interest expense	86	117
Income tax expense	31	67
Net income	135	367
<b>ELECTRICITY PRODUCTION (TWh)</b>	<b>80.3</b>	<b>83.7</b>
<b>CASH FLOW</b>		
Cash flow provided by operating activities	1,174	876

## Electricity Terms

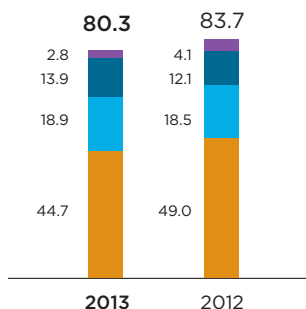
- **One megawatt (MW)** is one million watts. Megawatts are a measure of electricity supply capacity at a point in time.
- **One kilowatt (kW)** is 1,000 watts; one gigawatt (GW) is one billion watts; and one terawatt (TW) is one trillion watts.
- **One kilowatt hour (kWh)** is a measure of electricity demand or supply per hour. One kilowatt hour is the energy expended by fifty 20-watt compact fluorescent lights burning for one hour. The typical residential customer uses approximately 800 kWh per month.
- **One megawatt hour (MWh)** is 1,000 kWh; one gigawatt hour (GWh) is one million kWh; and one terawatt hour (TWh) is one billion kWh.

## Revenue & Operating Highlights

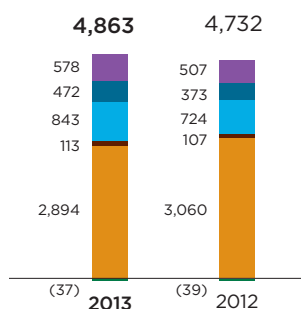
### Legend

- Unregulated Thermal
- Unregulated Hydroelectric
- Regulated Hydroelectric
- Regulated Nuclear Waste Management
- Regulated Nuclear Generation
- Other

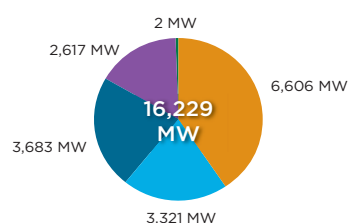
### Electricity Generation (TWh)



### Revenue (millions of dollars)



### In-Service Generating Capacity (MW) Dec. 31, 2013



# CORPORATE PROFILE

**OPG is an Ontario-based electricity generation company**

whose principal business is the generation and sale of electricity in Ontario. OPG's focus is on the efficient generation and sale of electricity from its generating assets, while operating in a safe, open and environmentally-responsible manner. OPG was established under the *Business Corporations Act* (Ontario) and is wholly owned by the Province of Ontario.

Corporate Profile	1
Chairman's Message	2
President's Message	4
Management's Discussion and Analysis	7
Consolidated Financial Statements	80
Notes to the Consolidated Financial Statements	89
Officers	147
Ontario Power Generation Facilities	149

Darlington Unit 2 planned outage.



At December 31, 2013, OPG's electricity generating portfolio had an in-service capacity of 16,229 megawatts (MW). OPG operates:

2 

**Nuclear**  
generating stations

3 

**Thermal**  
generating stations

65 

**Hydroelectric**  
generating stations

2 

**Wind Power**  
turbines

In addition, OPG and TransCanada Energy Ltd. co-own the Portlands Energy Centre gas-fired combined cycle generating station. OPG and ATCO Power Canada Ltd. co-own the Brighton Beach gas-fired combined cycle generating station. OPG also owns two other nuclear generating stations, which are leased on a long-term basis to Bruce Power L.P. These co-owned and leased stations are incorporated into OPG's financial results but are not included in the generation portfolio statistics set out in this report.

# CHAIRMAN'S MESSAGE



“The company’s diverse mix of flexible, affordable, clean generation supports our vision of electricity as environmentally sound and a catalyst for economic growth.”

## Meeting Expectations

The people of Ontario expect OPG to be financially-sound, well-governed, and capable of providing a reliable supply of clean electricity to the province.

Meeting these expectations is not without its challenges. New competitors to the electricity generation sector, combined with the closure of OPG’s coal-fired facilities, have reduced the company’s market share and revenue.

As Tom Mitchell notes in his CEO message, OPG is countering this reality by becoming more flexible, responsive and cost-effective.

OPG is equally committed to meeting Ontario’s future electricity supply expectations as outlined in the government’s 2013 Update to the Long-Term Energy Plan (LTEP).

The company’s diverse mix of flexible, affordable, clean generation supports our vision of electricity as environmentally sound and a catalyst for economic growth -- both for the communities that use it and for communities that produce it.

## Achievements

Many of OPG’s achievements in 2013 reflect and advance this vision. These include:

- completion of the Niagara Tunnel;
- advances in the construction of the massive 438 MW Lower Mattagami hydroelectric project – including completing construction of a new hydro unit at the Little Long GS, the first of six new units being created by the project;
- partnership with Coral Rapids Power to move forward in developing a 25 MW hydropower station at New Post Creek near the Abitibi River;
- progress in converting the Atikokan thermal station to burn sustainable biomass fuel; and
- beginning a process to convert OPG’s Thunder Bay thermal station to operate on advanced biomass fuel.

## Darlington Refurbishment

In addition, OPG made solid progress in its detailed planning to refurbish the Darlington nuclear station, while continuing preparations to ensure the operation of the Pickering nuclear station to 2020. Both projects will help ensure Ontario has a sufficient supply



**Top:** OPG Board, staff and members of the Moose Cree First Nation celebrate completion of the Lower Mattagami Project's Little Long Unit 3.

**Bottom:** Working on the Darlington Unit 2 outage, one of two major planned outages at the station in 2013.





The old Smoky Falls generating station, Lower Mattagami Project.

of reliable, low-emission baseload power to meet its needs over the short- and long-term.

### Strengthening Governance

The Board continued its own renewal with the appointment of two new directors in 2013.

- John Herron, former President, CEO and Chief Nuclear Officer of Entergy Nuclear, brings extensive nuclear operational and executive expertise based on his more than 33 years experience as a nuclear energy professional in the U.S.; and
- Bernard Lord, former Premier of New Brunswick and President of the Canadian Wireless Telecommunications Association. As Premier, Mr. Lord planned and announced the refurbishment of New Brunswick's Point Lepreau Nuclear Generating Station.

I also wish to recognize and thank Dr. Gary Kugler for his service and superior guidance to the OPG Board since 2004. Dr. Kugler stepped down from the OPG Board after the March 2014 Board meeting. We are indebted to his years of wise counsel.

### Contributing to Ontario's Success

OPG's many initiatives, and the jobs and opportunities they bring to our host communities, including First Nations and Métis communities, all help support the government's agenda as set forth in the LTEP -- to provide clean, reliable power to the people of Ontario.

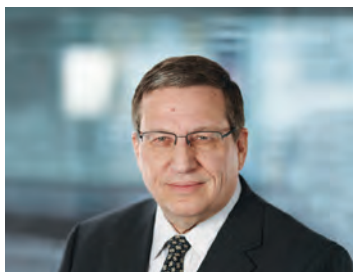
The Board is especially mindful that much of OPG's transformation has been accomplished while successfully implementing Ontario's coal-closure policy and ending coal-fired generation ahead of schedule. Over the past two years, the company has effectively removed over 3,000 MW of this generation from its portfolio.

In light of these and other transformative events in 2013, the Board wishes to recognize OPG employees – the lifeblood of the company. This includes our thermal employees whose professionalism, commitment and achievements – often in the face of exceptional demands and challenges – earned the respect and admiration of everyone in the company. We thank them – and all our employees -- for their service and substantial contribution in ensuring OPG continues to live up to the expectations Ontarians have of us.

**JAKE EPP**  
Chairman



# PRESIDENT'S MESSAGE



“OPG is making a fundamental and significant transition towards a new and exciting future as a clean, efficient, flexible and financially-sustainable organization.”

In 2013, OPG continued to renew and reposition itself in response to changing realities in our business. Our generating portfolio is becoming smaller. Electricity demand is decreasing, and we now compete against a large and growing number of power producers.

To continue to have a moderating effect on Ontario's electricity price – a role we believe significantly benefits Ontario's ratepayers – we are aggressively reducing costs and improving alignment of those costs with revenues. We are also identifying new opportunities to enhance our revenue and help support the electricity industry in Ontario through subsidiaries like Canadian Nuclear Partners.

## Developing Clean Generation

We are undertaking these changes while implementing a substantial generation development program that is helping to rebuild and modernize Ontario's electricity infrastructure for current and future generations.

This includes developing new hydroelectric capacity in northern Ontario, refurbishing our nuclear units and converting some of our remaining coal-fired stations to burn sustainable biomass fuel.

These initiatives foster economic growth and opportunity in communities across Ontario.

And, they help make OPG one of the cleanest power producers in North America.

With the closing of our major coal-burning facilities at the end of 2013, over 95 per cent of our generation now comes from nuclear and hydroelectric sources – which are virtually free of emissions contributing to smog and climate change.

In short, OPG is making a fundamental and significant transition towards a new and exciting future as a clean, efficient, flexible and financially-sustainable organization.

We moved closer to this goal in 2013, but we also encountered challenges which we must address and work through. These included a low net income of \$135 million and lower than planned production levels.

Our financial performance was affected by changes in our generation operations, including the closure of our coal-burning stations. The decrease in nuclear production was mainly due to extensions to planned outages at our Pickering and Darlington facilities.



**Top:** Tom Mitchell speaking at the opening of the Niagara Tunnel.



**Bottom:** Cochrane, Ontario: announcement to move forward to develop the 25 MW New Post Creek hydroelectric generating station.



Tom Mitchell meets with representatives of a key contractor for the Darlington Refurbishment Project.



Interior of the new Smoky Falls generating station, Lower Mattagami Project.

These results have occurred against a backdrop of the new realities I mentioned above – which we are responding to strategically through business transformation.

### Business Transformation

Over the years, OPG has seen its performance improve in a number of areas – including project management, nuclear performance and asset maintenance.

As we continue our focus on improved performance, we are also concentrating on another major goal – that of enhancing our efficiency and strengthening our financial sustainability.

Under business transformation, OPG expects to save an estimated \$1 billion over six years (2011-2016) by reducing headcount from ongoing operations by 20 per cent (2,330 people) of our 2011 levels. Our progress, to date includes:

- departure of 1,600 employees from Jan. 2011 – Dec. 31, 2013, representing a savings of \$275 million;
- a six per cent reduction in the number of senior positions in 2013;
- since 2010, a nine per cent drop in total base salary costs for management; and

- continued implementation of a more simplified and streamlined corporate framework.

### Auditor General's Report

The findings of the Ontario Auditor General, released in her December 2013 report have served as a catalyst to accelerate our business transformation efforts, begun in 2011. While critical of some of our human resource practices, the report has provided important input to further enhance our transformation. This includes the announcing of continued pension and benefit reform for management level employees and ensuring that our hiring practices are fair and well documented with clear expectations and controls.

With the support of OPG's Board, we are implementing business transformation more rapidly, expanding its scope beyond headcount reductions to include all aspects of OPG's business – with an emphasis on improved financial performance and building a culture of efficiency.

### 2013 Highlights

Complementing our progress in business transformation, OPG exhibited strong performance in key business areas such as safety,

environment, generation development and community relations.

Workplace safety was impressive. Our two nuclear stations had accumulated at year end a total of more than 20 million hours worked without a lost time injury.

Environmental performance was equally strong – with “best ever” results being recorded in several areas – including the categories of infractions, spills and airborne tritium emissions.

I was especially pleased with our project management and generation development achievements.

We placed the Niagara Tunnel in service; successfully and professionally managed the closure of the Lambton and Nanticoke thermal stations; continued to make excellent progress on the biomass conversion of our northwest thermal stations; advanced the massive Lower Mattagami hydroelectric project – which is tracking within its approved budget and schedule; and completed construction of the Darlington Energy Complex – an innovative training and support facility that is a critical part of our plans to refurbish the four-unit Darlington nuclear station.



As noted by Jake Epp in his message, many of these initiatives are contributing – or will contribute -- significantly to economic development and opportunity in the communities where they are based – including the First Nations and Métis communities of northern Ontario. These initiatives are also expanding Ontario's energy infrastructure, adding substantially to the Province's stock of low-emission, affordable generation.

I am proud of these accomplishments.

### Price Moderator

I am particularly proud that despite operating in a challenging environment, maintaining our many generating stations, and managing an aggressive generation development agenda, OPG continued to moderate the price of electricity. In 2013, the price we received for our generation was 5.7 cents/kWh, while the average price received by all other Ontario

generators was 9.9 cents/kWh. Ratepayers were the beneficiaries.

This is what a public power company does. We serve the people of Ontario. We do so by providing them with more than half the electricity they use – in a responsible, efficient and affordable manner.

Going forward, we intend to maintain our record of service and all it entails. As part of this commitment, we filed a rate application with the Ontario Energy Board. If approved, it would be our first base rate increase since 2008 – and would enable us to continue to get the most from our assets to the benefit of Ontario's ratepayers. These new rates would still be lower than those of other Ontario generators.

### Acknowledgements

Throughout 2013, OPG management – myself most of all – have benefited greatly from the contribution and commitment of OPG employees.

Changing realities have made this a challenging year for many of them. This includes those in our thermal operations, who not only witnessed but helped implement the wind-down of an important and historic part of the company. In doing so, they helped make possible the single biggest climate change initiative in North America. This kind of professionalism is typical of our employees, who continue to serve Ontario with diligence, dedication and excellence. It gives me great pride to be associated with such a team.



**TOM MITCHELL**

President and CEO

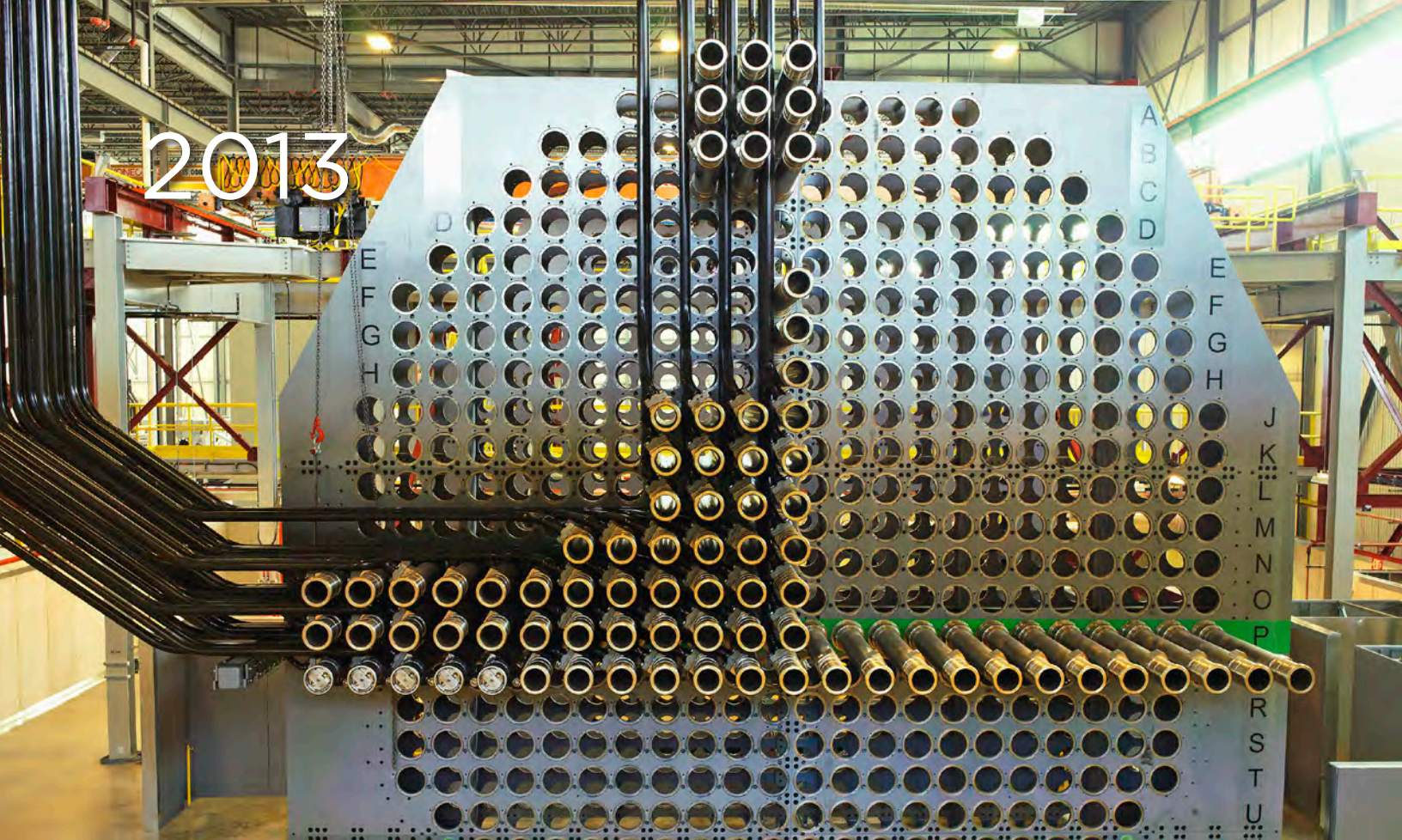


The new Niagara Tunnel outlet tunnel and gate will provide more, clean, renewable power for Ontario.



Biomass silos at the OPG's Atikokan thermal generating station.





Reactor mock-up at the Darlington Energy Complex.

## MANAGEMENT'S DISCUSSION & ANALYSIS

Forward-Looking Statements.....	8	Critical Accounting Policies and Estimates.....	46
The Company.....	8	Changes in Accounting Policies and Estimates .....	54
Revenue Mechanisms for Regulated and		Risk Management.....	57
Unregulated Generation .....	10	Related Party Transactions.....	71
Highlights.....	12	Corporate Governance and Audit and Finance	
Core Business and Strategy .....	19	Committee Information .....	72
Capability to Deliver Results .....	31	Internal Controls over Financial Reporting and	
Business Segments.....	32	Disclosure Controls .....	72
Key Generation and Financial Performance Indicators.....	34	Fourth Quarter .....	73
Discussion of Operating Results by Business Segment.....	36	Quarterly Financial Highlights.....	75
Regulated – Nuclear Generation Segment.....	36	Supplementary Non-GAAP Financial Measures.....	78
Regulated – Nuclear Waste Management Segment.....	37		
Regulated – Hydroelectric Segment.....	38		
Unregulated – Hydroelectric Segment .....	39		
Unregulated – Thermal Segment.....	40		
Other .....	41		
Net Interest Expense .....	41		
Income Taxes .....	41		
Liquidity and Capital Resources .....	42		
Balance Sheet Highlights .....	45		

## CONSOLIDATED FINANCIAL STATEMENTS

Statement of Management's Responsibility for	
Financial Information.....	80
Independent Auditors' Report.....	82
Consolidated Financial Statements .....	83
Notes to the Consolidated Financial Statements.....	89



# MANAGEMENT'S

## DISCUSSION AND ANALYSIS

This Management's Discussion and Analysis (MD&A) should be read together with the audited consolidated financial statements and accompanying notes of Ontario Power Generation Inc. (OPG or Company) as at and for the year ended December 31, 2013. OPG's consolidated financial statements are prepared in accordance with United States generally accepted accounting principles (US GAAP) and are presented in Canadian dollars.

As required by Ontario Regulation 395/11, as amended, a regulation under the *Financial Administration Act* (Ontario) (FAA), OPG adopted US GAAP for the presentation of its consolidated financial statements, effective January 1, 2012. The Ontario Securities Commission (OSC) also approved OPG's adoption of US GAAP for financial years that begin on or after January 1, 2012, but before January 1, 2015.

In the first quarter of 2014, the OSC approved an exemption which allows OPG to apply US GAAP up to January 1, 2019. This replaces the previous exemption. The term of the exemption is subject to certain conditions. For details, refer to the heading, *International Financial Reporting Standards*, under the section *Changes in Accounting Policies and Estimates*. This MD&A is dated March 6, 2014.

### FORWARD-LOOKING STATEMENTS

The MD&A contains forward-looking statements that reflect OPG's current views regarding certain future events and circumstances. Any statement contained in this document that is not current or historical is a forward-looking statement. OPG generally uses words such as "anticipate", "believe", "foresee", "forecast", "estimate", "expect", "schedule", "intend", "plan", "project", "seek", "target", "goal", "strategy", "may", "will", "should", "could" and other similar words and expressions to indicate forward-looking statements. The absence of any such word or expression does not indicate that a statement is not forward-looking.

All forward-looking statements involve inherent assumptions, risks and uncertainties, including those set out under the section *Risk Management*. All forward-looking statements could be inaccurate to a material degree. In particular, forward-looking statements may contain assumptions such as those relating to OPG's fuel costs and availability, generating station performance, cost of fixed asset removal and nuclear waste management, performance of investment funds, closure or conversion of coal-fired generating stations, refurbishment of existing facilities, development and construction of new facilities, pension and other post-employment benefit (OPEB) obligations, income taxes, electricity spot market prices, proposed new legislation, the ongoing evolution of the Ontario electricity industry, environmental and other regulatory requirements, health, safety and environmental developments, business continuity events, the weather, and the impact of regulatory decisions by the Ontario Energy Board (OEB). Accordingly, undue reliance should not be placed on any forward-looking statement. The forward-looking statements included in this MD&A are made only as of the date of this MD&A. Except as required by applicable securities laws, OPG does not undertake to publicly update these forward-looking statements to reflect new information, future events or otherwise.

### THE COMPANY

OPG is an Ontario-based electricity generation company whose principal business is the generation and sale of electricity in Ontario. OPG was established under the *Business Corporations Act* (Ontario) and is wholly owned by the Province of Ontario (Province).



During 2013, OPG operated two nuclear generating stations, five thermal generating stations, 65 hydroelectric generating stations, and two wind power turbines. In December 2013, the Nanticoke and Lambton coal-fired units were removed from service as discussed below. OPG and TransCanada Energy Ltd. co-own the Portlands Energy Centre (PEC) gas-fired combined cycle generating station (GS). OPG and ATCO Power Canada Ltd. co-own the Brighton Beach gas-fired combined cycle GS (Brighton Beach). The income of the co-owned facilities is reflected in other income. OPG also owns two other nuclear generating stations, which are leased on a long-term basis to Bruce Power L.P. (Bruce Power). Income from these leased stations is included in revenue under the Regulated – Nuclear Generation segment. These co-owned facilities and leased stations are not included in the generation portfolio statistics set out in this report.

In August 2013, OPG received a five-year operating licence which combines the Pickering A and B Nuclear generating stations' licences into a single-site licence. Since 2012, the Pickering Nuclear GS has operated as a single six-unit site.

### Generating Capacity

The in-service generating capacity by business segment as of December 31 was as follows:

(MW)	2013	2012
Regulated – Nuclear Generation	6,606	6,606
Regulated – Hydroelectric	3,321	3,312
Unregulated – Hydroelectric	3,683	3,684
Unregulated – Thermal <sup>1</sup>	2,617	5,447
Other	2	2
<b>Total</b>	<b>16,229</b>	<b>19,051</b>

<sup>1</sup> Includes the capacity of the Atikokan GS, which is being converted to use biomass. The conversion is expected to be completed in 2014.

In July 2013, the in-service capacity of the Regulated – Hydroelectric segment increased by 9 MW as a result of the completion of a major refurbishment at Unit 3 of the Sir Adam Beck 1 GS.

On December 31, 2013, the remaining units at the Nanticoke GS and the Lambton GS were removed from service in accordance with the Shareholder declaration issued in March 2013 mandating that OPG cease the use of coal at these stations by the end of 2013. This reduced the in-service generating capacity of the Unregulated – Thermal segment by 2,830 MW.

In 2014, nuclear and hydroelectric facilities are expected to produce the majority of OPG's electricity generation. These facilities produce little or no carbon emissions.

### OPG's Reporting Structure

OPG receives a regulated price for electricity generated from most of its baseload hydroelectric facilities and all of the nuclear facilities that it operates. This includes the following facilities (collectively, prescribed or regulated facilities):

- Sir Adam Beck 1, 2 and Pump GS
- DeCew Falls 1 and 2 hydroelectric facilities
- R.H. Saunders hydroelectric facilities
- Pickering Nuclear GS
- Darlington Nuclear GS.

The operating results related to these regulated facilities are described under the Regulated – Nuclear Generation, Regulated – Nuclear Waste Management, and Regulated – Hydroelectric segments. For the remainder of OPG's hydroelectric facilities, the operating results are described under the Unregulated – Hydroelectric segment. The



operating results from the thermal facilities are discussed in the Unregulated – Thermal segment. A description of all OPG's segments is provided under the heading, *Business Segments*.

Effective January 1, 2014, OPG revised the composition of its reporting segments to reflect changes in its generation portfolio and its internal reporting. These changes primarily reflect 48 of OPG's currently unregulated hydroelectric facilities being prescribed for rate regulation, effective July 1, 2014, and ceasing the use of coal at the Nanticoke and Lambton generating stations. For further details, refer to the discussions under the heading, *Business Segments*.

## REVENUE MECHANISMS FOR REGULATED AND UNREGULATED GENERATION

### Regulated Generation

The OEB sets the prices for electricity generated from OPG's currently regulated nuclear and hydroelectric facilities. The following are the OEB authorized regulated prices for electricity generated from these facilities for the years ended December 31:

(\$/MWh)	2013	2012
<b>Regulated – Nuclear Generation</b>		
Regulated – Nuclear Generation cost of service regulated price	<b>51.52</b>	51.52
Regulated – Nuclear Generation rate riders <sup>1</sup>	<b>6.27</b>	4.33
	<b>57.79</b>	55.85
<b>Regulated – Hydroelectric</b>		
Regulated – Hydroelectric cost of service regulated price	<b>35.78</b>	35.78
Regulated – Hydroelectric rate riders <sup>1</sup>	<b>3.04</b>	(1.65)
	<b>38.82</b>	34.13

<sup>1</sup> In addition to the above rate riders, in 2013 the OEB authorized interim period rate riders for the period from March 1, 2013 to December 31, 2013. This allowed for the recovery of the retroactive increase in the riders for the period from January 1, 2013 to February 28, 2013. The nuclear interim rate rider was \$0.41/MWh and the regulated hydroelectric interim rate rider was \$0.58/MWh.

The existing cost of service regulated prices have been in effect since March 1, 2011. The existing hydroelectric regulated price is subject to a hydroelectric incentive mechanism, approved by the OEB, with a portion of resulting net revenues being shared with the ratepayers. The rate riders in effect during 2013 were established by the OEB following its March 2013 decision approving a settlement agreement between OPG and intervenors on OPG's application to recover balances in deferral and variance accounts as at December 31, 2012 (Settlement Agreement). Based on the Settlement Agreement, the OEB also approved rate riders for nuclear and regulated hydroelectric generation of \$4.18/MWh and \$2.02/MWh, respectively, for the period from January 1, 2014 to December 31, 2014. The Settlement Agreement is discussed under the heading, *Recent Developments*, under the section *Highlights*.

OPG's current OEB application, filed in September 2013, requests the following:

- new cost of service regulated prices effective January 1, 2014 for the currently regulated facilities
- new rate riders to recover balances in certain deferral and variance accounts effective January 1, 2015 for the currently regulated facilities
- regulated prices for 48 of OPG's unregulated hydroelectric generating facilities, as these facilities have been prescribed for rate regulation, effective July 1, 2014, per the amendment to *Ontario Regulation 53/05*.

Details are discussed under the heading, *Recent Developments*.



## Unregulated Generation

Electricity generated from OPG's unregulated assets receives the Ontario electricity spot market price, except where a cost recovery agreement or an Energy Supply Agreement (ESA) is in place. The thermal generating facilities that had an agreement in effect during 2013 are:

- Lambton GS and Nanticoke GS: During 2013, these coal-fired stations were subject to a Contingency Support Agreement with the Ontario Electricity Financial Corporation (OEFC). The agreement was entered into for the recovery of costs after the Shareholder's resolution and regulations pertaining to carbon dioxide (CO<sub>2</sub>) emission reductions. On November 1, 2013, the OEFC provided written notice that it would terminate the Contingency Support Agreement, effective December 31, 2013 and triggered an amendment that allows OPG to recover certain costs for the 2014 year. For further details and developments in 2013 refer to the disclosure under the heading, *Thermal Generating Assets*, under the section *Core Business and Strategy*
- Thunder Bay GS: Capacity provided by and production from one unit at this station was subject to a Reliability Must Run contract for the period from January 1, 2013 to December 31, 2013
- Lennox GS: Capacity provided by and production from this station are subject to an agreement with the Ontario Power Authority (OPA) for the period from January 1, 2013 to September 30, 2022.

In addition, OPG currently has hydroelectric ESAs with the OPA for the following:

- Lac Seul GS and Ear Falls GS
- Healey Falls GS
- Sandy Falls GS, Wawaitin GS, Lower Sturgeon GS, and Hound Chute GS
- Lower Mattagami River project generating stations. Payments under this ESA began when the first incremental unit was declared in-service in January 2014.

## HIGHLIGHTS

### Overview of Results

This section provides an overview of OPG's audited consolidated operating results for the years ended December 31. A detailed discussion of OPG's performance by reportable segment is included under the heading, *Discussion of Operating Results by Business Segment*.

<i>(millions of dollars – except where noted)</i>	<b>2013</b>	<b>2012</b>
Revenue	<b>4,863</b>	4,732
Fuel expense	<b>708</b>	755
Gross margin	<b>4,155</b>	3,977
<i>Expenses</i>		
Operations, maintenance and administration	<b>2,747</b>	2,648
Depreciation and amortization	<b>963</b>	664
Accretion on fixed asset removal and nuclear waste management liabilities	<b>756</b>	725
Earnings on nuclear fixed asset removal and nuclear waste management funds	<b>(628)</b>	(651)
Restructuring	<b>50</b>	3
Property and capital taxes	<b>53</b>	47
	<b>3,941</b>	3,436
Income before other income, interest and income taxes	<b>214</b>	541
Other income	<b>(38)</b>	(10)
Net interest expense	<b>86</b>	117
Income tax expense	<b>31</b>	67
Net income	<b>135</b>	367
<i>Electricity production (TWh)</i>	<b>80.3</b>	83.7
<i>Cash flow</i>		
Cash flow provided by operating activities	<b>1,174</b>	876

### Segment Results

OPG's income before interest and income taxes by segment for the years ended December 31 was as follows:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
<i>Income (loss) before interest and income taxes</i>		
Regulated – Nuclear Generation	<b>(19)</b>	364
Regulated – Hydroelectric	<b>340</b>	324
Unregulated – Hydroelectric	<b>76</b>	(10)
Unregulated – Thermal	<b>(96)</b>	(116)
Total electricity generation business segments	<b>301</b>	562
Regulated – Nuclear Waste Management	<b>(122)</b>	(68)
Other	<b>73</b>	57
Total income before interest and income taxes	<b>252</b>	551



The following table summarizes the factors affecting OPG's results for 2013, compared to 2012, on a before-tax basis:

<i>(millions of dollars)</i>	Electricity Generation Segments <sup>1</sup>	Regulated Nuclear Waste Management Segment	Other <sup>2</sup>	Total
Income (loss) before income taxes for 2012	562	(68)	(60)	434
Changes in gross margin:				
• Change in electricity sales price:				
Regulated generation segments	163	-	-	163
Unregulated – Hydroelectric	48	-	-	48
• Change in electricity generation by segment:				
Regulated – Nuclear Generation	(222)	-	-	(222)
Regulated – Hydroelectric	8	-	-	8
Unregulated – Hydroelectric	33	-	-	33
• Increase in thermal gross margin largely due to higher revenue from cost recovery and energy supply contracts. The increase in contract revenues was partly due to higher depreciation expense.	112	-	-	112
• Increase in ancillary and other revenue from hydroelectric stations	32	-	-	32
• Decrease in non-electricity generation revenue primarily due to a decrease in technical services and lower isotope sales	(28)	-	-	(28)
• Increase in regulatory assets for amounts recorded in variance accounts related to nuclear production	31	-	-	31
• Other changes in gross margin	(7)	6	2	1
	170	6	2	178
Changes in operations, maintenance and administration (OM&A) expenses:				
• Higher nuclear expenses primarily due to an increase in outage activities as a result of a second planned outage at the Darlington Nuclear GS	(71)	-	-	(71)
• Decrease in salary costs due to headcount reductions	54	-	-	54
• Increase in pension and OPEB costs largely due to the recognition of a regulatory asset in 2012 for the Impact for USGAAP Deferral Account established by the OEB	(48)	(1)	-	(49)
• Other changes in OM&A expenses, including escalation of labour costs related to collective bargaining agreements	(33)	(6)	6	(33)
	(98)	(7)	6	(99)
Decrease in earnings from the nuclear fixed asset removal and nuclear waste management funds (Nuclear Funds), net of the impact of the Bruce Lease Net Revenues Variance Account	-	(23)	-	(23)
Increase in thermal depreciation expense due to the accelerated depreciation of Lambton GS and Nanticoke GS	(56)	-	-	(56)
Increase in amortization expense related to the amortization of regulatory balances due to the new rate riders in 2013	(267)	-	-	(267)
Lower depreciation expense mainly due to the Pickering Nuclear GS useful lives changes, reflected as a credit to ratepayers in OPG's new rate riders	39	-	-	39
Increase in accretion expense primarily related to an increase in the present value of the nuclear fixed asset removal and nuclear waste management liabilities (Nuclear Liabilities), partially offset by the impact of the regulatory variance and deferral accounts	-	(30)	-	(30)
Lower interest expense primarily due to an increase in interest capitalized related to the Darlington Refurbishment project	-	-	31	31
Increase in restructuring expense largely due to the recognition of severance costs for Lambton GS and Nanticoke GS	(47)	-	-	(47)
Other changes	(2)	-	8	6
<b>Income (loss) before income taxes for 2013</b>	<b>301</b>	<b>(122)</b>	<b>(13)</b>	<b>166</b>

<sup>1</sup> Electricity generation segments include results of the Regulated – Nuclear Generation, Regulated – Hydroelectric, Unregulated – Hydroelectric, and Unregulated – Thermal segments.

<sup>2</sup> Other includes results of the Other category as defined under the heading, *Business Segments*.

## Electricity Generation

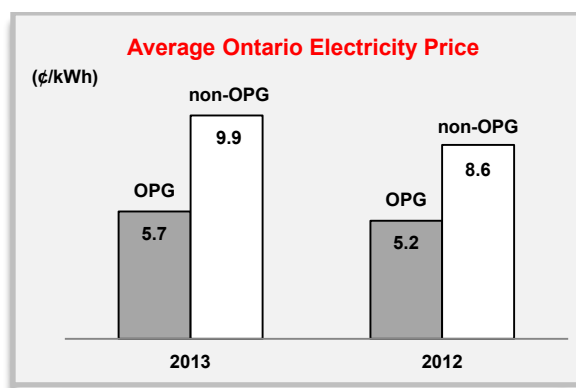
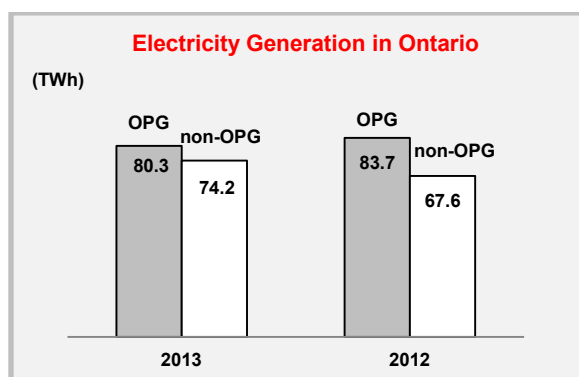
Electricity generation for the years ended December 31 was as follows:

(TWh)	2013	2012
Regulated – Nuclear Generation	44.7	49.0
Regulated – Hydroelectric	18.9	18.5
Unregulated – Hydroelectric	13.9	12.1
Unregulated – Thermal	2.8	4.1
<b>Total OPG electricity generation</b>	<b>80.3</b>	<b>83.7</b>
<b>Total electricity generation by all other generators in Ontario</b>	<b>74.2</b>	<b>67.6</b>

The decrease in 2013 from 2012 was mainly due to lower electricity generation from the Regulated – Nuclear Generation and the Unregulated – Thermal segments. Reduced generation in these segments was partially offset by higher hydroelectric generation. The factors impacting OPG's generation during 2013 are as follows:

- extensions to planned outages at the Pickering Nuclear GS and the Darlington Nuclear GS were the main factors causing the decrease in nuclear generation
- ceasing operation of coal-fired units at the Lambton and Nanticoke generating stations in 2013, in accordance with the Shareholder declaration issued in March 2013, resulted in lower thermal generation
- higher water levels and the in-service of the Niagara Tunnel contributed to higher hydroelectric generation
- an increase in Surplus Baseload Generation (SBG) conditions in 2013, described below, unfavourably affected the electricity generation by OPG's hydroelectric generating stations.

OPG's operating results are affected by changes in demand resulting from variations in seasonal weather conditions and changes in economic conditions. Ontario's primary demand was 140.7 TWh in 2013, down slightly from 141.3 TWh in 2012. Baseload supply surplus to Ontario demand continued to increase in 2013 as a result of lower primary demand combined with increased baseload generation, mainly from Bruce A Units 1 and 2 and new wind and solar capacity. The surplus to the Ontario market is managed by the Independent Electricity System Operator (IESO) through market mechanisms, including generation exports, dispatching generation offline due to low weighted average hourly Ontario electricity prices (HOEP). Dispatching generation offline could result in spilling water at hydroelectric stations, reducing generation from nuclear facilities, and reducing grid-connected renewable resources. As dispatching hydroelectric units down to reduce production is the first measure the IESO uses to reduce SBG, OPG's hydroelectric generation was significantly affected by SBG management in 2013, reducing generation by approximately 1.7 TWh. The net income impact of the SBG conditions on currently regulated hydroelectric generating stations was offset by regulatory variance accounts.





## Average Sales Prices and Average Revenue

The average sales prices and average revenue for the years ended December 31 were as follows:

(¢/kWh)	2013	2012
Weighted average HOEP	2.6	2.4
Regulated – Nuclear Generation <sup>1</sup>	5.7	5.5
Regulated – Hydroelectric <sup>1</sup>	4.0	3.5
Unregulated – Hydroelectric <sup>1</sup>	2.8	2.4
Unregulated – Thermal <sup>1</sup>	2.7	2.6
Average revenue for OPG <sup>2</sup>	5.7	5.2
Average revenue for all electricity generators, excluding OPG <sup>3</sup>	9.9	8.6

<sup>1</sup> Average sales prices are computed as net generation sales or spot market sales divided by net generation volume.

<sup>2</sup> Average revenue for OPG is comprised of regulated revenues, market based revenues, and other energy revenues primarily from agreements for the Nanticoke, Lambton, Thunder Bay, and Lennox generating stations, and revenue from hydroelectric ESAs.

<sup>3</sup> Revenues for other electricity generators are calculated as the sum of hourly Ontario demand multiplied by the HOEP, plus total global adjustment payments, plus the sum of hourly net exports multiplied by the HOEP, less OPG's generation revenue.

The increase in the average sales prices for OPG's regulated segments during 2013 was a result of the OEB's approval of new rate riders, effective January 1, 2013. These rate riders were established to collect amounts that were previously recorded in variance and deferral accounts. The net income impact of these rate riders was offset by an increase in depreciation and amortization expenses. For further details, refer to the disclosure under the headings, *Revenue Mechanisms for Regulated and Unregulated Generation* and *Recent Developments*.

Average sales prices for OPG's unregulated generation segments also increased during 2013, largely due to an increase in the HOEP. During 2013, the HOEP increased due to the impact of higher market demand and higher natural gas prices, partially offset by the impact of higher non-OPG nuclear generation.

## Cash Flow from Operations

Cash flow provided by operating activities for 2013 was \$1,174 million, compared to \$876 million for 2012. The increase in operating cash flow was primarily the result of:

- higher cash receipts from generation revenue after the new rate riders, established by the OEB, were applied
- a lower voluntary contribution to the pension fund in 2013
- lower fuel purchases, partially offset by
- higher OM&A expenses in 2013.

## Funds from Operations Interest Coverage

Funds from Operations (FFO) Interest Coverage is an indicator of OPG's ability to meet interest obligations from operating cash flows. FFO Interest Coverage was 2.8 times for 2013 and 2.2 times for 2012. The FFO Interest Coverage increased primarily due to higher cash flows provided by operating activities.

The FFO Interest Coverage is not a measure in accordance with US GAAP. It should not be considered as an alternative measure to net income, cash flows from operating activities, or any other measure of performance under US GAAP. OPG believes that this non-GAAP financial measure is an effective indicator of performance and is consistent with the corporate strategy to operate on a financially sustainable basis. The definition and reconciliation of FFO Interest Coverage can be found under the headings, *Key Generation and Performance Indicators* and *Supplementary Non-GAAP Financial Measures*, respectively.

## Return on Equity

Return on Equity (ROE) is an indicator of OPG's performance consistent with its objectives to operate on a financially sustainable basis and to maintain value for the Shareholder. ROE is measured over a 12-month period.

ROE for 2013 was 1.5 percent, compared to 4.2 percent for 2012. ROE decreased in 2013 primarily due to lower net income and a higher average shareholder's equity, excluding accumulated other comprehensive income (AOCI). The lower net income was primarily due to lower earnings from the Regulated – Nuclear Generation segment.

OPG's ROE reflects the relatively higher equity component in its capital structure, compared to the capital structure used by the OEB in determining regulated prices. The OEB uses a prescribed rate of return based on a deemed capital structure. The deemed capital structure assumes a 47 percent equity component, compared to OPG's existing capital structure of approximately 60 percent equity. The lower deemed equity percentage used by the OEB results in lower regulated prices, which reduces OPG's ROE. In addition, ROE reflects low levels of income primarily due to low payment amounts for the nuclear generation segment that currently do not fully recover costs and provide for a return at levels prescribed by the OEB, low electricity spot market prices, and the results of unregulated thermal operations that currently do not provide for appropriate returns on capital. OPG is undertaking initiatives to increase revenue and reduce costs. These initiatives are discussed under the heading, *Financial Sustainability*.

ROE is not a measure in accordance with US GAAP. It should not be considered an alternative measure to net income, cash flows from operating activities, or any other performance measure under US GAAP. The definition and reconciliation of ROE can be found under the headings, *Key Generation and Performance Indicators* and *Supplementary Non-GAAP Financial Measures*, respectively.

## Recent Developments

### Auditor General's 2013 Annual Report

In December 2013, the Auditor General of Ontario issued a report outlining a number of findings related to a 10-year review of OPG's human resource practices. In many cases, the report highlights areas which OPG had already addressed. It also provides insights into issues for OPG to act upon. OPG accepted the findings and committed to a number of immediate actions. OPG also committed to reporting back openly and quickly. Key actions and updates can be found at <http://www.opg.com/about/management/open-and-accountable/Pages/auditor-general-report.aspx>

### Ontario's Long-Term Energy Plan

Ontario's 2013 Long-Term Energy Plan was released on December 2, 2013, replacing the 2010 Long-Term Energy Plan. Key elements of the 2013 Long-Term Energy Plan that impact OPG include:

- refurbishment at the Darlington Nuclear GS is planned to begin in 2016
- the Pickering Nuclear GS is expected to be in-service until 2020. An earlier shutdown of the units may be possible depending on projected electricity demand, the progress of the fleet refurbishment program, and the timely completion of the Clarington Transformer Station
- Ontario will not proceed at this time with construction of two new nuclear reactors at the Darlington site. However, the Ministry of Energy will work with OPG to maintain the site licence granted by the Canadian Nuclear Safety Commission (CNSC)
- the government will encourage OPG and Hydro One to explore new business lines and opportunities inside and outside Ontario.

Ontario will phase-in wind, solar, and bioenergy over a longer period than contemplated in the 2010 Long-Term Energy Plan, with 10,700 MW online by 2021. In addition, Ontario will add to the hydroelectric target, increasing the province's portfolio to 9,300 MW by 2025.



For details on OPG's response to the 2013 Long-Term Energy Plan, refer to the discussions under the heading, *Project Excellence*, under the section *Core Business and Strategy*.

#### Ceasing Coal-Fired Generation at Thermal Stations

In March 2013, the Ontario Minister of Energy issued a declaration mandating that OPG cease the use of coal at the Nanticoke and Lambton generating stations by the end of 2013. This was in advance of the previous December 31, 2014 deadline. Accordingly, the Lambton GS ceased generating electricity in September 2013 and the Nanticoke GS on December 31, 2013. Both stations are being placed in a laid-up state which could facilitate potential repowering. For further details refer to the discussion under the heading, *Core Business and Strategy – Operational Excellence – Thermal Generating Assets*.

#### OPG's OEB Applications

##### *Settlement of Deferral and Variance Account Application*

In March 2013, OPG reached a Settlement Agreement with intervenors on all aspects of its 2012 application to recover balances in the authorized regulatory variance and deferral accounts, as at December 31, 2012. In a decision by the OEB in March 2013, the Settlement Agreement was approved. Subsequently, the OEB issued an order establishing new rate riders effective January 1, 2013. This resulted in:

- approval of \$1,234 million recorded in the authorized accounts as at December 31, 2012
- deferral for future review of \$34 million recorded in certain accounts as at December 31, 2012
- a write-off of \$7 million of interest recorded in certain accounts as at December 31, 2012.

Pursuant to the OEB's order, the disposition of the approved account balances has been authorized to take place over periods ranging from two to 12 years beginning on January 1, 2013. Some of these periods are longer than originally requested by OPG in its application, resulting in an extended recovery of the approved balances. In particular, the authorized recovery period for the balance in the Pension and OPEB Cost Variance Account is 12 years, compared to four years proposed in OPG's application.

Other details of the Settlement Agreement include:

- OPG is also required to credit ratepayers with an additional \$94 million over the 2013 to 2014 period. The credit is related to a reduction in depreciation expense for the Pickering Nuclear GS following the changes to the useful lives of the stations effective December 31, 2012. OPG is required to refund \$47 million per year until new nuclear regulated prices are established that reflect the revised service lives for the Pickering GS units
- OPG has been authorized to recover \$633 million over the period from March 1, 2013 to December 31, 2014. In its decision and order, the OEB established new rate riders for production from the regulated facilities during the period. Refer to the disclosure under the section, *Revenue Mechanisms for Regulated and Unregulated Generation*. The increase in revenue resulting from the implementation of the new riders in 2013 was offset by an increase in amortization expense
- the OEB authorized the continuation of previously existing variance and deferral accounts, including the Pension and OPEB Cost Variance Account. The OEB also approved OPG's adoption of US GAAP for regulatory purposes.

##### *2014-2015 Cost of Service Application and Regulation of Unregulated Hydroelectric Facilities*

In September 2013, OPG filed an application with the OEB for new cost of service regulated prices, proposed to be effective January 1, 2014, for production from its currently regulated nuclear and hydroelectric facilities. The requested regulated prices include the impact of the Niagara Tunnel. In addition, OPG has requested the continuation of the existing hydroelectric incentive mechanism, with some modifications. OPG's application requests

that the nuclear generation regulated price increase from \$51.52/MWh to \$69.91/MWh. The application also requests that the hydroelectric generation regulated price increase from \$35.78/MWh to \$42.31/MWh.

The decision on OPG's application will be made by the OEB following a public hearing process. This process began in the fourth quarter of 2013 and is expected to continue during 2014. New regulated prices resulting from the application are expected to remain in effect until at least the end of 2015.

In addition, OPG's application seeks new rate riders effective January 1, 2015 to recover balances in certain variance and deferral accounts as at December 31, 2013. The rate riders sought will be based on the balances in these accounts as of December 31, 2013. OPG's application included riders for nuclear and hydroelectric of \$1.59/MWh and \$2.99/MWh, respectively, based on forecast variance and deferral account balances. OPG expects to request recovery of amounts recorded in other accounts in a future application.

