Ontario

MINISTRY OF

ENERGY

OPG Business Plan

March 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
- The Minister's concurrence 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
  3. Next Steps

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

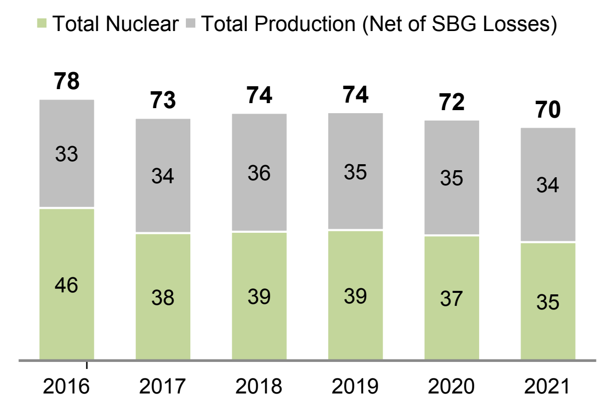
  - In addition, the Province's net debt position should remain unchanged

1. Business Plan Overview

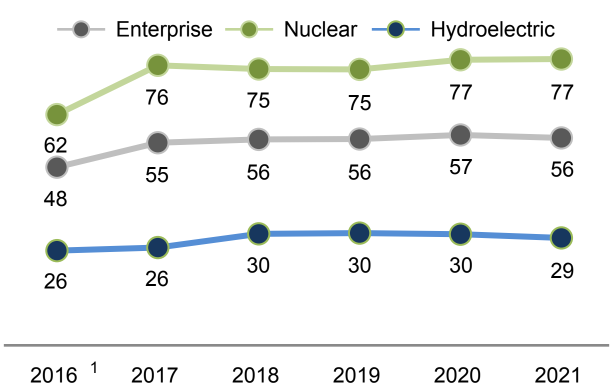
a) Production & Total Cost of Generation

- OPG's production is expected to fall to 69.8 TWh by 2021 from 78.2 TWh in 2016
  - Reflects a declining trend in the Darlington production due to refurbishment outages starting in October 2016
  - Also includes a partial overlap starting in 2021 between second and third unit refurbishments
- While 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

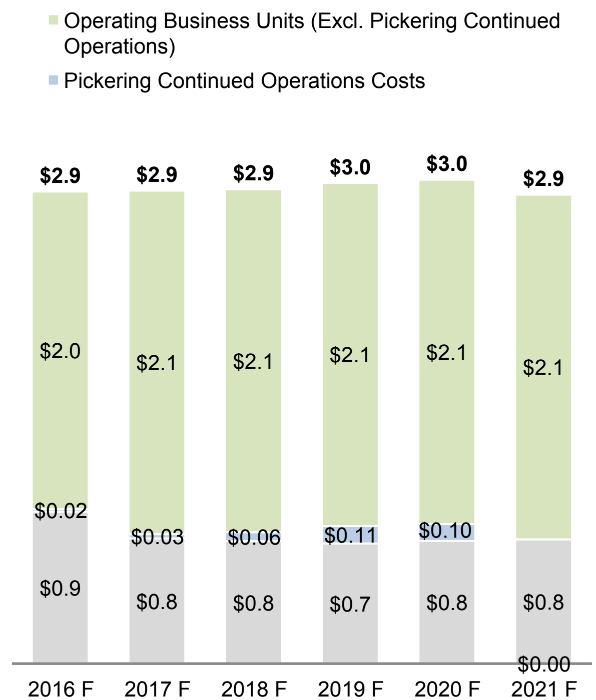
*TGC = OM&A expenses from ongoing operations + fuel and Gross Revenue Charge expenses for OPG-operated stations + sustaining capital expenditures) divided by OPG generation adjusted for surplus baseload generation losses

1. Business Plan Overview

b) 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 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 [OPG to provide further information]

OM&A from Ongoing Operations* ($B)



