Ontario

MINISTRY OF

ENERGY

Ontario Power Generation (OPG) 2017-19 Business Plan and Special Status Application

May 2017

Context

- As required by the Memorandum of Agreement (MOA) between Ontario Power Generation and the Minister of Energy, OPG provided its Business Plan for 2017-2019 to the Ministry of Energy on November 29 for concurrence
  - Please note that while OPG is seeking concurrence for its three year 2017-19 business plan, the plan also includes financial projections for 2020 and 2021
- With this Business Plan OPG is also making an application for Special Status under the Section 5.3 of the Management Board of Cabinet's Travel, Meal and Hospitality Expenses Directive, which allows agencies/organizations, for which international travel may be integral to their business, to seek TB/MBC approval for special status to ensure that the approval process does not have an undue negative effect on its ability to conduct business
- The Minister's concurrence of OPG's 2017-19 Business Plan is subject to an appearance of OPG's business plan before TB/MBC
- The Ministry of Energy review and analysis of OPG's business plan is supported by the Electricity Investment and Governance Secretariat, a unit within the Ministry of Finance
- The following presentation provides an overview of OPG's business plan, including:
  1. Business Plan Overview
  2. Other Considerations

Context *(cont'd)*

- Proceeding with Provincial concurrence now will ensure OPG has support from its shareholder as it implements the plan and provides clarity to the Ontario Energy Board (OEB) as it reviews OPG's current rate application covering the 2017-2021 period

- Business plan forecasts may be affected by Ontario's Fair Hydro Plan (OFHP). Given the stage of implementation of OFHP, these changes are not reflected in OPG's plan

  - The Ministry anticipates that as part of supporting the financing and administration of the global adjustment smoothing mechanism, OPG would purchase the right to future cash flows from IESO, financed by capital infusions from the Province, and by third-party lending

  - These changes are expected to be fiscally neutral as they would result in an increase in Provincial interest on debt, offset by increases in OPG net income

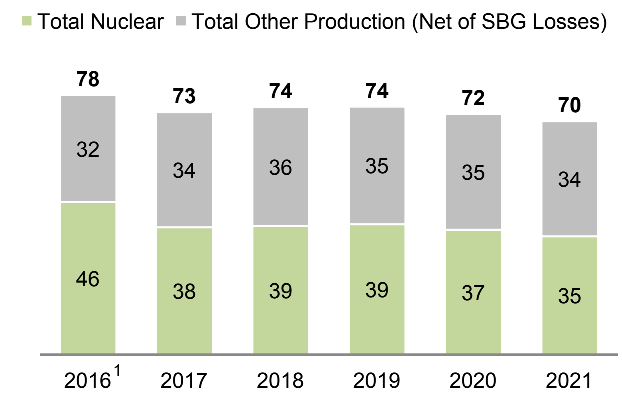
  - In addition, the Province's net debt position would remain unchanged

1. Business Plan Overview

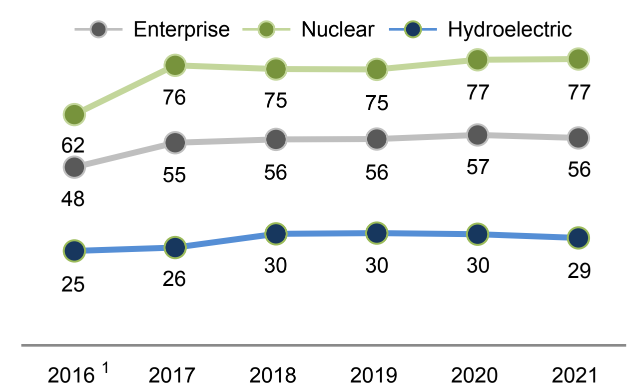
a) Production & Total Cost of Generation