In November 2013, the Province amended *Ontario Regulation 53/05* to prescribe 48 of OPG's currently unregulated hydroelectric generating facilities for rate regulation, effective July 1, 2014. These facilities are currently not rate-regulated and not subject to an ESA with the OPA, and provide approximately 3,110 MW of generating capacity as at December 31, 2013. The amended regulation requires the OEB to establish the prices received for the production from these facilities. OPG's application, filed in September 2013, includes proposed regulated prices for production from these facilities effective July 1, 2014. A price of \$47.59/MWh is being requested for the newly regulated hydroelectric facilities.

The expected impact of applying rate-regulated accounting to the newly regulated hydroelectric facilities effective July 1, 2014 is discussed under the heading, *Changes in Accounting Policies and Estimates*.

In December 2013, the OEB issued an order granting OPG's request to declare the existing cost of service regulated prices for the currently regulated facilities interim, effective January 1, 2014. This may allow OPG to recover the difference between the approved new regulated prices and the current prices, for the period between January 1, 2014 and the issuance of the order establishing new regulated prices.

#### Lower Mattagami

The incremental unit at the Little Long GS was declared in-service on January 19, 2014, ahead of its original target completion date of February 2014. This is the first incremental unit to be completed on the Lower Mattagami River project. As incremental units are placed in-service, the Amisk-oo-Skow Finance Corporation, a corporation wholly owned by the Moose Cree First Nation, may acquire up to a 25 percent interest in the assets through its investment in the Lower Mattagami Limited Partnership. Further details regarding the project can be found under the heading, *Core Business and Strategy – Project Excellence*.

#### New Post Creek

In June 2013, the Minister of Energy directed the OPA to negotiate a power purchase agreement for the proposed 25 MW New Post Creek hydroelectric GS. The station is expected to be constructed through a partnership between OPG and Coral Rapids Power L.P., a wholly owned subsidiary of the Taykwa Tagamou Nation. Further details regarding this project can be found under the heading, *Core Business and Strategy – Project Excellence*.

#### Thunder Bay Conversion

In December 2013, the Minister of Energy issued a directive to the OPA to negotiate and enter into a contract for electricity from one unit at the Thunder Bay GS using advanced biomass fuel. OPG is in the process of developing detailed plans for the station modifications and fuel supply.



## Renewable Energy

In June 2013, the Minister of Energy issued a Feed-in-Tariff Program Directive to the OPA regarding the Province's renewable energy program. Under this directive, OPG is permitted to compete in the procurement process for large renewable energy initiatives.

## Court of Appeal Decision on OEB Ruling

In June 2013, the Court of Appeal for Ontario granted OPG's appeal of the Divisional Court of Ontario's decision regarding the March 2011 OEB ruling. The OEB ruling disallowed recovery in regulated prices of a portion of OPG's nuclear compensation costs. As a result, the OEB's decision in this area was set aside, and the matter was to be sent back to the OEB for a re-hearing. In the third quarter of 2013, the OEB sought leave to appeal the decision to the Supreme Court of Canada. In October 2013, OPG made a submission on the matter. The Supreme Court's decision on whether leave is granted is expected in early 2014.

## **CORE BUSINESS AND STRATEGY**

OPG's mandate is to reliably and cost-effectively produce electricity from its diversified portfolio of generating assets, while operating in a safe, open, and environmentally responsible manner. OPG's mission is to be Ontario's low cost electricity generator through a focus on three corporate strategies:

- Operational Excellence
- Project Excellence
- Financial Sustainability.

### **Operational Excellence**

OPG is committed to excellence in the areas of generation, the environment, and safety. Operational excellence at OPG's nuclear, hydroelectric, and thermal generating facilities is accomplished by generating safe, reliable and cost-effective electricity.

## Nuclear Generating Assets

Performance excellence at OPG's nuclear generating facilities is defined as safely and reliably generating cost-effective electricity. The four cornerstones of all nuclear activities are safety, reliability, human performance and value for money. Employee, environmental and nuclear safety are overriding priorities. The nuclear facilities continue to demonstrate strong performance and continuous improvement in these areas against industry benchmarks.

Nuclear practices and processes are regularly benchmarked against top performing nuclear facilities around the world. This allows OPG to identify, develop, and implement initiatives to further improve performance. The highlights for 2013 include:

- in July, the Pickering Nuclear GS received its best ever safety and performance industry peer review evaluation
- in August, the CNSC presented its Integrated Safety Assessment of Canadian Nuclear Power Plants for 2012. Both the Pickering Nuclear GS and the Darlington Nuclear GS received positive safety ratings from the CNSC staff, with the Darlington Nuclear GS achieving the highest possible safety rating.

Darlington also received an excellent safety and performance evaluation from the World Association of Nuclear Operators (WANO) in 2012. The result of the evaluation recognizes the Darlington Nuclear GS as one of the best performing stations in the world. These achievements demonstrate OPG's strong focus on safety and OPG's commitment to operational excellence and reliability.

In response to the Fukushima Daiichi event, OPG confirmed its stations are safe and that systems and procedures are in place to withstand significant emergencies. In 2013, a systematic review and verification of defences against external hazards was completed. The review showed that:

- the nuclear safety systems and multiple back-up power systems in place are effective
- the current design of the stations is strong and the stations are able to withstand extreme external events.

The review also provided recommendations for further opportunities to enhance the safety margin, and to be prepared for unexpected events that go beyond the extreme events that have already been considered in the design of the stations.

OPG's action plan in response to the Fukushima Daiichi event is well aligned with the CNSC's Fukushima Action Plan. The Fukushima implementation plan includes a number of key safety enhancements on providing additional back-up capability to increase OPG's flexibility to respond to unexpected and highly unlikely external events that can impact multiple units at the same time. In 2013, OPG submitted its plans for the majority of the Fukushima Action Plan items applicable to OPG to the CNSC. OPG expects to complete all the action items in 2015, with a small amount of residual work to be completed in 2016.

OPG strives to operate and maintain its nuclear facilities to optimize equipment, performance, availability, and output. Improved equipment reliability generally results in greater nuclear safety, and fewer generation interruptions. OPG has made investments to continue to improve the performance of the Pickering Nuclear GS through to 2020 with a focus on implementing equipment modifications, fuel handling reliability improvements, reducing degraded and broken equipment backlogs and completing 3,000 work orders of critical / high priority work. The investments in the Pickering Nuclear GS will help to provide a reliable electricity supply for Ontario while the Darlington reactors are being refurbished. OPG is seeing positive results of that work, including engineering and research assessments that support the safe and reliable operation of the units for a longer operating period. OPG is developing resource strategies to optimize the workforce to the end of commercial operations of Pickering, which is expected in 2020, through to the end of the safe storage period.

The successful execution of outages continues to be a high priority. OPG continues to improve the planning, execution, monitoring and reporting of outage work. Nuclear inspection and testing programs are largely driven by maintenance and regulatory requirements. These programs are designed to ensure that equipment is performing reliably and safely. The planned outage programs at Pickering Units 5 to 8 over the next five years also reflect OPG's objective of extending the operating lives of these units for approximately an additional four to six years. In addition, planning activities are underway and will continue in 2014 in preparation for the Vacuum Building Outage scheduled to be executed at the Darlington Nuclear GS in 2015.

Process and procedural compliance is monitored and managed to ensure a strong safety and performance culture at the nuclear stations. OPG continues to implement training programs to improve employee performance and promote leadership development.

Delivering solutions that provide the best combination of safety, cost, and quality, and establishing challenging financial targets based on comprehensive benchmarking continue to be a vital part of OPG's strategy to improve nuclear plant and employee performance. Staffing targets continue to be reviewed and adjusted where necessary to reduce operating costs, while ensuring safety is not compromised.

Since 2012, the Pickering Nuclear generating stations have operated as a single six-unit site. Efficiencies have been achieved through the operational amalgamation of the Pickering A and B Nuclear generating stations. OPG successfully combined the work management, maintenance and operational planning departments fully integrating the two Pickering Nuclear generating stations.

In 2012, OPG applied to the CNSC for a five-year operating licence, which combines the Pickering A and B Nuclear generating stations' licences into a single-site licence. Following the CNSC public hearings on OPG's application, the



CNSC approved this licence in August 2013. This supports the intention to operate the Pickering Units 5 to 8 to 2020. A regulatory hold point has been added to the licence related to fuel channels and the original end-of-life dates for Pickering Units 5 to 8. To satisfy the requirements for removal of the hold point, OPG must provide the results of additional safety assessments in a future proceeding with public participation, as required by the CNSC. Actions to clear the Pickering license hold point are being completed as planned.

In February 2013, the CNSC approved the renewal of the Darlington Nuclear GS licence for a period from March 1, 2013 to December 31, 2014. On December 13, 2013, OPG submitted an application for a licence renewal that will span the refurbishment period. The CNSC hearing is scheduled for 2014.

During 2013, generation and reliability at the nuclear stations were primarily affected by an increase in outage days at the Pickering and Darlington Nuclear generating stations. This is discussed under the heading, *Electricity Generation* and section *Highlights*, and under the heading *Regulated – Nuclear Generation Segment* and section *Discussion of Operating Results by Business Segment*.

### Hydroelectric Generating Assets

The hydroelectric business segments are focused on producing electricity in a safe, reliable, cost-effective, and environmentally responsible manner.

These segments have the following objectives:

- sustain and improve the existing assets for long-term operations
- operate and maintain the facilities in an efficient and cost-effective manner
- seek to expand existing stations, where economic
- maintain and improve reliability performance, where practical and economic
- maintain an excellent employee safety record and ensure all worker safety laws are met
- strive for continuous improvement in the areas of dams and waterways, public safety, and environmental performance
- build and improve relationships with First Nations and Métis.

In consideration of current and future market conditions, OPG continues to evaluate and implement plans to increase capacity, maintain performance, and extend the operating life of its hydroelectric generating assets. This is expected to be accomplished through refurbishment or replacement of existing turbine runners, generators, transformers, and protections and controls. This includes increasing the capacity and efficiency at certain stations by approximately 44 MW over the next five years. OPG is also planning to repair, rehabilitate, or replace a number of aging civil structures in the next five years.

During 2013, OPG continued to execute a number of projects and completed major equipment overhauls and rehabilitation work at several stations. These include:

- completion of a refurbishment at Unit 3 of the Sir Adam Beck 1 GS that increased the unit's capacity from 46 MW to 55 MW
- completion of a turbine runner upgrade and generator overhaul at Unit 1 of the Des Joachims GS
- replacement of control and monitoring systems at 26 stations
- continued work on the rehabilitation of the concrete dam at Chats Falls GS.

The environmental performance of OPG's hydroelectric generating stations in 2013 was the best ever. There were minimal spills to the environment and several efficiency improvement initiatives were completed.

A Dam Safety Review Panel, comprised of internationally recognized experts, concluded that OPG's Dam and Public Safety Program meets international best practices in a number of areas related to maintaining safe dam operation.

OPG continues to develop a new risk-informed approach on behalf of the Ontario Ministry of Natural Resources (MNR) to prioritize and manage risks identified through the outcomes of dam safety assessments. This approach will result in significant benefits with respect to both safety and costs for future upgrades to existing infrastructure.

Employee and public safety continue to be a high priority. Safety programs are based on the best practice Health and Safety managed system process and engineering risk assessments of plant systems. Based on these systems and assessments, OPG is able to place a priority on investments in work planning, staff training, and at-risk equipment. These investments are designed to mitigate and eliminate health and safety and production issues at its stations.

As part of OPG's Business Transformation initiative, the operations of its hydroelectric and thermal assets in Northwestern Ontario are being combined into one organization, effective January 2014. This will reduce the number of senior managers, combine reporting and centre-led support functions, and create opportunities to more effectively utilize resources. This change is expected to result in increased efficiency and ongoing cost savings.

#### Thermal Generating Assets

OPG's thermal stations operate as peaking facilities, depending on electricity demand. The thermal units are able to start up and shut down through a wide range of their installed capacity. This ability provides Ontario's electricity system with the flexibility to meet changing daily system demand and capacity requirements, and enables the system to accommodate the expansion of Ontario's renewable generation portfolio.

During the first quarter of 2013, OPG and the IESO executed the Reliability Must Run contract for one unit at the Thunder Bay GS, for the period from January 1, 2013 to December 31, 2013. The contract was approved by the OEB in July 2013, and has provided additional revenue of approximately \$40 million during 2013.

OPG ceased operation of the remaining coal-fired units at the Lambton GS as of September 20, 2013 and at the Nanticoke GS as of December 31, 2013, in accordance with the declaration issued by the Minister of Energy in March 2013. OPG is placing the units in such a state to preserve the option to convert them to natural gas and/or biomass in the future, if required. OPG will seek recovery of ongoing costs to preserve the option to convert the units at a future date. Converted thermal generating stations can provide Ontario's electricity system with continued flexibility of daily start up and shut down, load-following capability to meet changing system needs, and complement non-dispatchable renewable energy sources.

In 2009, OPG entered into a Contingency Support Agreement with the OEFC to provide, following the implementation of CO<sub>2</sub> emissions targets/caps consistent with good utility practice, for OPG to be able to continue to maintain the stations for supply adequacy and system reliability by providing for OPG to receive sufficient revenue to recover the actual direct costs of the Lambton and Nanticoke generating stations, and to provide reimbursement of capital expenditures through the recapture of depreciation up to December 31, 2014. As a result of the Shareholder declaration issued in March 2013, mandating that OPG cease the use of coal at the Nanticoke GS and the Lambton GS by the end of 2013, in advance of the previous December 31, 2014 deadline, OPG and the OEFC executed an amendment to the Contingency Support Agreement. The amendment allows for early termination of the agreement and for OPG to recover actual costs that cannot reasonably be avoided or mitigated during the period from the advanced date up to the end of 2014. On November 1, 2013, the OEFC provided written notice that it would terminate the Contingency Support Agreement, effective December 31, 2013, thus triggering the amendment that allows OPG to recover these costs during 2014.

As a result of ceasing operation of the coal-fired units, OPG has estimated the restructuring costs, including costs related to severance and relocation to other OPG sites. During 2013, OPG accrued \$50 million of severance costs related to the unit closures at the Atikokan, Thunder Bay, Lambton, and Nanticoke generating stations. Relocation costs will be recorded as incurred, primarily in 2014. These costs, as they relate to the Lambton and Nanticoke generating stations, are not recoverable under the Contingency Support Agreement.

In 2014, OPG's coal-fired generation will be limited to minimal generation from one unit at the Thunder Bay GS, which will cease burning coal by December 31, 2014. Plans to convert one unit at the Thunder Bay GS to operate on advanced biomass have commenced, given the Shareholder directive issued to the OPA in December 2013. The converted unit is expected to have an in-service capacity of 150 MW.

In 2012, the Province announced the relocation of the Greenfield South gas-fired station development from Mississauga to a small portion of the Lambton GS site. In 2013, Greenfield South found a different location and allowed the option on the Lambton property to lapse.

Employee and public safety continue to be the thermal business segment's highest priority. Safety programs are based on the best practice Health and Safety managed system process and engineering risk assessments of plant systems. Based on these systems and assessments, OPG places a priority on investments in work planning, staff training, and at-risk equipment. These investments are designed to mitigate and eliminate health and safety and production issues at its stations.

### Environmental Performance

OPG's Environmental Policy states that "OPG shall meet all legal requirements and any environmental commitments that it makes, with the objective of exceeding these legal requirements where it makes business sense." This policy commits OPG to:

- establish and maintain an environmental management system
- work to prevent or mitigate adverse effects on the environment with a long-term objective of continual improvement
- maintain, or where it makes business sense, enhance significant natural areas and associated species at risk.

Environmental performance targets also form part of OPG's annual business planning process. Performance is monitored and communicated to internal and external stakeholders.

OPG monitors emissions into the air and water and regularly reports the results to regulators, including Ontario's Ministry of the Environment, Environment Canada, and the CNSC. The public also receives ongoing communications regarding OPG's environmental performance. OPG has developed and implemented internal monitoring, assessment, and reporting programs to manage environmental risks. These risks include air and water emissions, discharges, spills, the treatment of radioactive emissions, and radioactive wastes. OPG also continues to address historical land contamination through a voluntary land assessment and remediation program.

In 2013, OPG managed air emissions of nitrogen oxides (NO<sub>x</sub>) and sulphur dioxide (SO<sub>2</sub>) through the use of specialized equipment such as scrubbers, low-NO<sub>x</sub> burners, Selective Catalytic Reduction equipment, and the purchase of low sulphur fuel. For the years ended December 31, CO<sub>2</sub> and acid gas (SO<sub>2</sub> and NO<sub>x</sub>) emissions from OPG's coal-fired stations were as follows:

	2013	2012
CO <sub>2</sub> (million tonnes)	3.2	4.3
SO <sub>2</sub> and NO <sub>x</sub> (gigagrams)	14.8	16.1

The decrease in CO<sub>2</sub> and acid gas emissions resulted from reduced coal-fired generation during 2013. As mandated by the Minister of Energy, the Nanticoke and Lambton generating stations ceased operation of the remaining coal-fired units in 2013. Forecast coal-fired generation for 2014 is expected to be limited to minimal generation from one coal-fired unit at the Thunder Bay GS.

OPG's environmental performance for 2013 met or outperformed targets for all spills, infractions, production of low and intermediate level radiological waste, air emissions (tritium, carbon-14, CO<sub>2</sub>, and acid gas), and water emissions



(tritium). In 2013, OPG replaced multiple environmental management systems in place across the Company with one new corporate-wide environmental management system (EMS). Following the completion of a successful audit of the single OPG-wide EMS in 2013, OPG achieved recommendation for ISO 14001 registration of the EMS.

Starting July 1, 2015, the federal government's *Reduction of Carbon Dioxide from Coal-fired Generation of Electricity Regulations* will impose a yearly emission intensity limit of 420 megagrams (Mg) CO<sub>2</sub>/GWh for coal-fired units that have reached the end of their useful life. This regulation is not expected to impact OPG as a result of ceasing generation using coal at the Nanticoke and Lambton generating stations. It is also not expected to impair OPG's ability to convert coal units to burn biomass or natural gas.

In January 2013, the Ontario Ministry of the Environment released a discussion paper entitled Greenhouse Gas Emission Reductions in Ontario. The discussion paper initiated consultation on key elements of a provincial greenhouse gas (GHG) emission reduction plan. OPG provided comments on the discussion paper to the Ministry of the Environment in April 2013. Current provincial regulations require facilities that emit 25,000 Mg or more of CO<sub>2</sub>-equivalent emissions to monitor, measure, and report emissions. OPG will comply with the requirements. The Company will also continue to monitor developments of the provincial GHG emission reduction plan. To further reduce GHG emissions, OPG is implementing the use of biofuels.

### Safety

OPG is committed to achieving excellent safety performance and striving for continuous improvement with the ultimate goal of zero injuries. Safety performance is measured using two primary indicators:

- Accident Severity Rate (ASR)
- All Injury Rate (AIR).

Overall, OPG's safety performance is consistently one of the best amongst its comparator Canadian electrical utilities. In November 2013, the Canadian Electricity Association recognized OPG for ranking within the top quartile of its comparator group in 2012.

	2013	2012
AIR ( <i>injuries per 200,000 hours worked</i> )	0.61	0.63
ASR ( <i>days lost per 200,000 hours</i> )	0.94	2.40

Based on strong safety performance in 2013, it is expected that OPG will continue to be one of the best amongst its comparator Canadian electrical utilities.

OPG remains steadfast in its commitment to safety excellence, sustaining a strong safety culture and continuous improvement in safety management systems. In 2013, OPG completed the development work on an integrated health and safety management system and operational risk control procedures. This initiative is in alignment with OPG's Business Transformation objective. The initiative was achieved through leveraging best practices across OPG, streamlining safety governance, and standardizing safety requirements across the corporation.

OPG's contractors are also expected to maintain a level of safety equivalent to that of OPG's employees. In 2013, OPG retained the services of a third party service provider to strengthen the rigour of the evaluation of contractor's safety programs before they are considered eligible to work on OPG sites.

### **Project Excellence**

OPG is pursuing several generation development projects. OPG's major projects include Darlington refurbishment, new hydroelectric generation and plant expansions, and the potential conversion of coal-fired generating units to alternative fuels.

The status of OPG's major projects as of December 31, 2013 is outlined below.

<b>Project</b> <i>(millions of dollars)</i>	<b>Capital expenditures</b>		<b>Approved budget</b>	<b>Planned in-service date</b>	<b>Status</b>
	<b>Year-to-date</b>	<b>Life-to-date</b>			
Darlington Refurbishment	431	793			A detailed cost and schedule estimate for the refurbishment of the four units is expected to be completed in 2015. See update below.
Niagara Tunnel	87	1,459	1,600	December 2013	Completed and declared in-service in March 2013 below the approved budget and ahead of the approved project completion date.
Lower Mattagami	629	1,982	2,600	June 2015	First incremental unit was placed in-service in January 2014. Project is on budget and on schedule. See update below.
Deep Geologic Repository for Low and Intermediate Level Waste <sup>1</sup>	21 <sup>1</sup>	167 <sup>1</sup>			The public review period for the Environmental Assessment (EA) approval and a site preparation and construction licence ended in May 2013. The public hearing for the EA and the licence took place during the second half of 2013. Design activities are suspended pending a licence from the Joint Review Panel (JRP).
Atikokan Biomass Conversion	85	144	170	August 2014	Construction continues. Project is on budget and on schedule. See update below.

<sup>1</sup> Expenditures are funded by the nuclear fixed asset removal and nuclear waste management liabilities.

#### Darlington Refurbishment

The Darlington generating units, based on original design assumptions, are currently forecast to reach their end of life between 2019 and 2020. The objective of the refurbishment is to extend the operating life of the station by approximately 30 years. In 2010, OPG announced its decision to begin the definition phase for the project. Activities in this phase include the establishment of the project organization, scope finalization, engineering, planning and estimating, procurement of long lead items, establishment of key contracts, and facilities and infrastructure upgrades. Refurbishment of the four Darlington units is currently estimated to cost less than \$10 billion in 2013 dollars, excluding capitalized interest and escalation. The project is currently estimated to be completed by 2025. A detailed cost and schedule estimate for the refurbishment of the four units is expected to be completed in 2015. In 2016, the first unit outage will commence and OPG will start execution of the refurbishment scope on that unit.

The CNSC has set out regulatory requirements for Life Extension of Nuclear Power Plants. In line with these requirements, OPG must complete a series of assessments for the Darlington refurbishment project. Key milestones include the following:

- in March 2013, following public hearings in 2012, the CNSC issued a decision on the EA for the refurbishment of the Darlington Nuclear GS, confirming that, taking into account the identified mitigation measures, Darlington refurbishment and continued operations are not likely to cause significant environmental effect
- in April 2013, the EA was subsequently challenged by way of judicial review in the Federal Court of Canada, on the grounds that the EA failed to comply with requirements of the *Canadian Environmental Assessment Act*, and that the hearing deprived the applicants certain procedural rights. A hearing is expected to be scheduled in 2014
- in July 2013, OPG received the CNSC's staff assessment of the Integrated Safety Review (ISR), which confirmed that the ISR meets applicable regulatory requirements
- in December 2013, OPG submitted the Global Assessment Report and Integrated Implementation Plan, which incorporate the significant EA and ISR results.

As of December 31, 2013, OPG has issued contracts valued at approximately \$1.5 billion related to the refurbishment of the Darlington nuclear station. These contracts contain suspension and termination provisions. The most significant contracts include the Retube and Feeder Replacement contract, and the Turbine Generator contract. The Retube and Feeder Replacement contract was signed in 2012 with a joint venture of SNC-Lavalin Nuclear Inc. and Aecon Construction Group Inc. In March 2013, OPG awarded a Turbine Generator contract for equipment supply and technical services to Alstom Power and Transport Canada Incorporated. The contract is valued at approximately \$350 million.

OPG signed a contract for the primary and secondary side cleaning of the Steam Generators in December 2013. The contract for the engineering integration and field installation portion of the Turbine Generator scope of work was signed in February 2014.

OPG is now progressing with the design and construction of facilities and infrastructure projects required at the Darlington site for the refurbishment and continued operation of the station. This includes the construction of water and sewer upgrades, modifications to site electrical system, construction of project and contractor facilities, as well as the addition of heavy water storage capacity.

The Darlington Energy Complex (Complex) was placed in-service in June 2013. The Complex will house a training and reactor mock-up facility, warehouse, and office space to support the Darlington Refurbishment project. In May 2013, construction of the full-scale reactor mock-up facility began. The mock-up facility and development of specialized tooling are both integral to OPG's strategy to ensure certainty in scope, schedule and project cost. The mock-up facility was completed during the first quarter of 2014 ahead of schedule; the mock-up facility is now being prepared for tool testing and training. Retube and feeder replacement tooling design and fabrication is progressing in parallel with mock-up facility construction, and remains on track for completion in 2015.

All prerequisite facility and infrastructure projects are expected to be completed prior to the start of the first unit's refurbishment in the fourth quarter of 2016.

#### New Nuclear Units

In the 2013 Long-Term Energy Plan, the Government of Ontario indicated that it will not proceed at this time with the construction of two new nuclear reactors at the Darlington site. However, the Ministry of Energy will work with OPG to maintain the site preparation licence granted by the CNSC. As such, OPG is undertaking activities required to support the EA and existing licence.



In 2012, the Power Reactor Site Preparation Licence and Darlington New Nuclear Project EA were challenged by way of judicial review. The judicial review hearing was held in November 2013. A decision is expected in 2014.

In 2012, OPG entered into service agreements with Westinghouse and SNC Lavalin/CANDU Energy to prepare construction plans, schedules, and cost estimates for potential new nuclear units at Darlington. Submissions from the two vendors were provided to a review team consisting of representatives from OPG, the Ministry of Energy, the Ministry of Finance, and Infrastructure Ontario in June 2013. The preliminary results of the submission assessment were subsequently provided to the Ministry of Energy in September 2013 and the final results in November 2013.

#### Niagara Tunnel

In March 2013, the 10.2 kilometre Niagara Tunnel was declared in-service, approximately nine months ahead of the approved project completion date of December 2013. The tunnel provides an additional water diversion capacity of approximately 500 cubic metres per second and will increase annual generation from the Sir Adam Beck GS by an average of approximately 1.5 TWh, depending on water flow. Total costs of the project after closure activities are expected to be below \$1.5 billion, compared to the approved budget of \$1.6 billion.

#### Lower Mattagami

The Lower Mattagami River project will increase the capacity of the four generating stations on the Lower Mattagami River by 438 MW. The project is expected to be completed on schedule by June 2015, and within the approved budget of \$2.6 billion.

The 67 MW incremental unit at the Little Long GS was declared in-service on January 19, 2014, ahead of its original target completion date of February 2014. This is the first incremental unit to be completed on the Lower Mattagami River project.

At the Harmon site, construction was substantially completed during the fourth quarter of 2013 and the commissioning process has commenced. The 78 MW incremental unit at the Harmon GS is expected to be declared in-service during the second quarter of 2014.

In December 2012, there was a breach in one section of the installed cofferdam at the Kipling site. OPG finalized and successfully executed a remediation plan regarding the breach and construction resumed at the site in May 2013. Construction continues at the Smoky Falls and Kipling sites, with commissioning operations expected to commence at both sites during the latter half of 2014.

#### Deep Geologic Repository for Low and Intermediate Level Waste

In 2010, OPG approved the start of the detailed design phase of the Deep Geologic Repository (DGR) project for the long-term management of low and intermediate level waste (L&ILW). The L&ILW DGR will be designed to manage L&ILW produced from the continued operations of OPG owned nuclear generating stations.

The public hearing for the EA and the site preparation and construction licence was held during the second half of 2013. OPG made a number of presentations to the JRP and responded to a number of inquiries coming from the JRP. This included questions and motions arising from the public's participation. Following the public hearing, OPG received additional information requests. These are required to be addressed prior to the close of the public hearing record for the proceeding. OPG expects to provide the JRP with responses during the first half of 2014. The JRP is expected to provide a report and recommendation on the EA to the federal Minister of Environment within 90 days of the close of the public hearing record. A decision from the Minister of Environment is expected within 120 days from the submission of the report.

OPG has suspended design activities pending receipt of the site preparation and construction licence from the JRP which is expected in the first half of 2015. Upon completion of the detailed design, development of a release quality

estimate, and ongoing consultation with the Saugeen Ojibway Nations community, OPG will proceed with construction. The in-service date of the DGR will be approximately six to seven years from the start of construction.

#### Atikokan Conversion

OPG is in the process of converting the Atikokan GS from coal to biomass fuel. The converted station is expected to have a capacity of 200 MW. During 2013, construction of two storage silos was completed. In addition, all 15 redesigned burners were installed and commissioning of the combustion systems began. The conversion project has an approved budget of \$170 million, and is expected to be completed by August 2014. OPG and the OPA executed the Atikokan Biomass ESA in 2012.

#### New Post Creek

In June 2013, the Minister of Energy directed the OPA to negotiate a power purchase agreement for the proposed 25 MW New Post Creek hydroelectric GS. The public review period for the EA closed in January 2014. OPG and its partner, Coral Rapids Power L.P., are in the process of addressing the comments received during the review period to complete the EA process.

### **Financial Sustainability**

As a commercial enterprise, OPG's financial priority is to consistently achieve a level of financial performance that will ensure its long-term financial sustainability and maintain the value of its assets for its Shareholder – the Province of Ontario. Inherent in this priority are three objectives:

- enhancing profitability by increasing revenue
- improving efficiency and reducing costs
- ensuring a strong financial position that enhances OPG's ability to continue to finance its operations and generation development projects.

#### Revenue Growth

OPG's revenue strategy focuses on revenue growth, while taking into account the impact on Ontario electricity ratepayers. Currently, OPG has multiple sources of revenue, including:

- regulated revenue from nuclear and most baseload hydroelectric generating facilities
- unregulated revenue based on electricity spot market prices for production from certain unregulated hydroelectric facilities
- contract revenue from ESAs and cost recovery agreements for the remaining unregulated facilities
- non-generation revenues.

Electricity produced from the prescribed facilities receives regulated prices. OPG's objectives are to clearly demonstrate that costs for its regulated operations are prudently incurred and should be fully recovered, and to earn an appropriate return on its regulated assets. The OEB's decision on OPG's application for new regulated prices effective March 1, 2011 established significantly lower regulated prices than submitted by OPG. As such, current regulated prices authorized by the OEB do not allow these operations to earn the rate of return on the regulated assets as requested. This negatively impacts OPG's financial performance. For OPG to generate what it believes to be an acceptable return on its assets and future investments, maintain its credit rating and continue to contribute positively to the Province's financial position, an increase in regulated prices is required.

In the first quarter of 2013, the OEB approved a Settlement Agreement on OPG's September 2012 application that allows OPG to recover \$633 million over the 2013/2014 period. This amount is related to balances in the authorized regulatory variance and deferral accounts as at December 31, 2012. The remaining approved balances in the variance and deferral accounts as at December 31, 2012 are expected to be recovered over a number of years. The additional revenue from the rate riders resulting from the approved settlement reflects the collection of balances

related to prior periods. In September 2013, OPG filed an application with the OEB for new regulated prices effective in 2014.

A portion of OPG's electricity production is unregulated and sold at the Ontario electricity spot market price. Despite the increase in average spot market price in 2013, compared to 2012, unregulated revenues remain insufficient to fully recover costs and earn an appropriate return. OPG has negotiated ESAs and cost recovery agreements for some of its unregulated hydroelectric and thermal assets.

In November 2013, *Ontario Regulation 53/05* was amended. The amendment requires OPG's 48 currently unregulated hydroelectric stations that are not under an ESA to be prescribed for rate regulation by the OEB, effective July 1, 2014. In its September 2013 OEB application, OPG submitted proposed regulated prices for the newly regulated hydroelectric facilities. These prices would allow OPG to recover its costs for these facilities while earning an appropriate return on these assets.

OPG also earns non-electricity generation revenues through a number of sources, including: isotope and heavy water sales; the lease of the Bruce A and B nuclear stations; joint ventures associated with the PEC and the Brighton Beach gas-fired combined cycle generating stations; trading and other non-hedging activities; real estate rentals and sales; and the provision of technical and engineering services to third parties. The benefit of OPG's net revenues from the lease of the Bruce stations and related agreements is credited to ratepayers, as the net revenues reduce the regulated prices of the generation of the nuclear facilities owned and operated by OPG.

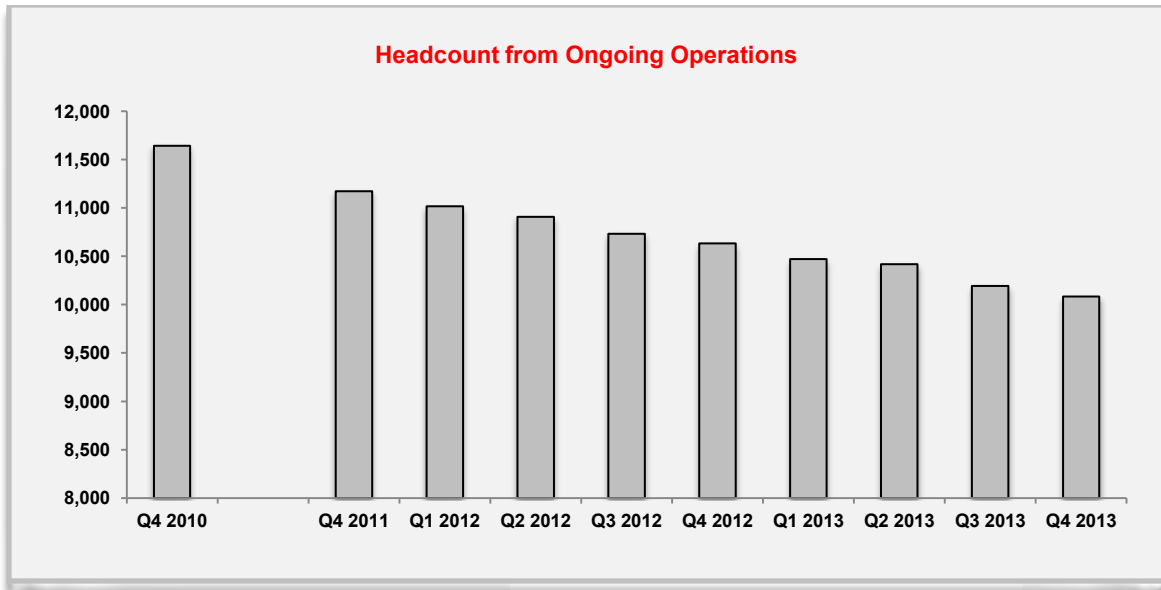
To increase non-generation revenues, OPG, through its wholly-owned subsidiary, Canadian Nuclear Partners Inc. (CNP), is exploring opportunities to provide management and technical services to other utilities and power sector organizations. These services are based on CNP's ability to leverage expertise in safety, reliability, and cost effective maintenance and operations of generating assets. CNP will deliver these services, either independently or in collaboration with others in the industry.

#### Improving Efficiency and Reducing Costs

OPG is aggressively pursuing efficiency and productivity improvements while reducing costs. To accomplish this, in 2011 OPG launched a multi-year Business Transformation initiative to create a streamlined company with a sustainable cost structure. To operate within this streamlined structure, OPG has moved to a centre-led model to use resources more efficiently. Each business unit has launched initiatives to improve efficiencies and reduce work through process streamlining. These initiatives are expected to drive sustainable change, while ensuring that changes do not impact the safety, reliability and environmental sustainability of OPG's operations.

OPG expects to use attrition to reduce its year-end 2016 headcount from ongoing operations by approximately 2,330 employees from the 2011 level. This reduction is expected to result in significantly lower OM&A expenses. During the 2011 to 2013 period, OPG's headcount from ongoing operations has been reduced by 1,600, primarily through attrition. The reduction in headcount has already saved OPG approximately \$275 million as of the end of 2013.





### Strengthening Financial Position

In addition to its initiatives to increase revenue, achieve efficiencies, and reduce costs, OPG also employs the following four strategies to strengthen its financial position:

- Ensuring sufficient liquidity:** OPG's primary sources of liquidity and capital include funds generated from operations, bank financing, credit facilities provided by the OEFC, and capital market financing. Cash flow provided by operating activities increased by \$298 million in 2013. In 2013, OPG renewed and extended its \$1 billion bank credit facility to May 2018, and entered into an agreement with the OEFC for a \$500 million general corporate credit facility that expires on December 31, 2014. In 2013, OPG accessed the debt markets through private placements of \$475 million in support of the Lower Mattagami River project. OPG intends to continue to access the capital markets, where appropriate, to obtain cost effective financing for future generation development projects.
- Maintaining an investment grade credit rating:** OPG's current investment grade credit ratings have enabled it to secure financing at cost effective interest rates. In February 2013, Standard & Poor's affirmed OPG's commercial paper rating at A-1 (low), and long-term credit rating at A- with a negative outlook. In February 2014, Standard & Poor's reaffirmed OPG's long-term credit rating at A- with a negative outlook. In March 2013, Dominion Bond Rating Service (DBRS) re-affirmed the long-term credit rating on OPG's debt at A (low), and the commercial paper rating at R-1 (low). All ratings from DBRS have a stable outlook.
- Ensuring that generation development projects are economic and provide for cost recovery and an appropriate return:** OPG evaluates generation development opportunities based on detailed financial and risk based analysis. Project funds are committed to and released in stages based on specific milestones and taking into consideration the nature and risk of the project. For generation development projects that are not regulated by the OEB, OPG seeks to secure appropriate revenue arrangements prior to project approval. For generation development projects subject to OEB rate regulation, OPG strives to demonstrate to the OEB that its investment plans and expenditures are prudent.
- Evaluating financial performance:** OPG continuously evaluates its financial performance using key credit rating and financial metrics, including ROE, and FFO Interest Coverage. For further details, refer to the ROE and FFO Interest Coverage disclosure under the heading, *Supplementary Non-GAAP Financial Measures*.

## **CAPABILITY TO DELIVER RESULTS**

OPG's capabilities to execute its corporate strategies and deliver results are impacted by a number of areas.

### **Generating Assets' Reliability**

OPG continues to implement specific initiatives to improve the reliability and predictability of each nuclear generating station that it operates. These initiatives are designed to address specific technology requirements, operational experience, and mitigate risks. The Darlington Nuclear GS has converted to a three-year outage cycle to take advantage of the physical condition of the plant, the availability of backup systems, and on-power refuelling. The Pickering Nuclear generating stations will continue to focus on implementing targeted reliability improvements.

OPG has increased the productive capacity of its hydroelectric stations and has made significant capital investments to replace aging equipment, upgrade turbine runners, increase station automation, and enhance maintenance practices. Programs are in place to further improve the efficiency and availability of existing hydroelectric stations.

### **Project Planning and Execution**

OPG is pursuing and executing a number of generation development opportunities as described under the heading, *Core Business and Strategy*. OPG also continues to plan and execute maintenance and capital improvement projects related to its existing assets. To achieve its strategy of project excellence, OPG must use the necessary talent and experience to efficiently plan and execute projects on time and on budget. The project planning and preparation process includes establishing contingency plans to manage potential challenges, creating and maintaining comprehensive risk registers, and tracking progress against clearly established milestones. In addition, project accountability is established at the appropriate level, with oversight by senior management and Board Committees.

### **Operating Efficiencies**

OPG is continuing to focus on cost reductions and efficiencies through its Business Transformation initiative. Progress is being achieved through a restructuring of the Company that has combined the hydroelectric and thermal operations, restructured commercial operations to take advantage of market opportunities, and implemented a scalable, centre-led service delivery model for business support functions. The Company has simplified its operational and project work processes to further streamline operations.

This significant transformation requires a strong leadership team and change agents who can achieve the necessary culture change and efficiencies, while continuing to operate OPG's generating assets in a safe and reliable manner.

### **People and Culture**

OPG expects to meet the human resource needs of the business by leveraging attrition through realigning work and streamlining processes. OPG is also focusing on the communication and implementation of OPG's values and expected behaviours from its employees in order to bring about a corporate culture change.

While balancing the need to leverage attrition, OPG continues to focus on improving the capability of its workforce through succession planning, leadership development, and knowledge retention programs. OPG expects to develop and acquire talent as needed to continue to drive change and build leadership bench strength. The Company has an active succession planning program and continues to implement leadership development programs across the organization. In addition, OPG has embarked upon an organization-wide workforce planning effort. The Company has also established monitoring processes to re-assess risks, issues and opportunities related to staffing on a regular basis.

Electricity generation involves complex technologies. These in turn demand highly skilled and trained workers. Many positions at OPG have significant educational prerequisites. They also have rigorous requirements for continuing training and periodic requalification. In addition to maintaining its extensive internal training infrastructure, OPG relies on partnerships with government agencies, other electrical industry partners, and educational institutions to meet the required level of qualification.

As of December 31, 2013, OPG had approximately 10,270 full-time employees and approximately 800 seasonal, casual construction, contract, and non-regular staff. Most of OPG's full-time employees are represented by two unions:

- **The Power Workers' Union (PWU)** – This union represents approximately 6,000 OPG employees. The current collective agreement between OPG and the PWU has a three-year term, which expires on March 31, 2015
- **The Society of Energy Professionals (The Society)** – This union represents approximately 3,200 OPG employees. The Company's most recent collective agreement with The Society was established through an arbitration award issued on April 8, 2013. This collective agreement has a three-year term, which expires on December 31, 2015. The Society filed a Judicial Review Application in the second quarter of 2013 to the Superior Court of Ontario in the matter of the arbitration award. The case is expected to be heard in late 2014. The Society represents 31 percent of OPG's regular workforce. Union membership includes supervisors, professional engineers, scientists, and professionals.

In addition to the regular workforce, construction work is performed through 20 craft unions with established bargaining rights on OPG facilities. These bargaining rights are either through the Electrical Power Systems Construction Association (EPSCA) or directly with OPG. Collective agreements between the Company and its construction unions are negotiated either directly or through EPSCA. A common expiry date for a number of the EPSCA agreements is April 30, 2015.

## **BUSINESS SEGMENTS**

For the year ended December 31, 2013, OPG has five reportable business segments:

- Regulated – Nuclear Generation
- Regulated – Nuclear Waste Management
- Regulated – Hydroelectric
- Unregulated – Hydroelectric
- Unregulated – Thermal.

### **Regulated – Nuclear Generation Segment**

OPG's Regulated – Nuclear Generation business segment operates in Ontario, generating and selling electricity from the nuclear generating stations that it owns and operates. The business segment includes electricity generated by the Pickering and Darlington Nuclear generating stations. This business segment also includes revenue under the terms of a lease arrangement and related agreements with Bruce Power related to the Bruce Nuclear generating stations. This revenue includes lease revenue and revenue from services such as heavy water sales and detritiation. Revenue is also earned from isotope sales and ancillary services. Ancillary revenues are earned through voltage control and reactive support. Revenues under the agreements with Bruce Power and from isotope sales and ancillary services are included by the OEB in the determination of the regulated prices for OPG's nuclear facilities.

### **Regulated – Nuclear Waste Management Segment**

OPG's Regulated – Nuclear Waste Management segment engages in the management of nuclear used fuel and L&ILW, the decommissioning of OPG's nuclear generating stations (including the stations on lease to Bruce Power),



the management of the Nuclear Funds, and related activities including the inspection and maintenance of the waste storage facilities. Accordingly, accretion expense, which is the increase in the carrying amount of the Nuclear Liabilities due to the passage of time, and earnings from the Nuclear Funds are reported under this segment.

As the nuclear generating stations operate over time, OPG incurs variable costs related to nuclear used fuel bundles and L&ILW generated. These costs increase the Nuclear Liabilities through the generation of additional used nuclear fuel bundles and L&ILW. OPG charges these variable costs to current operations in the Regulated – Nuclear Generation segment to reflect the cost of producing energy and earning revenue under the Bruce Power lease arrangement and related agreements. Since variable costs increase the Nuclear Liabilities in the Regulated – Nuclear Waste Management segment, OPG records an inter-segment charge between the Regulated – Nuclear Generation and the Regulated – Nuclear Waste Management segments. The impact of the inter-segment charge is eliminated on OPG's consolidated statements of income and balance sheets.

The Regulated – Nuclear Waste Management segment is considered regulated because the costs associated with the Nuclear Liabilities are included by the OEB in the determination of regulated prices for production from OPG's regulated nuclear facilities.

### **Regulated – Hydroelectric Segment**

OPG's Regulated – Hydroelectric business segment operates in Ontario, generating and selling electricity from most of the Company's baseload hydroelectric generating stations. The business segment is comprised of electricity generated by the Sir Adam Beck 1, 2 and Pump GS, DeCew Falls 1 and 2, and the R.H. Saunders hydroelectric facilities. Ancillary revenues and other revenues are earned through offering available generating capacity as operating reserve and through the supply of other ancillary services including voltage control and reactive support, certified black start facilities, regulation service, and other services. These ancillary revenues and other revenues are included by the OEB in the determination of the regulated prices for these facilities.

### **Unregulated – Hydroelectric Segment**

The Unregulated – Hydroelectric business segment operates in Ontario, generating and selling electricity from the Company's hydroelectric generating stations, which are not currently subject to rate regulation. The segment includes hydroelectric stations that are subject to ESAs. Ancillary revenues and other revenues are earned through offering available generating capacity as operating reserve, and the supply of other ancillary services including voltage control and reactive support, certified black start facilities, regulation service, and other services.

### **Unregulated – Thermal Segment**

The Unregulated – Thermal business segment operates in Ontario, generating and selling electricity from the Company's thermal generating stations, which are not subject to rate regulation. Ancillary revenues are earned through offering available generating capacity as operating reserve, and the supply of other ancillary services including voltage control and reactive support, regulation service, and other services.

### **Other**

The Other category includes revenue that OPG earns from its 50 percent joint venture share of Brighton Beach related to an energy conversion agreement between Brighton Beach and Shell Energy North America (Canada) Inc. This category also includes revenue that OPG earns from its 50 percent joint venture share of the PEC gas-fired generating station, which is operated under the terms of an Accelerated Clean Energy Supply contract with the OPA. The revenue and expenses related to OPG's trading and other non-hedging activities are also reported in the Other category. As part of these activities, OPG transacts with counterparties in Ontario and neighbouring energy markets in predominantly short-term trading activities of typically one year or less in duration. These activities relate primarily to physical energy that is purchased and sold at the Ontario border, sales of financial risk management products and sales of energy-related products. All contracts that are not designated as hedges are recorded as assets or liabilities

at fair value, with changes in fair value recorded in the revenue of the Other category. In addition, the Other category includes revenue from real estate rentals and other service revenues.

### **2014 New Business Segments**

Effective January 1, 2014, given the change in OPG's generation portfolio, as discussed under the heading, *OPG's Reporting Structure*, OPG has revised its reportable business segments such that electricity generating facilities with similar revenue mechanisms and risk profiles will be reflected in separate segments.

OPG's reportable business segments, effective January 1, 2014 are: Regulated – Nuclear Generation, Regulated – Nuclear Waste Management, Regulated Hydroelectric, Contracted Generation Portfolio, and Services, Trading, and other Non-Generation. OPG's Regulated – Nuclear Generation and Regulated – Nuclear Waste Management segments are unchanged. The Regulated – Hydroelectric segment will continue to include the results of Sir Adam Beck 1, 2 and Pump GS, DeCew Falls 1 and 2, and the R.H. Saunders hydroelectric facilities and will also include the results of the 48 hydroelectric stations, which have been prescribed under amended *Ontario Regulation 53/05*, effective July 1, 2014. The Contracted Generation Portfolio segment will include the results of generating facilities that are under an ESA with the OPA or other long-term generation contracts. The Contracted Generation Portfolio segment will also include OPG's share of in-service generating capacity and equity income from its 50 percent ownership interest in PEC and Brighton Beach. The Services, Trading, and other Non-Generation segment will include revenue and expenses related to OPG's trading and other non-generation activities.