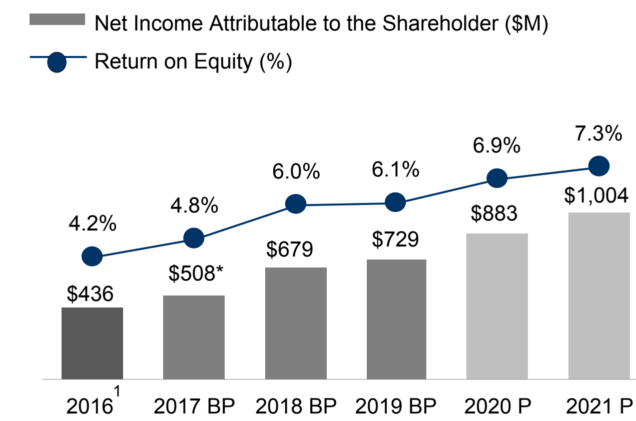
*Excludes Darlington refurbishment OM&A expenses and all OEB variance and deferral account offsets
** Includes centrally held pension /OPEB costs and support services

1. Business Plan Overview

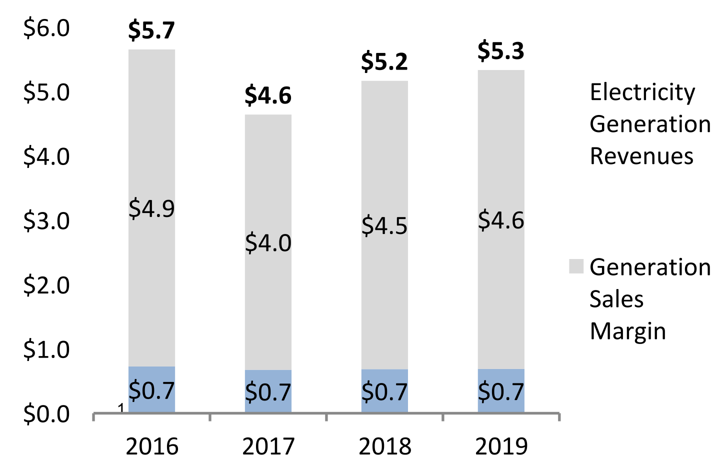
c) Financials

- 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, a gain on sale of OPG's head office, 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 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

Net Income ($M) and ROE (%)



Revenue Margin ($B)



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

1. Actuals

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1. Business Plan Overview

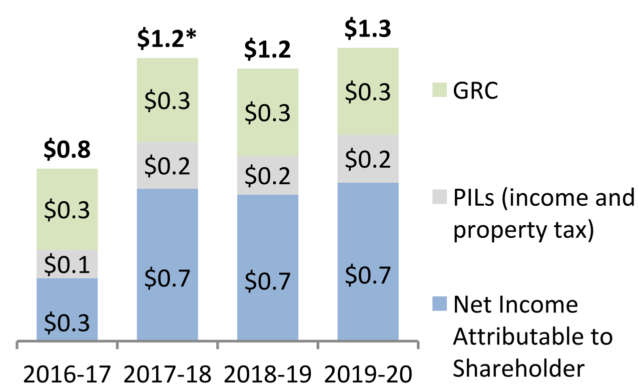
d) Fiscal

OFA to Verify Budget Comparison / Historical Actuals

- OPG's business plan suggests 2016-17 forecasts may not meet forecasts built into the 2016 Ontario Budget [TBC]
  - Budget 2016 was based on OPG's 2015-17 business plan, which assumed new rates would be effective in 2016, but was filed a year later to be effective in 2017
- OPG is assuming that new rates will be effective Jan 1 2017, however an OEB decision is not anticipated until Q3 2017
  - This results in additional revenues being recorded in the 2017-18 fiscal year that would have otherwise been received in 2016-17
- Total return to the shareholder averages ~$1B over the period
  - In addition to net income which is consolidated by the Province as Revenue from Government Business Enterprises (GBEs), and income tax PILs which are consolidated by OEFC, OPG pays a Gross Revenue Charge and Property Taxes to OEFC