- OPG's production is expected to fall to 69.8 TWh by 2021 from 77.6 TWh in 2016
  - Reflects a declining trend in the Darlington production due to refurbishment outages starting in October 2016
  - Includes a partial overlap starting in 2021 between second and third unit refurbishments, and
  - Includes the Pickering Vacuum Building Outage (VBO) in 2021 requiring the shutdown of all units for the duration of the outage
- While Operations, Maintenance and Administration (OM&A) remains relatively stable over the planning period (see next slide), total generating cost (TGC)* shows an increasing trend over the planning period relative to 2016, reflecting:
  - Lower nuclear production due to Darlington refurbishment outages, and
  - Increased sustaining capital spending (included in TGC) on two large hydroelectric projects, the Lower Mattagami dam safety upgrade and the Sir Adam Beck I GS power canal liner rehabilitation

Production (TWh)



Total Generating Cost ($/MWh)



1. Actuals

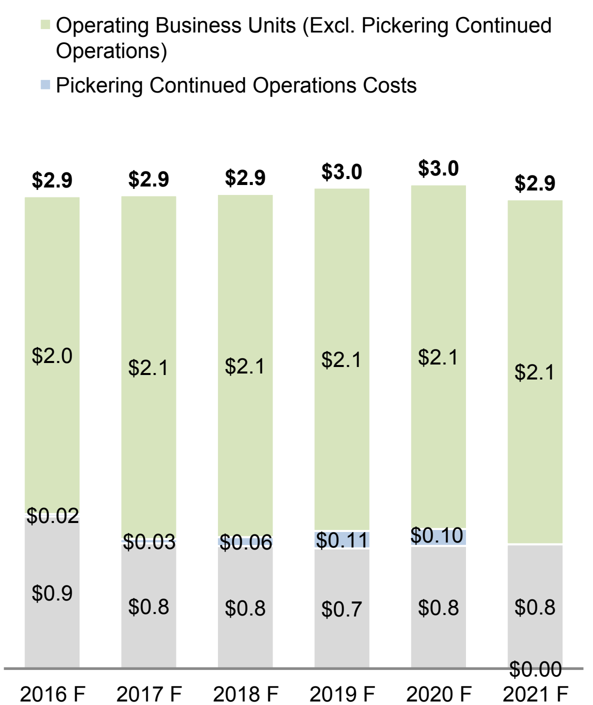
*TGC = OM&A expenses from ongoing operations + fuel and Gross Revenue Charge expenses for OPG-operated stations + sustaining capital expenditures) divided by OPG generation adjusted for surplus baseload generation losses

1. Business Plan Overview

b) Operations, Maintenance and Administration (OM&A) Expenses

- Annual OM&A expenses from ongoing operations are expected to stay consistent over the plan period, averaging $2.9B per year
- Increases over 2016 are mainly attributable to:
  - Increases in business unit expenditures, including changes in nuclear outage scope at Darlington, and planned hiring to fill staffing gaps
  - Incremental outage and other program costs to enable Pickering continued operations
  - Partially offset by declining pension and Other Post Employment Benefits (OPEB) costs over the period due to projected pension asset returns, increased employee contributions, and adoption of a new method for applying discount rates to determine interest components of pension costs

OM&A from Ongoing Operations* ($B)



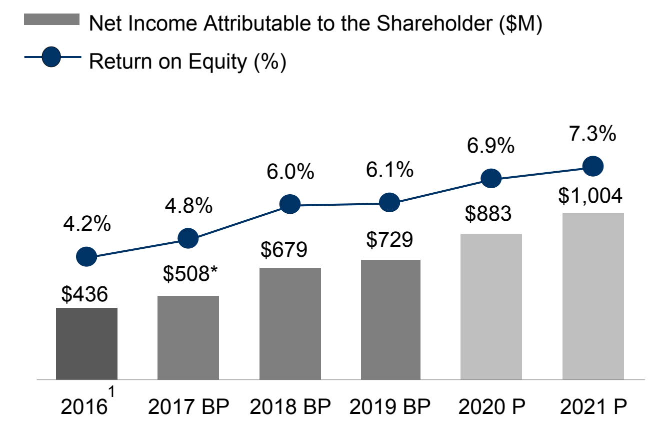
*Excludes Darlington refurbishment OM&A expenses and all OEB variance and deferral account offsets
** Includes centrally held pension /OPEB costs and support services