## **KEY GENERATION AND FINANCIAL PERFORMANCE INDICATORS**

Key performance indicators that directly pertain to OPG's mandate and corporate strategies are measures of production efficiency, cost-effectiveness, environmental and safety performance. OPG evaluates the performance of its generating stations using a number of key performance indicators. The measures used vary depending on the generating technology.

### **Nuclear Unit Capability Factor**

OPG's nuclear stations are baseload facilities. They have low marginal costs and are not designed for fluctuating production levels to meet peaking demand. The nuclear unit capability factor is a key measure of nuclear station performance. It measures the amount of energy that the unit(s) generated over a period of time, adjusted for externally imposed constraints, such as transmission or demand limitations, as a percentage of the amount of energy that would have been produced over the same period had the unit(s) produced maximum generation. Capability factors are primarily affected by planned and unplanned outages. Capability factors, by industry definition, exclude production losses beyond plant management's control, such as grid-related unavailability.

### **Hydroelectric Availability**

OPG's hydroelectric stations operate as baseload, intermediate, and peaking stations. They provide a safe, reliable and low-cost source of renewable energy. Hydroelectric availability is a measure of the reliability of a hydroelectric generating unit. It is represented by the percentage of time the generating unit is capable of providing service, whether or not it is actually in-service, compared to the total time for a respective period.

### **Thermal Start Guarantee Rate**

OPG's thermal stations provide a flexible source of energy. They operate as peaking facilities, depending on the demand of the market. Given continued changes in the electricity market in Ontario, the main focus of the thermal business is to ensure its generating units are available when needed. Beginning in 2012, OPG adopted the Start Guarantee rate as a key thermal reliability measure. The Start Guarantee rate represents the ratio of the number of times thermal units successfully start compared to the number of starts requested by the IESO.

### **Thermal and Hydroelectric Equivalent Forced Outage Rate (EFOR)**

A measure of the reliability of the thermal and hydroelectric generating stations is the proportion of time they are available to produce electricity when required. EFOR is an index of the reliability of the generating unit. It is measured by the ratio of time a generating unit is forced out of service by unplanned events, including any forced deratings, compared to the amount of time the generating unit was available to operate.

### **Nuclear Production Unit Energy Cost (PUEC)**

Nuclear PUEC is used to measure the cost-effectiveness of the operations-related costs of production from OPG's nuclear generating assets. Nuclear PUEC is defined as the total cost of nuclear fuel, OM&A expenses including allocated corporate costs and the variable costs for the disposal of L&ILW, and variable costs related to used fuel disposal and storage, divided by nuclear electricity generation.

### **Hydroelectric OM&A Expense per Megawatt hours (MWh)**

Hydroelectric OM&A expense per MWh is used to measure the cost-effectiveness of hydroelectric generating stations. It is defined as total hydroelectric OM&A expenses, including allocated corporate costs, divided by hydroelectric electricity generation. It excludes expenses related to past grievances by First Nations.

### **Thermal OM&A Expense per MW**

Thermal generating stations are primarily employed during periods of peak demand. Their cost-effectiveness of these stations is measured by their OM&A expenses for the year, including allocated corporate costs, divided by the weighted average station adjusted capacity.

### **Return on Equity**

ROE is an indicator of OPG's performance consistent with its objectives to operate on a financially sustainable basis and to maintain the value for the Shareholder. ROE is defined as net income divided by average shareholder's equity excluding AOCI. More details are available under the headings, *Highlights – Return on Equity* and *Supplementary Non-GAAP Financial Measures* sections.

### **Funds from Operations Interest Coverage**

FFO Interest Coverage is an indicator of OPG's ability to meet interest obligations from operating cash flows. FFO Interest Coverage is defined as FFO Before Interest, divided by Adjusted Interest Expense. It is measured over a period of twelve months. More details are available under the headings, *Highlights – Funds from Operations Interest Coverage* and *Supplementary Non-GAAP Financial Measures – FFO Interest Coverage* sections.

ROE and FFO Interest Coverage are not measurements in accordance with US GAAP. They should not be considered as alternative measures to net income or any other measure of performance under US GAAP. However, OPG believes that these non-GAAP financial measures are effective indicators of its performance and are consistent with the objectives to operate on a financially sustainable basis and to maintain the value for the Shareholder.

### **Other Key Indicators**

In addition to performance and cost-effectiveness indicators, OPG has identified certain environmental and safety metrics. These metrics are discussed under the heading, *Core Business and Strategy*.



## DISCUSSION OF OPERATING RESULTS BY BUSINESS SEGMENT

### Regulated – Nuclear Generation Segment

<i>(millions of dollars)</i>	2013	2012
Regulated generation sales	2,552	2,719
Variance accounts	55	300
Other	287	41
Total revenue	2,894	3,060
Fuel expense	296	310
Variance and deferral accounts	(59)	(49)
Total fuel expense	237	261
Gross margin	2,657	2,799
Operations, maintenance and administration	2,022	1,930
Depreciation and amortization	626	480
Property and capital taxes	29	26
(Loss) income before other income, interest and income taxes	(20)	363
Other income	(1)	(1)
(Loss) income before interest and income taxes	(19)	364

Loss before interest and income taxes from the segment was \$19 million in 2013, compared to income before interest and income taxes of \$364 million in 2012. The lower earnings of \$383 million was mainly due to lower generation of 4.3 TWh and an increase in OM&A expenses. In addition, earnings were also affected by lower revenue due to lower isotope sales and a decrease in technical services provided to third parties.

Extensions to planned outages at the Pickering and Darlington Nuclear generating stations in 2013 were the main driver for the lower generation. A second planned outage at the Darlington Nuclear GS and other unplanned outages during 2013 also contributed to lower generation. The impact of these outages was partially offset by the impact of a deferral of a fourth quarter 2013 planned outage at the Pickering Nuclear GS to the first quarter of 2014.

The increase in OM&A expenses in 2013 of \$92 million was primarily due to the following factors:

- an increase in outage activities during 2013
- a one-time reduction in OPEB expenses during 2012 resulting from the recognition of a regulatory asset for the Impact for USGAAP Deferral Account, partially offset by
- the impact of reduced headcount as a result of Business Transformation.

The 2013 generation revenue reflected the impact of the new rate riders for nuclear generation effective January 1, 2013 of \$88 million. The rate riders were established to collect amounts previously recorded in variance and deferral accounts, net of a refund to ratepayers for a portion of the benefit related to lower depreciation expense for the Pickering Nuclear GS in 2013 and 2014. Further, OPG recorded a regulatory asset and corresponding revenue of \$40 million representing amounts recorded in a variance account for under collection of balances due to the decrease in generation in 2013. The increase in revenue was offset by higher amortization expense related to the regulatory variance and deferral accounts.

The depreciation and amortization expenses also reflected the lower depreciation expense of \$39 million due to the impact of changes in station lives at the Pickering Nuclear GS, effective December 31, 2012. The decrease in depreciation expense was primarily related to the non-asset retirement cost component of the Pickering Nuclear GS. The lower depreciation expense related to asset retirement costs was offset by the impact of the Nuclear Liability Deferral Account.

During 2013, OPG recognized a \$33 million reduction in other revenue related to the Bruce Power lease agreement (Bruce Lease). This reduction was due to a change in the value of the derivative embedded in the Bruce Lease resulting from a decrease in the expected future annual arithmetic average HOEP (Average HOEP). The decrease in

lease revenue was offset by the increase in a regulatory asset for the Bruce Lease Net Revenues Variance Account. For more details, refer to the discussion under the heading, *Leases and Partnerships*.

The unit capability factors for the Darlington and Pickering Nuclear generating stations, and the PUEC for 2013 and 2012 are as follows:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Unit Capability Factor (%)		
Darlington Nuclear GS	<b>82.9</b>	93.2
Pickering Nuclear GS	<b>73.7</b>	77.8
Nuclear PUEC (\$/MWh)	<b>49.43</b>	43.71

The lower capability factor at the Darlington Nuclear GS for 2013 was mainly due to a second planned outage and extensions to outages during 2013. Extensions to planned outages were the main reason for the decrease in capability factor at the Pickering Nuclear GS in 2013. The decrease in capability factor at the Pickering Nuclear GS was partially offset by a deferral of a planned outage from the fourth quarter of 2013 to the first quarter of 2014.

Lower generation and higher OM&A expenses resulted in an increase in nuclear PUEC in 2013.

### **Regulated – Nuclear Waste Management Segment**

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Revenue	<b>113</b>	107
Operations, maintenance and administration	<b>121</b>	114
Accretion on nuclear fixed asset removal and nuclear waste management liabilities	<b>742</b>	712
Earnings on nuclear fixed asset removal and nuclear waste management funds	<b>(628)</b>	(651)
Loss before interest and income taxes	<b>(122)</b>	(68)

Loss before interest and income taxes for the Regulated – Nuclear Waste Management segment was \$122 million for 2013, compared to \$68 million for 2012. Higher accretion expense and lower earnings from the Decommissioning Segregated Fund (Decommissioning Fund) contributed to the higher segmented loss in 2013.

The lower earnings from the Decommissioning Fund were due to its overfunded status. When the Decommissioning Fund is overfunded, as it was for all of 2013, OPG is required to limit the earnings recognized at 5.15 percent to match the discount factor used to determine the decommissioning obligation under the Ontario Nuclear Funds Agreement (ONFA). In 2012, the Decommissioning Fund was not overfunded at the beginning of the year and therefore a higher amount of earnings were recognized. Earnings from the Used Fuel Segregated Fund (Used Fuel Fund) rose, due to favourable market conditions. However, these earnings were partially offset by the lower Decommissioning Fund earnings. Favourable market conditions impact the earnings on the Used Fuel Fund contributions related to incremental fuel bundles in excess of the 2.23 million fuel bundle threshold.

## Regulated – Hydroelectric Segment

<i>(millions of dollars)</i>	2013	2012
Regulated generation sales <sup>1</sup>	747	644
Variance accounts	51	55
Other	45	25
Total revenue	843	724
Fuel expense	249	246
Variance accounts	19	15
Total fuel expense	268	261
Gross margin	575	463
Operations, maintenance and administration	108	103
Depreciation and amortization	129	33
Property and capital taxes	(2)	(1)
Income before other loss, interest and income taxes	340	328
Other loss	-	4
Income before interest and income taxes	340	324

<sup>1</sup> The Regulated – Hydroelectric segment generation sales included revenue of \$18 million in 2013 and \$16 million in 2012, related to the hydroelectric incentive mechanism.

Income before interest and income taxes for the segment rose by \$16 million during 2013 compared to 2012. This increase in earnings was primarily due to higher generation of 0.4 TWh, partially offset by higher OM&A expenses.

Higher water levels on the Great Lakes and the in-service of the Niagara Tunnel contributed to the increase in generation.

The new rate riders, effective January 1, 2013, resulted in higher generation revenue of \$88 million during 2013 compared to 2012. The revenue impact of the new rate riders was offset by a corresponding increase in amortization expense related to the regulatory variance and deferral accounts. The higher depreciation expense associated with the Niagara Tunnel being declared in-service in March 2013 was offset by a regulatory asset related to the Capacity Refurbishment Variance Account (CRVA), discussed under the heading, *Balance Sheet Highlights*. In addition, the net income impact of the foregone production due to the increase in SBG conditions in 2013 was offset by a regulatory variance account.

The slight increase in OM&A expenses during 2013 was mainly a result of an increase in maintenance activities.

The availability, EFOR and OM&A expense per MWh for the Regulated – Hydroelectric segment for 2013 and 2012 are as follows:

	2013	2012
Availability (%)	90.8	91.4
EFOR (%)	1.0	2.1
Regulated – Hydroelectric OM&A expense per MWh (\$/MWh)	5.71	5.57

The decrease in availability in 2013 was primarily due to an increase in planned outage days at the Sir Adam Beck 1 GS and the DeCew Falls GS. EFOR decreased in 2013 due to a decrease in unplanned outage days. The high availability and low EFOR for 2013 reflected the continued good performance of these regulated generating stations.

## Unregulated – Hydroelectric Segment

(millions of dollars)	2013	2012
Spot market sales	381	290
Other	91	83
Total revenue	472	373
Fuel expense	82	71
Gross margin	390	302
Operations, maintenance and administration	236	236
Depreciation and amortization	74	73
Property and capital taxes	-	(1)
Income (loss) before other loss, interest and income taxes	80	(6)
Other loss	4	4
Income (loss) before interest and income taxes	76	(10)

Income before interest and income taxes for the segment rose by \$86 million during 2013 compared to 2012. The increase was mainly due to an increase in gross margin of \$88 million due to a higher weighted average HOEP and an increase in generation. Higher water levels in 2013 were the main reason for the increase in generation. The increase in generation in 2013 was partially offset by the water spilled due to increased SBG conditions. OPG currently does not have a mechanism to recover the revenues from lost generation from its unregulated hydroelectric stations due to water spilled for SBG management.

Despite the positive impact of higher prices, the prices received for generation from the unregulated hydroelectric stations remained at low levels, due to the low HOEP in 2013 and 2012. Forty-eight of the stations currently included in this segment have been prescribed for rate regulation as a result of amended *Ontario Regulation 53/05*, effective July 1, 2014. The regulation requires the OEB to establish the prices received for the production from these facilities. OPG's current application to the OEB includes these facilities and is discussed under the heading, *OPG's OEB Applications under Recent Developments*.

The availability, EFOR and OM&A expense per MWh for Unregulated – Hydroelectric segment for 2013 and 2012 are as follows:

	2013	2012
Availability (%)	91.8	91.1
EFOR (%)	2.2	2.0
Unregulated – Hydroelectric OM&A expense per MWh (\$/MWh)	16.98	19.26

The increase in availability for 2013, compared to 2012, was primarily due to a decrease in planned outage days. The slight increase in EFOR in 2013 was mainly a result of an increase in unplanned outage days. The high availability and low EFOR in 2013 reflected the continued strong performance of the unregulated hydroelectric stations.

The decrease in OM&A expense per MWh during 2013, compared to 2012, was due to the impact of higher generation in 2013.



## Unregulated – Thermal Segment

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Spot market sales	<b>76</b>	104
Contingency support agreement	<b>361</b>	284
Other	<b>141</b>	119
Total revenue	<b>578</b>	507
Fuel expense	<b>121</b>	162
Gross margin	<b>457</b>	345
Operations, maintenance and administration	<b>362</b>	361
Depreciation and amortization	<b>115</b>	59
Accretion on fixed asset removal liabilities	<b>14</b>	13
Property and capital taxes	<b>16</b>	16
Restructuring	<b>50</b>	3
Loss before other income, interest and income taxes	<b>(100)</b>	(107)
Other (income) loss	<b>(4)</b>	9
Loss before interest and income taxes	<b>(96)</b>	(116)

Loss before interest and income taxes in 2013 for the segment was \$96 million, compared to \$116 million in 2012.

The improvement was primarily due to higher contract revenues. This result was partially offset by the recognition of \$50 million in severance costs during 2013. These severance costs relate primarily to the Lambton GS and the Nanticoke GS, as a result of the Shareholder declaration mandating that OPG cease the use of coal at these stations by December 31, 2013.

Depreciation and amortization expenses increased by \$56 million during 2013 compared to 2012. The increase was largely due to the recognition of accelerated depreciation during 2013, as a result of ceasing operation of all remaining units at the Lambton and Nanticoke generating stations by the end of 2013. The increase in depreciation and amortization expense for the Lambton and Nanticoke generating stations is offset by higher payments under the Contingency Support Agreement.

Also contributing to the improvement in results was the recognition of a \$9 million loss in 2012 related to the write-off of costs incurred for the Thunder Bay gas conversion project. Some of these costs were partially recovered in 2013.

The Start Guarantee rate, EFOR, and OM&A expense per MW for the Unregulated – Thermal segment for 2013 and 2012 are as follows:

	<b>2013</b>	<b>2012</b>
Start Guarantee rate (%)	<b>98.0</b>	97.5
EFOR (%)	<b>8.6</b>	9.4
Unregulated – Thermal OM&A expense per MW (\$000/MW)	<b>66.5</b>	66.3

The high Start Guarantee rate for 2013 and 2012 reflected the ability of the thermal generating stations to respond to market requirements when needed. The decrease in EFOR for 2013 was a result of a lower number of unplanned outages during the year. OM&A expense per MW for 2013 was comparable to 2012.

## Other

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Revenue	<b>72</b>	64
Operations, maintenance and administration	<b>7</b>	7
Depreciation and amortization	<b>19</b>	19
Property and capital taxes	<b>10</b>	7
Income before other income, interest and income taxes	<b>36</b>	31
Other income	<b>(37)</b>	(26)
Income before interest and income taxes	<b>73</b>	57

Income before interest and income taxes in 2013 was \$73 million, compared to \$57 million in 2012. The increase during 2013 was mainly due to higher earnings from OPG's investments in joint ventures.

OM&A expenses of the generation business segments include an inter-segment service fee for the use of certain property, plant and equipment (PP&E), and intangible assets held within the Other category. The total service fee is recorded as a reduction to the Other category's OM&A expenses.

The service fee included in OM&A expenses by segment in 2013 and 2012 was as follows:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Regulated – Nuclear Generation	<b>23</b>	23
Regulated – Hydroelectric	<b>2</b>	2
Unregulated – Hydroelectric	<b>3</b>	3
Unregulated – Thermal	<b>5</b>	6
Other	<b>(33)</b>	(34)

Interconnected purchases and sales, including those to be physically settled, and unrealized mark-to-market gains and losses on energy trading contracts, are reported in the results of the Other category. They are disclosed on a net basis in the consolidated statements of income. In 2013, if disclosed on a gross basis, revenue and power purchases would have increased by \$94 million (2012 – \$61 million).

Revenue reported in the Other category includes the changes in the fair values of derivative instruments not qualifying for hedge accounting, with the exception of the derivative embedded in the Bruce Lease. This is reflected in the Regulated – Nuclear Generation segment. The fair values of these derivative instruments are reported on the consolidated balance sheets as assets or liabilities. The notional quantities and carrying amounts of the derivative instruments are disclosed in Note 12 and Note 13, respectively, of the audited consolidated financial statements as at and for the years ended December 31, 2013 and 2012.

## Net Interest Expense

Net interest expense for 2013 was \$86 million. This represents a decrease of \$31 million compared to 2012. The decrease was primarily due to an increase in interest capitalized related to the Darlington Refurbishment project. In addition, cost of capital amounts associated with OPG's investment in the Niagara Tunnel that were recorded in the CRVA in 2013 contributed to a reduction to net interest expense. Further details on the CRVA are discussed under the heading, *Balance Sheet Highlights*.

## Income Taxes

OPG follows the liability method of tax accounting for all its business segments. The Company also records an offsetting regulatory asset or liability for the deferred taxes that are expected to be recovered or refunded through future regulated prices charged to customers for generation from OPG's regulated facilities.

Income tax expense for 2013 was \$31 million, compared to income tax expense of \$67 million for 2012. The decrease was primarily due to a reduction in income before income taxes in 2013 and lower income tax components of regulatory assets and liabilities for variance and deferral accounts.

## LIQUIDITY AND CAPITAL RESOURCES

OPG's primary sources of liquidity and capital are funds generated from operations, bank financing, credit facilities provided by the OEFC, and capital market financing. These sources are used for multiple purposes including: to invest in plants and technologies; to fund obligations such as contributions to the pension fund and the Nuclear Funds; and to service and repay long-term debt.

Changes in cash and cash equivalents for 2013 and 2012 are as follows:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Cash and cash equivalents, beginning of period	<b>413</b>	630
Cash flow provided by operating activities	<b>1,174</b>	876
Cash flow used in investing activities	<b>(1,568)</b>	(1,403)
Cash flow provided by financing activities	<b>543</b>	310
Net increase (decrease)	<b>149</b>	(217)
Cash and cash equivalents, end of period	<b>562</b>	413

For a discussion regarding cash flow provided by operating activities and FFO Interest Coverage, refer to the details under the heading, *Overview of Results* under the section *Highlights*.

### Investing Activities

Electricity generation is a capital-intensive business. It requires continued investment in plants and technologies to improve operating performance, increase generating capacity of existing stations, invest in new generating stations, and to maintain and improve service, reliability, safety and environmental performance.

Cash flow used in investing activities in 2013 was \$1,568 million, compared to \$1,403 million in 2012. The increase was primarily due to higher expenditures for the Darlington Refurbishment project and the Lower Mattagami River project. This was partially offset by lower capital expenditures for the Niagara Tunnel project. The Niagara Tunnel was declared in-service in March 2013.

OPG's forecast capital expenditures for 2014 are approximately \$1.6 billion. This includes amounts for hydroelectric development and nuclear refurbishment.

### Financing Activities

OPG maintains a \$1 billion revolving committed bank credit facility, which is divided into two \$500 million multi-year term tranches. In the second quarter of 2013, OPG renewed and extended both tranches by one year to May 2018. As at December 31, 2013, there were no outstanding borrowings under the bank credit facility.

As at December 31, 2013, OPG maintained \$25 million of short-term, uncommitted overdraft facilities and \$374 million of short-term, uncommitted credit facilities, which support the issuance of the Letters of Credit. OPG uses Letters of Credit to support its supplementary pension plans and for other general corporate purposes. As at December 31, 2013, a total of \$327 million of Letters of Credit had been issued. This included \$302 million for the supplementary pension plans, \$24 million for general corporate purposes, and \$1 million related to the operation of the PEC.

The Company has an agreement, which expires November 30, 2014, to sell an undivided co-ownership interest of up to \$250 million in its current and future accounts receivable to an independent trust. As at December 31, 2013, of the \$302 million of Letters of Credit issued for the supplementary pension plans, \$80 million were issued under this agreement.

OPG also maintains a Niagara Tunnel project credit facility with the OEFC for an amount up to \$1.6 billion. As at December 31, 2013, advances under this facility were \$1,065 million, including \$40 million of new borrowings during 2013. OPG's borrowing under this facility is limited to the cost of the project. This credit facility expires on December 31, 2014.

The Lower Mattagami Energy Limited Partnership (LME) maintains a \$600 million bank credit facility to support the funding requirements for the Lower Mattagami River project. The facility consists of two tranches. The first tranche of \$400 million was reduced to \$300 million during the third quarter of 2013, and the maturity date was extended by one year to August 17, 2018. The second tranche of \$300 million has a maturity date of August 17, 2015. As at December 31, 2013, \$32 million of commercial paper was outstanding under this program. In 2011, OPG executed a \$700 million credit facility with the OEFC in support of the Lower Mattagami River project. As at December 31, 2013, there were no outstanding borrowings under this credit facility. In February 2013, the LME issued senior notes totalling \$275 million with a maturity date of 2046. The effective interest rate for these notes was 4.3 percent and the coupon interest rate was 4.2 percent. In September 2013, the LME issued senior notes totalling \$200 million with a maturity date of 2043. The effective interest rate for these notes was 5.1 percent and the coupon interest rate was 4.9 percent.

As at December 31, 2013, OPG's long-term debt outstanding was \$5,625 million, including \$5 million due within one year. OPG entered into an agreement with the OEFC in December 2013 for a \$500 million general corporate credit facility. As of December 31, 2013, there were no outstanding borrowings under the credit facility. This credit facility expires on December 31, 2014.

### **Future Pension Contributions**

Minimum pension contributions are set out in an actuarial valuation for funding purposes. In accordance with applicable law and regulations, OPG is required to complete a new actuarial valuation with an effective date no later than January 1, 2014. OPG is required to file this valuation by September 30, 2014. As a result of the valuation, OPG may be required to significantly increase its pension contributions.

In the 2013 Ontario Budget, the government announced its intention to establish a working group to address pension challenges in the electricity sector.



## Contractual and Commercial Commitments

OPG's contractual obligations and other significant commercial commitments as at December 31, 2013, are as follows:

<i>(millions of dollars)</i>	2014	2015	2016	2017	2018	Thereafter	Total
Contractual obligations:							
Fuel supply agreements	183	208	163	143	126	159	982
Contributions under the ONFA <sup>1</sup>	139	143	150	163	193	2,706	3,494
Long-term debt repayment	5	593	273	1,103	398	3,253	5,625
Interest on long-term debt	262	256	242	223	167	2,104	3,254
Unconditional purchase obligations	98	97	8	-	-	-	203
Operating lease obligations	16	17	15	15	13	70	146
Commitments related to Darlington refurbishment <sup>2</sup>	200	-	-	-	-	-	200
Pension contributions <sup>3</sup>	300	-	-	-	-	-	300
Operating licence	41	25	25	25	26	-	142
Other - primarily accounts payable	449	33	14	13	12	69	590
	1,693	1,372	890	1,685	935	8,361	14,936
Significant commercial commitments:							
Niagara Tunnel	5	-	-	-	-	-	5
Lower Mattagami	298	65	-	-	-	-	363
Atikokan	16	-	-	-	-	-	16
<b>Total</b>	<b>2,012</b>	<b>1,437</b>	<b>890</b>	<b>1,685</b>	<b>935</b>	<b>8,361</b>	<b>15,320</b>

<sup>1</sup> Contributions under the ONFA are based on the 2012 ONFA Reference Plan contribution schedule approved in 2012.

<sup>2</sup> Estimated currently committed costs to close the project, including demobilization of project staff and cancellation of existing contracts, and material orders.

<sup>3</sup> The pension contributions include ongoing funding requirements and additional funding requirements towards the deficit, in accordance with the actuarial valuation of the OPG registered pension plan as at January 1, 2011. The next actuarial valuation of the OPG plan must have an effective date no later than January 1, 2014. The pension contributions are affected by various factors including market performance, changes in actuarial assumptions, plan experience, changes in the pension regulatory environment, and the timing of funding valuations. Funding requirements after 2014 for the OPG registered pension plan are excluded due to significant variability in the assumption required to project the timing of future cash flows. The amount of OPG's additional voluntary contribution, if any, is revisited from time to time.

## BALANCE SHEET HIGHLIGHTS

The following section provides highlights of OPG's audited consolidated financial position using selected balance sheet data:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
<b>Property, plant and equipment - net</b>	<b>16,738</b>	15,860
The increase was primarily due to construction in progress additions for the Lower Mattagami River project and the refurbishment of Darlington Nuclear GS. The increase was partially offset by depreciation.		
<b>Nuclear fixed asset removal and nuclear waste management funds</b> <i>(current and non-current portions)</i>	<b>13,496</b>	12,717
The increase was primarily due to earnings on the Nuclear Funds and contributions to the Used Fuel Fund, partially offset by reimbursements of expenditures on nuclear fixed asset removal and nuclear waste management.		
<b>Regulatory assets</b> <i>(current and non-current portions)</i>	<b>5,400</b>	6,478
The decrease was primarily due to the reduction in the regulatory asset related to pension and OPEB as a result of the re-measurement of the pension and OPEB liabilities and the amortization of the regulatory balances related to the new rate riders, effective January 1, 2013. This decrease was partially offset by additions to the Pension and OPEB Cost Variance Account and other variance and deferral accounts including the CRVA.		
<b>Long-term debt</b> <i>(including debt due within one year)</i>	<b>5,625</b>	5,114
The increase was due to the issuance of debt of \$475 million for the Lower Mattagami River project and, \$40 million of new borrowings for the Niagara Tunnel project, offset by debt repayments.		
<b>Fixed asset removal and nuclear waste management liabilities</b>	<b>16,257</b>	15,522
The increase was primarily a result of accretion expense due to the passage of time, partially offset by expenditures on nuclear fixed asset removal and waste management activities.		
<b>Pension liabilities</b>	<b>2,741</b>	3,621
<b>Other post-employment benefit liabilities</b>	<b>2,628</b>	3,076
Pension and OPEB liabilities decreased primarily due to the re-measurement of the liabilities at the end of 2013 reflecting higher discount rates and the favourable performance of the pension fund. The decrease in the liabilities was partially offset by the impact of mortality assumption changes as part of the 2013 actuarial valuation for accounting purposes. A discussion of the new valuation can be found under the heading, <i>Pension and Other Post-Employment Benefits</i> in the <i>Changes in Accounting Policies and Estimates</i> section.		

### Capacity Refurbishment Variance Account

Pursuant to *Ontario Regulation 53/05*, the OEB has authorized the CRVA. The account captures variances from the forecasts reflected in the regulated prices for capital and non-capital costs incurred to increase the output of, refurbish, or add operating capacity to one or more of the regulated facilities.

As the existing regulated prices established in 2011 do not reflect the impact of the Niagara Tunnel, OPG recorded an increase in the regulatory asset for the CRVA of \$88 million in 2013 related to the Niagara Tunnel that was declared in-service in March 2013. The increase in the regulatory asset includes depreciation on the Niagara Tunnel assets, the cost of capital associated with OPG's investment in these assets, and related income tax effects. Corresponding decreases to depreciation expense, net interest expense and income tax expense were also recognized in 2013. The cost of capital amount was recorded as a reduction in net interest expense, as OPG limits the portion of cost of capital additions recognized as a regulatory asset to the amount calculated using the average rate of capitalized interest applied to construction and development in progress. OPG's September 2013 application to the OEB for new regulated prices includes the impact of the Niagara Tunnel starting in 2014 and requests recovery of the balance of the CRVA related to the Niagara Tunnel as at December 31, 2013.

The balance of the CRVA as at December 31, 2013 also includes variances from forecasts reflected in regulated prices for non-capital costs and impacts of assets placed in-service related to the refurbishment of the Darlington GS, non-capital costs related to continued operations at Pickering GS, and other projects related to the prescribed facilities.

The November 2013 amendment of *Ontario Regulation 53/05* requiring OEB to establish regulated prices for 48 of OPG's currently unregulated hydroelectric facilities extends the scope of the CRVA to these facilities upon their regulation.

Detailed descriptions of the regulatory assets and liabilities for variance and deferral accounts authorized by the OEB for OPG's regulated facilities are contained in Note 5 of the audited consolidated financial statements as at and for the year ended December 31, 2013.

### **Off-Balance Sheet Arrangements**

In the normal course of operations, OPG engages in a variety of transactions that, under US GAAP, are either not recorded in the Company's consolidated financial statements or are recorded in the Company's consolidated financial statements using amounts that differ from the full contract amounts. Principal off-balance sheet activities for OPG include guarantees, and long-term fixed price contracts.

#### Guarantees

As part of normal business, OPG and certain of its subsidiaries and joint ventures enter into various agreements to provide financial or performance assurance to third parties. Such agreements include guarantees, standby Letters of Credit and surety bonds. For more details on OPG's guarantees, refer to Note 15 of OPG's audited consolidated financial statements as at and for the year ended December 31, 2013.

## **CRITICAL ACCOUNTING POLICIES AND ESTIMATES**

OPG's significant accounting policies, including the impact of future accounting pronouncements, are outlined in Note 3 of OPG's 2013 audited consolidated financial statements. Certain of these policies are recognized as critical accounting policies by virtue of the subjective and complex judgments and estimates required around matters that are inherently uncertain and could result in materially different amounts being reported under different conditions or assumptions. The critical accounting policies and estimates that affect OPG's consolidated financial statements are highlighted below.

### **Variable Interest Entities (VIE)**

OPG performs ongoing analysis to assess whether it holds any VIEs. VIEs of which OPG is deemed to be the primary beneficiary are consolidated. The primary beneficiary of a VIE has both the power to direct the activities of the entity that most significantly impact its economic performance and the obligation to absorb losses of the entity that

could potentially be significant to the Company. In circumstances where OPG is not deemed to be the primary beneficiary, the VIE is not recorded in OPG's consolidated financial statements.

OPG holds a variable interest in the Nuclear Waste Management Organization (NWMO), of which it is the primary beneficiary. Accordingly, the applicable amounts in the accounts of the NWMO, after elimination of all significant intercompany transactions, are consolidated. Refer to Note 3 of OPG's 2013 audited consolidated financial statements for further details.

### **Rate Regulated Accounting**

The *Ontario Energy Board Act, 1998* and *Ontario Regulation 53/05* provide that OPG receives regulated prices for electricity generated from the Sir Adam Beck 1, 2 and Pump generating station, DeCew Falls 1 and 2, and R.H. Saunders hydroelectric facilities, and the Pickering and Darlington nuclear facilities. OPG's regulated prices for these facilities are determined by the OEB. Forty-eight of OPG's currently unregulated hydroelectric generating facilities have been prescribed for rate regulation, effective July 1, 2014.

The OEB is a self-funding Crown corporation. Its mandate and authority come from the *Ontario Energy Board Act, 1998*, the *Electricity Act, 1998*, and a number of other provincial statutes. The OEB is an independent, quasi-judicial tribunal that reports to the Legislature of the Province through the Minister of Energy. It regulates market participants in the Province's natural gas and electricity industries. The OEB carries out its regulatory functions through public hearings and other more informal processes such as consultations.

US GAAP recognizes that rate regulation can create economic benefits and obligations that are required by the regulator to be obtained from, or settled with, the ratepayers. When the Company assesses that there is sufficient assurance that incurred costs in respect of the regulated facilities will be recovered in the future, those costs are deferred and reported as a regulatory asset. When the Company is required to refund amounts to ratepayers in the future in respect of the regulated facilities, including amounts related to costs that have not been incurred and for which the OEB has provided recovery through current regulated prices, the Company records a regulatory liability.

Certain of the regulatory assets and liabilities recognized by the Company relate to variance and deferral accounts authorized by the OEB including those authorized pursuant to *Ontario Regulation 53/05*. Variance accounts capture differences between actual costs and revenues, and the corresponding forecast amounts approved in the setting of regulated prices. The measurement of these regulatory assets and liabilities is subject to certain estimates and assumptions, including assumptions made in the interpretation of *Ontario Regulation 53/05* and the OEB's decisions. The estimates and assumptions made in the interpretation of the regulation and the OEB's decisions are reviewed as part of the OEB's regulatory process.

Regulatory assets and liabilities for variance and deferral account balances approved by the OEB for inclusion in regulated prices are amortized based on approved recovery periods. Disallowed balances, including associated interest, are charged to operations in the period that the OEB's decision is issued.

In addition to regulatory assets and liabilities for variance and deferral accounts authorized by the OEB, OPG recognizes regulatory assets for unamortized amounts recorded in AOCI in respect of pension and OPEB obligations, and deferred income taxes, in order to reflect the expected recovery of these amounts in respect of the regulated operations through future regulated prices charged to customers. There are measurement uncertainties related to these balances due to the assumptions made in the determination of pension and OPEB obligations and deferred income taxes attributed to the regulated facilities. Further discussion related to OPG's pension and OPEB obligations and deferred income taxes can be found under the headings, *Income Taxes and Investment Tax Credits* and *Pension and Other Post-Employment Benefits* within the *Critical Accounting Policies and Estimates* section.

See Notes 3, 5, 8, 9, and 11 of OPG's 2013 audited consolidated financial statements for additional disclosures related to the OEB's decisions, regulatory assets and liabilities, and rate regulated accounting.



## **Income Taxes and Investment Tax Credits**

OPG is exempt from income tax under the *Income Tax Act* (Canada). However, under the *Electricity Act, 1998*, OPG is required to make payments in lieu of corporate income taxes to the OEFC. These payments are calculated in accordance with the *Income Tax Act* (Canada) and the *Taxation Act, 2007* (Ontario), as modified by the *Electricity Act, 1998* and related regulations. This results in OPG effectively paying taxes similar to what would be imposed under the federal and Ontario tax acts.

OPG's operations are complex and the computation of the provision for income taxes involves interpretation of the various tax statutes and regulations. OPG has taken certain filing positions in calculating the amount of its income tax provision. These filing positions may be challenged on audit and some of them possibly disallowed, resulting in a potential significant change in OPG's tax provision upon reassessment.

OPG follows the liability method of accounting for income taxes. Under the liability method, deferred income tax assets and liabilities are determined based on differences between the accounting and tax bases of assets and liabilities. Deferred amounts are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The effect of a change in tax rates on deferred income tax assets and liabilities is included in income in the period the change is enacted.

If management determines that it is more likely than not that some, or all, of a deferred income tax asset will not be realized, a valuation allowance is recorded to report the balance at the amount expected to be realized.

OPG recognizes deferred income taxes associated with its rate regulated operations and records an offsetting regulatory asset or liability for the deferred income taxes that are expected to be recovered or refunded through future regulated prices charged to customers.

Tax benefits associated with income tax positions taken, or expected to be taken, in a tax return and investment tax credits are recorded only when the more likely than not recognition threshold is satisfied. Tax benefits and investment tax credits recognized are measured at the largest amount of benefit that is greater than 50 percent likely of being realized upon settlement.

Investment tax credits are recorded as a reduction to income tax expense. OPG classifies interest and penalties associated with unrecognized tax benefits as income tax expense.

Deferred income tax assets of \$5,757 million (2012 – \$5,914 million) have been recorded on the consolidated balance sheet at December 31, 2013. The Company believes there will be sufficient future taxable income and capital gains that will permit the use of these deductions and carry-forwards.

Deferred income tax liabilities of \$6,336 million (2012 – \$6,409 million) have been recorded on the consolidated balance sheet as at December 31, 2013.

## **PP&E, Intangible Assets and Depreciation and Amortization**

PP&E and intangible assets are recorded at cost. Interest costs incurred during construction and development are capitalized as part of the cost of the asset, based on the interest rates on OPG's long-term debt. Expenditures for replacements of major components are capitalized.

Depreciation and amortization rates for the various classes of assets are based on their estimated service lives. Any asset removal costs that have not been specifically provided for in current or previous periods are charged to OM&A expenses. Repairs and maintenance costs are also expensed when incurred.

PP&E are depreciated on a straight-line basis except for computers, and transport and work equipment. These are mostly depreciated on a declining balance basis. Intangible assets, which consist of major application software, are amortized on a straight-line basis.

The accounting estimates related to asset depreciation require significant management judgment to assess the appropriate useful lives of OPG's PP&E and intangible assets including consideration of various technological and other factors.

### **Impairment of Long-Lived Assets**

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The review is based on the presence of impairment indicators such as the future economic benefit of the assets and external market conditions. The net carrying amount of assets is considered impaired if it exceeds the sum of the estimated undiscounted cash flows expected to result from the asset's use and eventual disposition. In cases where the sum of the undiscounted expected future cash flows is less than the carrying amount, an impairment loss is recognized. This loss equals the amount by which the carrying amount exceeds the fair value. Fair value is determined using expected discounted cash flows when quoted market prices are not available. The impairment is recognized in income in the period in which it is identified.

Various assumptions and accounting estimates are required to determine whether an impairment loss should be recognized and, if so, the value of such loss. This includes factors such as short-term and long-term forecasts of the future market price of electricity, the demand for and supply of electricity, the in-service dates of new generating stations, inflation, fuel prices, capital expenditures and station useful lives. The amount of the future net cash flow that OPG expects to receive from its fixed assets could differ materially from the net book values recorded in OPG's consolidated financial statements.

The carrying value of investments accounted for under the equity method are reviewed for the presence of any indicators of impairment. If an impairment exists and is determined to be other-than-temporary, an impairment charge is recognized. This charge equals the amount by which the carrying value exceeds the investment's fair value.

### **Nuclear Fixed Asset Removal and Nuclear Waste Management Funds**

#### Decommissioning Fund

The Decommissioning Fund was established to fund the future costs of nuclear fixed asset removal, long-term L&ILW management, and a portion of used fuel storage costs after station life. Upon termination of the ONFA, the Province has a right to any excess funds in the Decommissioning Fund, which is the excess of the fair market value of the Decommissioning Fund assets over the estimated completion costs as per the most recently approved ONFA Reference Plan. When the Decommissioning Fund is overfunded, OPG limits the earnings it recognizes in its consolidated financial statements by recording a payable to the Province, such that the balance of the Decommissioning Fund is equal to the cost estimate of the liability based on the most recently approved ONFA Reference Plan. The payable to the Province could be reduced in subsequent periods in the event that the Decommissioning Fund earns less than its target rate of return or in the event that a new ONFA Reference Plan is approved with a higher estimated decommissioning liability. When the Decommissioning Fund is underfunded, the earnings on the Decommissioning Fund reflect actual fund returns based on the market value of the assets.

#### Used Fuel Fund

Under the ONFA, the Province guarantees OPG's annual return in the Used Fuel Fund at 3.25 percent plus the change in the Ontario Consumer Price Index (CPI) for funding related to the first 2.23 million used fuel bundles (committed return). OPG recognizes the committed return on the Used Fuel Fund and includes it in the earnings on the nuclear fixed asset removal and nuclear waste management funds. The difference between the committed return on the Used Fuel Fund and the actual market return, based on the fair value of the Used Fuel Fund's assets, which includes realized and unrealized returns, is recorded as due to or due from the Province. The amount due to or due from the Province represents the amount OPG would pay to or receive from the Province if the committed return were to be settled as of the balance sheet date.

As prescribed under the ONFA, OPG's contributions for incremental fuel bundles are not subject to the Province's guaranteed rate of return, but rather earn a return based on changes in the market value of the assets of the Used Fuel Fund.

As required by the terms of the ONFA, the Province has provided a Provincial Guarantee to the CNSC since 2003 on behalf of OPG. The *Nuclear Safety and Control Act* (Canada) requires OPG to have sufficient funds available to discharge the current nuclear decommissioning and waste management liabilities. The Provincial Guarantee provides for any shortfall between the CNSC consolidated financial guarantee requirement and the Nuclear Funds. OPG pays the Province an annual guarantee fee of 0.5 percent of the amount of the Provincial Guarantee provided by the Province.

The current value of the Provincial Guarantee of \$1,551 million is in effect through to the end of 2017. In January 2014, OPG paid a guarantee fee of \$8 million for 2014 based on a Provincial Guarantee amount of \$1,551 million. In January 2013, OPG paid a guarantee fee of \$8 million.

### **Pension and Other Post-Employment Benefits**

The determination of OPG's pension and OPEB costs and obligations is based on accounting policies and assumptions used in calculating such amounts.

#### Accounting Policy

OPG's post-employment benefit programs consist of a contributory defined benefit registered pension plan, a defined benefit supplementary pension plan, and other post retirement benefits (OPRB) including group life insurance and health care benefits, and long-term disability (LTD) benefits. Post-employment benefit programs are also provided by the NWMO, which is consolidated into OPG's financial results. Information on the Company's post-employment benefit programs is presented on a consolidated basis.

OPG accrues its obligations under pension and OPEB plans in accordance with US GAAP. The obligations for pension and OPRB are determined using the projected benefit method pro-rated on service. The obligation for LTD benefits is determined using the projected benefit method on a terminal basis. Pension and OPEB obligations are impacted by factors including interest rates, adjustments arising from plan amendments, changes in demographic assumptions, experience gains or losses, salary levels, inflation, and cost escalation. Pension and OPEB costs, and obligations are determined annually by independent actuaries using management's best estimate assumptions.

Pension fund assets include equity securities, corporate and government debt securities, pooled funds, real estate, infrastructure and other investments. These assets are managed by professional investment managers. The funds do not invest in equity or debt securities issued by OPG. Pension fund assets are valued using market-related values for purposes of determining the amortization of actuarial gains or losses and the expected return on plan assets. The market-related value recognizes gains and losses on equity assets relative to a six percent assumed real return over a five-year period.

Pension and OPEB costs include current service costs, interest costs on the obligations, the expected return on pension plan assets, adjustments for plan amendments and adjustments for actuarial gains or losses, which result from changes in assumptions and experience gains and losses. Past service costs or credits arising from pension and OPRB plan amendments are amortized on a straight-line basis over the expected average remaining service life to full eligibility of the employees covered by the plan. Past service costs or credits arising from amendments to LTD benefits are immediately recognized as OPEB costs in the period incurred. Due to the long-term nature of pension and OPRB liabilities, the excess of the net cumulative unamortized gain or loss, over 10 percent of the greater of the benefit obligation and the market-related value of the plan assets (corridor), is amortized over the expected average remaining service life of the employees since OPG expects to realize the associated economic benefit over that period. Actuarial gains or losses for LTD benefits are immediately recognized as OPEB costs in the period incurred.

OPG recognizes on its consolidated balance sheets the funded status of its defined benefit plans. The funded status is measured as the difference between the fair value of plan assets and the benefit obligation on a plan-by-plan basis.

Actuarial gains or losses and past service costs or credits that arise during the year that are not recognized immediately as components of benefit costs are recognized as increases or decreases in other comprehensive income (OCI), net of income taxes. These unamortized amounts in AOCI are subsequently reclassified and recognized as components of pension and OPRB costs as discussed above.

OPG records an offsetting regulatory asset or liability for the portion of the adjustments to AOCI that is attributable to the regulated operations in order to reflect the expected recovery or refund of these amounts through future regulated prices charged to customers. For the recoverable or refundable portion attributable to regulated operations, OPG records a corresponding change in this regulatory asset or liability for the amount of the increases or decreases in OCI and for the reclassification of AOCI amounts into benefit costs during the period.

When the recognition of the transfer of employees and employee-related benefits gives rise to both a curtailment and a settlement, the curtailment is accounted for prior to the settlement. A curtailment is the loss by employees of the right to earn future benefits under the plan. A settlement is the discharge of a plan's liability.

#### Accounting Assumptions

Assumptions are significant inputs to actuarial models that measure pension and OPEB obligations and related effects on operations. Two critical assumptions – discount rate and inflation – are important elements in the determination of benefit costs and obligations. In addition, the expected return on plan assets is a critical assumption in the determination of registered pension plan costs. These assumptions, as well as other assumptions involving demographic factors such as retirement age, mortality, and employee turnover, are evaluated periodically by management in consultation with independent actuaries. During the evaluation process, the assumptions are updated to reflect past experience and expectations for the future. Actual results in any given year will often differ from actuarial assumptions because of economic and other factors. In accordance with US GAAP, for pension and OPRB, the impact of these updates and differences on the respective benefit obligations is accumulated and amortized over future periods; for LTD benefits, the impact of these updates and differences is immediately recognized as OPEB costs in the period incurred.

The discount rates, which are representative of the AA corporate bond yields, are used to calculate the present value of the expected future cash flows on the measurement date to determine the projected benefit obligations for the Company's employee benefit plans. A lower discount rate increases the benefit obligations and increases benefit costs. The expected rate of return on plan assets is based on current and expected asset allocation, as well as the expected return considering long-term historical risks and returns associated with each asset class within the plan portfolio. A lower expected rate of return on plan assets increases pension cost.

#### **Asset Retirement Obligation**

As at December 31, 2013, OPG's asset retirement obligation (ARO) was \$16,257 million (2012 – \$15,522 million). OPG's ARO consists of fixed asset removal and nuclear waste management liabilities. The ARO is comprised of expected costs to be incurred up to and beyond termination of operations and the closure of nuclear and thermal generating plant facilities and other facilities. The liabilities associated with decommissioning the nuclear generating stations and long-term used nuclear fuel management comprise the most significant amounts of the total obligation. Costs will be incurred for activities such as:

- preparation for safe storage
- safe storage
- dismantling
- demolition and disposal of facilities and equipment
- remediation and restoration of sites
- ongoing and long-term management of nuclear used fuel bundles and L&ILW material.



Nuclear station decommissioning consists of preparation and placement of stations into a safe state condition followed by a 30-year safe store period prior to station dismantling and site restoration. Under the terms of the lease agreement with Bruce Power, OPG continues to be responsible for the nuclear fixed asset removal and nuclear waste management liabilities associated with the Bruce Nuclear generating stations. Under the lease agreement, Bruce Power must return the Bruce stations together de-watered and de-fueled to OPG. The de-watering and de-fueling costs are not part of OPG's ARO.

The following costs are recognized as a liability:

- the present value of the costs of decommissioning the nuclear and thermal production facilities and other facilities after the end of their useful lives
- the present value of the fixed cost portion of nuclear waste management programs that are required based on the total volume of waste expected to be generated over the assumed life of the stations
- the present value of the variable cost portion of nuclear waste management programs taking into account actual waste volumes generated to date.