Earnings Before Taxes ($M)

Total Shareholder Return ($B)



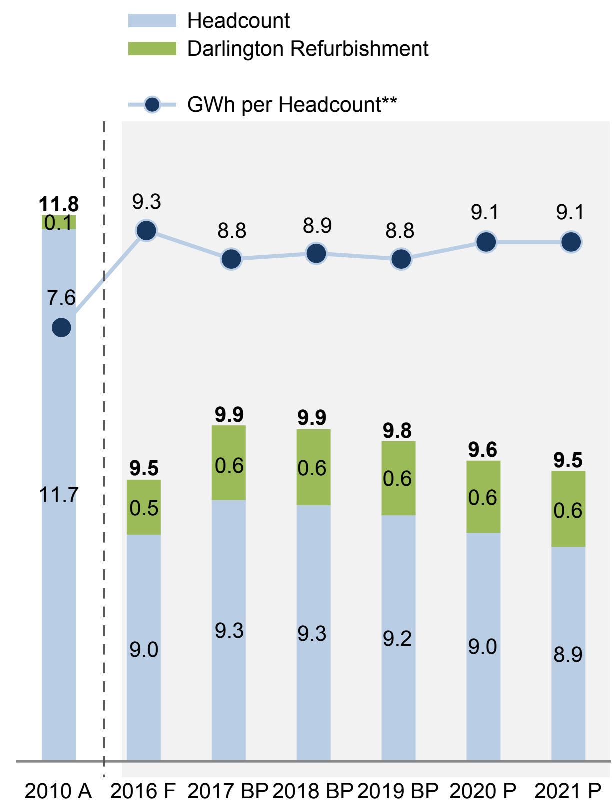
*includes gain associated with the sale of OPG head office

1. Business Plan Overview

f) 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 ~60 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

Ongoing Operations Regular Headcount ('000) and Productivity*



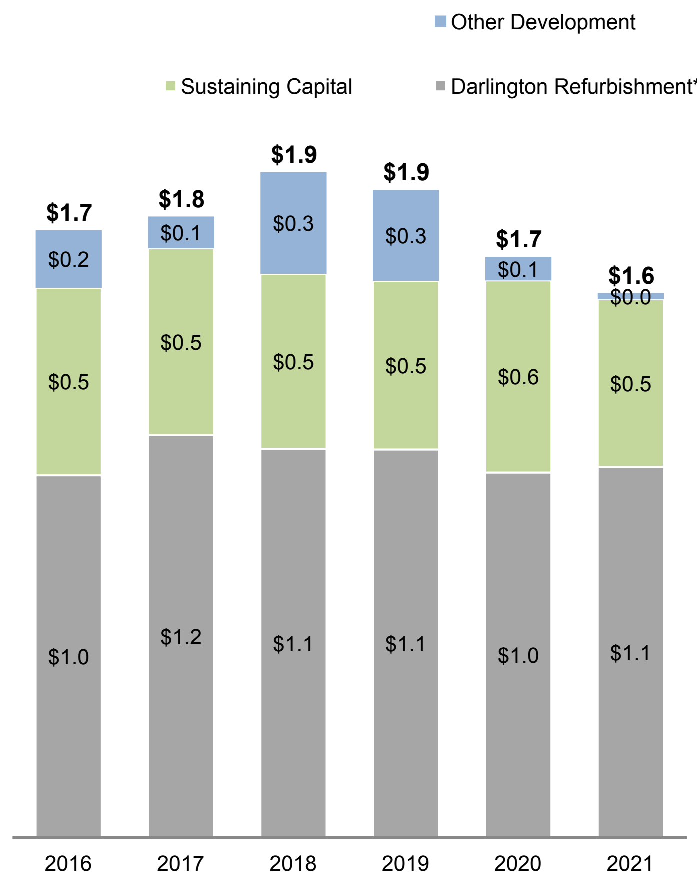
**Production is normalized by adding back hydroelectric surplus baseload generation losses and, in 2017- 2021, the lower production due to the Darlington refurbishment outages