1. Business Plan Overview

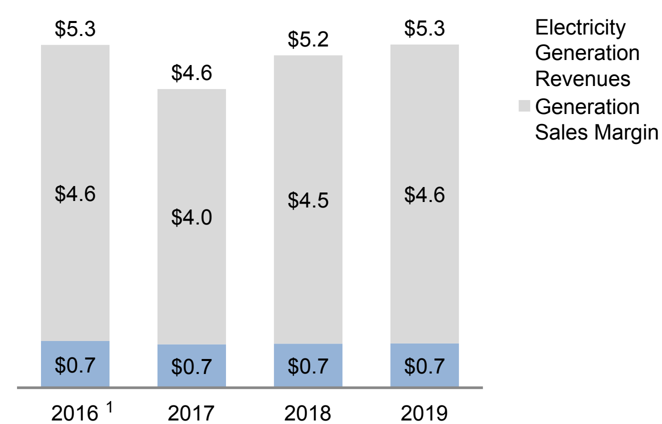
c) Financials

- OPG is forecasting net income attributable to the Shareholder to reach $1B in 2021, from $436M in 2016
  - 2017 net income is forecast to increase as a result of new regulated rates, higher capitalized interest for the Darlington Refurbishment expenditures partially offset by reduced production as a result of planned outages at Sir Adam Beck I and DeCew II hydro stations
  - Net income in 2018 and 2019 is planned to increase, primarily due to higher production, and earnings from oncoming stations including Peter Sutherland Sr. GS in 2017 and Nanticoke solar in 2019
- As a result, return-on-equity (ROE) is estimated to increase from 4.2% in 2016 to 7.3% by 2021
- Overall, the 2017-19 Business Plan is largely unchanged relative to last year's plan in terms of commitments for Net Income, and Total Shareholder Return
- In early January 2017, subsequent to the OPG Board's approval of the 2017-2019 Business Plan, OPG reached an agreement with KingSett Canadian Real Estate Income Fund LP for the purchase of OPG's head office property. The net gain is estimated to be $285M and will be distributed to the Trillium Trust

Net Income ($M) and ROE (%)



Revenue Margin ($B)