The significant assumptions underlying operational and technical factors used in the calculation of the accrued liabilities are subject to periodic review. Changes to these assumptions, including changes to assumptions on the timing of the programs, station end of life dates, financial indicators or the technology employed may result in significant changes to the value of the accrued liabilities. With programs of this duration and the evolving technology to handle the nuclear waste, there is a significant degree of uncertainty surrounding the measurement accuracy of the costs for these programs. These costs may increase or decrease over time. The estimates of the Nuclear Liabilities are reviewed on an ongoing basis as part of the overall nuclear waste management program. Changes in the Nuclear Liabilities resulting from changes in assumptions or estimates that impact the amount of the originally estimated undiscounted cash flows are recorded as an adjustment to the liabilities. Any resulting changes in the related asset retirement costs are capitalized as part of the carrying amount of nuclear fixed assets.

For the purposes of calculating OPG's nuclear fixed asset removal and nuclear waste management liabilities, as at December 31, 2013, consistent with the current accounting end of life assumptions, nuclear station decommissioning is projected to occur over the next 41 years.

The liability for non-nuclear fixed asset removal was \$354 million as at December 31, 2013 (2012 – \$345 million). This liability primarily represents the estimated costs of decommissioning OPG's thermal generating stations at the end of their service lives. The liability is based on third party cost estimates after an in-depth review of active plant sites and an assessment of required clean-up and restoration activities. In 2011, OPG completed a review of the liability for most of its thermal generating stations. As at December 31, 2013, the estimated retirement dates of the thermal stations for the purposes of this liability are between 2014 and 2030. The undiscounted amount of estimated future cash flows associated with the non-nuclear liabilities is \$491 million.

OPG has no legal obligation associated with the decommissioning of its hydroelectric generating facilities and the costs cannot be reasonably estimated because of the long service life of these assets. With either maintenance efforts or rebuilding, the water control structures are assumed to be used for the foreseeable future. Accordingly, OPG has not recognized a liability for the decommissioning of its hydroelectric generating facilities.

The liability for the nuclear fixed asset removal and nuclear waste management on a present value basis as at December 31, 2013 was \$15,903 million (2012 – \$15,177 million). The undiscounted cash flows related to expenditures for OPG's nuclear fixed asset removal and nuclear waste management liabilities in 2013 dollars as at December 31, 2013 over the next five years and thereafter are as follows:

<i>(millions of dollars)</i>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Thereafter</b>	<b>Total</b>
Expenditures for nuclear fixed asset removal and nuclear waste management <sup>1</sup>	277	355	487	522	470	31,734	33,845

<sup>1</sup> Most of the above expenditures are expected to be reimbursed by OPG's Nuclear Funds as established by the ONFA. The contributions required under the ONFA are not included in these undiscounted cash flows but are reflected in the table under the heading, *Contractual and Commercial Commitments*.

OPG sets aside and invests funds held in segregated custodian and trustee accounts specifically for discharging its nuclear fixed asset removal and nuclear waste management liabilities. In accordance with the ONFA between OPG and the Province, OPG established a Used Fuel Fund and a Decommissioning Fund. OPG jointly oversees the investment management of the Nuclear Funds with the Province. The assets of the Nuclear Funds are maintained in third party custodian accounts that are segregated from the rest of OPG's assets.

### **Environmental Liabilities**

Current operations are subject to regulation with respect to emissions to air, water, and land as well as other environmental matters by federal, provincial, and local authorities. Environmental liabilities are recorded when it is considered likely that a liability has been incurred and the amount of the liability can be reasonably estimated at the date of the financial statements. The cost of obligations associated with current operations is provided for on an ongoing basis. Management believes it has made adequate provision in the consolidated financial statements to meet certain other environmental obligations. As at December 31, 2013, OPG's environmental liabilities were \$15 million (2012 – \$17 million), the primary component of which is the land remediation program.

### **Derivatives**

All derivatives, including embedded derivatives that must be separately accounted for, generally are classified as held-for-trading and recorded at fair value in the consolidated balance sheets. Transaction costs are expensed as incurred for financial instruments classified or designated as held-for-trading.

Derivatives qualify for hedge accounting if they meet stringent documentation requirements and the derivative instrument that is designated as a hedge is expected to effectively hedge the identified risk throughout the life of the hedged item. At the inception of a hedging relationship, OPG documents the relationship between the hedging instrument and the hedged item, its risk management objective and its strategy for undertaking the hedge. A documented assessment is made, both at the inception of a hedge and on an ongoing basis, of whether or not the derivatives that are used in hedging transactions are highly effective in offsetting the changes attributable to the hedged risks in the fair values or cash flows of the hedged items.

Specifically for cash flow hedges, the portion of the derivative gain or loss that is effective in offsetting the change in the cost or value of the underlying exposure is deferred in AOCI and later reclassified into net income when the underlying transaction occurs. Gains and losses on interest rate hedges are recorded as an adjustment to interest expense for the debt being hedged. Gains and losses that do not meet the effectiveness criteria are recorded in net income in the period incurred. When a derivative instrument hedge ceases to be effective as a hedge or a hedged item ceases to exist, any associated deferred gains or losses are derecognized from AOCI and are recognized in income in the current period.

Some of OPG's unregulated generation is exposed to changes in electricity prices associated with a wholesale spot market for electricity in Ontario. All derivative contracts not designated as hedges are recorded on the balance sheet as derivative assets or liabilities at fair value with changes in fair value recorded in the revenue of the Other category.

### **Fair Value Measurements**

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly arm's-length transaction between market participants at the measurement date. Fair value measurements are required to reflect the assumptions that market participants would use in pricing an asset or liability based on the best available information. These assumptions include the risks inherent in a particular valuation technique, such as a pricing model, and the risks inherent in the inputs to the model.

Financial assets and liabilities, including exchange traded derivatives and other financial instruments, measured at fair value and for which quoted prices in an active market are available, are determined directly from those quoted market prices.

For financial instruments for which quoted market prices are not directly available, fair values are estimated using forward price curves developed from observable market prices or rates. The estimation of fair value may include the use of valuation techniques or models, based wherever possible on assumptions supported by observable market prices or rates prevailing at the consolidated balance sheet dates. This is the case for over-the-counter derivatives, which includes energy commodity derivatives, foreign exchange derivatives, and interest rate swap derivatives. Valuation models use general assumptions and market data and therefore do not reflect the specific risks and other factors that would affect a particular instrument's fair value. The methodologies used for calculating the fair value adjustments are reviewed on an ongoing basis to ensure that they remain appropriate. If the valuation technique or model is not based on observable market data, specific valuation techniques are used primarily based on recent comparable transactions, comparable benchmark information, bid/ask spread of similar transactions, and other relevant factors.

OPG's use of financial instruments exposes the Company to various risks, including credit risk, foreign currency risk and interest rate risk. A discussion of how OPG manages these and other risks is found under the heading, *Risk Management*.

## **CHANGES IN ACCOUNTING POLICIES AND ESTIMATES**

### **Useful Lives of Long-Lived Assets**

As a result of the announcement by the Minister of Energy to advance the date to cease operation of the remaining coal-fired units at the Lambton and Nanticoke generating stations, OPG has revised the end of life dates for the purposes of calculating depreciation from December 2014 to December 2013 for both generating stations. This change in estimate increased depreciation expense in 2013 by \$58 million reflecting the advancement of the 2014 expense. This increase in depreciation expense was offset by revenue from the Contingency Support Agreement with the OEFC.

### **Regulatory Assets Related to Newly Regulated Hydroelectric Facilities**

Forty-eight of OPG's currently unregulated hydroelectric facilities have been prescribed for rate regulation, effective on July 1, 2014. Upon the effective date of the regulation, OPG expects to recognize additional regulatory assets related to deferred income taxes, and unamortized amounts recorded in AOCI in respect of pension and OPEB obligations. The recognition of the increase in regulatory assets related to deferred income taxes expected to be recovered from customers through future regulated prices is expected to result in an extraordinary gain of approximately \$250 million in the consolidated statements of income. The additional regulatory assets related to

pension and OPEB obligations are expected to result in an increase of approximately \$200 million in OCI, net of income taxes.

### Pension and Other Post-Employment Benefits

The weighted average discount rate used to determine the projected pension benefit obligations and the projected benefit obligations for OPEB as at December 31, 2013 was 4.9 percent. This represents an increase, compared to the 4.3 percent discount rate that was used to determine the obligations as at December 31, 2012.

In 2013, OPG conducted an actuarial valuation for accounting purposes for its pension and OPEB plans using demographic data as at January 1, 2013, and assumptions as at December 31, 2013. As part of the valuation, the plan's demographic assumptions were reviewed and revised by independent actuaries. The revised assumptions include the adoption of:

- an updated OPG mortality table that captures the recent experience of OPG pension plan members
- a new scale for expected rates of improvement in future mortality.

The deficit for the registered pension plans decreased from \$3,332 million as at December 31, 2012 to \$2,461 million as at December 31, 2013 largely as a result of the increase in the discount rates at 2013 year end and the gain on pension fund assets in 2013, partially offset by the impact of the new mortality assumptions.

The projected benefit obligations for OPEB decreased from \$3,174 million at December 31, 2012 to \$2,719 million as at December 31, 2013. This decrease was largely due to the increase in the discount rates and the lower per capita health care claims costs assumption. It was partially offset by the impact of the new mortality assumptions.

As a result of the accounting policy for pension and OPEB, as at December 31, 2013, the unamortized net actuarial loss and unamortized past service costs for the pension and OPEB plans totalled \$3,899 million (2012 – \$5,593 million). Details of the unamortized net actuarial loss and unamortized past service costs at December 31, 2013 and 2012 are as follows:

<i>(millions of dollars)</i>	Registered Pension Plans		Supplementary Pension Plans		Other Post-Employment Benefits	
	2013	2012	2013	2012	2013	2012
Net actuarial (gain) loss not yet subject to amortization due to use of market-related values	(886)	91	-	-	-	-
Net actuarial loss not subject to amortization due to use of the corridor	1,339	1,367	29	30	245	288
Net actuarial loss subject to amortization	3,043	3,079	50	72	78	662
Unamortized net actuarial loss	3,496	4,537	79	102	323	950
Unamortized past service costs	-	-	-	-	1	4

A change in assumptions, holding all other assumptions constant, would increase (decrease) 2013 costs as follows:

<i>(millions of dollars)</i>	<b>Registered Pension Plans <sup>1</sup></b>	<b>Supplementary Pension Plans <sup>1</sup></b>	<b>Other Post- Employment Benefits <sup>1</sup></b>
Expected long-term rate of return			
0.25% increase	(26)	na	na
0.25% decrease	26	na	na
Discount rate			
0.25% increase	(52)	(1)	(13)
0.25% decrease	55	1	14
Inflation			
0.25% increase	81	2	1
0.25% decrease	(85)	(2)	(1)
Salary increases			
0.25% increase	19	4	1
0.25% decrease	(18)	(3)	(1)
Health care cost trend rate			
1% increase	na	na	94
1% decrease	na	na	(69)

na – change in assumption not applicable.

<sup>1</sup> Excluding the impact of the Pension OPEB Cost Variance Account.

## Recent Accounting Pronouncements

### Comprehensive Income – Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income

In February 2013, the Financial Accounting Standards Board issued an update to Accounting Standards Codification (ASC) Topic 220 which adds new disclosure requirements for items reclassified out of AOCI. Entities must present information about significant items reclassified out of AOCI by component either on the consolidated statements of income or as a separate disclosure in the notes to the financial statements with reference to the affected line item in the consolidated statements of income. OPG applied the amendments for reporting periods beginning on January 1, 2013.

### Investment Companies

For reporting periods beginning January 1, 2014, OPG adopted the updates to ASC Topic 946, *Investment Companies*. Based on the amended scope of the standard, OPG concluded that OPG Ventures Inc., the Decommissioning Fund, the Used Fuel Fund and the Ontario NFWA Trust should be treated as investment entities for accounting purposes. As the investments of these entities are already recorded at fair value, there were no measurement differences upon adoption of this update. However, additional disclosures are required in OPG's consolidated financial statements.

## International Financial Reporting Standards (IFRS)

As a result of OPG's 2011 decision to adopt US GAAP, as required by the FAA regulation, OPG's plan to convert to IFRS, effective January 1, 2012, was discontinued. Prior to the adoption of US GAAP as the basis for OPG's financial reporting, the Company had planned to adopt IFRS effective January 1, 2012. OPG had substantively completed its IFRS conversion project, which included separate diagnostic, development, and implementation phases, when it suspended the project and began the evaluation of converting to US GAAP in the fourth quarter of 2011. OPG's IFRS conversion project involved, among other initiatives, a detailed assessment of the effects of IFRS on OPG's financial statements, an update of information systems to meet IFRS requirements as of January 1, 2011, an assessment of internal controls over financial reporting and disclosure controls and processes, as well as training



of key finance and operational staff. If a future transition to IFRS is required, conversion work can effectively be restarted with sufficient lead time to evaluate and conclude on changes that occurred subsequent to the decision to suspend the project.

During the first quarter of 2014, OPG received exemptive relief from the OSC requirements of section 3.2 of National Instrument 52-107 *Acceptable Accounting Policies and Auditing Standards*. The exemption allows OPG to file consolidated financial statements based on US GAAP without becoming a Securities and Exchange Commission registrant, or issuing public debt. The exemption will terminate on the earliest of the following:

- January 1, 2019
- the financial year that commences after OPG ceases to have activities subject to rate regulation
- the effective date prescribed by the International Accounting Standards Board for the mandatory application of a standard within IFRS specific to entities with rate-regulated activities.

This exemption replaces the exemptive relief received by OPG from the OSC in December 2011. The 2011 exemption allowed OPG to file consolidated financial statements based on US GAAP for financial years that began on or after January 1, 2012, but before January 1, 2015.

## **RISK MANAGEMENT**

### **Overview**

OPG faces various risks that could significantly impact the achievement of its strategic, operational, financial, environmental, and health and safety goals. The aim of risk management is to identify and mitigate these risks and preserve the value of the Shareholder's investment in OPG's assets.

### **Risk Governance Structure**

The Risk Oversight Committee (ROC) of the Board of Directors assists the Board to fulfill its oversight responsibilities for matters relating to identification and management of the Company's key business risks. An Executive Risk Committee (ERC), which is comprised of the business unit leaders and the Chief Risk Officer (CRO), assists the ROC in fulfilling its governance and oversight responsibilities related to OPG's risk management activities.

### **Risk Management Activities**

OPG faces a wide array of risks as a result of its business operations. The Enterprise Risk Management (ERM) framework is designed to identify and evaluate risks on the basis of their potential impact on the Company's capacity to achieve specific business plan objectives.

Risk management reporting activities are coordinated by a centralized ERM group led by the CRO. The activities begin with business units identifying, reviewing, and assessing risks that could prevent achievement of their business plan objectives. These risks are then prioritized based on their potential to impact OPG's overall business objectives. The ERM group also assesses external developments that may have implications to the corporate risk profile and facilitates the identification and assessment of emerging risks. In addition, OPG's senior executives identify broader strategic risks. OPG's senior executives then prioritize the operational, tactical and strategic risks to determine the top risks to the Company.

Senior management also sets risk limits for the financing, procurement, and trading activities of the Company and ensures that effective risk management policies and processes are in place to ensure compliance with such limits in order to maintain an appropriate balance between risk and return. OPG's ERM process facilitates the monitoring of risk management activities for identified key risks on a regular basis. This allows the ERM group to report significant developments to the ERC and the ROC quarterly.

For the purpose of disclosure, a number of key risks are presented in five main categories, namely operational, financial, regulatory, enterprise-wide, and environmental. For each category, risks are briefly described below.

## **Operational Risks**

### Risks Associated with Existing Generating Operations

*OPG is exposed to variable output from its existing generating stations that could adversely impact its financial performance.*

Operational risks are those risks normally inherent in the operation of electricity generating facilities. These risks can lead to interruptions in the operations of generating stations or uncertainty in future production. The operational risks of a station are generally a function of the age of the stations and the technology used.

### Nuclear Generating Stations

*Operating an aging nuclear fleet exposes OPG to unique risks such as unplanned outages, an increase in cost of operations and risks associated with nuclear waste management operations.*

Operating nuclear stations exposes OPG to unique risks, such as greater-than-anticipated deterioration of station components and systems, risks associated with the nuclear industry, supply chain (vendor quality), the handling, storage, and disposal of nuclear waste, and the risk of nuclear accident. The primary impacts of these risks are additional safety requirements, and the potential derating of a generating unit. These risks could result in lower than expected generation and revenues, and higher operating costs.

The uncertainty associated with the electricity volume generated by OPG's Canadian Deuterium Uranium (CANDU) nuclear generating units is primarily driven by the condition of the station components and systems, which are all subject to the effects of aging. Fuel channels are expected to be the most life-limiting component affecting station end of life. Other significant factors identified to-date include degradation of primary heat transport pump motors and fuel channels at Darlington Nuclear GS. Additionally, there are fuel handling performance issues at both the Darlington and Pickering Nuclear generating stations. To respond to these challenges, OPG continues to implement extensive inspection and maintenance programs to monitor performance, identify corrective actions and projects required to operate reliably and within design parameters.

Deterioration of station components may progress in an unexpected manner, resulting in the need to increase monitoring, conduct extensive repairs, or undertake additional remedial measures. To maintain a safe operating margin, a nuclear unit could be derated resulting in reduced generation. When an unexpected condition first appears, a specific monitoring program is established. The primary impact of these conditions on OPG is an increase in the long-term cost of operations. The associated mitigation may create additional outage work, thus increasing the number of outages or extending planned outages.

The process of generating electricity by nuclear generating stations produces nuclear waste. As required by the CNSC, OPG is accountable for the management of used fuel and L&ILW and decommissioning of all its nuclear facilities, including the stations on lease to Bruce Power. Currently, there are no licensed facilities in Canada for the permanent disposal of nuclear used fuel or L&ILW.

To address the need for the long-term disposal of L&ILW, OPG is developing plans for a DGR. The opposition to deep geologic disposal of used fuel and L&ILW may impede the ability of OPG, its contractors, and subcontractors to develop disposal plans acceptable to major stakeholders. Similarly, prolonged on-site used fuel and L&ILW storage may be opposed. Other factors impacting the residual risk associated with nuclear waste management operations include human performance and regulatory requirements.

The NWMO has developed a process for moving forward with Adaptive Phase Management as the long-term solution for Canada's nuclear fuel waste. In the interim, OPG is storing and managing used fuel at its nuclear generating station sites.

#### *Pickering Continued Operations*

OPG plans to continue the safe and reliable operation of the Pickering Nuclear GS until 2020, and then place these generating units in a safe storage state for eventual decommissioning. The 2013 Long-Term Energy Plan indicates an earlier shutdown of units at the Pickering Nuclear GS may be possible depending on the following factors:

- projected electricity demand going forward
- the progress of the fleet refurbishment program
- the timely completion of the Clarington Transformer Station.

Inability to achieve continued operations could result in a reduction of OPG's revenue and lead to the advancement of shutdown and station decommissioning expenditures.

Risk factors for Pickering Continued Operations include the discovery of unexpected conditions, equipment failures, and requirement for significant plant modifications. To mitigate these risks, OPG continues to undertake a number of activities which include the following:

- work on fuel channel life cycle management
- a regulatory strategy and economic analysis to support optimal reactor end of life dates
- modification of the operating and maintenance strategy to support Continued Operations.

In August 2013, the CNSC extended the operating license of Pickering Nuclear GS to August 31, 2018 subject to a regulatory hold point which required OPG to meet several conditions. This risk is being mitigated by completing the required actions to address the hold point on schedule with senior level oversight.

#### Hydroelectric Generating Stations

*OPG's hydroelectric generation is exposed to risks associated with water flows, the age of plant and equipment, and dam safety.*

The extent to which OPG can operate its hydroelectric generation facilities depends upon the availability of water. Significant variances in weather, including impacts of climate change, could affect water flows. OPG manages this risk by using production forecasting models that incorporate unit efficiency characteristics, water availability conditions, and outage plans. Inputs to the models are assessed, monitored and adjusted on an ongoing basis. For the currently regulated hydroelectric generation, the financial impacts of variability in electricity production due to the differences between the water conditions underpinning the hydroelectric regulated prices and actual water conditions are captured by the Hydroelectric Water Conditions Variance Account authorized by the OEB. OPG's September 2013 application to the OEB requests the extension of the variance account to include the majority of output of the newly regulated hydroelectric stations. If the request is granted by the OEB, variability in electricity production caused by water conditions for the majority of the output of the newly regulated hydroelectric stations will also be captured through the variance account.

OPG's hydroelectric generating stations vary in age and the majority of the hydroelectric generating equipment is over 50 years old. The age of the equipment and civil components creates risks to the reliability of some hydroelectric generating stations. OPG manages these reliability risks by performing inspection and maintenance of critical components. In addition, OPG conducts detailed engineering reviews and station condition assessments. The reviews and assessments help identify future work required to sustain and, if necessary, upgrade a station.

The hydroelectric business segments operate 228 dams across the Province. Dam safety legislation does not currently exist in the Province. In August 2011, the MNR published a set of Technical Guidelines following a period of

public consultation. These Technical Guidelines, which are not a regulation, represent the government standards for dam safety.

In general, OPG practices in the area of dam safety and public safety around dams exceed the minimum requirements outlined in the MNR Technical Guidelines. In addition, OPG is developing a new risk-informed approach on behalf of the MNR to prioritize the outcomes of dam safety assessments. OPG could eventually incur additional costs for certain dams that it operates in order to comply with any new requirements.

#### Thermal Generating Stations

*Preserving the option of OPG's Nanticoke and Lambton units to run on alternate fuels will require a cost recovery mechanism. Lennox ESA may not allow recovery of all pre-established costs over the contract term.*

OPG is placing the Nanticoke and Lambton units in a state to preserve the option to convert the units to natural gas and/or biomass in the future, should they be required. OPG expects to incur costs to maintain these units in this state. There is no mechanism currently in place to recover these costs.

OPG's capability to convert some units at the Lambton and Nanticoke generating stations to alternate fuels such as natural gas, biomass, or dual gas-biomass depends on obtaining appropriate cost recovery agreements with the OPA.

OPG's Lennox and Thunder Bay thermal generating stations operate as peaking facilities, depending on the characteristics of the particular stations and subject to market demand.

The Lennox ESA executed with the OPA in December 2012 provides OPG with a return and covers maintenance, overhead costs, fixed fuel costs and capital expenditures of the station for the ten-year term of the contract. However, some financial risk remains regarding recovery of actual costs over the contract term, if these costs were to exceed the assumptions of the Lennox ESA contract.

The Reliability Must Run Agreement for the Thunder Bay GS with the IESO expired on December 31, 2013. Beyond 2013, there is no mechanism in place to recover direct costs of the Thunder Bay GS while firing coal. In 2013, the Minister of Energy announced that one unit at the Thunder Bay GS will be converted to advanced biomass. The Minister directed the OPA to negotiate a five year cost recovery agreement with OPG for generation using this technology. As mandated by the Minister of Energy, OPG will cease use of coal at this station by the end of 2014.

#### Risks Associated with Major Development Projects

*The risks associated with the cost, schedule, and technical aspects of the major development projects could adversely impact OPG's financial performance and its corporate reputation.*

OPG is undertaking numerous capital intensive projects with significant investments. There may be an adverse effect on the Company if it is unable to: effectively manage these projects; obtain necessary approvals; raise the necessary funds; or fully recover capital costs in a timely manner. Major projects include the Darlington Refurbishment, the Lower Mattagami River project, and other hydroelectric and thermal projects, such as the conversions at the Atikokan GS and the Thunder Bay GS.

#### Darlington Refurbishment

The Darlington generating units, based on original design assumptions, are currently forecast to reach their end of life between 2019 and 2020. The refurbishment of the Darlington Nuclear GS is expected to extend its operating life by approximately 30 years. Failure to achieve the objectives of the refurbishment project may result in future forced outages and more complex planned outages, potentially impacting the post-refurbishment useful life of the station. To mitigate this risk, and as part of the project front-end planning process, a component condition assessment has been performed on all critical systems within the station. This assessment has evaluated the current condition of the

systems and identified required work to be performed during the refurbishment outages. Key life limiting components such as pressure tubes are included in the base refurbishment scope. As part of the project planning process, OPG continues to define project scope, obtain regulatory approvals and negotiate contracts, in order to reduce uncertainty associated with the refurbishment cost and schedule. OPG also continues to work with its Shareholder to determine an appropriate cost recovery mechanism in connection with the project, while considering the impact to electricity consumers.

#### Lower Mattagami

Work on the Lower Mattagami River project has progressed well and each of the sites is expected to be brought into service on or ahead of the target completion date. Key risks to meeting objectives include legal challenges or blockades by groups opposed to various aspects of the project, and quality issues with equipment and materials causing delays during commissioning. These risks are managed through selection of an experienced contractor to construct the project, maintaining strong working relationships with project stakeholders, and implementing a rigorous quality and commissioning management program.

#### Other Development Projects

Projects that are in the initial development stages are subject to schedule delays or possible cancellation due to unforeseen delays in receiving permits or approvals, which may involve various external stakeholders. OPG attempts to mitigate these risks through early involvement and regular communication with applicable government agencies, close consultation with external stakeholders, and ongoing monitoring of contractor performance relative to permits.

These projects could also be faced with increasing costs for equipment and construction that could impact their economic viability. OPG continuously monitors such trends in costs in order to keep abreast of emerging issues. OPG seeks to manage and limit cost increases through contracting strategies, where possible.

### **Financial Risks**

*OPG is exposed to a number of discrete market-related risks that could adversely impact its financial and operating performance.*

OPG is exposed to a number of financial risks, many of which arise due to OPG's exposure to volatility in commodity, equity and foreign exchange markets, and interest rate movements. Pension and OPEB costs would also be impacted by these market and interest rate movements. OPG manages this complex array of risks to reduce the uncertainty or mitigate the potential unfavourable impact on the Company's financial results.

#### Commodity Markets

*Changes in the market price of electricity or of the fuels used to produce electricity can adversely impact OPG's earnings and cash flow from operations.*

To manage the risk of unpredictable increases in the price of fuels, the Company has fuel hedging programs, which include using fixed price and indexed contracts.

OPG's revenue from its unregulated assets is also affected by changes in the market or spot price of electricity. The majority of this exposure will cease to exist with the implementation of a regulated price for most of OPG's currently unregulated hydroelectric facilities, which have been prescribed for rate regulation by the OEB, effective July 1, 2014. Over the first half of 2014, a \$1/MWh change in the expected spot market price of electricity would impact OPG's unregulated revenue by approximately \$7 million.



The percentage of OPG's expected generation, fuel requirements and emission requirements hedged are shown below:

	2014	2015	2016
Estimated generation output hedged <sup>1</sup>	90%	98%	100%
Estimated fuel requirements hedged <sup>2</sup>	80%	68%	64%
Estimated nitric oxide (NO) emission requirement <sup>3</sup>	100%	100%	100%
Estimated SO <sub>2</sub> emission requirement hedged <sup>3</sup>	100%	100%	100%

<sup>1</sup> Represents the portion of megawatt-hours of: expected future generation production which is subject to regulated prices established by the OEB; agreements with the IESO, OEFC, and OPA; or other electricity contracts which are used as hedges.

<sup>2</sup> Represents the approximate portion of megawatt-hours of expected generation production (and year-end inventory targets) from each type of facility (nuclear and thermal) for which OPG has entered into contractual arrangements or obligations in order to secure the price of fuel. Excess fuel in inventories in a given year is attributed to the next year for the purpose of measuring hedge ratios.

<sup>3</sup> Represents the approximate portion of megawatt-hours of expected thermal production for which OPG has purchased, been allocated or granted emission allowances, and Emission Reduction Credits to meet OPG's obligations under Ontario Environmental Regulations 397/01.

### Financial Markets

*The market value of investments held by OPG's Nuclear Funds and the OPG registered pension plan could be significantly affected by changes in various market factors such as equity prices, interest rates, inflation, and commodity prices.*

### *Nuclear Funds Market Risk*

The Decommissioning Fund and the Used Fuel Fund contain investment allocations to certain asset classes including fixed income securities, domestic and international equity securities, pooled funds, infrastructure, and Canadian real estate. These funds are managed with the objective of generating sufficient returns over time to meet the associated nuclear waste and decommissioning obligations. The rates of return earned on these segregated funds are subject to various factors including the current and future financial markets conditions, which are inherently uncertain.

For the Used Fuel Fund, the Province guarantees the annual rate of return at 3.25 percent plus the change in the Ontario CPI for the first 2.23 million fuel bundles. A change in the value of the fund, as a result of changes in capital markets related to the first 2.23 million bundles, does not impact OPG's earnings. Unlike contributions subject to the Province's rate of return guarantee, OPG assumes the market risk for investment of funds set aside for incremental bundles.

The performance of the Nuclear Funds related to stations leased to Bruce Power is subject to the Bruce Lease Net Revenues Variance Account established by the OEB. The variance account partially mitigates market risk related to the Nuclear Funds as it captures the differences between actual and forecast earnings from the Nuclear Funds as they relate to the nuclear generating stations leased to Bruce Power. Forecast earnings refer to those approved by the OEB in setting regulated nuclear prices.

Residual risk to OPG's financial results continues to exist due to volatility in the financial and commodity markets, especially risk that affects the Nuclear Funds.

### *Post-Employment Benefit Obligations*

OPG's post-employment benefit obligations include pension, group life insurance, health care, and LTD benefits. OPG's post-employment benefit obligations and costs, and OPG's pension contributions could be materially affected in the future by numerous factors, including: changes in actuarial assumptions such as changes to discount rates; future investment returns; experience gains and losses; the current funded status of the pension plans; changes in benefits; changes in the regulatory environment including potential changes to the *Pension Benefits Act* (Ontario); divestitures; and the measurement uncertainty incorporated into the actuarial valuation process.

The OPG registered pension plan, which covers most employees and retirees, is a contributory defined benefit plan that is indexed to inflation. Contributions to the OPG registered pension plan are determined by actuarial valuations, which are filed with the appropriate regulatory authorities at least every three years. The most recent actuarial valuation of the OPG registered pension plan was completed as of January 1, 2011. Based on the actuarial valuation, in addition to its minimum required contribution, OPG may also include voluntary contributions towards the deficit in the registered pension plan. OPG will continue to assess the requirements for contributions to the registered pension plan. The next actuarial valuation of the OPG registered plan must have an actuarial valuation date no later than January 1, 2014, and must be filed by September 30, 2014. There is a risk that OPG's contribution to the registered pension plan could increase significantly as a result of the 2014 actuarial valuation. OPG's OPEB obligations are not funded and the associated employee benefits are paid from cash flow provided by operating activities.

#### Foreign Exchange and Interest Rate Markets

*OPG's earnings and cash flows can be affected by movements in the United States dollar relative to the Canadian dollar and by prevailing interest rates on its borrowings and investment programs.*

OPG's financial results are exposed to volatility in the Canadian/US foreign exchange rate as fuels and certain supplies and services purchased for generating stations are primarily denominated in US dollars (USD). In addition, the market price of electricity in Ontario is influenced by the exchange rate because of the interaction between the Ontario and neighbouring US interconnected electricity markets. The Ontario electricity spot market is also influenced by USD denominated commodity prices for natural gas which is used in electricity generation. To manage this risk, OPG employs various financial instruments such as forwards and other derivative contracts, in accordance with approved risk management policies. As at December 31, 2013, OPG had total foreign exchange contracts outstanding with a notional value of USD \$36 million.

The majority of OPG's existing debt is at fixed interest rates. Interest rate risk arises with the need to refinance existing debt and/or undertake new financing. The management of these risks is undertaken by using derivatives to hedge the exposure in accordance with corporate risk management policies. OPG periodically uses interest rate swap agreements to mitigate elements of interest rate risk exposure associated with anticipated new financing. As at December 31, 2013, OPG had interest rate swap contracts outstanding for hedging interest rate risk with a notional principal of \$100 million.

#### Trading

*OPG's financial performance can be affected by its trading activities.*

OPG's trading operations are closely monitored and total exposures are measured and reported to senior management on a daily basis. One of the metrics used to measure the financial risk of this trading activity is known as "Value at Risk" or "VaR". VaR is defined as a probabilistic maximum potential future loss expressed in monetary terms for a portfolio based on normal market conditions over a set period of time. During 2013, the VaR utilization ranged between nil and \$1 million compared to nil and \$0.5 million for 2012.

#### Credit

*Deterioration in counterparty credit and non-performance by suppliers and contractors can adversely impact OPG's earnings and cash flows from operations.*

The Company's credit risk exposure is a function of its electricity sales, trading and hedging activities, treasury activities including investing, and commercial transactions with various suppliers of goods and services. OPG's credit risk exposure relating to electricity sales is considered low as the majority of sales are through the IESO-administered spot market. The IESO oversees the credit worthiness of all market participants.

Other major components of credit risk exposure include those associated with vendors that are contracted to provide services or products. OPG manages its exposure to various suppliers or counterparties by evaluating their financial condition and ensuring that appropriate collateral or other forms of security are held by OPG.

The following table summarizes OPG's credit exposure to all counterparties from electricity transactions and trading December 31, 2013:

Credit Rating <sup>1</sup>	Number of Counterparties <sup>2</sup>	Potential Exposure <sup>3</sup> (million of dollars)	Potential Exposure for Largest Counterparties Number of Counterparties	Counterparty Exposure (million of dollars)
Investment grade	23	29	4	24
Below investment grade	5	2	1	2
IESO <sup>4</sup>	1	347	1	347
<b>Total</b>	<b>29</b>	<b>378</b>	<b>6</b>	<b>373</b>

<sup>1</sup> Credit ratings are based on OPG's own analysis, taking into consideration external rating agency analysis where available, as well as recognizing explicit credit support provided through parental guarantees, Letters of Credit or other forms of security.

<sup>2</sup> OPG's counterparties are defined on the basis of individual master agreements.

<sup>3</sup> Potential exposure is OPG's statistical assessment of maximum exposure over the life of each transaction at a 95 percent confidence interval.

<sup>4</sup> Credit exposure to the IESO peaked at \$648 million during 2013. The credit exposure and associated receivable vary each month based on electricity sales. The monthly receivable from the IESO is typically paid to OPG in the subsequent month as per the IESO payment schedule.

### Liquidity

*Rising liquidity requirements can impact OPG's capital investment projects.*

OPG operates in a capital intensive business. Significant financial resources are required to fund capital improvement projects. In addition, the Company has other significant disbursement requirements including investment in new generating capacity, annual funding obligations under the ONFA, pension contributions, payments towards OPEB and other benefit plans, and debt maturities with the OEFC. OPG must ensure it has the financial capacity and sufficient access to cost-effective financing sources to fund its capital requirements. A discussion of corporate liquidity is included under the heading, *Liquidity and Capital Resources*.

### Nuclear Waste and Decommissioning Obligations and Nuclear Funds

*The cost estimates of nuclear waste obligations are based on assumptions that evolve over time and could impact OPG's contributions to the Nuclear Funds to cover these costs.*

As required by the CNSC, OPG is responsible for the management of used nuclear fuel and L&ILW, and eventual decommissioning of all of its nuclear facilities, including the stations on lease to Bruce Power. OPG is required by various rules and regulations to provide cost estimates associated with its nuclear waste management and decommissioning obligations. These cost estimates are based on numerous underlying assumptions that are inherently uncertain, including station end of life dates and waste volumes. Increased cost estimates for the nuclear waste and decommissioning obligation, or a change in OPG's decommissioning strategy could increase OPG's contributions to the Nuclear Funds under the ONFA reference plan updates. To address the inherent uncertainty, OPG undertakes to review the underlying assumptions and baseline cost estimates at least once every five years. Certain underlying assumptions, such as station end of life dates and forecast for nuclear waste volumes, are reviewed annually, with resulting changes assessed for their impact to the liability. Changing business decisions, such as refurbishment decisions and premature unit closures, are reviewed as they occur and OPG uses the existing baseline cost information to estimate the impacts to the nuclear liability balance. Should changing circumstances be

assessed as material or significant, an early re-assessment of baseline costs could be performed before the five-year period is completed.

OPG's contributions to the Nuclear Funds are determined by ONFA reference plans, which are required to be updated at least every five years. The changes in contribution levels are determined based upon changes in the values of the Nuclear Funds as well as associated nuclear waste and decommissioning obligations. For the purposes of ONFA reference plan updates, the value of the Nuclear Funds is measured at a point in time. At such times, decreased values of the Nuclear Funds could increase OPG's required contributions under the ONFA.

### **Regulatory and Legislative Risks**

*OPG is subject to extensive federal and provincial legislation and regulations that have an impact on OPG's operations and financial position.*

OPG is subject to regulation by various entities including the OEB and the CNSC. The risks that arise from being a regulated entity include: the potential inability to receive full recovery of capital and operating costs; reductions in earnings; and increases in operating costs. These unfavourable impacts are mitigated by maintaining close contact with regulators and other authoritative bodies to ensure early identification and discussion of issues.

#### Rate Regulation

*Significant uncertainties remain regarding the outcome of rate proceedings, which determine the regulated prices for OPG's rate regulated operations.*

The prices for electricity generated from the prescribed facilities are determined by the OEB, currently on a forecast cost of service methodology. As with any regulated price established using this methodology, there is an inherent risk that the prices established by the regulator may not provide for recovery of all actual costs incurred by the regulated operations, or may not allow the regulated operations to earn the appropriate rate of return.

In September 2013, OPG filed a cost of service application for new regulated prices for the currently regulated facilities and the currently unregulated hydroelectric facilities, which have been prescribed for rate regulation, effective July 1, 2014, for 2014 and 2015. There is a considerable level of inherent uncertainty regarding the outcome of this proceeding, which is expected to consider a number of significant matters including the Niagara Tunnel project, OPG's Business Transformation initiative, compensation costs, the refurbishment of Darlington GS, and the inclusion of 48 additional regulated hydroelectric facilities in the scope of regulation. For further details on the application, refer to the disclosure under the heading, *Recent Developments*.

#### Legislative Risks

*OPG is subject to extensive federal and provincial legislation and regulations that have an impact on OPG's operations and financial position.*

OPG continues to monitor and actively engage with the provincial and federal governments in order to determine if future legislation will impact its business.

The 2013 Long-Term Energy Plan was released by the Province on December 2, 2013. The document is supportive of several proposed OPG initiatives and projects. A discussion of the 2013 Long-Term Energy Plan can be found under the heading, *Ontario's Long-Term Energy Plan* in the *Recent Developments* section of this MD&A.

## Nuclear Regulatory Requirements

*An aging nuclear fleet or changes in technical codes or laws may increase the risk of additional nuclear regulatory requirements.*

The uncertainty associated with nuclear regulatory requirements is primarily driven by plant aging, technology risks, and changes to technical codes. Addressing these requirements could add to the cost of operations, and in some instances, may result in a reduction or elimination of the productive capacity of a station, or in an earlier than planned replacement of a station component. Additionally, the operations of nuclear stations are often directly impacted by circumstances or events that occur at other nuclear stations across the globe. These circumstances or events may lead to CNSC regulatory changes with a significant impact on the cost and future operation of OPG's nuclear fleet.

In January 2014, the federal government introduced Bill C-22 which contains a new *Nuclear Liability and Compensation Act*. When passed, Bill C-22 will increase the nuclear liability limit from \$75 million to an initial \$650 million, with successive annual increases to \$750 million, \$850 million and finally to \$1 billion.

## **Enterprise-Wide Risks**

OPG's business prospects could be adversely affected by various enterprise-wide risks such as electricity demand and supply, human resources, health and safety, and corporate reputation. Significant risks that could have a potential enterprise-wide impact on OPG's business, reputation, financial condition, operating results and prospects are discussed below.

## Ontario Electricity Market

*Ontario electricity market conditions could impact OPG's revenue and operations.*

OPG's generation and market share continues to be impacted by many external factors including: the entrance of new participants in the Ontario market; the competitive actions of market participants; Ontario electricity demand; regulated electricity prices; changes in the regulatory environment; wholesale electricity prices in the interconnected markets; and Ontario's aggregate transmission system export capability.

SBG has, and will continue to be, an issue as new generation comes into service, while demand has either decreased or not grown at the same rate as capacity additions. For OPG, SBG can cause hydroelectric spill, reductions in generation from nuclear facilities, and add to wear and tear of station equipment due to increased dispatch.

To manage SBG conditions, the IESO dispatches units based on their offers and when the units become uneconomic it may require OPG to reduce hydroelectric generation and spill water and/or reduce generation output of nuclear units. The Hydroelectric SBG Variance Account authorized by the OEB may mitigate the financial impact of currently regulated hydroelectric spill due to SBG conditions. There is currently no similar mechanism for the recovery of losses due to SBG conditions affecting OPG's unregulated hydroelectric units or nuclear generating stations. OPG's September 2013 application to the OEB requests the extension of the Hydroelectric SBG Variance Account to include the majority of the output of the newly regulated hydroelectric stations. If authorized by the OEB, the account may also mitigate the financial impact of spills due to SBG conditions for hydroelectric stations that have been prescribed for rate regulation, effective July 1, 2014.

The structure of the Ontario electricity market is subject to regulation and market rules, changes to which may affect OPG's revenue. The sole Shareholder, the IESO, OEB, or other regulatory body may change or institute regulations or rules which can impact OPG's capability to generate revenue or ability to recover appropriate costs.



## People and Culture

*OPG's financial position could be affected if skilled human resources are not available or aligned with its operations.*

The development of new leaders and retention of staff in critical roles across OPG is a key factor to OPG's success. Another success factor is related to the effective transfer of knowledge from those in critical positions throughout OPG to future leaders. The risk associated with the alignment and/or availability of skilled and experienced resources continues to exist for OPG in specific areas, including leadership and project management positions. In addition, OPG's Business Transformation process is expected to result in the reduction of approximately 2,330 employees for the period January 1, 2011 to December 31, 2016 from ongoing operations.

There is also a risk of a mismatch between attrition levels and the resource requirements to meet OPG's future demands. To mitigate the impact of this risk, OPG has embarked upon an organization-wide workforce planning effort and has established ongoing monitoring processes to re-assess risks, issues and opportunities related to staffing on a regular basis. OPG also continues to focus on succession planning, leadership development, and knowledge retention programs to improve the capability of its workforce. OPG expects to meet the human resource needs of the business by leveraging attrition through realigning work and streamlining processes.

As of December 31, 2013, approximately 89 percent of OPG's regular labour force was represented by a union. OPG's collective agreement with the PWU runs through March 31, 2015. The collective agreement between OPG and The Society expires on December 31, 2015.

In addition to the regular workforce, construction work is performed through 20 craft unions with established bargaining rights on OPG facilities.

During the second quarter of 2012, legislation associated with the Ontario Provincial budget included measures that affect OPG, such as public sector pension reform, and compensation restraints for executives until Ontario ceases to have a budget deficit. These changes may adversely affect OPG's ability to retain or attract qualified employees, including those at the executive level, and may ultimately affect OPG's operations.

## Health and Safety

*OPG's safety management and risk control program is designed to effectively manage safety risks in high risk areas.*

OPG's operations involve inherent occupational safety risks and hazards. The Company is committed to achieving its goal of zero injuries and continuous improvement through maintenance of a formal safety management system at the corporate level which is integrated at the site levels. This system serves to focus OPG on proactively managing safety risks and hazard exposures to employees and contractors.

## Corporate Reputation

*OPG is exposed to reputational risk associated with changes in the opinion of various stakeholders regarding its public profile. OPG undertakes various assurance and risk management activities to manage risks to its corporate reputation.*

As a provider of a large portion of the Province's electricity requirements, maintaining a positive corporate reputation is critical for OPG. OPG focuses on building and maintaining its reputation through many practices, including corporate citizenship initiatives across the Province, appropriate and transparent governance practices, and effective communication with stakeholders. In addition, OPG undertakes continuous improvement initiatives in various assurance and risk management activities. Issue management and response plans are developed to address specific reputational issues as they arise.

### Transmission and Interconnection Systems

*OPG could face transmission constraints, which could impact its operations and ability to supply electricity to the Ontario electricity markets.*

OPG depends on the capacity and reliability of the Ontario transmission system that connect its generators to the Ontario grid and ultimately with customers in Ontario. In Ontario, the capacity of such transmission systems is limited under certain conditions and the OEB's approval is required for system expansion.

Ontario may also face transmission constraints into or due to interconnected markets and its ability to import and /or export power. The capacity and operating reliability of such interconnection, transmission, and distribution systems are factors which may impact the IESO dispatch in Ontario thereby potentially affecting OPG's capability to supply the Ontario grid. This could result in a significant loss in generation revenues and increased costs.

### Ownership by the Province

*OPG's commitment to maximize the return on the Shareholder's investment in OPG's assets may compete with the obligation of the Shareholder to respond to a broad range of matters.*

The Province owns all of OPG's issued and outstanding common shares. Accordingly, the Province determines the composition of the OPG's Board of Directors and can directly influence major decisions including those related to project development, timing and strategy of the applications for regulated prices, asset divestitures, financing, and capital structure. OPG could be subject to Shareholder directions that require OPG to undertake activities that result in increased expenditures, or that reduce revenues or earnings, relative to the business activities or strategies that would have otherwise been undertaken. In addition, OPG's corporate interests and the wider interests of the Province may compete as a result of the obligation of the Province to respond to a broad range of matters affecting OPG's business environment.

### Information Technology

*OPG's ability to operate effectively is in part dependent on effectively managing its Information Technology (IT) requirements. IT system failures may have an adverse impact on OPG.*

OPG's ability to operate effectively is in part dependent upon developing or subcontracting and managing a complex IT systems infrastructure. Failure to meet IT requirements, effectively deal with cyber security threats, and manage system changes and conversions could result in future system failures, or an inability to align IT systems to support the business. In addition, OPG could be exposed to operational risks, reputational damage and/or financial losses in the event of IT security breaches. To mitigate these risks, OPG closely monitors its IT systems and service requirements as well as changes in its operating environment.

### Suppliers

*Non-performance by strategic suppliers or an inability to diversify the supplier base could adversely impact the financial results and reputation of OPG.*

OPG's ability to operate effectively is in part dependent upon access to equipment, materials, and service suppliers. Loss of key equipment, materials, and service suppliers, particularly for the nuclear business, could affect OPG's ability to operate effectively. OPG mitigates this risk to the extent possible through effective contract negotiations, contract language, vendor monitoring, and diversification of its supplier base.

### Interconnected Electricity Markets

*OPG is one of many market participants that trades competitively in the interconnected markets.*

OPG competes in interconnected electricity markets while taking into account many external factors, including: the cost to transmit electricity to these markets; the price of electricity in these markets; the competitive actions of other generators and power marketers; the state of deregulation in Ontario and the interconnected markets; currency exchange rates; new trade limitations; and costs to comply with environmental standards imposed in these markets. OPG's trading subsidiary OPG Energy Trading retains a Federal Energy Regulatory Commission licence.

### Leases, Partnerships and Subsidiaries

*OPG's financial performance could be affected if the risks associated with its leases and partnerships materialize.*

OPG has leased its Bruce nuclear generating stations to Bruce Power and is a party to a number of partnerships related to the ownership and operation of generating stations.

Under the Bruce Lease, lease revenue is reduced in each calendar year where the Average HOEP falls below \$30/MWh and certain other conditions are met. The conditional reduction to revenue in the future, embedded in the terms of the Bruce Lease, is treated as a derivative. Derivatives are measured at fair value and changes in fair value are recognized in the consolidated statements of income.