1. Business Plan Overview

g) 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 2018
  - **Other Developments:** Investments in current and emerging generation technologies including solar and energy storage including construction and operation of the Nanticoke solar facility

Capital Expenditure Estimates ($B)



*Includes expenditures budgeted by Support Services

2. Other Considerations

Accounting

- The nuclear liabilities that are found on OPG's balance sheet represent the present value of cash flows that will occur over several decades in the future to deal with OPG's nuclear waste, used fuel and the decommissioning of its nuclear facilities
- As a liability that represents many decades of future costs, it has to be shown on OPG's financial statements at its present value (i.e. a discount rate to be applied to future cash flows to discharge OPG's obligations). (~$20B as of December 31, 2016)
  - US GAAP (and formerly Canadian GAAP) requires these cash flows to be present valued using discount rates that existed at the time the liability was set up and they do not change
  - IFRS standards, which in general reflect more of a current valuation approach, require this future liability to revalued using some form of "current" discount rate
- All figures included in the business plan are presented on a US GAAP basis, while any decision to consolidate OPG's financials on the Province's books on an International Financial Reporting Standards (IFRS) may result in negative fiscal impacts
  - With the decline in interest rates over the past decade, the result is a lower current discount rate, and a resulting higher liability when recalculated
  - Under IFRS, a portion of the liability change would be reflected in Net Income in the year of the change
- OPG is working directly with OPCD to mitigate the impact on the Province's fiscal plan
  - OPG and OPCD are exploring the option of changing the discount rate on an annual basis in order to create a more gradual impact
  - OPG will provide updated analysis at the end of March

2. Other Considerations

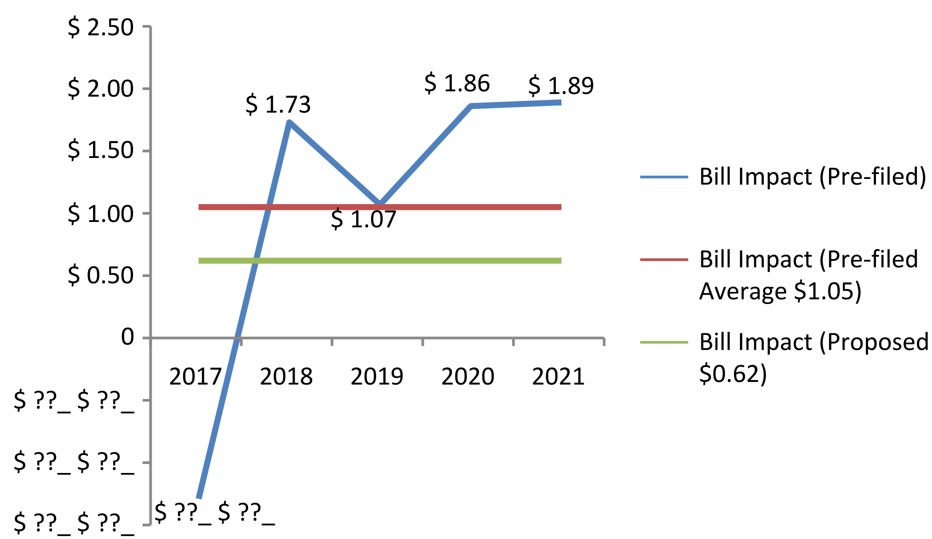
Rate Application

- 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 Q3 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 total bill impact, rather than on the basis of nuclear rates only
- This is expected to decrease the average annual impact on the monthly customer bill for an average consumption of 750 KWh/month from about $1.05 to 68 cents per month per year