*Includes extraordinary gain associated with the sale of OPG head office

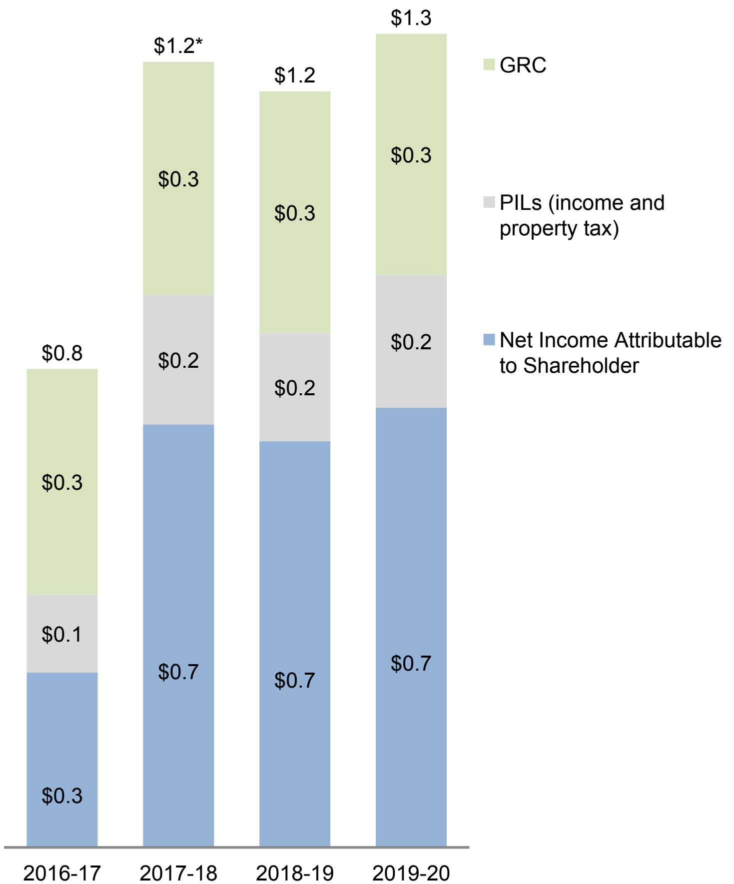
1. Actuals

1. Business Plan Overview

d) Shareholder Return

- Total return to the shareholder averages ~$1B over the period
- Total return to the shareholder improves over the period largely due to changes in net income, which OPG attributes to:
  - Assumed OEB rate outcomes
  - Completion of the first Darlington unit refurbishment
  - Further cost efficiencies
- Net income is consolidated by the Province as Revenue from Government Business Enterprises (GBEs) income tax PILs are consolidated by the Ontario Electricity Financial Corporation (OEFC)
- OPG also pays a Gross Revenue Charge (GRC) and Property Taxes to the OEFC

Total Shareholder Return ($B)



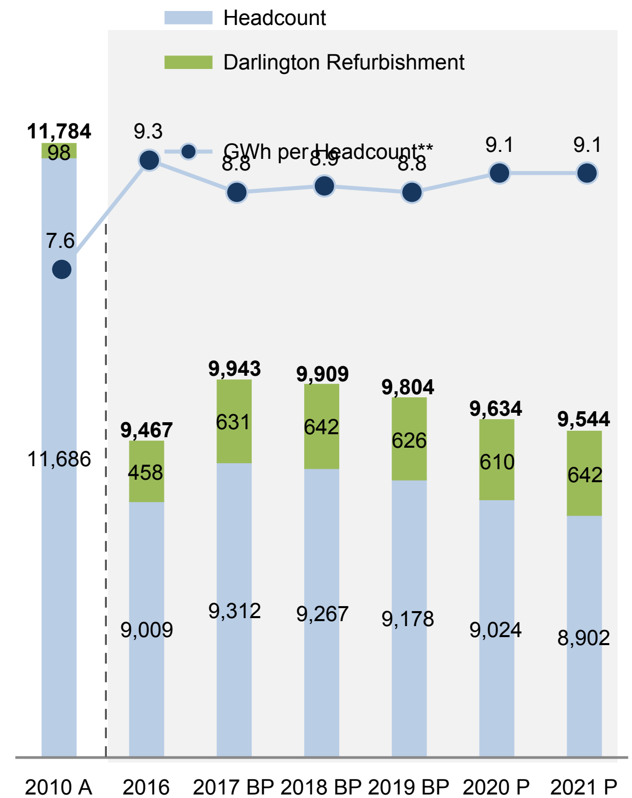
*Includes gain associated with the sale of OPG head office

1. Business Plan Overview

e) Business Transformation Initiative & Labour Costs

- As part of a company-wide business transformation, OPG has saved over $1B in costs from January 2011 to December 2016
  - Headcount has fallen from 11,686 in 2010 to a forecasted 9,009 in 2016 while GWh per headcount has increased from 7.6 to 9.3
- However, OPG is ramping up recruitment between 2016 and 2017 to fill key vacancies in certain areas (particularly in the Nuclear business unit) due to high levels of attrition from employee demographics, as well as continued Pickering operations beyond 2020
  - OPG is forecasting regular headcount to show a net increase of ~300 by the end of 2017 before gradually decreasing to 4% lower than 2017 levels in 2021
- In addition, to date OPG has hired ~95 Term employees, a new category of non-regular staff negotiated with the Power Workers' Union (PWU) through collective bargaining in 2015
  - Intention is to add fewer regular staff in circumstances where they are likely to be laid off as a result of the end of Pickering commercial operations, per the terms of the collective agreement