For 2013, the annual Average HOEP dropped below \$30/MWh and as a result OPG is refunding a lease payment of \$79 million to Bruce Power in 2014. In addition, as a result of an expected decrease in future annual Average HOEP, the fair value of the derivative liability increased by \$33 million during 2013. The derivative liability was \$346 million at December 31, 2013, compared to \$392 million at December 31, 2012. The expected decrease in future annual Average HOEP is an annual exposure which will continue until the Bruce units that are subject to this mechanism are no longer in operation, specific units are refurbished, or when the lease agreement is terminated. This exposure is mitigated as part of the OEB regulatory process, since the revenue from the lease of the Bruce generating stations is included in the determination of nuclear regulated prices and is subject to the Bruce Lease Net Revenues Variance Account.

A subsidiary to OPG, CNP, was created to provide management and technical service expertise in the areas of the nuclear, hydroelectric and thermal electricity generation business. CNP relies on the expertise from OPG to offer its services.

OPG operated, jointly controlled, and leased facilities are subject to numerous operational, financial, regulatory, and environmental risk factors.

### Business Continuity and Emergency Management

*Natural, technological, or human-caused hazards may impact OPG's business continuity.*

OPG is also exposed to potential or actual incidents or developments resulting from natural, technological, or human-caused hazards that could threaten the continuity of OPG's business operations. OPG may be exposed to a significant event against which it is not fully insured or indemnified, or to a party that fails to meet its indemnification obligations.

OPG's Business Continuity program provides a framework to build resilience into critical business processes by facilitating development of risk response plans and business continuity exercises. OPG's Emergency Management program ensures that the corporation can manage an emergency in a timely and effective manner. OPG's plan and various implementing procedures identify immediate response actions that will be taken to protect the health and safety of employees, the public, and to limit the impact of the crisis on site security, production capability, and the environment. The program elements are designed to meet legal and regulatory requirements. The goals of both the

programs are to protect the health and safety of employees, the public and responders, the environment, and OPG's assets and reputation.

#### First Nations and Métis Communities

*The outcome of negotiations with the First Nations and Métis communities in Ontario depends on many factors such as legislation and precedents created by court rulings.*

OPG may be subject to claims by First Nations and Métis communities. These claims stem from projects and generation development related to the historic operations of Ontario Hydro that may have impacted First Nations and Métis title or rights. Precedents created by court rulings also impact negotiations and resolution of past grievances.

OPG has a First Nations and Métis Relations Policy, which sets out its commitment to build and maintain positive relationships with the First Nations and Métis communities. OPG has been successful in resolving some past grievances. However, the outcome of the ongoing and future negotiations with the First Nations and Métis communities depends on a number of factors, including legislation and regulations, which are subject to change over time.

#### **Environmental Risks**

*OPG may be subject to fines, penalties, and claims, if it is not in compliance with the applicable environmental laws. Changes in environmental regulations can result in existing operations being in a state of non-compliance, a potential inability to comply, potential liabilities, and costs for OPG.*

Changes to environmental laws could create compliance risks and result in potential liabilities that may be addressed by the installation of control technologies, the purchase of emission reduction credits, allowances or offsets, or by constraining electricity production. Further, some of OPG's activities have the potential to impair natural habitat, damage aquatic or terrestrial plant and wildlife, or cause contamination to land or water that may require remediation. In addition, a failure to comply with applicable environmental laws may result in enforcement actions, including the potential for orders or charges.

OPG is required to comply with the Standards and Guidelines for Conservation of Provincial Heritage Properties which came into effect in July 2010. OPG is required to implement a heritage conservation program and certain generating stations and assets could be identified as heritage properties. As such, the Company may be required to incur costs to meet the requirements of the *Ontario Heritage Act*.

## RELATED PARTY TRANSACTIONS

Given that the Province owns all of the shares of OPG, related parties include the Province, Infrastructure Ontario, OPA and the other successor entities of Ontario Hydro, including Hydro One Inc. (Hydro One), the IESO, and the OEFC, and jointly controlled entities. The transactions between OPG and related parties are measured at the exchange amount, which is the amount of consideration established and agreed to by the related parties.

These transactions for the years ended December 31 are summarized below:

<i>(millions of dollars)</i>	Revenue 2013	Expenses	Revenue 2012	Expenses
Hydro One				
Electricity sales	15	-	10	-
Services	-	14	-	14
Province of Ontario				
Gross revenue charge, water rentals and land tax	-	124	-	118
Guarantee fee	-	8	-	8
Used Fuel Fund rate of return guarantee	-	755	-	282
Decommissioning Fund excess funding	-	560	-	64
Pension benefits guarantee fee	-	1	-	2
OEFC				
Gross revenue charge and proxy property tax	-	208	-	201
Interest expense on long-term notes	-	187	-	189
Capital tax	-	1	-	(3)
Income taxes, net of investment tax credits	-	28	-	77
Contingency support agreement	360	-	283	-
Infrastructure Ontario				
Reimbursement of expenses incurred during the procurement process for new nuclear units	-	-	-	(1)
IESO				
Electricity sales	3,754	62	3,823	34
Ancillary services	125	-	56	-
OPA	136	-	92	-
	4,390	1,948	4,264	985

The balances, as at December 31, between OPG and its related parties are summarized below:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Receivables from related parties		
Hydro One	2	3
IESO	317	337
OEFC	67	84
OPA	14	16
PEC	2	2
Accounts payable and accrued charges		
Hydro One	3	2
OEFC	51	51
Province of Ontario	2	3

## **CORPORATE GOVERNANCE AND AUDIT AND FINANCE COMMITTEE INFORMATION**

Disclosures related to Corporate Governance and Audit and Finance Committee Information are included in OPG's 2013 Annual Information Form.

## **INTERNAL CONTROLS OVER FINANCIAL REPORTING AND DISCLOSURE CONTROLS**

Management, including the President and Chief Executive Officer (President and CEO) and the Chief Financial Officer, are responsible for maintaining Disclosure Controls and Procedures (DC&P) and Internal Controls over Financial Reporting (ICOFR). DC&P is designed to provide reasonable assurance that all relevant information is gathered and reported to senior management, including the President and CEO and the Chief Financial Officer, on a timely basis so that appropriate decisions can be made regarding public disclosure. ICOFR is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the financial statements in accordance with US GAAP.

An evaluation of the effectiveness of design and operation of OPG's DC&P and ICOFR was conducted as of December 31, 2013. Management, including the President and CEO and the Chief Financial Officer, concluded that, as of December 31, 2013, OPG's DC&P and ICOFR (as defined in National Instrument 52-109 – *Certification of Disclosure in Issuers' Annual and Interim Filings, of the Canadian Securities Administrators*) were effective.

There were no material changes in OPG's ICOFR for the most recent interim period that have materially affected or are reasonably likely to materially affect OPG's ICOFR.



## FOURTH QUARTER

### Discussion of Results

(millions of dollars) (unaudited)	Three Months Ended December 31	
	2013	2012
Regulated generation sales	801	821
Spot market sales	87	106
Variance accounts	37	272
Other	249	(4)
Revenue	1,174	1,195
Fuel expense	176	207
Variance accounts	(9)	(8)
Total fuel expense	167	199
Gross margin	1,007	996
Operations, maintenance and administration	720	734
Depreciation and amortization	236	169
Accretion on fixed asset removal and nuclear waste management liabilities	189	181
Earnings on nuclear fixed asset removal and nuclear waste management funds	(166)	(170)
Restructuring	2	-
Property and capital taxes	10	7
Income before other income, interest, and income taxes	16	75
Other income	(7)	-
Income before interest and income taxes	23	75
Net interest expense	23	28
Income before income taxes	-	47
Income tax (recovery) expense	(4)	16
Net income	4	31

Net income decreased by \$27 million during the fourth quarter of 2013, compared to the same quarter in 2012. The following summarizes the significant items which caused the variance in net income:

*Significant factors that reduced income before other income, interest and income taxes:*

- decrease in gross margin of \$67 million due to lower nuclear generation of 1.3 TWh.

*Significant factors that increased income before other income, interest and income taxes:*

- higher earnings of \$25 million from the Unregulated – Thermal segment, excluding the impact of other income and restructuring expense, primarily as a result of higher contract revenue
- higher gross margin of \$13 million from the hydroelectric segments due to higher generation volume.

#### Nuclear Funds Earnings

Earnings from the Nuclear Funds for the three months ended December 31, 2013 were \$166 million. This was slightly lower than \$170 million for the same quarter in 2012. The decrease of \$4 million mainly resulted from an adjustment to recognize the overfunded status of the Decommissioning Fund, net of the increased earnings from Used Fuel Fund and the impact of the Bruce Lease Net Revenues Variance Account.

#### Other income

Other income increased by \$7 million during the fourth quarter of 2013, compared to the same period in 2012. The primary reason for the increase was the recognition of a \$9 million loss in 2012 related to the write-off of costs for the Thunder Bay gas conversion project.

## Income Taxes

Income tax recovery for the fourth quarter of 2013 was \$4 million, compared to income tax expense of \$16 million for 2012. The decrease in income tax expense was primarily due to a reduction in income before income taxes in the fourth quarter of 2013 and lower income tax components of regulatory assets for variance and deferral accounts.

## Average Sales Prices and Average Revenue

The average sales prices and average revenue were as follows:

(¢/kWh)	Three Months Ended December 31	
	2013	2012
Weighted average HOEP	2.3	2.5
Regulated – Nuclear Generation <sup>1</sup>	5.7	5.6
Regulated – Hydroelectric <sup>1</sup>	4.0	3.5
Unregulated – Hydroelectric <sup>1</sup>	2.5	2.6
Unregulated – Thermal <sup>1</sup>	-	2.2
Average revenue for OPG <sup>2</sup>	5.6	5.3
Average revenue for all electricity generators, excluding OPG <sup>3</sup>	9.8	8.4

<sup>1</sup> Average sales prices are computed as net generation sales or spot market sales divided by net generation volume.

<sup>2</sup> Average revenue for OPG is comprised of regulated revenues, market based revenues, and other energy revenues primarily from agreements for the Nanticoke, Lambton, Thunder Bay, and Lennox generating stations, and revenue from hydroelectric ESAs.

<sup>3</sup> Revenues for other electricity generators are calculated as the sum of hourly Ontario demand multiplied by the HOEP, plus total global adjustment payments, plus the sum of hourly net exports multiplied by the HOEP, less OPG's generation revenue.

The increase in the average sales prices for OPG's regulated segments during the fourth quarter of 2013 was a result of the OEB's approval of new rate riders, effective January 1, 2013. Average sales prices for OPG's unregulated generation segments decreased during the fourth quarter of 2013 largely due to a decrease in the HOEP.

## Electricity Generation

OPG's electricity generation for the three months was as follows:

(TWh)	Three Months Ended December 31	
	2013	2012
Regulated – Nuclear Generation	10.7	12.0
Regulated – Hydroelectric	4.8	4.4
Unregulated – Hydroelectric	3.6	3.2
Unregulated – Thermal	0.2	1.0
Total OPG electricity generation	19.3	20.6
Total electricity generation by all other generators in Ontario	19.8	17.3

The decrease in electricity generation of 1.3 TWh during the fourth quarter of 2013 was primarily due to lower electricity generation from the Regulated – Nuclear Generation and the Unregulated – Thermal segments. Reduced generation in these segments was partially offset by higher hydroelectric generation. Increased planned outage days in the nuclear segment and ceased operation of the remaining coal-fired units at the Lambton GS and Nanticoke GS were the drivers for lower generation.

Ontario's primary demand was 35.6 TWh in during the fourth quarter of 2013. This was up slightly from 34.8 TWh during the fourth quarter of 2012.

## Liquidity and Capital Resources

Cash flow provided by operating activities during the three months ended December 31, 2013 was \$191 million, compared to \$154 million for the same period in 2012. The increase in cash flow was primarily due to higher cash receipts from generation revenue during the fourth quarter of 2013.

Cash flow used in investing activities during the three months ended December 31, 2013 was \$400 million, compared to \$415 million during the same period in 2012. The slight decrease was mainly due to lower capital expenditures for the Niagara Tunnel project and the Lower Mattagami River project during the fourth quarter of 2013. The decrease was partially offset by higher capital expenditures for the Darlington Refurbishment project.

Cash flow provided by financing activities during the three months ended December 31, 2013 was \$20 million, compared to \$83 million for the same period in 2012. The decrease in cash flow was primarily due to a smaller amount of debt issued for the Lower Mattagami River project during the fourth quarter of 2013.

## QUARTERLY FINANCIAL HIGHLIGHTS

The following tables set out selected financial information from OPG's unaudited interim consolidated financial statements for each of the eight most recently completed quarters. This financial information has been prepared in accordance with US GAAP.

(millions of dollars) (unaudited)	2013 Quarters Ended				Total
	December 31	September 30	June 30	March 31	
Revenue	1,174	1,244	1,190	1,255	4,863
Net income	4	30	73	28	135
Net income per share (dollars)	\$0.02	\$0.12	\$0.28	\$0.11	\$0.53

(millions of dollars) (unaudited)	2012 Quarters Ended				Total
	December 31	September 30	June 30	March 31	
Revenue	1,195	1,213	1,125	1,199	4,732
Net income	31	139	43	154	367
Net income per share (dollars)	\$0.12	\$0.54	\$0.17	\$0.60	\$1.43

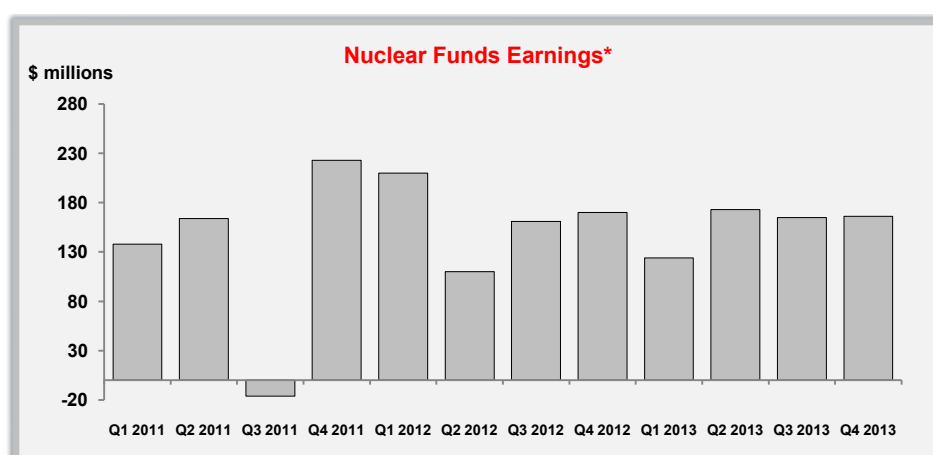
(millions of dollars) (unaudited)	2011 Quarters Ended				Total
	December 31 (adjusted)	September 30 (adjusted)	June 30 (adjusted)	March 31 (adjusted)	
Revenue	1,228	1,250	1,202	1,284	4,964
Net income (loss)	230	(154)	109	153	338
Net income (loss) per share (dollars)	\$0.90	\$(0.61)	\$0.43	\$0.60	\$1.32

## Balance Sheet as at December 31

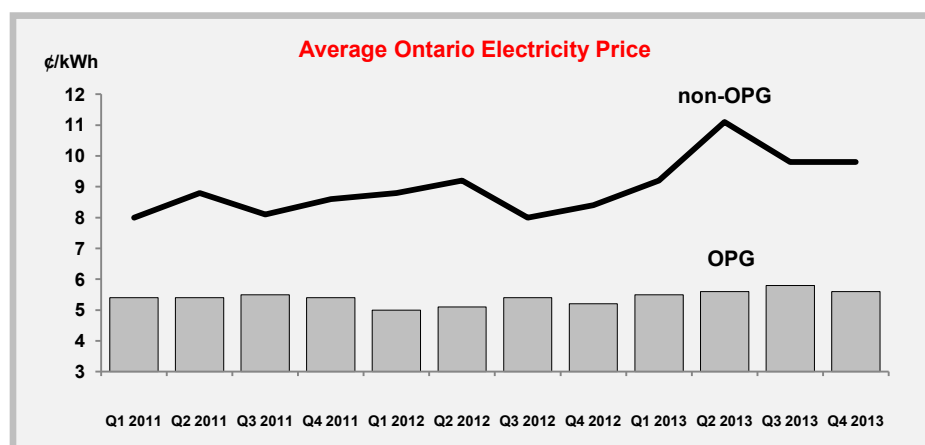
	2013	2012	2011
<i>(millions of dollars)</i>			<i>(adjusted)</i>
Total assets	<b>38,091</b>	37,601	34,443
Total long-term liabilities	<b>28,652</b>	28,789	25,387
Common shares outstanding <i>(millions)</i>	<b>256.3</b>	256.3	256.3

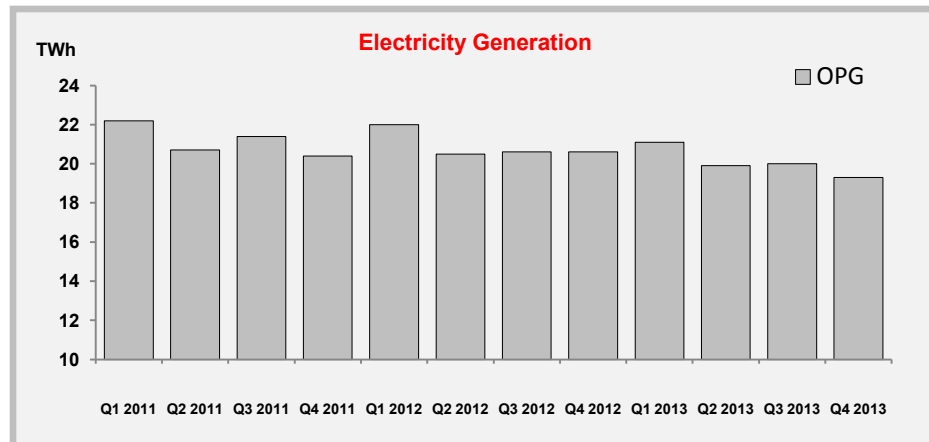
## Trends

OPG's quarterly results are affected by changes in demand primarily resulting from variations in seasonal weather conditions. Historically, OPG's revenues are higher in the first quarter of a fiscal year as a result of winter heating demands, and in the third quarter due to air conditioning and cooling demands.



\*net of regulatory variance account





Additional items which affected net income (loss) in certain quarters above are described below:

- an increase in pension and OPEB costs in 2011. This was largely a result of lower discount rates in 2011
- a decrease in revenue during the first quarter of 2011. This was mainly due to lower revenue recognized related to the energy supply contract for the Lennox GS and a decrease in thermal generation revenue. The decrease in revenue was partially offset by higher revenue related to a Contingency Support Agreement established with the OEFC for the Nanticoke and Lambton coal-fired generating stations and higher nuclear generation revenue
- a decrease in gross margin during 2011. This primarily was a result of the cessation of additions to the Tax Loss Variance Account based on the OEB's March 2011 decision
- during the second quarter of 2011, OPG recorded a regulatory asset of \$41 million related to the Pension and OPEB Cost Variance Account. This resulted in reductions to OM&A expenses and income tax expense of \$30 million and \$11 million, respectively
- during the third quarter of 2011, OPG recognized \$19 million of restructuring charges. These charges were due to severance costs related to the closure of the two coal-fired generating units at the Nanticoke GS on December 31, 2011
- during the third quarter of 2011, OPG completed a review of the ARO for most of its thermal stations. This resulted in a loss of \$81 million being recognized in accordance with US GAAP in the Thermal business segment, and income of \$15 million in the Other category
- a decrease in revenue during the fourth quarter of 2011. This was mainly due to lower generation from the unregulated hydroelectric and nuclear segments, and lower sales prices
- an increase in income in 2011. This was related to the resolution of a number of tax uncertainties for certain prior years, and the recognition in 2011 of investment tax credits for eligible scientific research and experimental development expenditures related to prior years
- a decrease in gross margin during the first quarter of 2012. This was mainly due to lower unregulated hydroelectric generation revenue as a result of lower electricity sales prices and lower generation, and lower revenue from the Contingency Support Agreement, mainly due to the closure of Units 1 and 2 at the Nanticoke GS for the Unregulated – Thermal segment
- lower OM&A expenses for the first quarter of 2012. This was related to the impact of the recognition of a regulatory asset related to the Impact for USGAAP Deferral Account authorized by the OEB during the first quarter of 2012

- a decrease in gross margin during the second quarter of 2012. This was mainly due to lower electricity sales prices and lower unregulated hydroelectric generation revenue
- a decrease in depreciation expense during the second quarter of 2012. This was mainly due to the recognition of the regulatory asset for the Nuclear Liability Deferral Account as a result of the 2012 ONFA Reference Plan approval in June 2012
- at December 31, 2012, the Decommissioning Fund became overfunded. When the Decommissioning Fund becomes overfunded, OPG limits the earnings it recognizes by recording a payable to the Province
- during the first and third quarter of 2013, a decrease in net income as a result of lower nuclear generation, and higher nuclear OM&A as a result of an increase in outage and maintenance activities
- an increase in the recognition of severance costs during the third quarter of 2013, primarily related to the Shareholder declaration mandating that OPG cease the use of coal at the Lambton GS and the Nanticoke GS by December 31, 2013.

Additional information about OPG, including its Annual Information Form, and audited consolidated financial statements as at and for the year ended December 31, 2013 and notes thereto can be found on SEDAR at [www.sedar.com](http://www.sedar.com).

## SUPPLEMENTARY NON-GAAP FINANCIAL MEASURES

In addition to providing net income in accordance with US GAAP, OPG's MD&A, audited consolidated financial statements as at and for the year ended December 31, 2013 and 2012, and the notes thereto, present certain non-GAAP financial measures. These non-GAAP measures do not have any standardized meaning prescribed by US GAAP. Therefore, they may not be comparable to similar measures presented by other issuers.

OPG uses these non-GAAP measures in making operating decisions and assessing its performance. Readers of the MD&A, consolidated financial statements and the notes thereto use these measures to assess the Company's financial performance from ongoing operations. The Company believes that these indicators are important since they provide additional information about OPG's performance, facilitate comparison of results over different periods, and present a measure consistent with the corporate strategy to operate on a financially sustainable basis. These non-GAAP financial measures have not been presented as an alternative to net income in accordance with US GAAP, but as an indicator of operating performance. The definitions of the non-GAAP financial measures are as follows:

(1) **ROE** is defined as net income divided by average shareholder's equity excluding AOCI, for the period. ROE is measured over a 12-month period ended December 31 and is calculated as follows:

<i>(millions of dollars – except where noted)</i>	<b>2013</b>	<b>2012</b>
ROE		
Net income	<b>135</b>	367
Divided by: Average shareholder's equity excluding AOCI	<b>8,951</b>	8,700
ROE (percent)	<b>1.5</b>	4.2

(2) **FFO Interest Coverage** is defined as FFO before interest divided by Adjusted Interest Expense. FFO before interest is defined as cash flow provided by operating activities adjusted for interest paid, interest capitalized to fixed and intangible assets, and changes to non-cash working capital balances for the period. Adjusted Interest Expense includes net interest expense plus interest income, interest capitalized to fixed and intangible assets, interest applied



to regulatory assets and liabilities, and interest on pension and OPEB projected benefit obligations less expected return on plan assets for the period.

**FFO Interest Coverage** is measured over a 12-month period ended December 31 and is calculated as follows:

<i>(millions of dollars – except where noted)</i>	<b>2013</b>	<b>2012</b>
FFO before interest		
Cash flow provided by operating activities	<b>1,174</b>	876
Add: Interest paid	<b>255</b>	246
Less: Interest capitalized to fixed and intangible assets	<b>(127)</b>	(126)
Add: Changes to non-cash working capital balances	<b>(239)</b>	(172)
FFO before interest	<b>1,063</b>	824
Adjusted Interest Expense		
Net interest expense	<b>86</b>	117
Add: Interest income	<b>10</b>	7
Add: Interest capitalized to fixed and intangible assets	<b>127</b>	126
Add: Interest related to regulatory assets and liabilities <sup>1</sup>	<b>66</b>	17
Add: Interest on pension and OPEB projected benefit obligations less expected return on plan assets	<b>92</b>	103
Adjusted Interest Expense	<b>381</b>	370
FFO Interest Coverage <i>(times)</i>	<b>2.8</b>	2.2

<sup>1</sup> The twelve months ended December 31, 2012 number has been adjusted to include all adjustments to interest expense related to regulatory assets and liabilities.

(3) **Gross margin** is defined as revenue less fuel expense.

(4) **Earnings** are defined as net income.

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# STATEMENT OF MANAGEMENT'S RESPONSIBILITY

## FOR FINANCIAL INFORMATION

Ontario Power Generation Inc.'s (OPG) management is responsible for the presentation and preparation of the annual consolidated financial statements and Management's Discussion and Analysis (MD&A).

The consolidated financial statements have been prepared in accordance with United States generally accepted accounting principles (US GAAP) and the rules and regulations of the United States Securities and Exchange Commission for annual financial statements, as required by *Ontario Regulation 395/11*, as amended, a regulation under the *Financial Administration Act* (Ontario), effective January 1, 2012. The MD&A has been prepared in accordance with the requirements of securities regulators, including National Instrument 51-102 of the Canadian Securities Administrators and its related published requirements.

The consolidated financial statements and information in the MD&A necessarily include amounts based on informed judgments and estimates of the expected effects of current events and transactions with appropriate consideration to materiality. Something is considered material if it is reasonably expected to have a significant impact on the Company's earnings, cash flow, value of an asset or liability, or reputation. In addition, in preparing the financial information we must interpret the requirements described above, make determinations as to the relevancy of information to be included, and make estimates and assumptions that affect the reported information. The MD&A also includes information regarding the impact of current transactions and events, sources of liquidity and capital resources, operating trends, risks and uncertainties. Actual results in the future may differ materially from our present assessment of this information because future events and circumstances may not occur as expected.

In meeting our responsibility for the reliability of the financial information, we maintain and rely on a comprehensive system of internal controls and internal audits, including organizational and procedural controls and internal controls over financial reporting. Our system of internal controls includes: written communication of our policies and procedures governing corporate conduct and risk management; comprehensive business planning; effective segregation of duties; delegation of authority and personal accountability; careful selection and training of personnel; and accounting policies, which we regularly update. This structure ensures appropriate internal controls over transactions, assets and records. We also regularly audit internal controls. These controls and audits are designed to provide us with reasonable assurance that the financial records are reliable for preparing financial statements and other financial information, assets are safeguarded against unauthorized use or disposition, liabilities are recognized, and we are in compliance with all regulatory requirements.

Management, including the President and Chief Executive Officer (CEO) and Chief Financial Officer (CFO), is responsible for maintaining disclosure controls and procedures (DC&P) and internal controls over financial reporting (ICOFR). DC&P is designed to provide reasonable assurance that all relevant information is gathered and reported to senior management, including the President and CEO and the CFO, on a timely basis so that appropriate decisions can be made regarding public disclosure. ICOFR is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the consolidated financial statements in accordance with US GAAP.

An evaluation of the effectiveness of the design and operation of OPG's DC&P and ICOFR was conducted as of December 31, 2013. Accordingly, we, as OPG's President and CEO and CFO, will certify OPG's annual disclosure documents filed with the Ontario Securities Commission, which includes attesting to the design and effectiveness of OPG's DC&P and ICOFR.

The Board of Directors, based on recommendations from its Audit and Finance Committee, reviews and approves the consolidated financial statements and the MD&A, and oversees management's responsibilities for the presentation

and preparation of financial information, maintenance of appropriate internal controls, management and control of major risk areas, and assessment of significant and related party transactions.

The consolidated financial statements have been audited by Ernst & Young LLP, independent external auditors appointed by the Board of Directors. The Independent Auditors' Report outlines the auditors' responsibilities and the scope of their examination and their opinion on OPG's consolidated financial statements. The independent external auditors, as confirmed by the Audit and Finance Committee, had direct and full access to the Audit and Finance Committee, with and without the presence of management, to discuss their audit and their findings therefrom, as to the integrity of OPG's financial reporting and the effectiveness of the system of internal controls.



**Tom Mitchell**  
*President and Chief Executive Officer*



**Robin Heard**  
*Interim Chief Financial Officer*

March 6, 2014

# INDEPENDENT AUDITORS' REPORT

## To the Shareholder of Ontario Power Generation Inc.

We have audited the accompanying consolidated financial statements of Ontario Power Generation Inc., which comprise the consolidated balance sheets as at December 31, 2013 and 2012, and the consolidated statements of income, comprehensive income, cash flows, and changes in shareholder's equity for the years then ended, and a summary of significant accounting policies and other explanatory information.

### Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with United States generally accepted accounting principles, and for such internal controls as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

### Auditors' Responsibility

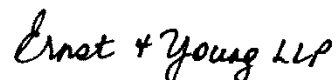
Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal controls relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal controls. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained in our audits is sufficient and appropriate to provide a basis for our audit opinion.

### Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of Ontario Power Generation Inc. as at December 31, 2013 and 2012 and the results of its operations and its cash flows for the years then ended in accordance with United States generally accepted accounting principles.



Ernst & Young LLP

Chartered Accountants,  
Licensed Public Accountants

Toronto, Canada

March 6, 2014

# CONSOLIDATED STATEMENTS OF INCOME

<b>Years Ended December 31</b> <i>(millions of dollars except where noted)</i>	<b>2013</b>	<b>2012</b>
<b>Revenue</b> (Note 16)	<b>4,863</b>	4,732
Fuel expense (Note 16)	<b>708</b>	755
<b>Gross margin</b> (Note 16)	<b>4,155</b>	3,977
<b>Expenses</b> (Note 16)		
Operations, maintenance and administration	<b>2,747</b>	2,648
Depreciation and amortization (Note 4)	<b>963</b>	664
Accretion on fixed asset removal and nuclear waste management liabilities (Note 8)	<b>756</b>	725
Earnings on nuclear fixed asset removal and nuclear waste management funds (Note 8)	<b>(628)</b>	(651)
Property and capital taxes	<b>53</b>	47
Restructuring (Note 22)	<b>50</b>	3
	<b>3,941</b>	3,436
<b>Income before other income, interest and income taxes</b>	<b>214</b>	541
Other income (Notes 16 and 19)	<b>(38)</b>	(10)
<b>Income before interest and income taxes</b>	<b>252</b>	551
Net interest expense (Note 7)	<b>86</b>	117
<b>Income before income taxes</b>	<b>166</b>	434
Income tax expense (Note 9)	<b>31</b>	67
<b>Net income</b>	<b>135</b>	367
<b>Basic and diluted income per common share</b> (dollars)	<b>0.53</b>	1.43
<b>Common shares outstanding</b> (millions)	<b>256.3</b>	256.3

See accompanying notes to the consolidated financial statements

# CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

<b>Years Ended December 31</b> <i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
<b>Net income</b>	<b>135</b>	367
<b>Other comprehensive income (loss), net of income taxes</b>		
Net gain (loss) on derivatives designated as cash flow hedges <sup>1</sup>	<b>14</b>	(11)
Reclassification to income of losses on derivatives designated as cash flow hedges <sup>2</sup>	<b>13</b>	18
Reclassification to income of amounts related to pension and other post-employment benefits <sup>3</sup>	<b>42</b>	27
Actuarial gain (loss) and past service credits on re-measurement of liabilities for pension and other post-employment benefits <sup>4</sup>	<b>226</b>	(123)
<b>Other comprehensive income (loss) for the year</b>	<b>295</b>	(89)
<b>Comprehensive income</b>	<b>430</b>	278

<sup>1</sup> Net of income tax expenses of \$3 million and recoveries of \$1 million for 2013 and 2012, respectively.

<sup>2</sup> Net of income tax expenses of \$2 million and \$1 million for 2013 and 2012, respectively.

<sup>3</sup> Net of income tax expenses of \$15 million and \$8 million for 2013 and 2012, respectively.

<sup>4</sup> Net of income tax expenses of \$75 million and recoveries of \$41 million for 2013 and 2012, respectively.

*See accompanying notes to the consolidated financial statements*



# CONSOLIDATED STATEMENTS OF CASH FLOWS

<b>Years Ended December 31</b> <i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
<b>Operating activities</b>		
Net income	135	367
Adjust for non-cash items:		
Depreciation and amortization <i>(Note 4)</i>	963	664
Accretion on fixed asset removal and nuclear waste management liabilities <i>(Note 8)</i>	756	725
Earnings on nuclear fixed asset removal and nuclear waste management funds <i>(Note 8)</i>	(628)	(651)
Pension and other post-employment benefit costs <i>(Note 11)</i>	455	406
Deferred income taxes and other accrued charges	(3)	51
Provision for other liabilities	-	4
Provision for restructuring <i>(Note 22)</i>	50	-
Mark-to-market on derivative instruments	39	284
Provision for used nuclear fuel and low and intermediate level waste	109	103
Regulatory assets and liabilities <i>(Note 5)</i>	(232)	(418)
Provision for materials and supplies	43	42
Other	(15)	2
	1,672	1,579
Contributions to nuclear fixed asset removal and nuclear waste management funds <i>(Note 8)</i>	(184)	(182)
Expenditures on fixed asset removal and nuclear waste management <i>(Note 8)</i>	(199)	(198)
Reimbursement of expenditures on nuclear fixed asset removal and nuclear waste management <i>(Note 8)</i>	75	70
Contributions to pension funds and expenditures on other post-employment benefits and supplementary pension plans <i>(Note 11)</i>	(407)	(474)
Expenditures on restructuring <i>(Note 22)</i>	(13)	(20)
Net changes to other long-term assets and liabilities	(9)	(71)
Net changes to non-cash working capital balances <i>(Note 17)</i>	239	172
<b>Cash flow provided by operating activities</b>	<b>1,174</b>	<b>876</b>
<b>Investing activities</b>		
Net proceeds from sale of long-term investments	-	24
Investment in property, plant and equipment and intangible assets <i>(Notes 4 and 16)</i>	(1,568)	(1,427)
<b>Cash flow used in investing activities</b>	<b>(1,568)</b>	<b>(1,403)</b>
<b>Financing activities</b>		
Issuance of long-term debt <i>(Note 6)</i>	515	775
Repayment of long-term debt <i>(Note 6)</i>	(4)	(405)
Increase (decrease) in short-term debt <i>(Note 7)</i>	32	(60)
<b>Cash flow provided by financing activities</b>	<b>543</b>	<b>310</b>
Net increase (decrease) in cash and cash equivalents	149	(217)
<b>Cash and cash equivalents, beginning of year</b>	<b>413</b>	<b>630</b>
<b>Cash and cash equivalents, end of year</b>	<b>562</b>	<b>413</b>

See accompanying notes to the consolidated financial statements

# CONSOLIDATED BALANCE SHEETS

<b>As at December 31</b> <i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
<b>Assets</b>		
<b>Current assets</b>		
Cash and cash equivalents	562	413
Receivables from related parties <i>(Note 18)</i>	402	442
Other accounts receivable and prepaid expenses	148	125
Nuclear fixed asset removal and nuclear waste management funds <i>(Notes 8 and 16)</i>	25	27
Fuel inventory <i>(Note 16)</i>	390	505
Materials and supplies <i>(Note 16)</i>	95	90
Regulatory assets <i>(Note 5)</i>	306	-
Income taxes recoverable	51	63
Deferred income taxes <i>(Note 9)</i>	-	68
	<b>1,979</b>	<b>1,733</b>
<b>Property, plant and equipment</b> <i>(Notes 4 and 16)</i>	<b>24,441</b>	<b>22,923</b>
Less: accumulated depreciation	<b>7,703</b>	<b>7,063</b>
	<b>16,738</b>	<b>15,860</b>
<b>Intangible assets</b> <i>(Notes 4 and 16)</i>	<b>402</b>	<b>380</b>
Less: accumulated amortization	<b>343</b>	<b>328</b>
	<b>59</b>	<b>52</b>
<b>Other assets</b>		
Nuclear fixed asset removal and nuclear waste management funds <i>(Notes 8 and 16)</i>	13,471	12,690
Long-term materials and supplies <i>(Note 16)</i>	330	355
Regulatory assets <i>(Note 5)</i>	5,094	6,478
Investments subject to significant influence <i>(Note 20)</i>	359	373
Other long-term assets	61	60
	<b>19,315</b>	<b>19,956</b>
	<b>38,091</b>	<b>37,601</b>

See accompanying notes to the consolidated financial statements

# CONSOLIDATED BALANCE SHEETS

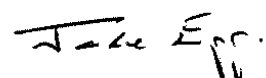
As at December 31 (millions of dollars)	2013	2012
<b>Liabilities</b>		
<b>Current liabilities</b>		
Accounts payable and accrued charges (Note 18)	1,026	891
Short-term debt (Note 7)	32	-
Deferred revenue due within one year	12	12
Deferred income taxes (Note 9)	14	-
Long-term debt due within one year (Note 6)	5	5
Regulatory liabilities (Note 5)	16	-
	<b>1,105</b>	<b>908</b>
<b>Long-term debt (Note 6)</b>	<b>5,620</b>	<b>5,109</b>
<b>Other liabilities</b>		
Fixed asset removal and nuclear waste management liabilities (Notes 8 and 16)	16,257	15,522
Pension liabilities (Note 11)	2,741	3,621
Other post-employment benefit liabilities (Note 11)	2,628	3,076
Long-term accounts payable and accrued charges	653	707
Deferred revenue	180	150
Deferred income taxes (Note 9)	565	563
Regulatory liabilities (Note 5)	8	41
	<b>23,032</b>	<b>23,680</b>
<b>Shareholder's equity</b>		
Common shares (Note 14) <sup>1</sup>	5,126	5,126
Retained earnings	3,892	3,757
Accumulated other comprehensive loss (Note 10)	(684)	(979)
	<b>8,334</b>	<b>7,904</b>
	<b>38,091</b>	<b>37,601</b>

<sup>1</sup> 256,300,010 common shares outstanding at a stated value of \$5,126 million as at December 31, 2013 and 2012.

Commitments and Contingencies (Notes 5, 6, 9, 11, 12, 13, and 15)

See accompanying notes to the consolidated financial statements

On behalf of the Board of Directors:



**Honourable Jake Epp**  
Chairman



**M. George Lewis**  
Director

## CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDER'S EQUITY

<b>Years Ended December 31</b>		
<i>(millions of dollars except where noted)</i>		
	<b>2013</b>	<b>2012</b>
<b>Common shares (Note 14)</b>	<b>5126</b>	5126
<b>Retained earnings</b>		
Balance at beginning of year	<b>3757</b>	3390
Net income	<b>135</b>	367
Balance at end of year	<b>3892</b>	3757
<b>Accumulated other comprehensive loss, net of income taxes</b>		
Balance at beginning of year	<b>(979)</b>	(890)
Other comprehensive income (loss) for the year	<b>295</b>	(89)
Balance at end of year	<b>(684)</b>	(979)
<b>Total shareholder's equity at end of year</b>	<b>8334</b>	7904

See accompanying notes to the consolidated financial statements

# NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

For the years ended December 31, 2013 and 2012

## 1. DESCRIPTION OF BUSINESS

Ontario Power Generation Inc. (OPG or the Company) was incorporated on December 1, 1998 pursuant to the *Business Corporations Act* (Ontario) and is wholly owned by the Province of Ontario (the Province). OPG is an Ontario-based electricity generation company whose principal business is the generation and sale of electricity in Ontario. OPG's mission is to be Ontario's low cost electricity generator through a focus on three corporate strategies: operational excellence, project excellence, and financial sustainability.

## 2. BASIS OF PRESENTATION

These consolidated financial statements have been prepared and presented in accordance with United States generally accepted accounting principles (US GAAP) and the rules and regulations of the United States Securities and Exchange Commission for annual financial statements, as required by *Ontario Regulation 395/11*, as amended, a regulation under the *Financial Administration Act* (Ontario) (FAA) effective January 1, 2012.

During the first quarter of 2014, OPG received exemptive relief from the Ontario Securities Commission (OSC) requirements of section 3.2 of National Instrument 52-107 *Acceptable Accounting Policies and Auditing Standards*. The exemption allows OPG to file consolidated financial statements based on US GAAP without becoming a Securities and Exchange Commission registrant, or issuing public debt. The exemption will terminate on the earliest of the following:

- January 1, 2019
- the financial year that commences after OPG ceases to have activities subject to rate regulation
- the effective date prescribed by the International Accounting Standards Board for the mandatory application of a standard within International Financial Reporting Standards specific to entities with rate-regulated activities.

This exemption replaces the exemptive relief received by OPG from the OSC in December 2011. The 2011 exemption allowed OPG to file consolidated financial statements based on US GAAP for financial years that began on or after January 1, 2012, but before January 1, 2015.

All dollar amounts are presented in Canadian dollars. Certain of the 2012 comparative amounts have been reclassified from financial statements previously presented to conform to the 2013 consolidated financial statement presentation.

## 3. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

### Consolidation

The consolidated financial statements of the Company include the accounts of OPG and its majority-owned subsidiaries, and a variable interest entity (VIE) where OPG is the primary beneficiary. All significant intercompany balances and intercompany transactions have been eliminated on consolidation.

Where OPG does not control an investment, but has significant influence over operating and financing policies of the investee, the investment is accounted for under the equity method. OPG co-owns the Portlands Energy Centre (PEC) gas-fired combined cycle generating station with TransCanada Energy Ltd. and co-owns the Brighton Beach

gas-fired combined cycle generating station with ATCO Power Canada Ltd. OPG accounts for its 50 percent ownership interest in each of these jointly controlled entities under the equity method.

### **Variable Interest Entities**

OPG performs ongoing analysis to assess whether it holds any VIEs. VIEs of which OPG is deemed to be the primary beneficiary are consolidated. The primary beneficiary of a VIE has both the power to direct the activities of the entity that most significantly impact its economic performance and the obligation to absorb losses of the entity that could potentially be significant to the Company. In circumstances where OPG is not deemed to be the primary beneficiary, the VIE is not recorded in OPG's consolidated financial statements.

In 2002, OPG and other Canadian nuclear waste producers established the Nuclear Waste Management Organization (NWMO) in accordance with the *Nuclear Fuel Waste Act* (NFWA). The primary long-term mandate of the NWMO is to implement an approach to address the long-term management of used nuclear fuel. In addition to the above mandate, the NWMO provides project management services for OPG's Deep Geologic Repository project for Low and Intermediate Level Waste (L&ILW) and other nuclear lifecycle liability management services. OPG has the majority of voting rights at the Board of Directors' and members' level. In addition, the NFWA requires the nuclear fuel waste owners to establish and make payments into trust funds for the purpose of funding the implementation of the long-term management plan. OPG currently provides approximately 90 percent of NWMO's funding, primarily towards the Adaptive Phase Management plan for the long-term management of nuclear used fuel. As a result, OPG is expected to absorb a majority of the NWMO's expected losses through future funding in the event of any shortfall. Therefore, OPG holds a variable interest in the NWMO, of which it is the primary beneficiary. Accordingly, the applicable amounts in the accounts of the NWMO, after elimination of all significant intercompany transactions, are consolidated.

### **Use of Management Estimates**

The preparation of financial statements in conformity with US GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the consolidated financial statements, and the reported amounts of revenues and expenses during the reporting periods. Management evaluates the Company's estimates on an ongoing basis based upon historical experience, current conditions, and assumptions believed to be reasonable at the time the assumption is made, with any adjustments recognized in the period incurred. Significant estimates are included in the determination of pension and other post-employment benefits (OPEB), asset retirement obligations (AROs), income taxes (including deferred income taxes), contingencies, regulatory assets and liabilities, valuation of derivative instruments, depreciation and amortization expenses, and inventories. Actual results may differ significantly from these estimates.

### **Cash and Cash Equivalents and Short-Term Investments**

Cash and cash equivalents include cash on deposit and money market securities with a maturity of less than 90 days on the date of purchase. All other money market securities with a maturity on the date of purchase that is greater than 90 days, but less than one year, are recorded as short-term investments. These securities are valued at the lower of cost and market.

Interest earned on cash and cash equivalents and short-term investments was \$7 million in 2013 (2012 – \$5 million) at an average effective rate of 1.2 percent (2012 – 1.1 percent). The interest earned was offset against interest expense in the consolidated statements of income.

### **Inventories**

Inventories, consisting of fuel and materials and supplies, are measured at the lower of cost and market. Cost is determined as weighted average cost for fuel inventory and average cost for materials and supplies.



## Property, Plant and Equipment, Intangible Assets and Depreciation and Amortization

Property, plant and equipment, and intangible assets are recorded at cost. Interest costs incurred during construction and development are capitalized as part of the cost of the asset based on the interest rates on OPG's long-term debt.

Depreciation and amortization rates for the various classes of assets are based on their estimated service lives. Any asset removal costs that have not been specifically provided for in current or previous periods are charged to operations, maintenance and administration (OM&A) expenses. Repairs and maintenance costs are also expensed when incurred.

Property, plant and equipment are depreciated on a straight-line basis except for computers, and transport and work equipment. These are mostly depreciated on a declining balance basis. Intangible assets, which consist of major application software, are amortized on a straight-line basis. As at December 31, 2013, the amortization periods of property, plant and equipment and intangible assets are as follows:

Nuclear generating stations and major components	15 to 59 years <sup>1</sup>
Thermal generating stations and major components	25 to 55 years
Hydroelectric generating stations and major components	10 to 100 years
Administration and service facilities	10 to 50 years
Computers, and transport and work equipment assets – declining balance	9% to 40% per year
Major application software	5 years
Service equipment	5 to 10 years

<sup>1</sup> As at December 31, 2013, the end of station life for depreciation purposes for the Darlington, Pickering, and Bruce A and B nuclear generating stations ranges between 2019 and 2051. Major components are depreciated over the lesser of the station life and the life of the components.

## Impairment of Long-Lived Assets

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The review is based on the presence of impairment indicators such as the future economic benefit of the assets and external market conditions. The net carrying amount of assets is considered impaired if it exceeds the sum of the estimated undiscounted cash flows expected to result from the asset's use and eventual disposition. In cases where the sum of the undiscounted expected future cash flows is less than the carrying amount, an impairment loss is recognized. This loss equals the amount by which the carrying amount exceeds the fair value. Fair value is determined using expected discounted cash flows when quoted market prices are not available. The impairment is recognized in income in the period in which it is identified.

The carrying value of investments accounted for under the equity method are reviewed for the presence of any indicators of impairment. If an impairment exists and is determined to be other-than-temporary, an impairment charge is recognized. This charge equals the amount by which the carrying value exceeds the investment's fair value.

## Rate Regulated Accounting

The *Ontario Energy Board Act, 1998* and *Ontario Regulation 53/05* provide that OPG receives regulated prices for electricity generated from the Sir Adam Beck 1, 2 and Pump generating station, DeCew Falls 1 and 2, and R.H. Saunders hydroelectric facilities, and the Pickering and Darlington nuclear facilities (prescribed or regulated facilities). OPG's regulated prices for these facilities are determined by the Ontario Energy Board (OEB). Forty-eight of OPG's currently unregulated hydroelectric generating facilities have been prescribed for rate regulation, effective July 1, 2014.

The OEB is a self-funding Crown corporation. Its mandate and authority come from the *Ontario Energy Board Act, 1998*, the *Electricity Act, 1998*, and a number of other provincial statutes. The OEB is an independent, quasi-judicial tribunal that reports to the Legislature of the Province through the Minister of Energy. It regulates market participants

in the Province's natural gas and electricity industries. The OEB carries out its regulatory functions through public hearings and other more informal processes, such as consultations.

US GAAP recognizes that rate regulation can create economic benefits and obligations that are required by the regulator to be obtained from, or settled with, the ratepayers. When the Company assesses that there is sufficient assurance that incurred costs in respect of the regulated facilities will be recovered in the future, those costs are deferred and reported as a regulatory asset. When the Company is required to refund amounts to ratepayers in the future in respect of the regulated facilities, including amounts related to costs that have not been incurred and for which the OEB has provided recovery through current regulated prices, the Company records a regulatory liability. Certain of the regulatory assets and liabilities recognized by the Company relate to variance and deferral accounts authorized by the OEB, including those authorized pursuant to *Ontario Regulation 53/05*. Variance accounts capture differences between actual costs and revenues, and the corresponding forecast amounts approved in the setting of regulated prices. The measurement of these regulatory assets and liabilities is subject to certain estimates and assumptions, including assumptions made in the interpretation of *Ontario Regulation 53/05* and the OEB's decisions. The estimates and assumptions made in the interpretation of the regulation and the OEB's decisions are reviewed as part of the OEB's regulatory process.