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



2. Other Considerations

Sales

OPG to Provide further Details on Hearn

OPG Head Office

Status: Agreement Reached

- In January 2017, OPG reached an agreement to sell its property at 700 University Ave. and parking garage at 40 Murray St. in Toronto, an asset of OPG's unregulated business, to KingSett Canadian Real Estate Income Fund LP for a price of $508M
- Proceeds equal to the after-tax accounting gain will be transferred to the Province and dedicated to the Trillium Trust for infrastructure
- After deductions for transaction costs, book value and income taxes payable to OEFC
  - OPG has factored into its business plan a $296M pre-tax gain in 2017
- The sale is expected to close in April 2017

R.L. Hearn Site

Status: Agreement Reached

- In October 2016, OPG entered into an agreement to sell ~33 acres at the site to Studios of America Limited Partner
- Anticipated to close in Q3 2017, assuming all necessary consents and approvals are obtained

Lakeview Site

Status: Preparation for Marketing

- OPG, supported by Infrastructure Ontario (IO), is proceeding with necessary diligence and actions required to complete the sale of Lakeview, comprised of ~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)
- Due to the City's concerns regarding Municipal Park Lands site condition, negotiations on the scope of remediation and site preparation work have been lengthy while costs could ultimately be significant, materially impacting proceeds to the Province
- Marketing is planned to start in April 2017, pending negotiations with the City, with an anticipated closing in 2017
  - OPG/IO are meeting with the City on March 22 to work towards an agreement in principle on all significant issues

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 requesting authority for OPG to approve international travel for its employees
  - 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 has indicated that international travel is integral to the safe and prudent operation of its business and that special status will enable efficient decision-making while lowering travel costs
  - OPG cites the importance of enabling its engagement with the international community (in particular in regards to nuclear safety), procurement activities, and investment and due diligence processes for its pension fund and nuclear funds
  - OPG requires a high level of international business travel at approximately 90-100 trips annually, while Darlington accounts for 45% and is expected see increases
  - OPG indicated that the approval process, which took 23 days on average in 2016, delays flight bookings which results in higher costs as airlines raise fares closer to the travel date
  - OPG believes the inability to make timely commitments on events and meetings impacts employee engagement as well as its international relationships and reputation
- OPG has asked that this application be included with the Ministry's submission to TB/MBC seeking concurrence with OPG's 2017-19 business plan

3. Next Steps

1. Develop business plan submission for TB/MBC review

2. Draft concurrence letter

Appendix

Business Plan Fiscal Impacts

OFA Updating

- Based on OPG's 2017-19 Business Plan, the following table illustrates the fiscal impacts to the province; comprising of net income and income tax PILs
  - Note that the following is on OPG's U.S. GAAP basis of accounting, and does not show consolidation adjustment for the nuclear funds, nor potential IFRS consolidation adjustments

	2016-17	2017-18	2018-19	2019-20
Budget 2016 / Fiscal Plan ($M)				
Net Income After Tax (Adjusted)	471	586	673	705
Income Tax PILs	224	159	182	108
Earnings Before Tax	**695**	**745**	**855**	**812**
OPG 2017-19 Business Plan ($M)				
Net Income After Tax (Adjusted)	349	406*	678	726
Income Tax PILs	96	166**	135	170
Earnings Before Tax	**445**	**572***	**813**	**896**
EBT Variance to Fiscal Plan	(250)	(173)***	(42)	84

* Pre-tax gain on sale of OPG head office property of $296M is backed out in the net income after tax calculation in 2017-18. In 2017 Business Plan, Net Income Attributable to Shareholder in 2017-18 is $702M. The expected gain on sale is reflected as an asset optimization component captured in the Sales and Rental line under Non Tax Revenue.

** Income Tax PILs do not have OPG head office sale backed out. Further details required from OPG.

*** Budget 2016/Fiscal Plan included OPG headquarter sales in 2016-17 which was deferred to 2017-18 in the 2017 Business Plan, and impacts removed in the above table.

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**