Ongoing Operations Regular Headcount and Productivity



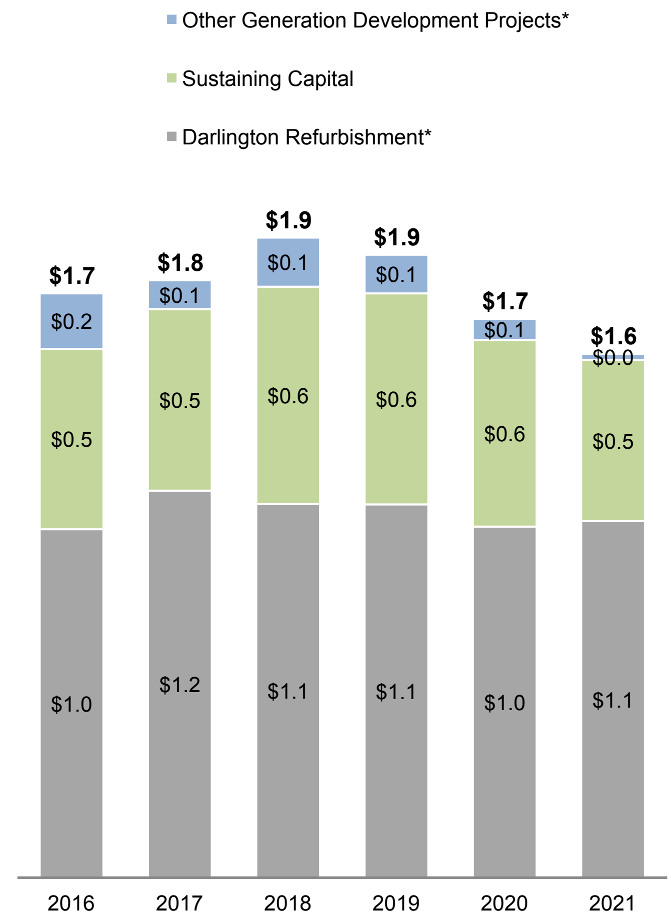
**Production is normalized by adding back hydroelectric surplus baseload generation losses and, in 2017- 2021, the lower production due to the Darlington refurbishment outages

1. Business Plan Overview

f) Operating Highlights - Projects and Capital Expenditures

- OPG continues to focus on delivery of its major projects over the plan period, including:
  - **Darlington Refurbishment**: Unit 2 is assumed to be returned to service in February 2020 with the second unit refurbishment commencing immediately thereafter and the third unit refurbishment starting in July 2021, assuming necessary concurrence from the Province is obtained
  - **Sustaining Capital:** Expenditures average $570M, including:
    - Nuclear expenditures unrelated to refurbishment at Darlington and costs for continued operation of Pickering
    - Regulated hydro expenditures including upgrades at Sir Adam Beck and upgrades to DeCew II
    - Lower Mattagami upgrades in 2018 and 2019
  - **Other Generation Development Projects:** Investments in current (e.g., hydroelectric) and emerging generation technologies including solar and energy storage including construction and operation of the Nanticoke solar facility by 2019

Capital Expenditure Estimates ($B)