Regulatory assets and liabilities for variance and deferral account balances approved by the OEB for inclusion in regulated prices are amortized based on approved recovery periods. Disallowed balances, including associated interest, are charged to operations in the period that the OEB's decision is issued. Interest is applied to regulatory balances as prescribed by the OEB, in order to recognize the cost of financing amounts to be recovered from, or repaid to, ratepayers.

Regulatory asset and liabilities for variance and deferral account balances approved by the OEB are classified as current if they are expected to be recovered from, or refunded to, ratepayers within 12 months of the end of the reporting period, based on recovery periods established by the OEB. All other regulatory asset and liability balances are classified as long-term on the consolidated balance sheets.

In addition to regulatory assets and liabilities for variance and deferral accounts authorized by the OEB, OPG recognizes regulatory assets for unamortized amounts recorded in accumulated other comprehensive income (AOCI) in respect of pension and OPEB obligations, and deferred income taxes, in order to reflect the expected recovery or refund of the amounts in respect of the regulated operations through future regulated prices charged to customers. There are measurement uncertainties related to these balances due to the assumptions made in the determination of pension and OPEB obligations and deferred income taxes attributed to the regulated facilities.

See Notes 5, 8, 9, and 11 to these consolidated financial statements for additional disclosures related to the OEB's decisions, regulatory assets and liabilities, and rate regulated accounting.

### **Fixed Asset Removal and Nuclear Waste Management Liabilities**

OPG recognizes AROs for fixed asset removal and nuclear waste management, discounted for the time value of money. OPG estimates both the amount and timing of future cash expenditures based on current plans for fixed asset removal and nuclear waste management. The liabilities are initially recorded at their estimated fair value, which is based on a discounted value of the expected costs to be paid.

On an ongoing basis, the liabilities for nuclear fixed asset removal and nuclear waste management (Nuclear Liabilities) are increased by the present value of the variable cost portion for the nuclear waste generated each year, with the corresponding amounts charged to operating expenses. Variable expenses relating to low and intermediate level nuclear waste are charged to OM&A expenses. Variable expenses relating to the management and storage of nuclear used fuel are charged to fuel expense. The liabilities may also be adjusted due to any changes in the estimated amount or timing of the underlying future cash flows. Upon settlement of the liabilities, a gain or loss would be recorded.

Accretion arises because the liabilities for fixed asset removal and nuclear waste management are reported on a net present value basis. Accretion expense is the increase in the carrying amount of the liabilities due to the passage of time.

The asset retirement cost is capitalized by increasing the carrying value of the related fixed assets. The capitalized cost is depreciated over the remaining service life of the related fixed assets and is included in depreciation and amortization expenses.

### **Nuclear Fixed Asset Removal and Nuclear Waste Management Funds**

Pursuant to the Ontario Nuclear Funds Agreement (ONFA) between OPG and the Province, OPG established a Used Fuel Segregated Fund (Used Fuel Fund) and a Decommissioning Segregated Fund (Decommissioning Fund) (together the Nuclear Funds). The Used Fuel Fund is intended to fund expenditures associated with the management of highly radioactive used nuclear fuel bundles, while the Decommissioning Fund was established to fund expenditures associated with nuclear fixed asset removal and the disposal of nuclear L&ILW. OPG maintains the Nuclear Funds in third-party custodial accounts that are segregated from the rest of OPG's assets.

OPG's investments in the Nuclear Funds and the corresponding payable/receivable to/from the Province are classified as held-for-trading. The Nuclear Funds are measured at fair value based on the bid prices of the underlying equity and fixed income securities, and, in the case of the alternative investment portfolio, using appropriate valuation techniques as outlined in Note 13 to these consolidated financial statements, with realized and unrealized gains and losses recognized in OPG's consolidated statements of income.

### **Investments in OPG Ventures Inc.**

Investments owned by the Company's wholly owned subsidiary, OPG Ventures Inc., are recorded at fair value, and changes to the fair value of the investments are included in revenue in the period in which the change occurs. The fair values of these investments are estimated using a methodology that is appropriate in light of the nature, facts, and circumstances of the respective investments and considers reasonable data and market inputs, assumptions, and estimates. See Note 13 to these consolidated financial statements for additional disclosures related to OPG's investments in OPG Ventures Inc.

### **Revenue Recognition**

All of OPG's electricity generation is offered into the real-time energy spot market administered by the Independent Electricity System Operator (IESO). Revenue is recognized as electricity is generated and metered to the IESO.

## Revenue Recognition – Regulated Generation

Energy revenue generated from OPG's currently regulated facilities has been based on regulated prices determined by the OEB that include a cost of service rate and a rate rider for the recovery or repayment of approved variance and deferral account balances. The following regulated prices, authorized by the OEB for electricity generated from the regulated facilities, were in effect during 2013 and 2012:

(\$/MWh)	2013	2012
<b>Regulated – Nuclear Generation</b>		
Regulated – Nuclear Generation cost of service regulated price	<b>51.52</b>	51.52
Regulated – Nuclear Generation rate riders <sup>1</sup>	<b>6.27</b>	4.33
	<b>57.79</b>	55.85
<b>Regulated – Hydroelectric</b>		
Regulated – Hydroelectric cost of service regulated price	<b>35.78</b>	35.78
Regulated – Hydroelectric rate riders <sup>1</sup>	<b>3.04</b>	(1.65)
	<b>38.82</b>	34.13

<sup>1</sup> In addition to the above rate riders, in 2013, the OEB authorized the interim period rate riders for the period from March 1, 2013 to December 31, 2013. This allowed for the recovery of the retroactive increase in the riders for the period from January 1, 2013 to February 28, 2013. The nuclear interim rate rider was \$0.41/MWh and the regulated hydroelectric interim rate rider was \$0.58/MWh.

The cost of service regulated prices applicable in 2013 and 2012 have been in effect since March 1, 2011 pursuant to the OEB's March 2011 decision and April 2011 order. These regulated prices were determined using a forecast cost of service methodology based on a revenue requirement, taking into account a forecast of production and operating costs for the regulated facilities and a return on rate base. Rate base is a regulatory construct that represents the average net level of investment in regulated fixed and intangible assets and an allowance for working capital.

The rate riders in effect during 2013 were established by the OEB following a decision in March 2013 approving a settlement agreement between OPG and intervenors on OPG's application to recover balances in deferral and variance accounts as at December 31, 2012. The settlement agreement and resulting riders are discussed further in Note 5 to these consolidated financial statements.

In September 2013, OPG filed an application with the OEB for new cost of service regulated prices, proposed to be effective January 1, 2014, using a forecast cost of service methodology. The requested regulated prices include the impact of the Niagara Tunnel declared in-service in March 2013. In addition, OPG's application seeks new rate riders effective January 1, 2015 to recover balances in certain variance and deferral accounts as at December 31, 2013. New regulated prices resulting from the application are expected to remain in effect until December 31, 2015. The decision on OPG's application will be made by the OEB following a public hearing process, which commenced in the fourth quarter of 2013.

In November 2013, the Province amended *Ontario Regulation 53/05* to prescribe 48 of OPG's currently unregulated hydroelectric generating facilities for rate regulation, effective July 1, 2014. These facilities represent all of OPG's hydroelectric generating facilities that are currently not rate-regulated and not subject to an energy supply agreement (ESA) with the OPA, and provide approximately 3,110 MW of generating capacity as at December 31, 2013. The amended regulation requires the OEB to establish the prices received for the production from these facilities. OPG's application, filed in September 2013, includes proposed regulated prices for production from these facilities effective July 1, 2014.

In December 2013, the OEB issued an order granting OPG's request to declare the existing cost of service regulated prices for the currently regulated facilities interim effective January 1, 2014. This may allow OPG to recover the

difference between the approved new regulated prices and the current prices, for the period between January 1, 2014 and the issuance of the order establishing new regulated prices.

The existing hydroelectric regulated prices are subject to a hydroelectric incentive mechanism (HIM) approved by the OEB, with a portion of the resulting net revenues shared with ratepayers. Under the mechanism, OPG receives the approved regulated price for the actual monthly average net energy production per hour from the regulated hydroelectric facilities, and in the hours where OPG's actual net energy production in Ontario is greater or less than the average net volume in the month, OPG's regulated hydroelectric revenues are adjusted by the difference between the average hourly net volume and OPG's actual net energy production from the regulated hydroelectric facilities multiplied by the spot market price. The Hydroelectric Incentive Mechanism Variance Account authorized by the OEB captures net revenues from the HIM that are required to be returned to ratepayers. OPG's September 2013 application proposes to continue the HIM with certain modifications.

#### Revenue Recognition – Unregulated Generation and Other Revenue

The electricity generation from OPG's unregulated assets receives the Ontario electricity spot market price, except where a cost recovery agreement or an ESA is in place.

The Lambton and Nanticoke generating stations during 2013 were subject to a Contingency Support Agreement with the Ontario Electricity Financial Corporation (OEFC). The agreement was provided for the recovery of costs associated with these coal-fired generating stations and maintaining these stations for reliability of supply to meet system needs after the Shareholder's resolution and regulations pertaining to carbon dioxide emission reductions. On November 1, 2013, the OEFC provided written notice that would terminate the Contingency Support Agreement, effective December 31, 2013, and triggered an amendment that allows OPG to recover certain costs for the 2014 year. Capacity provided by and production from one unit at Thunder Bay generating station was subject to a Reliability Must Run contract for the period from January 1, 2013 to December 31, 2013. Capacity provided by, and production from, the Lennox generating station was subject to an agreement with the OPA for the period from January 1, 2011 to December 31, 2012. In December 2012, the OPA and OPG executed a long-term Lennox ESA for the period from January 1, 2013 to September 30, 2022. The Lennox ESA allows the station to recover its costs, including a reasonable return, in providing generating capacity to the Ontario electricity system over the next 10 years.

OPG currently has Hydroelectric ESAs with the OPA for the Lac Seul and Ear Falls generating stations, the Healey Falls generating station, the Sandy Falls, Wawaitin, Lower Sturgeon, and Hound Chute generating stations, and the Lower Mattagami River project. Payments under the Lower Mattagami Hydroelectric ESA commenced when the first incremental unit was declared in service in January 2014.

Revenue generated by generating stations subject to a cost recovery agreement or an ESA is recognized in accordance with the terms of the agreement or contract.

OPG also sells into, and purchases from, interconnected markets of other provinces and the United States (US) northeast and midwest. All contracts that are not designated as hedges are recorded in the consolidated balance sheets at market value, with gains or losses recorded in the consolidated statements of income. Gains and losses on energy trading contracts (including those to be physically settled) are recorded on a net basis in the consolidated statements of income. Accordingly, power purchases of \$94 million were netted against revenue in 2013 (2012 – \$61 million).

OPG derives non-energy revenue under the terms of a lease arrangement and associated agreements with Bruce Power L.P. related to the Bruce nuclear generating stations. This includes lease revenue and revenue from services such as heavy water sales and detritiation. Revenue is also earned from isotope sales and ancillary services. The minimum lease payments are recognized in revenue on a straight-line basis over the term of the lease.

In addition, non-energy revenue includes isotope sales, real estate rentals and other service revenues. Revenues from these activities are recognized as services are completed, or as products are delivered.

### **Derivatives**

All derivatives, including embedded derivatives that must be separately accounted for, generally are classified as held-for-trading and recorded at fair value in the consolidated balance sheets. Transaction costs are expensed as incurred for financial instruments classified or designated as held-for-trading.

Derivatives qualify for hedge accounting if they meet stringent documentation requirements and the derivative instrument that is designated as a hedge is expected to effectively hedge the identified risk throughout the life of the hedged item. At the inception of a hedging relationship, OPG documents the relationship between the hedging instrument and the hedged item, its risk management objective and its strategy for undertaking the hedge. A documented assessment is made, both at the inception of a hedge and on an ongoing basis, of whether or not the derivatives that are used in hedging transactions are highly effective in offsetting the changes attributable to the hedged risks in the fair values or cash flows of the hedged items.

Specifically for cash flow hedges, the portion of the derivative gain or loss that is effective in offsetting the change in the cost or value of the underlying exposure is deferred in AOCI and later reclassified into net income when the underlying transaction occurs. Gains and losses on interest rate hedges are recorded as an adjustment to interest expense for the debt being hedged. Gains and losses that do not meet the effectiveness criteria are recorded in net income in the period incurred. When a derivative instrument hedge ceases to be effective as a hedge or a hedged item ceases to exist, any associated deferred gains or losses are derecognized from AOCI and are recognized in income in the current period.

Some of OPG's unregulated generation is exposed to changes in electricity prices associated with a wholesale spot market for electricity in Ontario. All derivative contracts not designated as hedges are recorded on the consolidated balance sheets as derivative assets or liabilities at fair value with changes in fair value recorded in the revenue of the Other category. Refer to Note 12 for a discussion of OPG's risks and the derivative instruments used to manage the risks.

### **Fair Value Measurements**

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly arm's-length transaction between market participants at the measurement date. Fair value measurements are required to reflect the assumptions that market participants would use in pricing an asset or liability based on the best available information. These assumptions include the risks inherent in a particular valuation technique, such as a pricing model, and the risks inherent in the inputs to the model. OPG uses a fair value hierarchy, grouping financial assets and liabilities into three levels based on the relative objectivity of the inputs used to measure fair value, with Level 1 representing the highest. Refer to Note 13 for a discussion of fair value measurements and the fair value hierarchy.

### **Foreign Currency Translation**

Monetary assets and liabilities denominated in foreign currencies are translated into Canadian currency at exchange rates prevailing at the consolidated balance sheets date. Any resulting gain or loss is reflected in revenue.

### **Research and Development**

Research and development costs are expensed in the year incurred. Research and development costs incurred to discharge long-term obligations, such as the nuclear waste management liabilities, for which specific provisions have already been made, are charged to the related liability.



## Leases

Leases are evaluated and classified as either operating or capital leases for financial reporting purposes. Capital leases, which transfer substantially all of the risks and benefits incidental to ownership of the leased item, are capitalized at the inception of the lease at the fair value of the leased property or, if lower, at the present value of the minimum lease payments. Capital leases are depreciated over the shorter of the estimated useful life of the asset or the lease term.

Leases where the lessor retains substantially all the risks and benefits incidental to ownership of the asset are classified as operating leases. Operating lease payments, other than contingent rentals, are recognized as an expense in the consolidated statements of income on a straight-line basis over the lease term. Where the amount of rent expense recognized is less than the actual rental payments, the excess payment amount is recorded as deferred revenue and included in liabilities on the consolidated balance sheets.

## Pension and Other Post-Employment Benefits

OPG's post-employment benefit programs consist of a contributory defined benefit registered pension plan, a defined benefit supplementary pension plan, and other post-retirement benefits (OPRB) including group life insurance and health care benefits, and long-term disability (LTD) benefits. Post-employment benefit programs are also provided by the NWMO, which is consolidated into OPG's financial results. Information on the Company's post-employment benefit programs is presented on a consolidated basis.

OPG accrues its obligations under pension and OPEB plans in accordance with US GAAP. The obligations for pension and OPRB are determined using the projected benefit method pro-rated on service. The obligation for LTD benefits is determined using the projected benefit method on a terminal basis. Pension and OPEB obligations are impacted by factors including interest rates, adjustments arising from plan amendments, changes in demographic assumptions, experience gains or losses, salary levels, inflation, and cost escalation. Pension and OPEB costs and obligations are determined annually by independent actuaries using management's best estimate assumptions.

Assumptions are significant inputs to actuarial models that measure pension and OPEB obligations and related effects on operations. Two critical assumptions – discount rate and inflation – are important elements in the determination of benefit costs and obligations. In addition, the expected return on plan assets is a critical assumption in the determination of registered pension plan costs. These assumptions, as well as other assumptions involving demographic factors such as retirement age, mortality, and employee turnover, are evaluated periodically by management in consultation with independent actuaries. During the evaluation process, the assumptions are updated to reflect past experience and expectations for the future. Actual results in any given year will often differ from actuarial assumptions because of economic and other factors. In accordance with US GAAP, for pension and OPRB, the impact of these updates and differences on the respective benefit obligations is accumulated and amortized over future periods; for LTD benefits, the impact of these updates and differences is immediately recognized as OPEB costs in the period incurred.

The discount rates, which are representative of AA corporate bond yields, are used to calculate the present value of the expected future cash flows on the measurement date to determine the projected benefit obligations for the Company's employee benefit plans. A lower discount rate increases the benefit obligations and increases benefit costs. The expected rate of return on plan assets is based on current and expected asset allocation, as well as the expected return considering long-term historical risks and returns associated with each asset class within the plan portfolio. A lower expected rate of return on plan assets increases pension cost.

Pension fund assets include equity securities, corporate and government debt securities, pooled funds, real estate, infrastructure, and other investments. These assets are managed by professional investment managers. The funds do not invest in equity or debt securities issued by OPG. Pension fund assets are valued using market-related values for purposes of determining the amortization of actuarial gains or losses and the expected return on plan assets. The

market-related value recognizes gains and losses on equity assets relative to a six percent assumed real return over a five-year period.

Pension and OPEB costs include current service costs, interest costs on the obligations, the expected return on pension plan assets, adjustments for plan amendments and adjustments for actuarial gains or losses, which result from changes in assumptions and experience gains and losses. Past service costs or credits arising from pension and OPRB plan amendments are amortized on a straight-line basis over the expected average remaining service life to full eligibility of the employees covered by the plan. Past service costs or credits arising from amendments to LTD benefits are immediately recognized as OPEB costs in the period incurred. Due to the long-term nature of pension and OPRB liabilities, the excess of the net cumulative unamortized gain or loss, over 10 percent of the greater of the benefit obligation and the market-related value of the plan assets (corridor), is amortized over the expected average remaining service life of the employees since OPG expects to realize the associated economic benefit over that period. Actuarial gains or losses for LTD benefits are immediately recognized as OPEB costs in the period incurred.

OPG recognizes on its consolidated balance sheets the funded status of its defined benefit plans. The funded status is measured as the difference between the fair value of plan assets and the benefit obligation on a plan-by-plan basis.

Actuarial gains or losses and past service costs or credits that arise during the year that are not recognized immediately, as components of benefit costs are recognized as increases or decreases in other comprehensive income (OCI), net of income taxes. These unamortized amounts in AOCI are subsequently reclassified and recognized as components of pension and OPRB costs as discussed above.

OPG records an offsetting regulatory asset or liability for the portion of the adjustments to AOCI that is attributable to regulated operations in order to reflect the expected recovery or refund of these amounts through future regulated prices charged to customers. For the recoverable or refundable portion attributable to regulated operations, OPG records a corresponding change in this regulatory asset or liability for the amount of the increases or decreases in OCI and for the reclassification of AOCI amounts into benefit costs during the period.

When the recognition of the transfer of employees and employee-related benefits gives rise to both a curtailment and a settlement, the curtailment is accounted for prior to the settlement. A curtailment is the loss by employees of the right to earn future benefits under the plan. A settlement is the discharge of a plan's liability.

### **Income Taxes and Investment Tax Credits**

OPG is exempt from income tax under the *Income Tax Act* (Canada). However, under the *Electricity Act, 1998*, OPG is required to make payments in lieu of corporate income taxes to the OEFC. These payments are calculated in accordance with the *Income Tax Act* (Canada) and the *Taxation Act, 2007* (Ontario), as modified by the *Electricity Act, 1998* and related regulations. This results in OPG effectively paying taxes similar to what would be imposed under the federal and Ontario tax acts.

OPG follows the liability method of accounting for income taxes. Under the liability method, deferred income tax assets and liabilities are determined based on differences between the accounting and tax bases of assets and liabilities. Deferred amounts are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The effect of a change in tax rates on deferred income tax assets and liabilities is included in income in the period the change is enacted.

If management determines that it is more likely than not that some, or all, of a deferred income tax asset will not be realized, a valuation allowance is recorded to report the balance at the amount expected to be realized.

OPG recognizes deferred income taxes associated with its rate regulated operations and records an offsetting regulatory asset or liability for the deferred income taxes that are expected to be recovered or refunded through future regulated prices charged to customers.

Tax benefits associated with income tax positions taken, or expected to be taken, in a tax return and investment tax credits are recorded only when the more likely than not recognition threshold is satisfied. Tax benefits and investment tax credits recognized are measured at the largest amount of benefit that is greater than 50 percent likely of being realized upon settlement.

Investment tax credits are recorded as a reduction to income tax expense. OPG classifies interest and penalties associated with unrecognized tax benefits as income tax expense.

### **Changes in Accounting Policies and Estimates**

#### Regulatory Assets Related to Newly Regulated Hydroelectric Facilities

Forty-eight of OPG's currently unregulated hydroelectric facilities have been prescribed for rate regulation, effective on July 1, 2014. Upon the effective date of the regulation, OPG expects to recognize additional regulatory assets related to deferred income taxes, and unamortized amounts recorded in AOCI in respect of pension and OPEB obligations. The recognition of the increase in regulatory assets related to deferred income taxes expected to be recovered from customers through future regulated prices is expected to result in an extraordinary gain of approximately \$250 million in the consolidated statements of income. The additional regulatory assets related to pension and OPEB obligations are expected to result in an increase of approximately \$200 million in OCI, net of income taxes.

#### Pension and Other Post-Employment Benefits

The weighted average discount rate used to determine the projected pension benefit obligations and the projected benefit obligations for OPEB as at December 31, 2013 was 4.9 percent. This represents an increase, compared to the 4.3 percent discount rate that was used to determine the obligations as at December 31, 2012.

In 2013, OPG conducted an actuarial valuation for accounting purposes for its pension and OPEB plans using demographic data as at January 1, 2013, and assumptions as at December 31, 2013. As part of the valuation, the plan's demographic assumptions were reviewed and revised by independent actuaries. The revised assumptions include the adoption of:

- an updated OPG mortality table that captures the recent experience of OPG pension plan members
- a new scale for expected rates of improvement in future mortality.

The deficit for the registered pension plans decreased from \$3,332 million as at December 31, 2012 to \$2,461 million as at December 31, 2013 largely as a result of the increase in the discount rates at 2013 year end and the gain on pension fund assets in 2013, partially offset by the impact of the new mortality assumptions.

The projected benefit obligations for OPEB decreased from \$3,174 million at December 31, 2012 to \$2,719 million as at December 31, 2013. This decrease was largely due to the increase in the discount rates and the lower per capita health care claims costs assumption. It was partially offset by the impact of the new mortality assumptions.

As a result of the accounting policy for pension and OPEB, as at December 31, 2013, the unamortized net actuarial loss and unamortized past service costs for the pension and OPEB plans totalled \$3,899 million (2012 – \$5,593 million). Details of the unamortized net actuarial loss and unamortized past service costs at December 31, 2013 and 2012 are as follows:

<i>(millions of dollars)</i>	<b>Registered Pension Plans</b>		<b>Supplementary Pension Plans</b>		<b>Other Post-Employment Benefits</b>	
	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
Net actuarial (gain) loss not yet subject to amortization due to use of market-related values	<b>(886)</b>	91	-	-	-	-
Net actuarial loss not subject to amortization due to use of the corridor	<b>1,339</b>	1,367	<b>29</b>	30	<b>245</b>	288
Net actuarial loss subject to amortization	<b>3,043</b>	3,079	<b>50</b>	72	<b>78</b>	662
Unamortized net actuarial loss	<b>3,496</b>	4,537	<b>79</b>	102	<b>323</b>	950
Unamortized past service costs	-	-	-	-	<b>1</b>	4

A change in assumptions, holding all other assumptions constant, would increase (decrease) 2013 costs as follows:

<i>(millions of dollars)</i>	<b>Registered Pension Plans <sup>1</sup></b>	<b>Supplementary Pension Plans <sup>1</sup></b>	<b>Other Post-Employment Benefits <sup>1</sup></b>
Expected long-term rate of return			
0.25% increase	(26)	na	na
0.25% decrease	26	na	na
Discount rate			
0.25% increase	(52)	(1)	(13)
0.25% decrease	55	1	14
Inflation			
0.25% increase	81	2	1
0.25% decrease	(85)	(2)	(1)
Salary increases			
0.25% increase	19	4	1
0.25% decrease	(18)	(3)	(1)
Health care cost trend rate			
1% increase	na	na	94
1% decrease	na	na	(69)

na – change in assumption not applicable.

<sup>1</sup> Excluding the impact of the Pension OPEB Cost Variance Account.

#### Useful Lives of Long-Lived Assets

As a result of the announcement by the Minister of Energy to advance the date to cease operation of the remaining coal-fired units at the Lambton and Nanticoke generating stations, OPG has revised the end of life dates for the purposes of calculating depreciation from December 2014 to December 2013 for both generating stations. This change in estimate increased depreciation expense in 2013 by \$58 million reflecting the advancement of the 2014 expense. This increase in depreciation expense was offset by revenue from the Contingency Support Agreement with the OEFC.

### OPG's Reporting Structure

Effective January 1, 2014, OPG revised the composition of its reporting segments to reflect changes in its generation portfolio and to its internal reporting. These changes primarily reflect 48 of OPG's currently unregulated hydroelectric facilities being prescribed for rate regulation, effective July 1, 2014, and ceasing operation of the remaining coal-fired units at the Nanticoke and Lambton generating stations. For further details, refer to Note 16.

### Recent Accounting Pronouncements

#### *Comprehensive Income – Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income*

In February 2013, the Financial Accounting Standards Board issued an update to Accounting Standards Codification (ASC) Topic 220 which adds new disclosure requirements for items reclassified out of AOCI. The updates required OPG to present information about significant items reclassified out of AOCI by component in the consolidated financial statements. OPG has provided the required information in Note 10 of these consolidated financial statements and has applied the amendments for reporting periods beginning January 1, 2013.

#### *Investment Companies*

For reporting periods beginning January 1, 2014, OPG will adopt the updates to ASC Topic 946, *Investment Companies*. Based on the amended scope of the standard, OPG concluded that OPG Ventures Inc., the Decommissioning Fund, the Used Fuel Fund and the Ontario NFWA Trust should be treated as investment entities for accounting purposes. As the investments of these entities are already recorded at fair value, there were no measurement differences upon adoption of this update. However, additional disclosures are required in OPG's consolidated financial statements.

## **4. PROPERTY, PLANT AND EQUIPMENT, INTANGIBLE ASSETS AND DEPRECIATION AND AMORTIZATION**

Depreciation and amortization expenses for the years ended December 31 consist of the following:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Depreciation	<b>513</b>	480
Amortization of intangible assets	<b>14</b>	15
Amortization of regulatory assets and liabilities (Note 5)	<b>436</b>	169
	<b>963</b>	664

Property, plant and equipment as at December 31 consist of the following:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Nuclear generating stations	<b>9,116</b>	8,809
Regulated hydroelectric generating stations	<b>6,033</b>	4,548
Unregulated hydroelectric generating stations	<b>4,210</b>	4,140
Thermal generating stations	<b>1,552</b>	1,541
Other property, plant and equipment	<b>390</b>	383
Construction in progress	<b>3,140</b>	3,502
	<b>24,441</b>	22,923
Less: accumulated depreciation		
Generating stations	<b>7,483</b>	6,856
Other property, plant and equipment	<b>220</b>	207
	<b>7,703</b>	7,063
	<b>16,738</b>	15,860

Construction in progress as at December 31 consists of the following:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Niagara Tunnel	-	1,353
Lower Mattagami	1,982	1,353
Darlington Refurbishment	685	354
Atikokan Biomass Conversion	144	59
Other	329	383
	<b>3,140</b>	<b>3,502</b>

Intangible assets as at December 31 consist of the following:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Nuclear generating stations	114	112
Regulated hydroelectric generating stations	2	-
Unregulated hydroelectric generating stations	7	7
Thermal generating stations	1	2
Other intangible assets	256	249
Development in progress	22	10
	<b>402</b>	<b>380</b>
Less: accumulated amortization		
Generating stations	103	95
Other intangible assets	240	233
	<b>343</b>	<b>328</b>
	<b>59</b>	<b>52</b>

The estimated aggregate amortization expense for intangible assets currently recognized for each of the five succeeding years is as follows:

<i>(millions of dollars)</i>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Amortization expense	12	10	7	3	1

Interest capitalized to construction and development in progress at an average rate of five percent during 2013 (2012 – five percent) was \$127 million (2012 – \$126 million).

## 5. REGULATORY ASSETS AND LIABILITIES

In March 2013, the OEB approved the settlement agreement between OPG and intervenors on all aspects of OPG's September 2012 application requesting approval to recover balances in the authorized variance and deferral accounts as at December 31, 2012 (the Settlement Agreement). This resulted in approval of \$1,234 million recorded in the authorized variance and deferral accounts as at December 31, 2012, deferral for future review of \$34 million recorded in certain accounts as at December 31, 2012, and a write-off of \$7 million of interest recorded in certain accounts as at December 31, 2012. The interest write-off was recorded in net interest expense during the first quarter of 2013.

In approving the Settlement Agreement, the OEB decision authorized the disposition of approved balances over periods ranging from two to 12 years beginning on January 1, 2013. In April 2013, the OEB issued an order establishing new rate riders retroactively effective January 1, 2013 and authorizing OPG to collect \$633 million over the period from March 1, 2013 to December 31, 2014. During the year ended December 2013, the Company amortized balances approved for disposition based on recovery periods authorized by the OEB.

Any shortfall or over-recovery of approved balances due to differences between actual and forecast production is recorded in the authorized Nuclear Deferral and Variance Over/Under Recovery Variance Account and Hydroelectric Deferral and Variance Over/Under Recovery Variance Account to be collected from, or refunded to, ratepayers in the future.

Effective January 1, 2013, as part of the approved Settlement Agreement, OPG ceased recording interest on the balance of the Nuclear Liability Deferral Account (NLDA). For the period from January 1, 2013 to December 31, 2014, OPG is also not recording interest on the balance of the Bruce Lease Net Revenues Variance Account and the majority of the balance of the Pension and OPEB Cost Variance Account. Pursuant to the OEB's April 2013 order, OPG continues to record interest on all other variance and deferral accounts using the interest rate prescribed by the OEB. For the period from January 1, 2012 to December 31, 2013, the prescribed interest rate was 1.47 percent per annum.

The OEB's March 2013 decision and April 2013 order also authorized the continuation of previously existing variance and deferral accounts, including those authorized pursuant to *Ontario Regulation 53/05*. During the year ended December 31, 2013, the Company recorded additions to these variance and deferral accounts as authorized by the OEB. The OEB also approved OPG's use of US GAAP for regulatory purposes and, pursuant to the Settlement Agreement, ordered that only interest and amortization be recorded in the Impact for USGAAP Deferral Account effective January 1, 2013.

In its September 2013 application with the OEB for new regulated prices, OPG requested new rate riders effective January 1, 2015 to recover balances as at December 31, 2013 in those variance accounts, the review of which was deferred as part of the approved Settlement Agreement. These variance accounts are the Hydroelectric Incentive Mechanism Variance Account, the Hydroelectric Surplus Baseload Generation Variance Account, the nuclear capital and hydroelectric portions of the Capacity Refurbishment Variance Account, and the Nuclear Development Variance Account. OPG's September 2013 application is discussed further in Note 3.

During the year ended December 31, 2012, OPG recorded additions to variance and deferral accounts as authorized by the applicable OEB decisions and orders and, pursuant to the OEB's March 2011 decision and April 2011 order on OPG's application for regulated prices, amortized account balances as at December 31, 2010.



The regulatory assets and liabilities recorded as at December 31 are as follows:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Regulatory assets		
<i>Variance and deferral accounts as authorized by the OEB</i>		
Pension and OPEB Cost Variance Account	<b>667</b>	324
Bruce Lease Net Revenues Variance Account	<b>353</b>	311
Nuclear Liability Deferral Account	<b>254</b>	208
Tax Loss Variance Account	<b>124</b>	302
Capacity Refurbishment Variance Account	<b>100</b>	14
Nuclear Development Variance Account	<b>57</b>	30
Other variance and deferral accounts	<b>128</b>	127
	<b>1,683</b>	1,316
Pension and OPEB Regulatory Asset ( <i>Note 11</i> )	<b>3,158</b>	4,494
Deferred Income Taxes ( <i>Note 9</i> )	<b>559</b>	668
Total regulatory assets	<b>5,400</b>	6,478
Less: current portion	<b>306</b>	-
Non-current regulatory assets	<b>5,094</b>	6,478
Regulatory liabilities		
<i>Variance and deferral accounts as authorized by the OEB</i>		
Other variance and deferral accounts	<b>24</b>	41
Total regulatory liabilities	<b>24</b>	41
Less: current portion	<b>16</b>	-
Non-current regulatory liabilities	<b>8</b>	41

The changes in the regulatory assets and liabilities during 2013 and 2012 are as follows:

<i>(millions of dollars)</i>	<b>Pension and OPEB Cost Variance</b>	<b>Bruce Lease Net Revenues Variance</b>	<b>Nuclear Liability Deferral</b>	<b>Tax Loss Variance</b>	<b>Capacity Refurbish- ment Variance</b>	<b>Nuclear Develop- ment Variance</b>	<b>Pension and OPEB Regulatory Asset</b>	<b>Deferred Income Taxes</b>	<b>Other Variance and Deferral (net)</b>
Net regulatory assets (liabilities), January 1, 2012	96	196	22	425	(1)	(55)	3,553	699	(72)
Change during the year	225	248	206	-	10	25	941	(31)	107
Interest	3	3	1	5	-	-	-	-	-
Amortization during the year	-	(136)	(21)	(128)	5	60	-	-	51
Net regulatory assets December 31, 2012	324	311	208	302	14	30	4,494	668	86
Change during the year	402	110	123	-	93	26	(1,336)	(109)	68
Interest	1	(5)	(2)	3	-	1	-	-	-
Amortization during the year	(60)	(63)	(75)	(181)	(7)	-	-	-	(50)
<b>Net regulatory assets, December 31, 2013</b>	<b>667</b>	<b>353</b>	<b>254</b>	<b>124</b>	<b>100</b>	<b>57</b>	<b>3,158</b>	<b>559</b>	<b>104</b>

### **Pension and OPEB Cost Variance Account**

The OEB established the Pension and OPEB Cost Variance Account in its June 2011 decision and order. The variance account records the difference between actual pension and OPEB costs for the regulated business and related tax impacts, and the corresponding amounts reflected in the current regulated prices. The OEB's June 2011 decision and order established the account for the period from March 1, 2011 to December 31, 2012. In approving the Settlement Agreement, the OEB authorized the continuation of the variance account.

In its March 2013 decision and April 2013 order, the OEB authorized the recovery of 2/12 of the balance in the Pension and OPEB Cost Variance Account as at December 31, 2012 over a 24-month period ending December 31, 2014. The OEB also authorized the recovery of 10/12 of the account balance as at December 31, 2012 over a 144-month period ending December 31, 2024. Accordingly, effective January 1, 2013, OPG recorded amortization of the regulatory asset for the account on a straight-line basis over these periods.

### **Bruce Lease Net Revenues Variance Account**

As per *Ontario Regulation 53/05*, the OEB is required to include the difference between OPG's revenues and costs associated with its ownership of the two nuclear stations on lease to Bruce Power L.P. in the determination of the regulated prices for production from OPG's regulated nuclear facilities. The OEB established a variance account that captures differences between OPG's revenues and costs related to the nuclear generating station on lease to Bruce Power L.P. and the corresponding forecasts included in the approved nuclear regulated prices.

In its March 2013 decision and April 2013 order, the OEB ordered the portion of the balance in the Bruce Lease Net Revenues Variance Account as at December 31, 2012 related to the impact of the derivative liability embedded in the Bruce Power lease agreement (Bruce Lease) to be recovered on the basis of OPG's expected rent rebate payment to

Bruce Power L.P., including associated income tax impacts. Effective January 1, 2013, OPG recorded amortization of the regulatory asset for this portion of the account on this basis.

The remaining portion of the balance as at December 31, 2012 was authorized by the OEB to be recovered over a 48-month period ending December 31, 2016. Effective January 1, 2013, OPG recorded amortization of the regulatory asset for the non-derivative portion of the account on a straight-line basis over this period.

### **Nuclear Liability Deferral Account**

As per *Ontario Regulation 53/05*, the OEB has authorized the NLDA in connection with changes to OPG's liabilities for nuclear used fuel management and nuclear decommissioning and L&ILW management associated with the nuclear facilities owned and operated by OPG, which are comprised of the Pickering and Darlington nuclear generating stations. The deferral account records the revenue requirement impact associated with the changes in these liabilities arising from an approved reference plan, in accordance with the terms of the ONFA. During 2012, the Province approved the 2012 ONFA Reference Plan, covering the period from 2012 to 2016, with an effective date of January 1, 2012. As a result, OPG has been recording an increase to the regulatory asset for the NLDA effective January 1, 2012.

During the years ended December 31, 2013 and 2012, the following amounts have been recorded as components of the increase in the regulatory asset for the NLDA relating to the above increase in liabilities, with reductions to corresponding expenses:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Fuel expense	<b>26</b>	25
Low and intermediate level waste management variable expenses <sup>1</sup>	<b>1</b>	1
Depreciation expense	<b>52</b>	98
Return on rate base <sup>2</sup>	<b>2</b>	22
Interest <sup>3</sup>	<b>(2)</b>	1
Income taxes	<b>42</b>	60
	<b>121</b>	207

<sup>1</sup> Amount was recorded as a reduction to OM&A expenses.

<sup>2</sup> Amount was recorded as a reduction to accretion on fixed asset removal and nuclear waste management liabilities.

<sup>3</sup> Amount in 2013 represents the write-off of interest recorded on the balance of the account as of December 31, 2012, pursuant to the approved Settlement Agreement.

In its March 2013 decision and April 2013 order, the OEB approved the recovery of a portion of the balance in the NLDA as at December 31, 2012 over a 24-month period ending December 31, 2014. Accordingly, effective January 1, 2013, OPG recorded amortization for this account on a straight-line basis over this period.

### **Tax Loss Variance Account**

The Tax Loss Variance Account pertains to the treatment of tax losses and their use for mitigation. In accordance with a May 2009 decision by the OEB, this account recorded, up to March 1, 2011, the difference between the amount of mitigation included in the approved regulated prices established by the OEB's 2008 decision and the revenue requirement reduction available from carried forward prior period tax losses, as recalculated per the OEB's 2008 decision. Only interest and amortization are recorded in this account, effective March 1, 2011.

In its March 2013 decision and April 2013 order, the OEB approved the recovery of the balance in the account as at December 31, 2012 over a 24-month period ending December 31, 2014. Accordingly, effective January 1, 2013, OPG recorded amortization for this account on a straight-line basis over this period.

### **Pension and OPEB Regulatory Asset**

The regulated prices established by the OEB for generation from OPG's regulated facilities, using a forecast cost of service methodology, reflect amounts for pension and OPEB costs attributable to these facilities. These amounts are determined on the basis of the manner in which these costs are recognized in OPG's consolidated financial statements. Unamortized amounts, in respect of OPG's pension and OPEB plans that are recognized in AOCI, are not generally reflected in the regulated prices until these amounts are reclassified from AOCI, and recognized as amortization components of the benefit costs in respect of these plans. As such, OPG recognizes an offsetting regulatory asset for the unamortized amounts that have not yet been reclassified from AOCI to benefit costs. The regulatory asset is reversed, as underlying unamortized balances are amortized as components of the benefit costs.

The AOCI amounts related to pension and OPEB plans are presented in Note 11.

### **Deferred Income Taxes**

OPG is required to recognize deferred income taxes associated with its rate regulated operations, including deferred income taxes on temporary differences related to the regulatory assets and liabilities recognized for accounting purposes. In addition, OPG is required to recognize a separate regulatory asset or liability for the amount of deferred income taxes expected to be included in future regulated prices and recovered from, or paid to, customers.

### **Capacity Refurbishment Variance Account**

Pursuant to *Ontario Regulation 53/05*, the OEB has authorized the Capacity Refurbishment Variance Account (CRVA). The account captures variances from the forecasts reflected in the regulated prices for capital and non-capital costs incurred to increase the output of, refurbish, or add operating capacity to one or more of the regulated facilities. The balance in the account as at December 31, 2013 includes variances related to the Niagara Tunnel, the refurbishment of the Darlington nuclear generating station, life extension initiatives at the Pickering nuclear generation station, and other projects.

OPG determines amounts to be recovered from, or refunded to customers, with respect to variances in capital costs as the difference from forecast depreciation expense and cost of capital associated with OPG's investment in capital placed in-service and reflected in the current regulated prices, as well as associated income tax effects. The cost of capital amount in the account is calculated using the weighted average cost of capital, including a return on equity, as approved by the OEB in setting the current regulated prices. In accordance with US GAAP, in recognizing a regulatory asset or liability for the CRVA in its consolidated financial statements, OPG limits the portion of cost of capital additions recognized as a regulatory asset or liability to the amount calculated using the average rate of capitalized interest applied to construction and development in progress.

As the existing cost of service regulated prices established in 2011 do not reflect the impact of the Niagara Tunnel, the CRVA additions in 2013 included \$114 million to be recovered from ratepayers related to the Niagara Tunnel that was declared in-service in March 2013. This amount included \$83 million as the capital cost component determined using the weighted average cost of capital. In these consolidated financial statements, OPG recognized an increase of \$88 million in the regulatory asset for the CRVA related to the Niagara Tunnel in 2013, of which \$56 million represented the capital cost component determined using the average rate of five percent for capitalized interest applied to construction and development in progress for the year ended December 31, 2013.

OPG's September 2013 application to the OEB for new regulated prices includes the impact of the Niagara Tunnel starting in 2014 and requests recovery of the balance of the CRVA related to the Niagara Tunnel as at December 31, 2013. The application also requests recovery of the balance in the account for capital costs related to the refurbishment of the Darlington nuclear generating station, as at December 31, 2013. The amounts sought in the 2013 application to the OEB, in respect to the CRVA, are \$119 million.

In its March 2013 decision and April 2013 order, the OEB approved the recovery of the portion of the account balance as at December 31, 2012 related to non-capital nuclear costs over a 24-month period ending December 31, 2014. Accordingly, effective January 1, 2013, OPG recorded amortization of the regulatory asset for the non-capital nuclear portion of the account on a straight-line basis over this period.

### **Nuclear Development Variance Account**

The Nuclear Development Variance Account was established pursuant to *Ontario Regulation 53/05* and records differences between actual non-capital costs incurred by OPG in the course of planning and preparing for the development of proposed new nuclear facilities, and the forecast amount of these costs included in the current nuclear regulated prices.

In its March 2013 decision and April 2013 order, the OEB deferred the consideration of the recovery of the balance in the account as at December 31, 2012. OPG's September 2013 application to the OEB for new regulated prices requests recovery of the balance in the account as at December 31, 2013, which includes amounts recorded for the period from March 1, 2011 to December 31, 2013.

### **Other Variance and Deferral Accounts**

As at December 31, 2013 and 2012, regulatory assets for other variance and deferral accounts included amounts for the Nuclear Deferral and Variance Over/Under Recovery Variance Account, Ancillary Services Net Revenue Variance Account, the Impact for USGAAP Deferral Account, the Hydroelectric Water Conditions Variance Account, and the Hydroelectric Surplus Baseload Generation Variance Account.

The Ancillary Services Net Revenue Variance Account was authorized by the OEB to capture differences between actual nuclear and regulated hydroelectric ancillary services net revenue and the forecast amounts of such revenue approved by the OEB in setting regulated prices.

The Impact for USGAAP Deferral Account recorded, for the period from January 1, 2012 to December 31, 2012, the financial impacts resulting from OPG's transition to and implementation of US GAAP.

The Hydroelectric Water Conditions Variance Account captures the impact of differences in regulated hydroelectric electricity production due to differences between forecast water conditions underlying the hydroelectric production forecast approved by the OEB in setting current regulated hydroelectric prices, and the actual water conditions. The Hydroelectric Surplus Baseload Generation Variance Account records the impact of foregone production at OPG's regulated hydroelectric facilities due to surplus baseload generation conditions.

As at December 31, 2013 and 2012, regulatory liabilities for other variance and deferral accounts included amounts for the Income and Other Taxes Variance Account and the Hydroelectric Incentive Mechanism Variance Account. The Income and Other Taxes Variance Account includes deviations in income taxes for the regulated business, from those approved by the OEB in setting regulated prices and caused by changes in tax rates and rules, as well as reassessments.

The regulatory assets for other variance and deferral accounts as at December 31, 2013 and the regulatory liabilities for other variance and deferral accounts as at December 31, 2012 also included amounts for the Hydroelectric Deferral and Variance Over/Under Recovery Variance Account.

In its March 2013 decision and April 2013 order, the OEB approved the recovery or repayment of the majority of the balances of the other variance and deferral accounts as at December 31, 2012 over a 24-month period ending December 31, 2014. Accordingly, effective January 1, 2013, OPG recorded amortization of the balances on a straight-line basis over this period.

## 6. LONG-TERM DEBT

Long-term debt consists of the following as at December 31:

<i>(millions of dollars)</i>	2013	2012
<b>Long-term debt</b> <sup>1</sup>		
Notes payable to the Ontario Electricity Financial Corporation		
Senior Notes <sup>2</sup>		
3.43% due 2015	500	500
4.91% due 2016	270	270
5.35% due 2017	900	900
5.27% due 2018	395	395
5.44% due 2019	365	365
4.56% due 2020	660	660
4.28% due 2021	185	185
3.30% due 2022	150	150
3.12% due 2023	40	-
5.07% due 2041	300	300
4.36% due 2042	200	200
UMH Energy Partnership debt <sup>3</sup>		
Senior Notes		
7.86% due to 2041	193	195
Lower Mattagami Energy Limited Partnership <sup>4</sup>		
Senior Notes		
2.59% due 2015	92	94
2.35% due 2017	200	200
4.46% due 2021	225	225
5.26% due 2041	250	250
5.05% due 2043	200	-
4.26% due 2046	275	-
4.26% due 2052	225	225
	<b>5,625</b>	<b>5,114</b>
Less: due within one year	<b>5</b>	<b>5</b>
<b>Long-term debt</b>	<b>5,620</b>	<b>5,109</b>

<sup>1</sup> The interest rates disclosed reflect the effective interest rate of the debt.

<sup>2</sup> OEFC senior debt is entitled to receive, in full, amounts owing in respect of the senior debt and is pari passu to the UMH Energy Partnership and the Lower Mattagami Energy Limited Partnership (LME) senior notes.

<sup>3</sup> These notes are secured by the assets of the Upper Mattagami and Hound Chute project and are recourse to OPG until specified conditions have been satisfied following construction. These notes rank pari passu to the OEFC senior notes.

<sup>4</sup> These notes are secured by the assets of the Lower Mattagami River project, including existing operating facilities and facilities being constructed, and are recourse to OPG until the recourse release date. These notes rank pari passu to the OEFC senior notes.

OPG maintains a Niagara Tunnel project credit facility with the OEFC for an amount up to \$1.6 billion. Interest will be fixed for each note issued at the time of advance at a rate equal to the prevailing Benchmark Government of Canada 10-Year Bond, plus a credit spread determined by the OEFC based on a survey of market rates. OPG's borrowing under this facility is limited to the cost of the project. This credit facility expires on December 31, 2014. As at December 31, 2013, advances under this facility were \$1,065 million (2012 – \$1,025 million).

OPG entered into an agreement with the OEFC in December 2013 for a \$500 million general corporate credit facility. As of December 31, 2013, there were no outstanding borrowings under the credit facility. This credit facility expires on December 31, 2014.

Interest paid in 2013 was \$255 million (2012 – \$246 million), of which \$246 million (2012 – \$235 million) relates to interest paid on long-term corporate debt.

The book value of the pledged assets as at December 31, 2013 was \$2,756 million (2012 – \$2,099 million).

A summary of the contractual maturities by year is as follows:

<i>(millions of dollars)</i>	
2014	5
2015	593
2016	273
2017	1,103
2018	398
Thereafter	3,253
	<b>5,625</b>

## 7. SHORT-TERM DEBT AND NET INTEREST EXPENSE

OPG maintains a \$1 billion revolving committed bank credit facility, which is divided into two \$500 million multi-year term tranches. In the second quarter of 2013, OPG renewed and extended both tranches by one year to May 2018. As at December 31, 2013, there were no outstanding borrowings under the bank credit facility (2012 – nil).

The LME maintains a \$600 million bank credit facility to support the funding requirements for the Lower Mattagami River project. The facility consists of two tranches. The first tranche of \$400 million was reduced to \$300 million during the third quarter of 2013, and the maturity date was extended by one year to August 17, 2018. The second tranche of \$300 million has a maturity date of August 17, 2015. As at December 31, 2013, \$32 million of commercial paper was outstanding under this program (2012 – nil). In 2011, OPG executed a \$700 million credit facility with the OEFC in support of the Lower Mattagami River project. As at December 31, 2013 and 2012, there were no outstanding borrowings under this credit facility.

The Company has an agreement, which expires November 30, 2014, to sell an undivided co-ownership interest up to \$250 million in its current and future accounts receivable to an independent trust. The Company also retains an undivided co-ownership interest in the receivables sold to the trust. Under the agreement, OPG continues to service the receivables. The transfer provides the trust with ownership of a share of the payments generated by the receivables, computed on a monthly basis. The trust's recourse to the Company is generally limited to its income earned on the receivables. As at December 31, 2013, there were Letters of Credit outstanding under this agreement of \$80 million (2012 – \$55 million), which were issued in support of OPG's supplementary pension plans.

As at December 31, 2013, OPG maintained \$25 million of short-term, uncommitted overdraft facilities and \$374 million of short-term, uncommitted credit facilities, which support the issuance of the Letters of Credit. OPG uses Letters of Credit to support its supplementary pension plans and for other general corporate purposes.

As at December 31, 2013, there was a total of \$327 million of Letters of Credit issued. This included \$302 million for the supplementary pension plans, of which \$80 million related to accounts receivable sold to an independent trust, as discussed above; \$24 million for general corporate purposes; and \$1 million related to the operation of the PEC.

In addition, as at December 31, 2013, the NWMO has issued a Letter of Credit of \$4 million for its supplementary pension plan.



The following table summarizes the net interest expense for the years ended December 31:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Interest on long-term debt	<b>280</b>	256
Interest on short-term debt	<b>9</b>	11
Interest income	<b>(10)</b>	(7)
Interest capitalized to property, plant and equipment and intangible assets	<b>(127)</b>	(126)
Interest related to regulatory assets and liabilities <sup>1</sup>	<b>(66)</b>	(17)
<b>Net interest expense</b>	<b>86</b>	117

<sup>1</sup> Includes interest to recognize the cost of financing related to regulatory assets and liabilities and interest deferred in the Capacity Refurbishment Variance Account and the Bruce Lease Net Revenues Variance Account.

## 8. FIXED ASSET REMOVAL AND NUCLEAR WASTE MANAGEMENT LIABILITIES

The liabilities for fixed asset removal and nuclear waste management on a present value basis consist of the following as at December 31:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Liability for nuclear used fuel management	<b>9,957</b>	9,469
Liability for nuclear decommissioning and low and intermediate level waste management	<b>5,946</b>	5,708
Liability for non-nuclear fixed asset removal	<b>354</b>	345
<b>Fixed asset removal and nuclear waste management liabilities</b>	<b>16,257</b>	15,522

The changes in the fixed asset removal and nuclear waste management liabilities for the years ended December 31 are as follows:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Liabilities, beginning of year	<b>15,522</b>	14,392
Increase in liabilities due to accretion <sup>1</sup>	<b>826</b>	774
Increase in liabilities reflecting a change to the useful lives of the Pickering and Bruce nuclear generating stations	<b>-</b>	451
Increase in liabilities due to nuclear used fuel, nuclear waste management variable expenses and other expenses	<b>109</b>	103
Liabilities settled by expenditures on fixed asset removal and nuclear waste management	<b>(199)</b>	(198)
Change in the liabilities for non-nuclear fixed asset removal	<b>(1)</b>	-
<b>Liabilities, end of year</b>	<b>16,257</b>	15,522

<sup>1</sup> The increase in liabilities due to accretion for 2013 excludes reductions to accretion expense due to the impact of the NLDA of \$2 million (2012 – \$22 million) and the Bruce Lease Net Revenues Variance Account of \$68 million (2012 – \$27 million).

During 2013, expenditures on fixed asset removal and nuclear waste management included \$58 million in funding to the NWMO related to OPG's nuclear fixed asset removal and nuclear waste management liabilities (2012 – \$57 million).

OPG's fixed asset removal and nuclear waste management liabilities are comprised of expected costs to be incurred up to and beyond termination of operations and the closure of nuclear, thermal generating plant facilities, and other facilities. Costs will be incurred for activities such as preparation for safe storage, safe storage, dismantling, demolition and disposal of facilities and equipment, remediation and restoration of sites, and the ongoing and long-term management of nuclear used fuel and L&ILW waste material. Under the terms of the Bruce agreement, OPG

continues to be primarily responsible for the nuclear fixed asset removal and nuclear waste management liabilities associated with the Bruce nuclear generating stations.

The determination of the accrual for fixed asset removal and nuclear waste management costs requires significant assumptions since these programs run for many years. The most recent update of the estimates for the nuclear waste management and decommissioning liabilities is contained in the approved 2012 ONFA Reference Plan. The update resulted in an increased estimate of costs mainly due to higher costs for the construction of the L&ILW underground repository, higher costs for handling and storing of used fuel and L&ILW during station operations, and changes in economic indices. The increase was partially offset by lower expected costs to decommission reactors.

For the purposes of calculating OPG's nuclear fixed asset removal and nuclear waste management liabilities, as at December 31, 2013, consistent with the current accounting end of life assumptions, nuclear station decommissioning is projected to occur over the next 41 years.

To reflect the change in 2012 in estimated station useful lives for the Pickering generating station and the Bruce generating stations leased to Bruce Power L.P., OPG recorded an increase to the estimate of the Nuclear Liabilities of \$451 million at December 31, 2012.

The updated estimates for the Nuclear Liabilities included cash flow estimates for decommissioning nuclear stations for approximately 40 years after station shut down and to 2071 for placement of used fuel into the long-term disposal repository followed by extended monitoring. The undiscounted amount of estimated future cash flows associated with the liabilities is approximately \$33.8 billion in 2013 dollars. The weighted average discount rate used to calculate the present value of the liabilities at December 31, 2013 was 5.37 percent. The increase in the liabilities recorded as at December 31, 2012, which reflects the change in estimated useful lives and is consistent with the approved 2012 ONFA Reference Plan, was determined by discounting the net incremental future cash flows at 3.5 percent. The cost escalation rates used to determine the increase in the cost estimates ranged from 1.9 percent to 3.7 percent.

The significant assumptions underlying operational and technical factors used in the calculation of the accrued Nuclear Liabilities are subject to periodic review. Changes to these assumptions, including changes to assumptions on the timing of the programs, end of life dates, financial indicators, or the technology employed may result in significant changes to the value of the accrued liabilities. With programs of this duration and the evolving technology to handle the nuclear waste, there is a significant degree of uncertainty surrounding the measurement of the costs for these programs, which may increase or decrease over time.

#### **Liability for Nuclear Used Fuel Management Costs**

The liability for nuclear used fuel management represents the cost of managing the highly radioactive used nuclear fuel bundles. The federal NFWA, proclaimed into force in 2002, requires that Canada's nuclear fuel waste owners form a nuclear waste management organization, and that each waste owner establish a trust fund for used fuel management costs. To estimate its liability for nuclear used fuel management costs, OPG has adopted a conservative approach consistent with the Adaptive Phased Management concept approved by the Government of Canada, which assumes a deep geologic repository in-service date of 2035.

#### **Liability for Nuclear Decommissioning and L&ILW Management Costs**

The liability for nuclear decommissioning and L&ILW management represents the estimated costs of decommissioning nuclear generating stations after the end of their service lives, as well as the cost of managing L&ILW generated by the nuclear stations. The significant assumptions used in estimating future nuclear fixed asset removal costs include decommissioning of nuclear generating stations on a deferred dismantlement basis, where the reactors will remain in a safe storage state for a 30-year period prior to a 10-year dismantlement period.

The life cycle costs of L&ILW management include the costs of processing and storage of such radioactive wastes during and following the operation of the nuclear stations, as well as the costs of ultimate long-term management of

these wastes. The current assumptions used to establish the accrued L&ILW management costs include a L&ILW deep geologic repository (L&ILW DGR). Agreement has been reached with local municipalities for OPG to develop a deep geologic repository for the long-term management of L&ILW adjacent to the Western Waste Management Facility.

OPG has suspended design activities pending receipt of the site preparation and construction licence which is expected in the first half of 2015.

### **Liability for Non-Nuclear Fixed Asset Removal Costs**

The liability for non-nuclear fixed asset removal primarily represents the estimated costs of decommissioning OPG's thermal generating stations. The liability is based on third-party cost estimates after an in-depth review of active plant sites and an assessment of required clean-up and restoration activities. As at December 31, 2013, the estimated retirement dates of the thermal stations for the purposes of this liability are between 2014 and 2030. The discount rates range from 1.5 percent to 5.8 percent. The undiscounted amount of estimated future cash flows associated with the non-nuclear liabilities is \$491 million in 2013 dollars.

As at December 31, 2013, in addition to the \$134 million liability for active sites, OPG has an ARO of \$220 million for decommissioning and restoration costs associated with plant sites that are no longer in use for electricity generation, including the Nanticoke and Lambton generating stations.

### **Ontario Nuclear Funds Agreement**

The Decommissioning Fund was established to fund the future costs of nuclear fixed asset removal, long-term L&ILW management and a portion of used fuel storage costs after station life. As at December 31, 2013, the Decommissioning Fund was in an overfunded position.

The Used Fuel Fund was established to fund future costs of long-term nuclear used fuel waste management. OPG is responsible for the risk and liability of cost increases for used fuel waste management, subject to graduated liability thresholds specified in the ONFA, which limit OPG's total financial exposure at approximately \$12.9 billion in present value dollars as at December 31, 2013, based on used fuel bundle projections of 2.23 million bundles, consistent with the station life assumptions included within the initial financial reference plan. The graduated liability thresholds do not apply to additional used fuel bundles beyond 2.23 million.

OPG makes quarterly payments to the Used Fuel Fund over the life of its nuclear generating stations, as specified in the ONFA. Required funding for 2013 under the ONFA was \$184 million (2012 – \$182 million), including a contribution to the Ontario NFWA Trust (the Trust) of \$154 million (2012 – \$149 million). Based on the approved 2012 ONFA Reference Plan, OPG is required to contribute annual amounts to the Used Fuel Fund, ranging from \$139 million to \$193 million over the years 2014 to 2018 (Refer to Note 15).

The NFWA was proclaimed into force in November 2002. As required under the NFWA, OPG established the Trust in November 2002 and made an initial deposit of \$500 million into the Trust. The NFWA required OPG to make annual contributions of \$100 million to the Trust, until such time that the NWMO proposed funding formula, designed to address the future financial costs of implementing the Adapted Phase Management approach, was approved by the Federal Minister of Natural Resources. In 2009, this funding formula was approved. The Trust forms part of the Used Fuel Fund, and contributions to the Trust, as required by the NFWA, may be applied towards OPG's ONFA payment obligations.

As required by the terms of the ONFA, the Province has provided a Provincial Guarantee to the Canadian Nuclear Safety Commission (CNSC) since 2003, on behalf of OPG. The *Nuclear Safety and Control Act* (Canada) requires OPG to have sufficient funds available to discharge the current nuclear decommissioning and waste management liabilities. The Provincial Guarantee provides for any shortfall between the CNSC consolidated financial guarantee requirement and the Nuclear Funds. OPG pays the Province an annual guarantee fee of 0.5 percent of the amount

of the Provincial Guarantee provided by the Province. The current value of the Provincial Guarantee amount of \$1,551 million is in effect through to the end of 2017. In each of January 2013 and 2014, OPG paid a guarantee fee of \$8 million based on a Provincial Guarantee amount of \$1,551 million.

#### Decommissioning Fund

Upon termination of the ONFA, the Province has a right to any excess funding in the Decommissioning Fund, which is the excess of the fair market value of the Decommissioning Fund over the estimated completion costs, as per the most recently approved ONFA Reference Plan. When the Decommissioning Fund is overfunded, OPG limits the earnings it recognizes in its consolidated financial statements by recording a payable to the Province, such that the balance of the Decommissioning Fund is equal the cost estimate of the liability based on the most recently approved ONFA Reference Plan. The payable to the Province may be reduced in subsequent periods in the event that the Decommissioning Fund earns less than its target rate of return or in the event that a new ONFA Reference Plan is approved with a higher estimated decommissioning liability. When the Decommissioning Fund is underfunded, the earnings on the Decommissioning Fund reflect actual fund returns based on the market value of the assets.

The Province's right to any excess funding in the Decommissioning Fund upon termination of the ONFA results in OPG capping its annual earnings at 3.25 percent plus long-term Ontario Consumer Price Index (CPI), which is the rate of growth in the liability for the estimated completion cost, as long as the Decommissioning Fund is in an overfunded status.

The Decommissioning Fund's asset value on a fair value basis was \$5,967 million as at December 31, 2013, which was net of the due to the Province of \$624 million, as the asset value of the fund was higher than the liability per the approved 2012 ONFA Reference Plan. As at December 31, 2012, the Decommissioning Fund's asset value on a fair value basis was \$5,707 million, also higher than the liability per the 2012 ONFA Reference Plan. Under the ONFA, if there is a surplus in the Decommissioning Fund such that the liabilities, as defined by the most recently approved ONFA Reference Plan, are at least 120 percent funded, OPG may direct up to 50 percent of the surplus over 120 percent to be treated as a contribution to the Used Fuel Fund and the OEFC would be entitled to a distribution of an equal amount. Since OPG is responsible for the risks associated with liability cost increases and investment returns in the Decommissioning Fund, future contributions to the Decommissioning Fund may be required should the fund be in an underfunded position at the time of the next liability reference plan review.

The investments in the Decommissioning Fund include a diversified portfolio of equities and fixed income securities that are invested across geographic markets, as well as investments in infrastructure and Canadian real estate. The Nuclear Funds are invested to fund long-term liability requirements and, as such, the portfolio asset mix is structured to achieve the required return over a long-term horizon. While short-term fluctuations in market value will occur, managing the long-term return of the Nuclear Funds remains the primary goal.

#### Used Fuel Fund

Under the ONFA, the Province guarantees OPG's annual return in the Used Fuel Fund at 3.25 percent plus the change in the Ontario CPI for funding related to the first 2.23 million of used fuel bundles (committed return). OPG recognizes the committed return on the Used Fuel Fund and includes it in the earnings on the nuclear fixed asset removal and nuclear waste management funds. The difference between the committed return on the Used Fuel Fund and the actual market return, based on the fair value of the Used Fuel Fund's assets, which includes realized and unrealized returns, is recorded as due to or due from the Province. The due to or due from the Province represents the amount the fund would pay to or receive from the Province if the committed return were to be settled as of the consolidated balance sheet date. As prescribed under the ONFA, OPG's contributions for incremental fuel bundles are not subject to the Province's guaranteed rate of return, but rather earn a return based on changes in the market value of the assets of the Used Fuel Fund.

As at December 31, 2013, the Used Fuel Fund asset value on a fair value basis was \$7,529 million. The Used Fuel Fund value included a due to the Province of \$990 million related to the committed return adjustment. As at December 31, 2012, the Used Fuel Fund asset value on a fair value basis was \$7,010 million, including a due to the Province of \$235 million related to the committed return adjustment.

Under the ONFA, the Province is entitled to any surplus in the Used Fuel Fund, subject to a threshold funded ratio of 110 percent compared to the value of the associated liabilities.

The nuclear fixed asset removal and nuclear waste management funds as at December 31 consist of the following:

<i>(millions of dollars)</i>	<b>Fair Value</b>	
	<b>2013</b>	<b>2012</b>
Decommissioning Fund	<b>6,591</b>	5,771
Due to Province – Decommissioning Fund	<b>(624)</b>	(64)
	<b>5,967</b>	5,707
Used Fuel Fund <sup>1</sup>	<b>8,519</b>	7,245
Due to Province – Used Fuel Fund	<b>(990)</b>	(235)
	<b>7,529</b>	7,010
Total Nuclear Funds	<b>13,496</b>	12,717
Less: current portion	<b>25</b>	27
Non-current Nuclear Funds	<b>13,471</b>	12,690

<sup>1</sup> The Ontario NFWA Trust represented \$2,668 million as at December 31, 2013 (2012 – \$2,559 million) of the Used Fuel Fund on a fair value basis.

The fair value of the securities invested in the Nuclear Funds as at December 31 is as follows:

<i>(millions of dollars)</i>	<b>Fair Value</b>	
	<b>2013</b>	<b>2012</b>
Cash and cash equivalents and short-term investments	<b>262</b>	335
Alternative investments	<b>598</b>	362
Pooled funds	<b>2,173</b>	2,093
Marketable equity securities	<b>7,332</b>	5,670
Fixed income securities	<b>4,713</b>	4,523
Net receivables/payables	<b>32</b>	41
Administrative expense payable	<b>-</b>	(8)
	<b>15,110</b>	13,016
Due to Province	<b>(1,614)</b>	(299)
	<b>13,496</b>	12,717

The bonds and debentures held in the Used Fuel Fund and the Decommissioning Fund as at December 31 mature according to the following schedule:

<i>(millions of dollars)</i>	<b>Fair Value</b>	
	<b>2013</b>	<b>2012</b>
1 – 5 years	<b>1,334</b>	1,151
5 – 10 years	<b>871</b>	631
More than 10 years	<b>2,508</b>	2,741
Total maturities of debt securities	<b>4,713</b>	4,523
Average yield	<b>3.2%</b>	2.7%

The change in the Nuclear Funds for the years ended December 31 is as follows:

<i>(millions of dollars)</i>	Fair Value	
	2013	2012
Decommissioning Fund, beginning of year	5,707	5,342
Increase in fund due to return on investments	854	469
Decrease in fund due to reimbursement of expenditures	(34)	(40)
Increase in due to Province	(560)	(64)
Decommissioning Fund, end of year	5,967	5,707
Used Fuel Fund, beginning of year	7,010	6,556
Increase in fund due to contributions made	184	182
Increase in fund due to return on investments	1,131	584
Decrease in fund due to reimbursement of expenditures	(41)	(30)
Increase in due to Province	(755)	(282)
Used Fuel Fund, end of year	7,529	7,010

The earnings from the Nuclear Funds during 2013 and 2012 were impacted by the Bruce Lease Net Revenues Variance Account authorized by the OEB. The earnings on the Nuclear Funds for the years ended December 31 are as follows:

<i>(millions of dollars)</i>	2013	2012
Decommissioning Fund	294	405
Used Fuel Fund	376	302
Bruce Lease Net Revenues Variance Account (Note 5)	(42)	(56)
Total earnings	628	651

## 9. INCOME TAXES

OPG follows the liability method of tax accounting for all of its business segments. The Company records an offsetting regulatory asset or liability for the deferred income taxes that are expected to be recovered or refunded through future regulated prices charged to customers for generation from OPG's regulated facilities.

During 2013, OPG recorded a decrease in the deferred income tax liability for the income taxes that are expected to be recovered or refunded through regulated prices charged to customers of \$109 million (2012 – \$31 million). Since these deferred income taxes are expected to be refunded through future regulated prices, OPG recorded a corresponding decrease to the regulatory asset for deferred income taxes. As a result, the deferred income tax expense for 2013 and 2012 was not impacted.

The amount of taxes paid during 2013 was \$14 million (tax refund received net of taxes paid during 2012 – \$7 million).

The following table summarizes the deferred income tax liabilities recorded for the rate regulated operations that are expected to be recovered through future regulated prices:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
<b>January 1:</b>		
Deferred income tax liabilities on temporary differences related to regulated operations	<b>500</b>	523
Deferred income tax liabilities resulting from the regulatory asset for deferred income taxes	<b>168</b>	176
	<b>668</b>	699
<b>Changes during the year:</b>		
Decrease in deferred income tax liabilities on temporary differences related to regulated operations	<b>(82)</b>	(23)
Decrease in deferred income tax liabilities resulting from the regulatory asset for deferred income taxes	<b>(27)</b>	(8)
Balance at December 31	<b>559</b>	668

A reconciliation between the statutory and the effective rate of income taxes is as follows:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Income before income taxes	<b>166</b>	434
Combined Canadian federal and provincial statutory enacted income tax rates	<b>26.5%</b>	26.5%
Statutory income tax rates applied to accounting income	<b>44</b>	115
(Decrease) increase in income taxes resulting from:		
Income tax components of the regulatory variance and deferral accounts	<b>(102)</b>	(17)
Non-taxable income items	<b>(3)</b>	(5)
Change in income tax positions	<b>9</b>	(11)
Regulatory asset for deferred income taxes	<b>113</b>	15
Scientific Research and Experimental Development investment tax credits	<b>(30)</b>	(28)
Other	<b>-</b>	(2)
	<b>(13)</b>	(48)
Income tax expense	<b>31</b>	67
Effective rate of income taxes	<b>18.7%</b>	15.4%



Significant components of the income tax expense are presented in the table below:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Current income tax expense:		
Current payable	<b>48</b>	21
Change in income tax positions	<b>9</b>	(11)
Income tax components of the regulatory variance and deferral accounts	<b>9</b>	23
Scientific Research and Experimental Development investment tax credits	<b>(30)</b>	(28)
Other	<b>7</b>	-
	<b>43</b>	5
Deferred income tax (recovery) expense:		
Change in temporary differences	<b>(14)</b>	69
Income tax components of the regulatory variance and deferral accounts	<b>(111)</b>	(40)
Regulatory asset for deferred income taxes	<b>113</b>	33
	<b>(12)</b>	62
Income tax expense	<b>31</b>	67

The income tax effects of temporary differences that give rise to deferred income tax assets and liabilities as at December 31 are as follows:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Deferred income tax assets:		
Fixed asset removal and nuclear waste management liabilities	<b>4,055</b>	3,871
Other liabilities and assets	<b>1,672</b>	2,006
Future recoverable Ontario minimum tax	<b>30</b>	37
	<b>5,757</b>	5,914
Deferred income tax liabilities:		
Property, plant and equipment and intangible assets	<b>(1,463)</b>	(1,497)
Nuclear fixed asset removal and nuclear waste management funds	<b>(3,374)</b>	(3,179)
Other liabilities and assets	<b>(1,499)</b>	(1,733)
	<b>(6,336)</b>	(6,409)
Net deferred income tax liabilities	<b>(579)</b>	(495)
Represented by:		
Current portion – (liability) asset	<b>(14)</b>	68
Long-term portion – liability	<b>(565)</b>	(563)
	<b>(579)</b>	(495)

The tax benefit associated with an income tax position is recognized only when it is more likely than not that such a position will be sustained upon examination by the taxing authorities based on the technical merits of the position. The current and deferred income tax benefit is equal to the largest amount, considering possible settlement outcomes, that is greater than 50 percent likely of being realized upon settlement with the taxing authorities.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Opening balance, January 1	<b>82</b>	<b>68</b>
Additions based on tax positions related to the current year	<b>13</b>	<b>29</b>
Reductions for tax positions of prior years	<b>(4)</b>	<b>(15)</b>
Closing balance, December 31	<b>91</b>	<b>82</b>

As at December 31, 2013, OPG's unrecognized tax benefits were \$91 million (2012 – \$82 million), excluding interest and penalties, all of which, if recognized, would affect OPG's effective tax rate. Changes in unrecognized tax benefits over the next 12 months cannot be predicted with certainty.

OPG recognizes interest and penalties related to unrecognized tax benefits as income tax expense. As at December 31, 2013, OPG has recorded interest on unrecognized tax benefits of \$10 million (2012 – \$7 million). OPG considers its significant tax jurisdiction to be Canada. OPG remains subject to income tax examination for years after 2008.

## 10. ACCUMULATED OTHER COMPREHENSIVE LOSS

The changes in the balance of each component of accumulated other comprehensive loss (AOCL), net of taxes, during the years ended December 31, 2013 and 2012 are as follows:

For the year ended December 31, 2013			
(millions of dollars)	Unrealized Gains and Losses on Cash Flow Hedges <sup>1</sup>	Pension and Other Post-Employment Benefits <sup>1</sup>	Total <sup>1</sup>
AOCL, beginning of year	(156)	(823)	(979)
Net gain on cash flow hedges	14	-	14
Actuarial gain and past service credits on remeasurement of liabilities for pension and other post-employment benefits	-	226	226
Amounts reclassified from AOCL	13	42	55
Other comprehensive income for the year	27	268	295
AOCL, end of year	(129)	(555)	(684)

<sup>1</sup> All amounts are net of income taxes.

For the year ended December 31, 2012			
(millions of dollars)	Unrealized Gains and Losses on Cash Flow Hedges <sup>1</sup>	Pension and Other Post-Employment Benefits <sup>1</sup>	Total <sup>1</sup>
AOCL, beginning of year	(163)	(727)	(890)
Net loss on cash flow hedges	(11)	-	(11)
Actuarial loss and past service credits on re-measurement of liabilities for pension and other post-employment benefits	-	(123)	(123)
Amounts reclassified from AOCL	18	27	45
Other comprehensive income (loss) for the year	7	(96)	(89)
AOCL, end of year	(156)	(823)	(979)

<sup>1</sup> All amounts are net of income taxes.

The significant amounts reclassified out of each component of AOCL, net of income taxes, during the years ended December 31, 2013 and 2012 are as follows:

(millions of dollars)	Amount Reclassified from AOCL		Statement of Income Line Item
	2013	2012	
Amortization of losses from cash flow hedges			
Losses	15	19	Net interest expense
Income tax expense	(2)	(1)	
	13	18	
Amortization of amounts related to pension and other post-employment benefits			
Actuarial gains and past service costs	57	35	See (1) below
Income tax (recoveries) expense	(15)	(8)	
	42	27	
Total reclassifications for the year	55	45	

<sup>1</sup> These AOCL components are included in the computation of pension and OPEB costs (see Note 11 for additional details).

## 11. PENSION AND OTHER POST-EMPLOYMENT BENEFITS

### Fund Assets

The OPG registered pension fund investment guidelines are stated in an approved Statement of Investment Policies and Procedures (SIPP). The SIPP is reviewed and approved by OPG's Audit and Finance Committee at least annually and includes a discussion regarding investment objectives and expectations, asset mix and rebalancing, and the basis for measuring the performance of the pension fund assets.

In accordance with the SIPP, investment allocation decisions are made with a view to achieve OPG's objective to meet obligations of the plan as they come due. The pension fund assets are invested in two categories of asset classes. The first category is liability hedging assets which are intended, over the long run, to hedge the inflation and interest rate sensitivity of the plan liabilities. The second category is return enhancing assets which are intended, over the long run, to obtain higher investment returns compared to the returns expected for liability hedging assets.

To achieve the above objective, OPG has adopted the following long-term asset mix and allowable ranges:

Asset Class	Minimum	Target	Maximum
Fixed income securities	26%	34%	46%
Equity securities	44%	54%	64%
Alternative investments	0%	12%	20%

The plan may enter into derivative securities, such as interest rate swaps and forward foreign exchange contracts, for risk management purposes, where such activity is consistent with its investment objective.

### Significant Concentrations of Risk in Fund Assets

The assets of the pension fund are diversified to limit the impact of any individual investment. The pension fund is diversified across multiple asset classes. Fixed income securities are diversified among Canadian structured bonds, real return bonds, and corporate bonds, and an interest rate overlay hedging program, which is disclosed under pooled funds. Equity securities are diversified across Canadian, US, and non-North American stocks. There are also real estate and infrastructure portfolios that are less than five percent of the total pension fund assets. Investments in the above asset classes are further diversified across funds, investment managers, strategies, vintages, sectors and geographies, depending on the specific characteristics of each asset class.

Credit risk with respect to the pension fund's fixed income securities is governed by the SIPP, which requires that fixed income securities comply with various investment constraints that ensure prudent diversification and prescribed minimum required credit rating quality. Credit risk, as it relates to the pension fund's derivatives, is managed through the use of International Swap and Derivatives Association (ISDA) documentation and counterparty management performed by the fund's investment managers.

### Risk Management

Risk management oversight with respect to the pension fund includes but is not limited to the following activities:

- Periodic asset/liability management and strategic asset allocation studies
- Monitoring of funding levels and funding ratios
- Monitoring compliance with asset allocation guidelines and investment management agreements
- Monitoring asset class performance against asset class benchmarks
- Monitoring investment manager performance against benchmarks.

### Expected Rate of Return on Plan Assets

The expected rate of return on plan assets is based on current and expected asset allocation, as well as the expected return considering long-term historical risks and returns associated with each asset class within the plan portfolio. The asset management decisions consider the economic liabilities of the plan.

### **Fair Value Measurements**

OPG is required to classify fair value measurements using a fair value hierarchy. This hierarchy groups financial instruments into three levels, based on the significance of inputs used in measuring the fair value of the financial assets and liabilities. Refer to Note 13 for a detailed discussion of fair value measurements and the fair value hierarchy.

The following tables present pension plan assets measured at fair value in accordance with the fair value hierarchy:

<i>(millions of dollars)</i>	<b>December 31, 2013</b>			<b>Total</b>
	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	
Cash and cash equivalents	<b>320</b>	-	-	<b>320</b>
Short-term investments	-	<b>5</b>	-	<b>5</b>
Fixed income				
Corporate debt securities	-	<b>315</b>	-	<b>315</b>
Non-US government bonds	-	<b>1,514</b>	-	<b>1,514</b>
Equities				
Canadian	<b>2,087</b>	-	-	<b>2,087</b>
US	<b>2,031</b>	-	-	<b>2,031</b>
Foreign	<b>2,357</b>	-	-	<b>2,357</b>
Pooled funds	<b>38</b>	<b>1,959</b>	<b>11</b>	<b>2,008</b>
Infrastructure	-	-	<b>208</b>	<b>208</b>
Real estate	-	-	<b>210</b>	<b>210</b>
Other	-	<b>2</b>	-	<b>2</b>
	<b>6,833</b>	<b>3,795</b>	<b>429</b>	<b>11,057<sup>1</sup></b>

<sup>1</sup> The table above excludes pension fund receivables and payables.

(millions of dollars)	December 31, 2012			Total
	Level 1	Level 2	Level 3	
Cash and cash equivalents	81	116	-	197
Short-term investments	-	5	-	5
Fixed income				
Corporate debt securities	-	308	-	308
Non-US government bonds	-	1,601	-	1,601
Equities				
Canadian	1,988	-	-	1,988
US	1,664	-	-	1,664
Foreign	1,907	-	-	1,907
Pooled funds	8	2,396	8	2,412
Infrastructure	-	-	160	160
Real estate	-	-	72	72
Other	-	5	-	5
	5,648	4,431	240	10,319 <sup>1</sup>

<sup>1</sup> The table above exclude pension fund receivables and payables.

The following tables present the changes in the fair value of financial instruments classified in Level 3:

(millions of dollars)	For the year ended December 31, 2013			
	Pooled Funds	Infrastructure	Real Estate	Total
Opening balance, January 1, 2013	8	160	72	240
Total realized and unrealized gains	3	19	6	28
Purchases, sales, and settlements	-	29	132	161
Closing balance, December 31, 2013	11	208	210	429

(millions of dollars)	For the year ended December			
	Pooled Funds	Infrastructure	Real Estate	Total
Opening balance, January 1, 2012	7	86	52	145
Total realized and unrealized gains	1	74	7	82
Purchases, sales, and settlements	-	-	13	13
Closing balance, December 31, 2012	8	160	72	240

During the years ended December 31, 2013 and 2012, there were no transfers between Level 1 and Level 2.

## Plan Costs and Liabilities

Details of OPG's pension and OPEB obligations, pension fund assets and costs are presented in the following tables:

	Registered and Supplementary Pension Plans		Other Post-Employment Benefits	
	2013	2012	2013	2012
<i>Weighted Average Assumptions – Benefit Obligations at Year-End</i>				
Rate used to discount future benefits	<b>4.90%</b>	4.30%	<b>4.91%</b>	4.32%
Salary schedule escalation rate	<b>2.50%</b>	2.50%	-	-
Rate of cost of living increase to pensions	<b>2.00%</b>	2.00%	-	-
Initial health care trend rate	-	-	<b>6.19%</b>	6.38%
Ultimate health care trend rate	-	-	<b>4.34%</b>	4.38%
Year ultimate health care trend rate reached	-	-	<b>2030</b>	2030
Rate of increase in disability benefits	-	-	<b>2.00%</b>	2.00%

	Registered and Supplementary Pension Plans		Other Post-Employment Benefits	
	2013	2012	2013	2012
<i>Weighted Average Assumptions – Costs for the Year</i>				
Expected return on plan assets, net of expenses	<b>6.25%</b>	6.50%	-	-
Rate used to discount future benefits	<b>4.30%</b>	5.10%	<b>4.32%</b>	5.07%
Salary schedule escalation rate	<b>2.50%</b>	3.00%	-	-
Rate of cost of living increase to pensions	<b>2.00%</b>	2.00%	-	-
Initial health care trend rate	-	-	<b>6.38%</b>	6.48%
Ultimate health care trend rate	-	-	<b>4.38%</b>	4.38%
Year ultimate health care trend rate reached	-	-	<b>2030</b>	2030
Rate of increase in disability benefits	-	-	<b>2.00%</b>	2.00%
Expected average remaining service life for employees (years)	<b>13</b>	12	<b>14</b>	13

	Registered Pension Plans		Supplementary Pension Plans		Other Post- Employment Benefits	
	2013	2012	2013	2012	2013	2012
<i>(millions of dollars)</i>						
<i>Components of Cost Recognized</i>						
Current service costs	<b>291</b>	264	<b>10</b>	9	<b>86</b>	78
Interest on projected benefit obligation	<b>589</b>	618	<b>13</b>	14	<b>138</b>	139
Expected return on plan assets, net of expenses	<b>(648)</b>	(668)	-	-	-	-
Amortization of past service costs <sup>1</sup>	-	-	-	-	<b>1</b>	2
Amortization of net actuarial loss <sup>1</sup>	<b>244</b>	144	<b>6</b>	4	<b>48</b>	31
Recognition of LTD net actuarial (gain) loss	-	-	-	-	<b>(11)</b>	10
Cost recognized <sup>2</sup>	<b>476</b>	358	<b>29</b>	27	<b>262</b>	260

<sup>1</sup> The amortization of past service costs and net actuarial loss was recognized as an increase to OCI. This increase was partially offset by the impact of the Pension and OPEB Regulatory Asset as discussed in Note 5.

<sup>2</sup> These pension and OPEB costs exclude the reduction of costs resulting from the recognition of additions to the regulatory assets for the Pension and OPEB Cost Variance Account and the Impact for USGAAP Deferral Account. The Pension and OPEB Cost Variance Account and the Impact for USGAAP Deferral Account are discussed in Note 5.

Total benefit costs, including the impact of the Pension and OPEB Cost Variance Account and Impact for USGAAP Deferral Account, for the years ended December 31 are as follows:

<i>(millions of dollars)</i>	2013	2012
Registered pension plans	476	358
Supplementary pension plans	29	27
Other post-employment benefits	262	260
Pension and OPEB Cost Variance Account (Note 5)	(312)	(192)
Impact for USGAAP Deferral Account (Note 5)	-	(47)
<b>Pension and other post-employment benefit costs</b>	<b>455</b>	<b>406</b>

The pension and OPEB obligations and the pension fund assets measured as at December 31 are as follows:

<i>(millions of dollars)</i>	Registered Pension Plans		Supplementary Pension Plans		Other Post-Employment Benefits	
	2013	2012	2013	2012	2013	2012
<i>Change in Plan Assets</i>						
Fair value of plan assets at beginning of year	10,337	9,604	-	-	-	-
Contributions by employer	306	375	14	16	87	83
Contributions by employees	74	77	-	-	-	-
Actual return on plan assets, net of expenses	923	898	-	-	-	-
Benefit payments	(679)	(617)	(14)	(16)	(87)	(83)
<b>Fair value of plan assets at end of year</b>	<b>10,961</b>	<b>10,337</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<i>Change in Projected Benefit Obligations</i>						
Projected benefit obligations at beginning of year	13,669	12,197	297	261	3,174	2,708
Employer current service costs	291	264	10	9	86	78
Contributions by employees	74	77	-	-	-	-
Interest on projected benefit obligation	589	618	13	14	138	139
Benefit payments	(679)	(617)	(14)	(16)	(87)	(83)
Past service credits	-	-	-	-	(2)	(7)
Net actuarial (gain) loss	(522)	1,130	(17)	29	(590)	339
<b>Projected benefit obligations at end of year</b>	<b>13,422</b>	<b>13,669</b>	<b>289</b>	<b>297</b>	<b>2,719</b>	<b>3,174</b>
<b>Funded status – deficit at end of year</b>	<b>(2,461)</b>	<b>(3,332)</b>	<b>(289)</b>	<b>(297)</b>	<b>(2,719)</b>	<b>(3,174)</b>

The following table provides the pension and OPEB liabilities and their classification on the consolidated balance sheets as at December 31:

<i>(millions of dollars)</i>	Registered Pension Plans		Supplementary Pension Plans		Other Post-Employment Benefits	
	2013	2012	2013	2012	2013	2012
Current liabilities	-	-	(9)	(8)	(91)	(98)
Non-current liabilities	(2,461)	(3,332)	(280)	(289)	(2,628)	(3,076)
<b>Total liabilities</b>	<b>(2,461)</b>	<b>(3,332)</b>	<b>(289)</b>	<b>(297)</b>	<b>(2,719)</b>	<b>(3,174)</b>

The accumulated benefit obligations for the registered pension plans and supplementary pension plans as at December 31, 2013 are \$12,242 million and \$237 million, respectively (2012 – \$12,366 million and \$242 million, respectively). The accumulated benefit obligation differs from the projected benefit obligation in that the accumulated benefit obligation includes no assumption about future compensation levels.



The following table provides the components of OPG's OCI related to pension and OPEB plans and the offsetting Pension and OPEB Regulatory Asset as discussed in Note 5 for the years ended December 31:

(millions of dollars)	Registered Pension Plans		Supplementary Pension Plans		Other Post-Employment Benefits	
	2013	2012	2013	2012	2013	2012
<i>Changes in plan assets and benefit obligations recognized in OCI</i>						
Current year past service credits	-	-	-	-	(2)	(7)
Current year net actuarial (gain) loss	(797)	900	(17)	29	(579)	329
Amortization of past service costs	-	-	-	-	(1)	(2)
Amortization of net actuarial loss	(244)	(144)	(6)	(4)	(48)	(31)
Total (increase) decrease in OCI	(1,041)	756	(23)	25	(630)	289
Less: (Decrease) increase in Pension and OPEB Regulatory Asset (Note 5)	(814)	675	(18)	21	(504)	245
Net (increase) decrease in OCI	(227)	81	(5)	4	(126)	44

The following table provides the components of OPG's AOCI and the offsetting Pension and OPEB Regulatory Asset that have not yet been recognized as components of benefit costs as at December 31:

(millions of dollars)	Registered Pension Plans		Supplementary Pension Plans		Other Post-Employment Benefits	
	2013	2012	2013	2012	2013	2012
<i>Unamortized amounts recognized in AOCI</i>						
Past service costs	-	-	-	-	1	4
Net actuarial loss	3,496	4,537	79	102	323	950
Total recognized in AOCI	3,496	4,537	79	102	324	954
Less: Pension and OPEB Regulatory Asset (Note 5)	2,831	3,645	64	82	263	767
Net recognized in AOCI	665	892	15	20	61	187

The following table provides the components of OPG's AOCI and the offsetting Pension and OPEB Regulatory Asset as at December 31 (included in the table above) that are expected to be amortized as components of benefit costs and recognized as increases to OCI and reductions in the Pension and OPEB Regulatory Asset, related to the currently regulated facilities, in 2014:

(millions of dollars)	Registered Pension Plans	Supplementary Pension Plans	Other Post-Employment Benefits
Net actuarial loss	260	4	6
Total increase in AOCI	260	4	6
Less: Estimated decrease in Pension and OPEB Regulatory Asset, Related to the Currently Regulated Facilities	211	3	5
Net increase in AOCI	49	1	1

Based on the most recently filed actuarial valuation, for funding purposes, of the OPG registered pension plan, as at January 1, 2011, there was an unfunded liability on a going-concern basis of \$555 million and a deficiency on a wind-up basis of \$5,663 million. In the previously filed actuarial valuation, as at January 1, 2008, there was an unfunded liability on a going-concern basis of \$239 million and a deficiency on a wind-up basis of \$2,846 million. The funded status to be determined in the next filed funding valuation, which must have an effective date no later than January 1, 2014 and be filed by September 30, 2014, could be significantly different. OPG's 2014 contribution to its registered

pension plan will be determined as part of the funding valuation which is required to be filed by September 30, 2014. The amount of OPG's additional voluntary contribution, if any, is revisited from time to time. OPG will continue to assess the requirements for contributions to the pension plan.

Based on the most recently filed actuarial valuation, for funding purposes, of the NWMO registered pension plan, as at January 1, 2013, there was a surplus on a going-concern basis of \$14 million and a deficiency on a wind-up basis of \$15 million. In the previously filed actuarial valuation, as at January 1, 2012, there was a surplus on a going-concern basis of \$8 million and a deficiency on a wind-up basis of \$15 million. The next filed funding valuation must have an effective date no later than January 1, 2014.

The supplementary pension plans are not funded, but are secured by Letters of Credit totalling \$302 million as at December 31, 2013 (2012 – \$332 million).

Estimated future benefit payments to participants in the pension and OPEB plans based on the assumptions used to measure the benefit obligations as at December 31, 2013 are as follows:

(millions of dollars)	Registered Pension Plans	Supplementary Pension Plans	Other Post-Employment Benefits
2014	521	9	91
2015	551	10	96
2016	582	11	100
2017	589	12	105
2018	634	13	110
2019 through 2023	3,658	79	625

A one percent increase or decrease in the health care trend rate would result in an increase in the current service and interest components of the 2013 OPEB cost recognized of \$54 million (2012 – \$48 million) or a decrease in the service and interest components of the 2013 OPEB cost recognized of \$39 million (2012 – \$36 million). A one percent increase or decrease in the health care trend rate would result in an increase in the projected OPEB obligation at December 31, 2013 of \$472 million (2012 – \$604 million) or a decrease in the projected OPEB obligation at December 31, 2013 of \$360 million (2012 – \$456 million).

## 12. DERIVATIVES

OPG is exposed to risks related to changes in electricity prices associated with a wholesale spot market for electricity in Ontario, changes in market interest rates on debt expected to be issued in the future, and movements in foreign currency that affect its assets, liabilities, and forecasted transactions. Select derivative instruments are used to manage such risks. Derivatives are used as hedging instruments, as well as for trading purposes.

Interest rate risk is the risk that the value of assets and liabilities can change due to movements in related interest rates. Interest rate risk for OPG arises with the need to refinance existing debt and/or undertake new financing. The management of these risks is undertaken by using derivatives to hedge the exposure in accordance with corporate risk management policies. OPG periodically uses interest rate swap agreements to mitigate elements of interest rate risk exposure associated with anticipated financing.

The LME has entered into forward start interest rate swaps to hedge against the effect of future changes in interest rates for long-term debt for the Lower Mattagami River project.

Electricity price risk for the Company is the potential for adverse movements in the market price of electricity. Exposure to electricity price risk is reduced as a result of regulated prices and other contractual arrangements for a significant portion of OPG's business. The majority of this exposure should be mitigated with the implementation of a

regulated price for most of OPG's currently unregulated hydroelectric facilities, which have been regulated by the OEB effective July 1, 2014.

The conditional reduction to revenue in the future, embedded in the terms of the Bruce Lease, is treated as a derivative. Assumptions related to future electricity prices impact the valuation of the derivative liability embedded in the Bruce Lease.

OPG's foreign exchange exposure is attributable to two primary factors: US dollar denominated transactions such as the purchase of fuels; and the influence of US dollar denominated commodity prices on Ontario electricity market prices. OPG enters into foreign exchange derivatives and agreements with major financial institutions, when necessary, in order to manage the Company's exposure to foreign currency movements.

The majority of OPG's revenues are derived from sales through the IESO-administered spot market. Although the credit exposure to the IESO represents a significant portion of OPG's accounts receivable, the Company's management accepts this risk due to the IESO's primary role in the Ontario electricity market. The remaining receivables exposure is to a diverse group of generally high quality counterparties. OPG's allowance for doubtful accounts as at December 31, 2013 was less than \$1 million.

The following is a summary of OPG's derivative instruments:

<i>(millions of dollars except where noted)</i>	<b>Notional Quantity</b>	<b>Terms</b>	<b>Fair Value</b>	<b>Balance Sheet Line Item</b>
<b>As at December 31, 2013</b>				
Commodity derivative instruments	<b>5.0 TWh</b>	<b>1 year</b>	<b>10</b>	Other accounts receivable and prepaid expenses
Foreign exchange derivative instruments	<b>37</b>	<b>within 1 year</b>	<b>1</b>	Other accounts receivable and prepaid expenses
Commodity derivative instruments	<b>2.8 TWh</b>	<b>1 year</b>	<b>(11)</b>	Accounts payable and accrued charges
Cash flow hedges – Forward start interest rate swaps	<b>100</b>	<b>1 - 10 years</b>	<b>(8)</b>	Long-term accounts payable and accrued charges
Derivative embedded in the Bruce Lease	<b>n/a</b>	<b>6 years</b>	<b>(346)</b>	Long-term accounts payable and accrued charges
<b>Total derivatives</b>			<b>(354)</b>	

<i>(millions of dollars except where noted)</i>	<b>Notional Quantity</b>	<b>Terms</b>	<b>Fair Value</b>	<b>Balance Sheet Line Item</b>
<b>As at December 31, 2012</b>				
Commodity derivative instruments	4.3 TWh	1 - 2 years	7	Other accounts receivable and prepaid expenses
Foreign exchange derivative instruments	63	within 1 year	(1)	Accounts payable and accrued charges
Commodity derivative instruments	2.0 TWh	1 - 2 years	(4)	Accounts payable and accrued charges
Cash flow hedges – Forward start interest rate swaps	410	1 - 12 years	(66)	Long-term accounts payable and accrued charges
Derivative embedded in the Bruce Lease	n/a	7 years	(392)	Long-term accounts payable and accrued charges
<b>Total derivatives</b>			<b>(456)</b>	

The following table shows the amount related to derivatives recorded in AOCL and income for the years ended December 31:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
<b>Cash flow hedges</b>		
Gain (loss) in OCI	<b>17</b>	(12)
Reclassification of losses to net interest expense	<b>18</b>	12
Reclassification of gains to fuel expense	<b>(3)</b>	7
<b>Commodity derivatives</b>		
Realized losses in revenue	<b>(7)</b>	(2)
Unrealized losses in revenue	<b>(4)</b>	(2)
<b>Embedded derivative</b>		
Unrealized losses in revenue <sup>1</sup>	<b>(33)</b>	(284)

<sup>1</sup> Excludes the impact of the Bruce Lease Net Revenues Variance Account.