*Includes expenditures budgeted by Support Services

2. Other Considerations

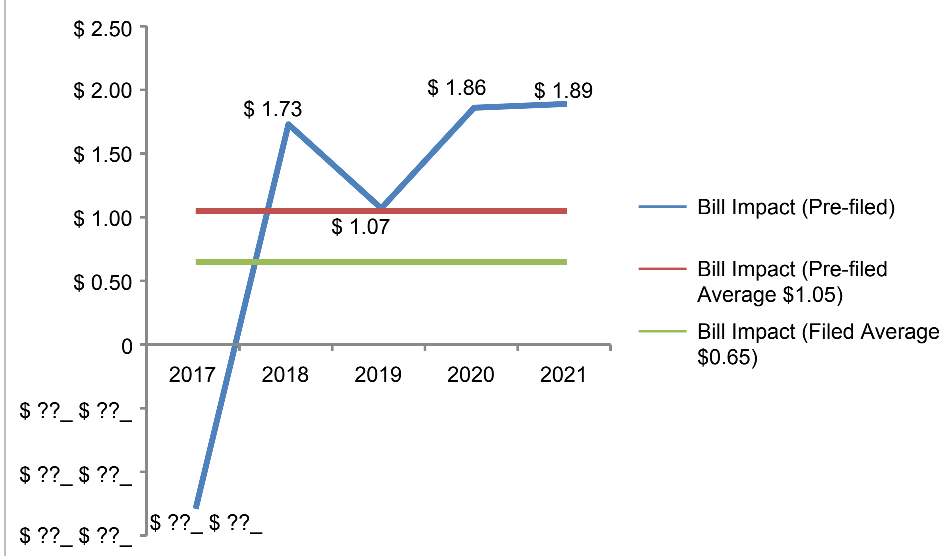
Rate Application

- OPG's 2017-19 Business Plan is dependent on the outcome of its rate filing with the OEB for the five-year period from 2017-2021
- Oral hearings began February 21, 2017 with a decision expected in Q4 2017
- OPG's 2017-19 Business Plan assumes new rates are effective January 1, 2017
  - The OEB setting a later effective date would negatively impact OPG's 2017-18 fiscal year net income by ~$50-60M per month of delay*

Rate-Smoothing Proposal:

- On March 2, 2017 the Province filed an amendment to O.Reg.53/05, which enables OPG to smooth its rates based on OPG's weighted average hydroelectric and nuclear all-in rates (which approximates total bill impact), rather than on the basis of nuclear base rates only
- On March 8, 2017 OPG filed a revised rate smoothing proposal with the OEB, which is expected to decrease the average year-over-year annual impact on the monthly customer bill for an average consumption of 750 KWh/month from about $1.05 to 65 cents per month per year

Comparison of Annual Bill Impact ($/Month per year)



*Forecasted in May 2016

2. Other Considerations

Sales

	OPG Head Office	R.L. Hearn Site	Lakeview Site
Current Status	Completed	Agreement Reached	OPG and Infrastructure Ontario are preparing for marketing
Site Description	700 University Ave. and parking garage at 40 Murray St. in Toronto	~33 acres at the R.L. Hearn site in Toronto	~67 acres to be transferred by the purchaser to the City of Mississauga (Municipal Park Lands) and ~110 acres to be developed for mixed uses (Uplands)
Buyer	KingSett Canadian Real Estate Income Fund LP	Studios of America Limited Partner	TBD
Value	Estimated up-front 2017-18 fiscal impact of ~$375M	TBD	TBD
Other Considerations	N/A	N/A	Negotiations with the City have been lengthy and costs to remediate/prepare site may be significant due to concerns regarding site condition
Timing	The sale closed in April 2017	Anticipated to close in Q3 2017	Marketing is planned to start in April 2017, pending negotiations with the City, with an anticipated closing in 2017

2. Other Considerations

Special Status for OPG to Approve International Travel

On January 24, 2017, OPG's President and CEO wrote to the Deputy Minister to provide a business case and request authority for OPG to approve international travel for its employees. In summary:

- Section 5.3 of the Management Board of Cabinet's Travel, Meal and Hospitality Expenses Directive allows agencies/organizations, for which international travel may be integral to their business, to seek TB/MBC approval for special status to ensure that the approval process does not have an undue negative effect on its ability to conduct business
- OPG and its employees manage and operate 2 nuclear stations (only nuclear operator in North America besides Bruce Power with the complexity of 4 unit stations), 65 hydroelectric stations , 3 thermal stations, 3 nuclear waste sites, and 238 dams associated with its 65 hydroelectric stations
- International travel is integral to the safe and prudent operation of OPG's business and having OPG's CEO approve international travel will enable more efficient decision-making while significantly lowering travel costs
- It is important for OPG to engage regularly with the international community in regards to: i) ensuring nuclear safety, ii) timely procurement activities to ensure projects are delivered on time, on budget and with the necessary equipment quality and performance assurance required, and iii) effective investment performance and due diligence oversight processes for over $30 billion in pension fund and nuclear funds

2. Other Considerations

Special Status for OPG to Approve International Travel (cont'd)

- OPG requires a high level of international business travel at approximately 90-100 trips annually; since the Directive requirement came into effect in 2009 no travel approval sought by OPG for over 600 trips has been declined by the Minister of Energy as OPG has consistently demonstrated prudent and cost effective travel decisions in addition to the need. While equipment performance and quality assurance testing at original equipment manufacturers for the Darlington Refurbishment Project currently accounts for 45% of OPG's international travel it is expected to increase significantly over the 10 year life of the project
- Additional government approval of OPG international travel, which took 23 days on average in 2016, delays flight bookings which results in significantly higher costs as airlines raise fares closer to the travel date. In 2016, OPG conservatively estimated that it could have saved almost $45,000 in airfare savings alone, and over $305,000 since 2010. These costs are ultimately borne by ratepayers. In addition, OPG's inability to make timely commitments on testing, speaking events and meetings is having a negative impact on employee engagement as well as on OPG's international relationships and reputation where it has been seen as a leader
- New security threat assessment requirements are adding to further delays; for example a submission on February 14th for travel on May 1st has still not received a report. OPG is able to conduct its own assessments
- OPG has committed to providing semi-annual reports to the Ministry of Energy on international travel taken, and continue to be accountable for compliance with all applicable OPS directives, policies and procedures
- OPG is committed to reducing customer costs, removing and eliminating inefficiencies and duplication and leveraging OPG assets and expertise to the benefit of customers and shareholder. OPG is seeking Special Status as part of seeking concurrence with OPG's 2017-19 business plan

Appendix

2016 Year-End Financials

OPG Balance Sheet as at Dec 31 $B	2016
Assets	
Cash and cash equivalents	0.2
Available-for-sale securities	0.2
Receivables from related parties	0.4
Nuclear fixed asset removal and nuclear waste management funds	0.02
Other current assets	0.9
Total current assets	**$1.7**
Net property, plant and equipment	**$20.0**
Net intangible assets	**$0.1**
Nuclear fixed asset removal and nuclear waste management funds	16.0
Regulatory assets	5.9
Other long-term assets	0.7
Other assets	**$22.5**
Total assets	**$44.4**
Liabilities	
Accounts payable and accrued charges	1.2
Short-term debt and long-term debt due within one year	1.1
Income taxes payable and other current liabilities	0.1
Total current liabilities	**$2.4**
Long-term debt	4.4
Fixed asset removal and nuclear waste management liabilities	19.5
Pension liabilities	3.0
Other post-employment benefit liabilities	2.9
Other liabilities	1.7
	$31.5
Total liabilities	**$33.9**
Equity	
Equity attributable to the Shareholder	10.4
Equity attributable to non-controlling interest	0.1
Total equity	**$10.5**
Total liabilities and equity	**$44.4**

OPG Income Statement Year Ended Dec 31 $B	2016
Revenue	$5.7
Fuel expense	0.7
Gross margin	**$4.9**
Operations, maintenance and administration	2.7
Depreciation and amortization	1.3
Accretion on fixed asset removal and nuclear waste management liabilities	0.9
Earnings on nuclear fixed asset removal and nuclear waste management funds	-0.7
Other expenses	0.02
Total expenses	**$4.2**
Income before other (gains) losses, interest and income taxes	**$0.7**
Other (gains) losses	-0.02
Income before interest and income taxes	**$0.7**
Net interest expense	0.1
Income before income taxes	**$0.6**
Income tax expense	0.2
Net income	**$0.5**
Net income attributable to the Shareholder	**$0.4**
Net income attributable to non-controlling interest	**$0.02**