Existing net losses of \$19 million deferred in AOCL as at December 31, 2013 are expected to be reclassified to net income within the next 12 months.

### 13. FAIR VALUE MEASUREMENTS

OPG is required to classify fair value measurements using a fair value hierarchy. This hierarchy groups financial assets and liabilities into three levels, based on the significance of inputs used in measuring the fair value of the financial assets and liabilities. The level within which the financial asset or liability is classified is determined based on the attribute of significance to the inputs to the fair value measurement. The fair value hierarchy has the following levels:

- Level 1: Valuation of inputs is based on unadjusted quoted market prices observed in active markets for identical assets or liabilities.
- Level 2: Valuation is based on inputs other than quoted prices under Level 1 that are observable for the asset or liability, either directly or indirectly.
- Level 3: Valuation is based on inputs for the asset or liability that are not based on observable market data.

The fair value of financial instruments traded in active markets is based on quoted market prices at the consolidated balance sheet dates. A market is regarded as active if quoted prices are readily and regularly available from an exchange, dealer, broker, industry group, pricing service, or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm's length basis. The quoted market price used for financial assets held by OPG is the current bid price. These instruments are included in Level 1 and are comprised primarily of equity investments and fund investments.

For financial instruments for which quoted market prices are not directly available, fair values are estimated using forward price curves developed from observable market prices or rates. The estimation of fair value may include the use of valuation techniques or models, based wherever possible on assumptions supported by observable market prices or rates prevailing at the consolidated balance sheet dates. This is the case for over-the-counter derivatives and securities, which include energy commodity derivatives, foreign exchange derivatives, interest rate swap derivatives, and fund investments. Pooled fund investments are valued at the unit values supplied by the pooled fund administrators. The unit values represent the underlying net assets at fair values, determined using closing market prices. Valuation models use general assumptions and market data and therefore do not reflect the specific risks and other factors that would affect a particular instrument's fair value. The methodologies used for calculating the fair value adjustments are reviewed on an ongoing basis to ensure that they remain appropriate. If all significant inputs required to fair value an instrument are observable, the instrument is included in Level 2.

If one or more of the significant inputs is not based on observable market data, the instrument is included in Level 3. Specific valuation techniques are used to value these instruments. Significant Level 3 inputs include: recent comparable transactions, comparable benchmark information, bid/ask spread of similar transactions, and other relevant factors.

Transfers into, out of, or between levels are deemed to have occurred on the date of the event or change in circumstances that caused the transfer to occur.

The Company is required to determine the fair value of all its financial instruments. The following is a summary of OPG's financial instruments as at December 31:

<i>(millions of dollars except where noted)</i>	<b>Fair Value</b>	<b>Carrying Value <sup>1</sup></b>	<b>Balance Sheet Line Item</b>
<b>As at December 31, 2013</b>			
Commodity derivative instruments	10	10	Other accounts receivable and prepaid expenses
Investment in OPG Ventures Inc.	9	9	Other long-term assets
Nuclear fixed asset removal and nuclear waste management funds (includes current portion)	13,496	13,496	Nuclear fixed asset removal and nuclear waste management funds
Foreign exchange derivative instruments	1	1	Other accounts receivable and prepaid expenses
Commodity derivative instruments	(11)	(11)	Accounts payable and accrued charges
Cash flow hedges - Forward start interest rate swaps	(8)	(8)	Long-term accounts payable and accrued charges
Payable related to cash flow hedges	(56)	(56)	Long-term accounts payable and accrued charges
Derivative embedded in the Bruce Lease	(346)	(346)	Long-term accounts payable and accrued charges
Long-term debt (includes current portion)	(5,955)	(5,625)	Long-term debt
<b>As at December 31, 2012</b>			
Commodity derivative instruments	7	7	Other accounts receivable and prepaid expenses
Investment in OPG Ventures Inc.	10	10	Other long-term assets
Nuclear fixed asset removal and nuclear waste management funds (includes current portion)	12,717	12,717	Nuclear fixed asset removal and nuclear waste management funds
Foreign exchange derivative instruments	(1)	(1)	Accounts payable and accrued charges
Commodity derivative instruments	(4)	(4)	Accounts payable and accrued charges
Cash flow hedges - Forward start interest rate swaps	(66)	(66)	Long-term accounts payable and accrued charges
Payable related to cash flow hedges	(24)	(24)	Long-term accounts payable and accrued charges
Derivative embedded in the Bruce Lease	(392)	(392)	Long-term accounts payable and accrued charges
Long-term debt (includes current portion)	(5,751)	(5,114)	Long-term debt

<sup>1</sup> The carrying values of other financial instruments included in cash and cash equivalents, receivables from related parties, other accounts receivable and prepaid expenses, and accounts payable and accrued charges approximate their fair values due to the immediate or short-term maturity of these financial instruments.

The fair value of long-term debt instruments is determined based on a conventional pricing model, which is a function of future cash flows, the current market yield curve and term to maturity. These inputs are considered Level 2 inputs.

The following tables present financial assets and liabilities measured at fair value in accordance with the fair value hierarchy:

<i>(millions of dollars)</i>	December 31, 2013			Total
	Level 1	Level 2	Level 3	
<b>Assets</b>				
Decommissioning Fund	3,005	2,715	247	5,967
Used Fuel Fund	526	6,961	42	7,529
Commodity derivative instruments	5	2	3	10
Investment in OPG Ventures Inc.	-	-	9	9
Foreign exchange derivative instruments	-	1	-	1
<b>Total</b>	<b>3,536</b>	<b>9,679</b>	<b>301</b>	<b>13,516</b>
<b>Liabilities</b>				
Derivative embedded in the Bruce Lease	-	-	(346)	(346)
Forward start interest rate swaps	-	(8)	-	(8)
Commodity derivative instruments	(8)	(3)	-	(11)
<b>Total</b>	<b>(8)</b>	<b>(11)</b>	<b>(346)</b>	<b>(365)</b>
<b>Net assets (liabilities)</b>	<b>3,528</b>	<b>9,668</b>	<b>(45)</b>	<b>13,151</b>

<i>(millions of dollars)</i>	December 31, 2012			Total
	Level 1	Level 2	Level 3	
<b>Assets</b>				
Decommissioning Fund	2,596	2,948	163	5,707
Used Fuel Fund	212	6,785	13	7,010
Commodity derivative instruments	2	2	3	7
Investment in OPG Ventures Inc.	-	-	10	10
<b>Total</b>	<b>2,810</b>	<b>9,735</b>	<b>189</b>	<b>12,734</b>
<b>Liabilities</b>				
Derivative embedded in the Bruce Lease	-	-	(392)	(392)
Forward start interest rate swaps	-	(66)	-	(66)
Commodity derivative instruments	(3)	(1)	-	(4)
Foreign exchange derivative instruments	-	(1)	-	(1)
<b>Total</b>	<b>(3)</b>	<b>(68)</b>	<b>(392)</b>	<b>(463)</b>
<b>Net assets (liabilities)</b>	<b>2,807</b>	<b>9,667</b>	<b>(203)</b>	<b>12,271</b>

During the year ended December 31, 2013, there were no transfers between Level 1 and Level 2. In addition, there were no transfers into and out of Level 3.

The following tables present the changes in OPG's assets and liabilities measured at fair value based on Level 3:

(millions of dollars)	For the year ended December 31, 2013				
	Decom- missioning Fund	Used Fuel Fund	Investment in OPG Ventures Inc.	Derivative Embedded in the Bruce Lease <sup>1</sup>	Commodity Derivative Instruments
Opening balance, January 1, 2013	163	13	10	(392)	3
Unrealized gains included in earnings on nuclear fixed asset removal and nuclear waste management funds <sup>1</sup>	18	3	-	-	-
Unrealized losses included in revenue	-	-	(1)	(33)	-
Realized losses included in revenue	(1)	-	-	-	(2)
Purchases	83	14	-	-	2
Sales	(3)	-	-	-	-
Settlements	(13)	12	-	79	-
Closing balance, December 31, 2013	247	42	9	(346)	3

<sup>1</sup> Total gains (losses) exclude the impact of regulatory assets and liabilities.

(millions of dollars)	For the year ended December 31, 2012				
	Decom- missioning Fund	Used Fuel Fund	Investment in OPG Ventures Inc.	Derivative Embedded in the Bruce Lease <sup>1</sup>	Commodity Derivative Instruments
Opening balance, January 1, 2012	98	6	16	(186)	2
Unrealized gains included in earnings on nuclear fixed asset removal and nuclear waste management funds <sup>1</sup>	11	1	-	-	-
Unrealized losses included in revenue	-	-	(5)	(284)	(1)
Realized losses included in revenue	-	-	-	-	(5)
Purchases	58	6	-	-	7
Sales	(2)	-	-	-	-
Settlements	(2)	-	(1)	78	-
Closing balance, December 31, 2012	163	13	10	(392)	3

<sup>1</sup> Total gains (losses) exclude the impact of regulatory assets and liabilities.

### Derivative Embedded in the Bruce Lease

The revenue from the Bruce Lease is reduced in each calendar year where the expected future annual arithmetic average hourly Ontario electricity price falls below \$30/MWh and certain other conditions are met. The conditional reduction to revenue in the future, embedded in the terms of the Bruce Lease, is treated as a derivative.

Due to an unobservable input used in the pricing model of the Bruce Lease embedded derivative, the measurement of the liability is classified within Level 3.

The following table presents the quantitative information about the Level 3 fair value measurement of the Bruce Lease embedded derivative as at December 31, 2013:

(millions of dollars except where noted)	Fair Value	Valuation Technique	Unobservable Input	Range
Derivative embedded in the Bruce Lease	(346)	Option model	Risk Premium <sup>1</sup>	0% - 30%

<sup>1</sup> Represents the range of premiums used in the valuation analysis that OPG has determined market participants would use when pricing the derivative.



The term related to the derivative embedded in the Bruce Lease is based on the remaining service lives, for accounting purposes, for certain units of the Bruce generating stations. In 2012, the service life of these Bruce units was extended to 2019. The service life extension accounted for \$249 million of the total increase in the derivative liability during 2012. OPG's exposure to changes in the fair value of the Bruce Lease embedded derivative is mitigated as part of the OEB regulatory process, since the revenue from the lease of the Bruce generating stations is included in the determination of regulated prices and is subject to the Bruce Lease Net Revenues Variance Account. As such, the pre-tax income statement impact, as a result of changes in the derivative liability, is offset by the pre-tax income statement impact of the Bruce Lease Net Revenues Variance Account.

### Decommissioning Fund and Used Fuel Fund

Nuclear Funds investments classified as Level 3 consist of real estate and infrastructure investments within the alternative investment portfolio. The fair value of the investments within the Nuclear Funds' alternative investment portfolio is determined using appropriate valuation techniques, such as recent arm's length market transactions, reference to current fair values of other instruments that are substantially the same, discounted cash flow analyses, third-party independent appraisals, valuation multiples, or other valuation methods. Any control, size, liquidity or other discounts or premiums on the investments are considered in the determination of fair value.

The process of valuing investments for which no published market price exists is based on inherent uncertainties and the resulting values may differ from values that would have been used had a ready market existed for the investments. The values may also differ from the prices at which the investments may be sold.

The following are the classes of investments within the Nuclear Funds that are reported on the basis of net asset value as at December 31, 2013:

<i>(millions of dollars except where noted)</i>	<b>Fair Value</b>	<b>Unfunded Commitments</b>	<b>Redemption Frequency</b>	<b>Redemption Notice</b>
Infrastructure	312	241	n/a	n/a
Real Estate	286	373	n/a	n/a
Pooled Funds				
Short-term Investments	27	-	Daily	1 - 5 Days
Fixed Income	519	-	Daily	1 - 5 Days
Equity	1,627	-	Daily	1 - 5 Days
<b>Total</b>	<b>2,771</b>	<b>614</b>		

The fair value of the above investments is classified as either Level 2 or Level 3.

#### Infrastructure

This class includes investments in funds whose investment objective is to generate a combination of long-term capital appreciation and current income generally through investments such as energy, transportation and utilities.

The fair values of investments in this class have been estimated using the Nuclear Funds' ownership interest in partners' capital and/or underlying investments held by subsidiaries of an infrastructure fund.

The investments in the respective infrastructure funds are not redeemable. However, the Nuclear Funds may transfer any of its partnership interests/shares to another party, as stipulated in the partnership agreements and/or shareholders' agreements. Distributions from each infrastructure fund will be received based on the operations of the underlying investments and/or as the underlying investments of the infrastructure funds are liquidated. It is not possible to estimate when the underlying assets of the infrastructure funds will be liquidated. However, the infrastructure funds have a maturity end period ranging from 2019 to 2025.

### Real Estate

This class includes investment in institutional-grade real estate property located in Canada. The investment objective is to provide a stable level of income with the opportunity for long-term capital appreciation.

The fair values of the investments in this class have been estimated using the net asset value of the Nuclear Funds' ownership interest in these investments.

The partnership investments are not redeemable. However, the Nuclear Funds may transfer any of their partnership interests to another party, as stipulated in the partnership agreement, with prior written consent of the other limited partners. For investments in private real estate corporations, shares may be redeemed through a pre-established redemption process. It is not possible to estimate when the underlying assets in this class will be liquidated.

### Pooled Funds

This class represents investments in pooled funds, which primarily include a diversified portfolio of fixed income securities, issued mainly by Canadian corporations and diversified portfolios of US and Emerging Market listed equity and fixed income securities. The investment objective of the pooled funds is to achieve capital appreciation and income through professionally managed portfolios.

The fair value of the investments in this class has been estimated using the net asset value per share of the investments.

There are no significant restrictions on the ability to sell investments in this class.

### **Investment in OPG Ventures Inc.**

Significant Level 3 inputs used in the fair value measurement of the OPG Ventures Inc. investments include recent comparable transactions, comparable benchmark information, bid/ask spread of similar transactions, and other relevant factors. Significant increases (decreases) in any of those inputs in isolation would result in significantly higher (lower) fair value measurement.

## **14. COMMON SHARES**

As at December 31, 2013 and 2012, OPG had 256,300,010 common shares issued and outstanding at a stated value of \$5,126 million. OPG is authorized to issue an unlimited number of common shares without nominal or par value. Any issue of new shares is subject to the consent of OPG's shareholder.

## **15. COMMITMENTS AND CONTINGENCIES**

### **Litigation**

Various legal proceedings are pending against OPG or its subsidiaries, covering a wide range of matters that arise in the ordinary course of its business activities.

On August 9, 2006, a Notice of Action and Statement of Claim filed with the Ontario Superior Court of Justice in the amount of \$500 million was served on OPG and Bruce Power L.P. by British Energy Limited and British Energy International Holdings Limited (together British Energy). The British Energy claim against OPG pertains to corrosion in the Bruce Unit 8 Steam Generators, in particular, erosion of the support plates through which the boiler tubes pass. The claim amount includes \$65 million due to an extended outage to repair some of the alleged damage. The balance of the amount claimed is based on an increased probability the steam generators will have to be replaced or

the unit taken out of service prematurely. OPG leased the Bruce nuclear generating stations to Bruce Power L.P. in 2001.

British Energy is defending an arbitration commenced by some of the current owners of Bruce Power L.P. regarding an alleged breach of British Energy's representations and warranties to the claimants when they purchased British Energy's interest in Bruce Power L.P. (the Arbitration). In the second quarter of 2012, the arbitrator released an interim award. The arbitrator found that British Energy was liable to the claimants for some of the damages they claimed. The arbitrator determined what elements of the claim British Energy was liable for, but did not award a specific amount in damages as it was found that further evidence from the parties is necessary to quantify the exact amount of the damages. If the parties to the Arbitration cannot agree on the quantum of damages, there will be further proceedings before the arbitrator to determine the amount. British Energy counsel has indicated that the damages payable to the claimants will likely be less than \$70 million.

British Energy previously indicated that they did not require OPG or Bruce Power L.P. to actively defend the court action until the conclusion of the Arbitration. Although the Arbitration had not concluded, British Energy requested that OPG file a Statement of Defense. OPG and Bruce Power L.P. advised British Energy that if British Energy wishes the court action to proceed prior to the conclusion of the Arbitration, the defendants would bring a motion for a Stay of proceedings, a Dismissal of the current action or, in the alternative, a motion to extend the time for service of the Statement of Defense until the conclusion of the Arbitration. That motion was scheduled to be heard on March 5, 2010, but was adjourned at the request of British Energy. The return date of that motion is yet to be set.

Certain First Nations have commenced actions against OPG for interference with their respective reserve and traditional land rights. As well, OPG has been brought into certain actions by the First Nations against other parties as a third party defendant. Each of these matters is subject to various uncertainties. Some of these matters may be resolved unfavourably.

While it is not possible to determine the ultimate outcome of the various pending actions, it is the Company's belief that their resolution is not likely to have a material adverse impact on its financial position.

## **Environmental**

Current operations are subject to regulation with respect to emissions to air, water, and land as well as other environmental matters by federal, provincial, and local authorities. The cost of obligations associated with current operations is provided for on an ongoing basis. Management believes it has made adequate provision in the consolidated financial statements to meet certain other environmental obligations. As at December 31, 2013, OPG's environmental liabilities were \$15 million (2012 – \$17 million).

## **Guarantees**

The Company and its joint venture partners have jointly guaranteed the financial performance of jointly owned entities related primarily to the payment of liabilities. As at December 31, 2013, the total amount of guarantees OPG provided to these entities was \$76 million. OPG may terminate some of these guarantees within a short time frame by providing written notice to the counterparties at any time. Other guarantees have terms ending between 2019 and 2029. The potential impact of the fair value of these guarantees to income has been estimated as at December 31, 2013 to be negligible. As at December 31, 2013, OPG does not expect to make any payments associated with these guarantees.

## Contractual and Commercial Commitments

OPG's contractual obligations and other significant commercial commitments as at December 31, 2013, are as follows:

<i>(millions of dollars)</i>	2014	2015	2016	2017	2018	Thereafter	Total
Contractual obligations:							
Fuel supply agreements	183	208	163	143	126	159	982
Contributions under the ONFA <sup>1</sup>	139	143	150	163	193	2,706	3,494
Long-term debt repayment	5	593	273	1,103	398	3,253	5,625
Interest on long-term debt	262	256	242	223	167	2,104	3,254
Unconditional purchase obligations	98	97	8	-	-	-	203
Operating lease obligations	16	17	15	15	13	70	146
Commitments related to Darlington refurbishment <sup>2</sup>	200	-	-	-	-	-	200
Pension contributions <sup>3</sup>	300	-	-	-	-	-	300
Operating licence	41	25	25	25	26	-	142
Other - primarily accounts payable	449	33	14	13	12	69	590
	1,693	1,372	890	1,685	935	8,361	14,936
Significant commercial commitments:							
Niagara Tunnel	5	-	-	-	-	-	5
Lower Mattagami	298	65	-	-	-	-	363
Atikokan	16	-	-	-	-	-	16
<b>Total</b>	<b>2,012</b>	<b>1,437</b>	<b>890</b>	<b>1,685</b>	<b>935</b>	<b>8,361</b>	<b>15,320</b>

<sup>1</sup> Contributions under the ONFA are based on the 2012 ONFA Reference Plan contribution schedule approved in 2012.

<sup>2</sup> Estimated currently committed costs to close the project, including demobilization of project staff and cancellation of existing contracts, and material orders.

<sup>3</sup> The pension contributions include ongoing funding requirements and additional funding requirements towards the deficit, in accordance with the actuarial valuation of the OPG registered pension plan as at January 1, 2011. The next actuarial valuation of the OPG plan must have an effective date no later than January 1, 2014. The pension contributions are affected by various factors including market performance, changes in actuarial assumptions, plan experience, changes in the pension regulatory environment, and the timing of funding valuations. Funding requirements after 2014 for the OPG registered pension plan are excluded due to significant variability in the assumption required to project the timing of future cash flows. The amount of OPG's additional voluntary contribution, if any, is revisited from time to time.

### Niagara Tunnel

In March 2013, the 10.2 kilometre Niagara Tunnel was filled with water and declared in-service, approximately nine months ahead of the approved project completion date of December 2013. The capital project expenditures for 2013 were \$87 million and the life-to-date capital expenditures as at December 31, 2013 were \$1.46 billion. The project is debt financed through the OEFC. Total costs of the project after closure activities are expected to be below \$1.5 billion, compared to the approved budget of \$1.6 billion.

### Lower Mattagami

The Lower Mattagami River project will increase the capacity of the four generating stations on the Lower Mattagami River by 438 MW. The capital project expenditures for the year ended December 31, 2013 were \$629 million and the life-to-date expenditures were \$1.98 billion. The project budget of \$2.6 billion includes the design-build contract, as well as contingencies, interest, and other OPG costs, including project management, contract management, impact agreements with First Nations, and transmission connection costs.

### Atikokan Biomass Conversion

OPG is in the process of converting the Atikokan generating station from coal to biomass fuel. The converted station is expected to have a capacity of 200 MW. The capital project expenditures for the year ended December 31, 2013 were \$85 million and the life-to-date expenditures were \$144 million. The conversion project has an approved cost estimate of \$170 million and is expected to be completed by August 2014.

### Darlington Refurbishment

As of December 31, 2013, OPG has issued contracts valued at approximately \$1.5 billion related to the refurbishment of the Darlington nuclear station. These contracts contain suspension and termination provisions. The most significant contracts include the Retube and Feeder Replacement (RFR) contract, and the Turbine Generator contract.

In March 2013, OPG awarded the Turbine Generator contract for equipment supply and technical services, valued at approximately \$350 million. In March 2012, OPG awarded a RFR contract, with an estimated value at over \$600 million.

OPG signed the contract for the primary and secondary side cleaning of the Steam Generators in December 2013. The contract for the engineering integration and field installation portion of the Turbine Generator scope of work was signed in February 2014.

Capital project expenditures for 2013 were \$431 million and the life-to-date capital expenditures as at December 31, 2013 were \$793 million. A detailed cost and schedule estimate for the refurbishment of the four units is expected to be completed in 2015.

### Lease Commitments

The Company is party to various leases for real estate and equipment under operating lease arrangements. Real estate and transport equipment base rent expense for the year ended December 31, 2013 was \$15 million (2012 – \$16 million).

The Company leases Bruce A and B nuclear generating stations to Bruce Power L.P. until 2018, with Bruce Power L.P. having an option to renew for up to 25 years thereafter.

As per *Ontario Regulation 53/05* pursuant to the *Ontario Energy Board Act, 1998*, the difference between OPG's revenues, including lease revenues, and costs, including depreciation expense, associated with its ownership of the Bruce A and B nuclear generating stations is included in the determination of OPG's nuclear regulated prices established by the OEB. These revenues and costs are determined on the basis of the manner in which they are recognized in OPG's consolidated financial statements. As the Bruce assets are not prescribed facilities under *Ontario Regulation 53/05*, the net book value of the Bruce assets is not included in the rate base.

During 2013, OPG recorded lease revenue related to the Bruce generating stations of \$176 million (2012 – \$164 million), which included supplemental rent from Bruce Power L.P. of \$125 million (2012 – \$113 million). The amount of supplemental rent shown was net of a required rebate of \$79 million (2012 – \$78 million). The net book value of property, plant and equipment on lease to Bruce Power L.P. as at December 31, 2013 was \$1,859 million (2012 – \$1,963 million).

Base rent payments as stipulated in the lease agreement due to the Company from Bruce Power L.P. are as follows:

<u>(millions of dollars)</u>	
2014	83
2015	85
2016	88
2017	90
2018	92
	438

### Other Commitments

The Company maintains labour agreements with the Power Workers' Union (PWU) and the Society of Energy Professionals (The Society). As at December 31, 2013, OPG had approximately 10,270 regular employees and about 89 percent of its regular labour force was covered by the collective bargaining agreements. The current collective agreement between OPG and the PWU has a three-year term, which expires on March 31, 2015. The Company's most recent collective agreement with The Society was established through an arbitration award issued on April 8, 2013. The collective agreement between OPG and The Society expires on December 31, 2015. The Society filed a Judicial Review Application in the second quarter of 2013 to the Superior Court of Ontario in the matter of the arbitration award.

Contractual and commercial commitments as noted exclude certain purchase orders, as they represent purchase authorizations rather than legally binding contracts, and are subject to change without significant penalties.

### **Proxy Property Taxes**

In November 2005, OPG received a letter from the Ministry of Finance (MOF) indicating its intent to recommend to the Minister of Finance that an Ontario regulation covering proxy property taxes be updated retroactive to April 1, 1999, to reflect reassessments and appeal settlements of certain OPG properties since that date. OPG continues to monitor the resolution to this issue with the MOF, as updates to the regulation may not occur for several years. OPG has not recorded any amounts relating to this anticipated regulation change.

## **16. BUSINESS SEGMENTS**

OPG has five reportable business segments. The business segments are: Regulated – Nuclear Generation, Regulated – Nuclear Waste Management, Regulated – Hydroelectric, Unregulated – Hydroelectric, and Unregulated – Thermal.

### **Regulated – Nuclear Generation Segment**

OPG's Regulated – Nuclear Generation business segment operates in Ontario, generating and selling electricity from the nuclear generating stations that it owns and operates. The business segment includes electricity generated by the Pickering and Darlington nuclear generating stations. This business segment also includes revenue under the terms of a lease arrangement and related agreements with Bruce Power L.P. related to the Bruce nuclear generating stations. This revenue includes lease revenue and revenue from services such as heavy water sales and detritiation. Revenue is also earned from isotope sales and ancillary services. Ancillary revenues are earned through voltage control and reactive support. Revenues under the agreements with Bruce Power and from isotope sales and ancillary services are included by the OEB in the determination of the regulated prices for OPG's nuclear facilities.

### **Regulated – Nuclear Waste Management Segment**

OPG's Regulated – Nuclear Waste Management segment engages in the management of used nuclear fuel and L&ILW, the decommissioning of OPG's nuclear generating stations (including the stations on lease to Bruce Power L.P.), the management of the Nuclear Funds, and related activities including the inspection and maintenance of the waste storage facilities. Accordingly, accretion expense on the Nuclear Liabilities and earnings from the Nuclear Funds are reported under this segment.

As the nuclear generating stations operate over time, OPG incurs variable costs related to nuclear used fuel bundles and L&ILW generated. These costs increase the Nuclear Liabilities through the generation of additional used nuclear fuel bundles and L&ILW. These variable costs are charged to current operations in the Regulated – Nuclear Generation segment to reflect the cost of producing energy and earning revenue under the Bruce Lease and related agreements. Since variable costs increase the Nuclear Liabilities in the Regulated – Nuclear Waste Management

segment, OPG records an inter-segment charge between the Regulated – Nuclear Generation and the Regulated – Nuclear Waste Management segments. The impact of the inter-segment charge is eliminated on OPG's consolidated statements of income and balance sheets.

The Regulated – Nuclear Waste Management segment is considered regulated because the costs associated with the Nuclear Liabilities are included by the OEB in the determination of regulated prices for production from OPG's regulated nuclear facilities.

### **Regulated – Hydroelectric Segment**

OPG's Regulated – Hydroelectric business segment operates in Ontario, generating and selling electricity from most of the Company's baseload hydroelectric generating stations. The business segment is comprised of electricity generated by the Sir Adam Beck 1, 2 and Pump generating station, DeCew Falls 1 and 2, and the R.H. Saunders hydroelectric facilities. Ancillary revenues and other revenues are earned through offering available generating capacity as operating reserve and through the supply of other ancillary services including voltage control and reactive support, certified black start facilities, regulation service, and other services. These ancillary revenues and other revenues are included by the OEB in the determination of the regulated prices for these facilities.

### **Unregulated – Hydroelectric Segment**

The Unregulated – Hydroelectric business segment operates in Ontario, generating and selling electricity from the Company's hydroelectric generating stations, which are not subject to rate regulation. The segment includes hydroelectric stations that are subject to ESAs. Ancillary revenues and other revenues are earned through offering available generating capacity as operating reserve, and through the supply of other ancillary services including voltage control and reactive support, certified black start facilities, regulation service, and other services.

### **Unregulated – Thermal Segment**

The Unregulated – Thermal business segment operates in Ontario, generating and selling electricity from the Company's thermal generating stations, which are not subject to rate regulation. Ancillary revenues are earned through offering available generating capacity as operating reserve, and the supply of other ancillary services including voltage control and reactive support, regulation service, and other services.

### **Other**

The Other category includes revenue that OPG earns from its 50 percent joint venture share of Brighton Beach related to an energy conversion agreement between Brighton Beach and Shell Energy North America (Canada) Inc. This category also includes revenue that OPG earns from its 50 percent joint venture share of the PEC gas-fired generating station, which is operated under the terms of an Accelerated Clean Energy Supply contract with the OPA. The revenue and expenses related to OPG's trading and other non-hedging activities are also reported in the Other category. As part of these activities, OPG transacts with counterparties in Ontario and neighbouring energy markets in predominantly short-term trading activities of typically one year or less in duration. These activities relate primarily to physical energy that is purchased and sold at the Ontario border, sales of financial risk management products and sales of energy-related products. All contracts that are not designated as hedges are recorded as assets or liabilities at fair value, with changes in fair value recorded in the Other category. In addition, the Other category includes revenue from real estate rentals.

OM&A expenses of the generation segments include an inter-segment service fee for the use of certain property, plant and equipment, and intangible assets held within the Other category. The total service fee is recorded as a reduction to the Other category's OM&A expenses.



The service fee included in OM&A expenses by segment for the years ended December 31 is as follows:

<i>(millions of dollars)</i>	<b>2013</b>	<b>2012</b>
Regulated – Nuclear Generation	<b>23</b>	23
Regulated – Hydroelectric	<b>2</b>	2
Unregulated – Hydroelectric	<b>3</b>	3
Unregulated – Thermal	<b>5</b>	6
Other	<b>(33)</b>	(34)

<b>Segment Income (Loss) for the Year Ended December 31, 2013</b> <i>(millions of dollars)</i>	<b>Regulated</b>			<b>Unregulated</b>				<b>Total</b>
	<b>Nuclear Generation</b>	<b>Nuclear Waste Management</b>	<b>Hydro- electric</b>	<b>Hydro- electric</b>	<b>Thermal</b>	<b>Other</b>	<b>Elimination</b>	
Revenue	<b>2,894</b>	<b>113</b>	<b>843</b>	<b>472</b>	<b>578</b>	<b>72</b>	<b>(109)</b>	<b>4,863</b>
Fuel expense	<b>237</b>	-	<b>268</b>	<b>82</b>	<b>121</b>	-	-	<b>708</b>
Gross margin	<b>2,657</b>	<b>113</b>	<b>575</b>	<b>390</b>	<b>457</b>	<b>72</b>	<b>(109)</b>	<b>4,155</b>
Operations, maintenance and administration	<b>2,022</b>	<b>121</b>	<b>108</b>	<b>236</b>	<b>362</b>	<b>7</b>	<b>(109)</b>	<b>2,747</b>
Depreciation and amortization	<b>626</b>	-	<b>129</b>	<b>74</b>	<b>115</b>	<b>19</b>	-	<b>963</b>
Accretion on fixed asset removal and nuclear waste management liabilities	-	<b>742</b>	-	-	<b>14</b>	-	-	<b>756</b>
Earnings on nuclear fixed asset removal and nuclear waste management funds	-	<b>(628)</b>	-	-	-	-	-	<b>(628)</b>
Property and capital taxes	<b>29</b>	-	<b>(2)</b>	-	<b>16</b>	<b>10</b>	-	<b>53</b>
Restructuring	-	-	-	-	<b>50</b>	-	-	<b>50</b>
Other (income) loss	<b>(1)</b>	-	-	<b>4</b>	<b>(4)</b>	<b>(37)</b>	-	<b>(38)</b>
Income (loss) before interest and income taxes	<b>(19)</b>	<b>(122)</b>	<b>340</b>	<b>76</b>	<b>(96)</b>	<b>73</b>	-	<b>252</b>

Segment Income (Loss) for the Year Ended December 31, 2012 <i>(millions of dollars)</i>	Regulated		Unregulated					Total
	Nuclear Generation	Nuclear Waste Management	Hydro- electric	Hydro- electric	Thermal	Other	Elimination	
Revenue	3,060	107	724	373	507	64	(103)	4,732
Fuel expense	261	-	261	71	162	-	-	755
Gross margin	2,799	107	463	302	345	64	(103)	3,977
Operations, maintenance and administration	1,930	114	103	236	361	7	(103)	2,648
Depreciation and amortization	480	-	33	73	59	19	-	664
Accretion on fixed asset removal and nuclear waste management liabilities	-	712	-	-	13	-	-	725
Earnings on nuclear fixed asset removal and nuclear waste management funds	-	(651)	-	-	-	-	-	(651)
Property and capital taxes	26	-	(1)	(1)	16	7	-	47
Restructuring	-	-	-	-	3	-	-	3
Other (income) loss	(1)	-	4	4	9	(26)	-	(10)
Income (loss) before interest and income taxes	364	(68)	324	(10)	(116)	57	-	551

Selected Consolidated Balance Sheet Information as at December 31, 2013 <i>(millions of dollars)</i>	Regulated			Unregulated			Total
	Nuclear Generation	Nuclear Waste Management	Hydro- electric	Hydro- electric	Thermal	Other	
Segment property, plant and equipment in-service, net	4,864	-	5,099	3,312	153	170	13,598
Segment construction in progress	866	-	24	2,090	146	14	3,140
Segment property, plant and equipment, net	5,730	-	5,123	5,402	299	184	16,738
Segment intangible assets in-service, net	15	-	1	4	-	17	37
Segment development in progress	2	-	-	-	-	20	22
Segment intangible assets, net	17	-	1	4	-	37	59
Segment materials and supplies inventory, net:							
Short-term	94	-	-	-	1	-	95
Long-term	322	-	-	1	7	-	330
Segment fuel inventory	334	-	-	-	56	-	390
Nuclear fixed asset removal and nuclear waste management funds (current and non-current portions)	-	13,496	-	-	-	-	13,496
Fixed asset removal and nuclear waste management liabilities	-	(15,903)	-	-	(322)	(32)	(16,257)

<b>Selected Consolidated Balance Sheet Information as at December 31, 2012</b> <i>(millions of dollars)</i>	<b>Regulated</b>			<b>Unregulated</b>			<b>Total</b>
	<b>Nuclear Generation</b>	<b>Nuclear Waste Management</b>	<b>Hydro- electric</b>	<b>Hydro- electric</b>	<b>Thermal</b>	<b>Other</b>	
Segment property, plant and equipment in-service, net	4,921	-	3,695	3,310	256	176	12,358
Segment construction in progress	554	-	1,396	1,475	69	8	3,502
Segment property, plant and equipment, net	5,475	-	5,091	4,785	325	184	15,860
Segment intangible assets in-service, net	21	-	-	5	-	16	42
Segment development in progress	2	-	-	-	-	8	10
Segment intangible assets, net	23	-	-	5	-	24	52
Segment materials and supplies inventory, net:							
Short-term	83	-	-	-	7	-	90
Long-term	327	-	-	1	27	-	355
Segment fuel inventory	328	-	-	-	177	-	505
Nuclear fixed asset removal and nuclear waste management funds (current and non-current portion)	-	12,717	-	-	-	-	12,717
Fixed asset removal and nuclear waste management liabilities	-	(15,177)	-	-	(313)	(32)	(15,522)

<b>Selected Consolidated Cash Flow Information</b> <i>(millions of dollars)</i>	<b>Regulated</b>			<b>Unregulated</b>			<b>Total</b>
	<b>Nuclear Generation</b>	<b>Nuclear Waste Management</b>	<b>Hydro- electric</b>	<b>Hydro- electric</b>	<b>Thermal</b>	<b>Other</b>	
Year ended December 31, 2013 Investment in property, plant and equipment, and intangible assets	<b>633</b>	<b>-</b>	<b>114</b>	<b>688</b>	<b>95</b>	<b>38</b>	<b>1,568</b>
Year ended December 31, 2012 Investment in property, plant and equipment, and intangible assets	400	-	262	673	62	30	1,427

### 2014 New Business Segments

Effective January 1, 2014, given the change in OPG's generation portfolio, OPG has revised its reportable business segments such that electricity generating facilities with similar revenue mechanisms and risk profiles will be reflected in separate segments.

OPG's reportable business segments, effective January 1, 2014 are: Regulated – Nuclear Generation, Regulated – Nuclear Waste Management, Regulated Hydroelectric, Contracted Generation Portfolio, and Services, Trading, and other Non-Generation. OPG's Regulated – Nuclear Generation and Regulated – Nuclear Waste Management segments are unchanged. The Regulated – Hydroelectric segment will continue to include the results of Sir Adam Beck 1, 2 and Pump GS, DeCew Falls 1 and 2, and the R.H. Saunders hydroelectric facilities and will also include the results of the 48 hydroelectric stations, which have been prescribed under amended *Ontario Regulation 53/05*, effective July 1, 2014. The Contracted Generation Portfolio segment will include the results of generating facilities that are under an ESA with the OPA or other long-term generation contracts. The Contracted Generation Portfolio segment will also include OPG's share of in-service generating capacity and equity income from its 50 percent ownership interest in PEC and Brighton Beach. The Services, Trading, and other Non-Generation segment will include revenue and expenses related to OPG's trading and other non-generation activities.

## 17. NET CHANGES IN NON-CASH WORKING CAPITAL BALANCES

<i>(millions of dollars)</i>	2013	2012
Receivables from related parties	40	(16)
Other accounts receivable and prepaid expenses	(21)	(22)
Fuel inventory	115	150
Income taxes payable/recoverable	12	(5)
Materials and supplies	(5)	(8)
Accounts payable and accrued charges	98	73
	239	172

## 18. RELATED PARTY TRANSACTIONS

Given that the Province owns all of the shares of OPG, related parties include the Province, Infrastructure Ontario, OPA and the other successor entities of Ontario Hydro, including Hydro One Inc. (Hydro One), the IESO, and the OEFC, and jointly controlled entities. The transactions between OPG and related parties are measured at the exchange amount, which is the amount of consideration established and agreed to by the related parties.

These transactions for the years ended December 31 are summarized below:

<i>(millions of dollars)</i>	Revenue 2013	Expenses	Revenue 2012	Expenses
Hydro One				
Electricity sales	15	-	10	-
Services	-	14	-	14
Province of Ontario				
Gross revenue charge, water rentals and land tax	-	124	-	118
Guarantee fee	-	8	-	8
Used Fuel Fund rate of return guarantee	-	755	-	282
Decommissioning Fund excess funding	-	560	-	64
Pension benefits guarantee fee	-	1	-	2
OEFC				
Gross revenue charge and proxy property tax	-	208	-	201
Interest expense on long-term notes	-	187	-	189
Capital tax	-	1	-	(3)
Income taxes, net of investment tax credits	-	28	-	77
Contingency support agreement	360	-	283	-
Infrastructure Ontario				
Reimbursement of expenses incurred during the procurement process for new nuclear units	-	-	-	(1)
IESO				
Electricity sales	3,754	62	3,823	34
Ancillary services	125	-	56	-
OPA	136	-	92	-
	<b>4,390</b>	<b>1,948</b>	<b>4,264</b>	<b>985</b>

The balances, as at December 31, between OPG and its related parties are summarized below:

<i>(millions of dollars)</i>	2013	2012
Receivables from related parties		
Hydro One	2	3
IESO	317	337
OEFC	67	84
OPA	14	16
PEC	2	2
Accounts payable and accrued charges		
Hydro One	3	2
OEFC	51	51
Province of Ontario	2	3

## 19. OTHER INCOME

<i>(millions of dollars)</i>	2013	2012
Income from investments subject to significant influence	(35)	(26)
Thermal asset retirement obligation estimate change (Note 3)	(1)	-
Thunder Bay Generating Station conversion cost (recovery) write off	(3)	9
Other loss	1	7
Other income	(38)	(10)

## 20. INVESTMENTS SUBJECT TO SIGNIFICANT INFLUENCE

Investments subject to significant influence consist of OPG's 50 percent ownership interest in the jointly controlled entities of PEC and Brighton Beach, which are accounted for using the equity method as described in Note 3. Details of the balance included in the consolidated balance sheets as at December 31 are as follows:

<i>(millions of dollars)</i>	2013	2012
<b>PEC</b>		
Current assets	19	8
Long-term assets	303	315
Current liabilities	(15)	(8)
Long-term liabilities	(4)	(3)
<b>Brighton Beach</b>		
Current assets	5	11
Long-term assets	196	209
Current liabilities	(11)	(11)
Long-term liabilities	(5)	(9)
Long-term debt	(129)	(139)
Investments subject to significant influence	359	373

## 21. RESEARCH AND DEVELOPMENT

For the year ended December 31, 2013, research and development expenses of \$117 million (2012 – \$113 million) were charged to operations.

## 22. RESTRUCTURING

In 2011, OPG announced its decision to close two additional coal-fired units at the Nanticoke GS, consistent with the 2010 Ontario Long-Term Energy Plan and the 2011 Supply Mix Directive. Total restructuring costs, primarily severance costs, related to these closures are \$21 million and have been recognized in the consolidated financial statements.

OPG has ceased using coal at the Atikokan GS, which has an impact on staff requirements. Severance costs of \$2 million were recorded during March 2013.

In March 2013, Unit 2 at the Thunder Bay GS was removed from the IESO market as it is not required by the IESO. The impact on staff requirements has been finalized. The total restructuring costs, exclusively severance costs, associated with this unit are estimated to be \$4 million and were recorded in July 2013.

In March 2013, the Minister of Energy issued a declaration mandating that OPG cease the use of coal at the Nanticoke GS and Lambton GS by the end of 2013. OPG has estimated the restructuring costs, including severance and relocation to other OPG sites, at \$52 million and has accrued \$44 million of severance costs during the third and fourth quarters of 2013. Relocation costs will be recorded as incurred, primarily in 2014.

The change in the restructuring liability for severance costs during 2013 and 2012 is as follows:

<i>(millions of dollars)</i>	
Liability, January 1, 2012	23
Payments during the year	(20)
Liability, December 31, 2012	3
Restructuring charges during the year	50
Payments during the year	(13)
<b>Liability, December 31, 2013</b>	<b>40</b>

OPG conducted discussions with key stakeholders, including The Society and PWU, in accordance with their respective collective bargaining agreements, at all plants impacted to date by the regulation requiring the cessation of the use of coal for electricity generation. Given collective agreement provisions allowing deferral of severance payout to future periods, the existing restructuring liability is expected to be drawn down by the end of 2016.



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**BILL ROBINSON**

Senior Vice President,  
Nuclear Projects

\*As of March 6, 2014



# OPG GENERATION FACILITIES

2 

Nuclear  
Stations \*

2 

Leased  
Nuclear  
Stations

3 

Thermal  
Stations \*\*

2 

Co-owned  
Gas-Fired  
Stations \*\*\*

65 

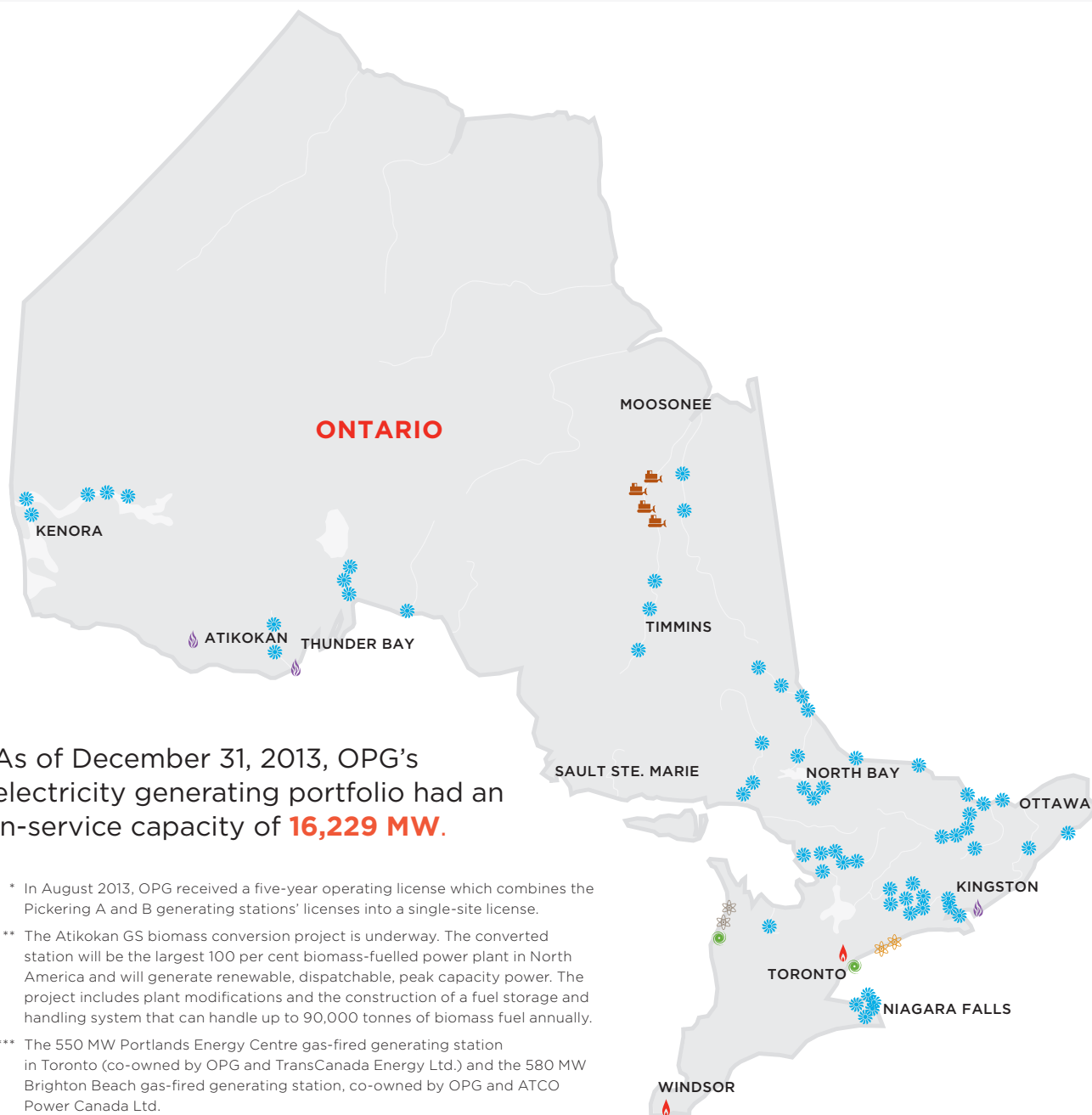
Hydroelectric  
Stations

2 

Wind  
Power  
Turbines

1 

Hydroelectric  
Projects Under  
Construction \*\*\*\*



As of December 31, 2013, OPG's electricity generating portfolio had an in-service capacity of **16,229 MW**.

\* In August 2013, OPG received a five-year operating license which combines the Pickering A and B generating stations' licenses into a single-site license.

\*\* The Atikokan GS biomass conversion project is underway. The converted station will be the largest 100 per cent biomass-fuelled power plant in North America and will generate renewable, dispatchable, peak capacity power. The project includes plant modifications and the construction of a fuel storage and handling system that can handle up to 90,000 tonnes of biomass fuel annually.

\*\*\* The 550 MW Portlands Energy Centre gas-fired generating station in Toronto (co-owned by OPG and TransCanada Energy Ltd.) and the 580 MW Brighton Beach gas-fired generating station, co-owned by OPG and ATCO Power Canada Ltd.

\*\*\*\* The Lower Mattagami project in northeastern Ontario, will result in the addition of generating units to existing stations in Little Long, Harmon, and Kipling and will also replace a fourth generating station, Smoky Falls, with a new, three-unit station at the existing site.

# 2013 ONTARIO POWER GENERATION **ANNUAL REPORT**



This annual report is also available in French on our website  
*Ce rapport est également publié en français sur notre site Web* [www.opg.com](http://www.opg.com)

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