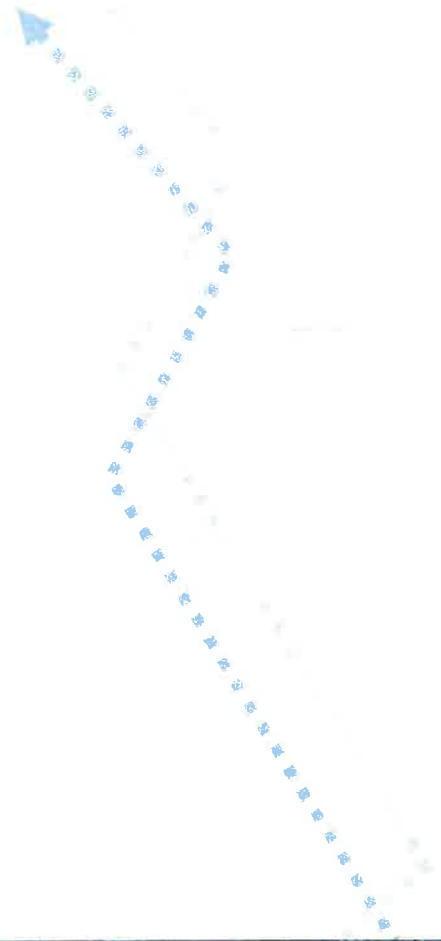


# OPG's NUCLEAR WASTE MANAGEMENT AND DECOMMISSIONING LIABILITY

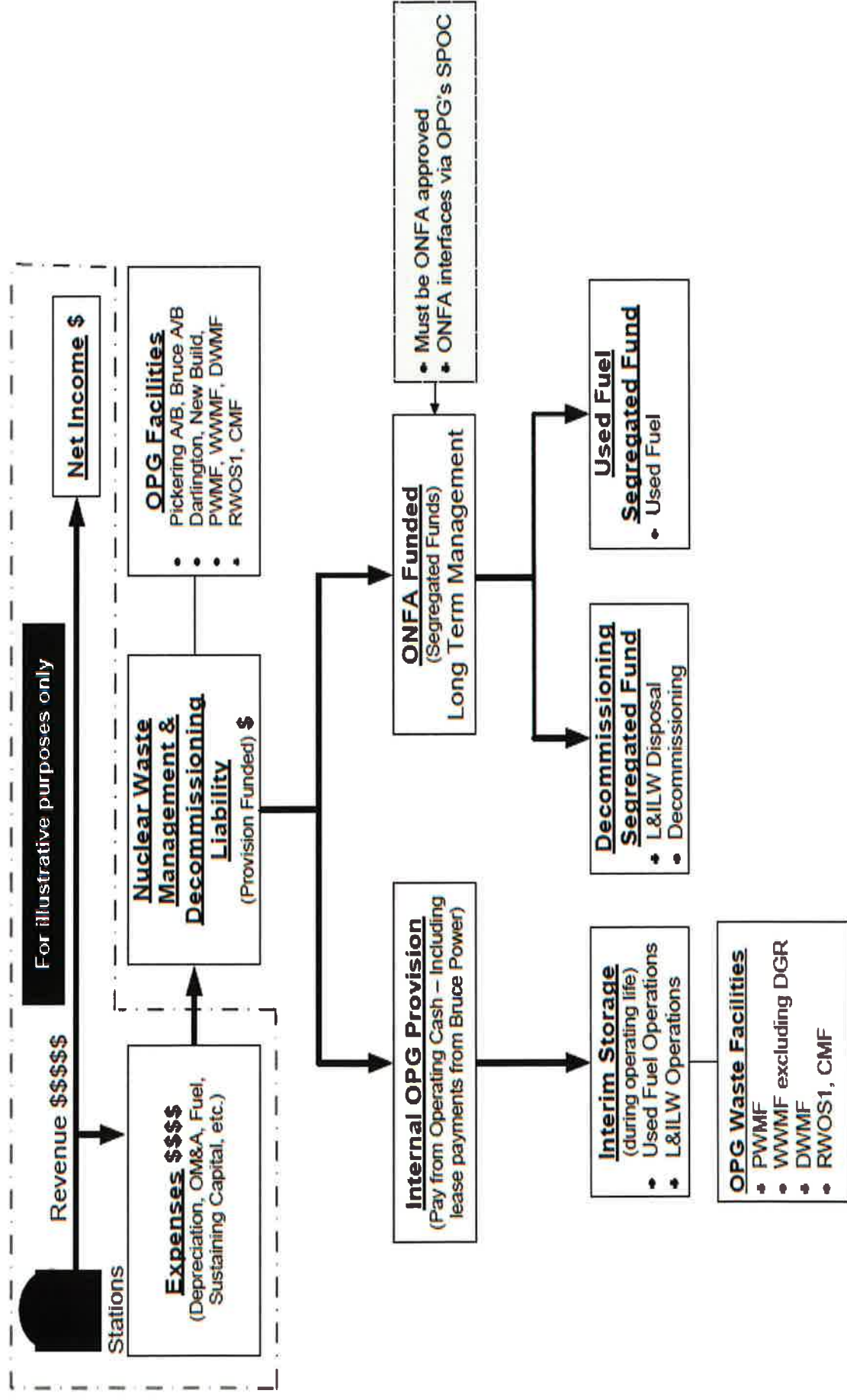
Presented to Pickering CAC, April 15, 2014



# Ontario Nuclear Funds Agreement

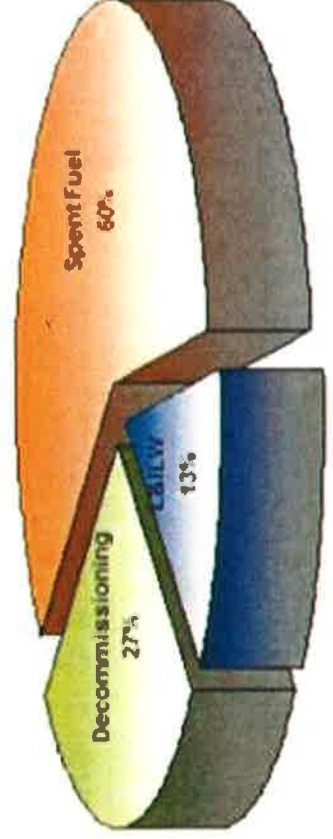
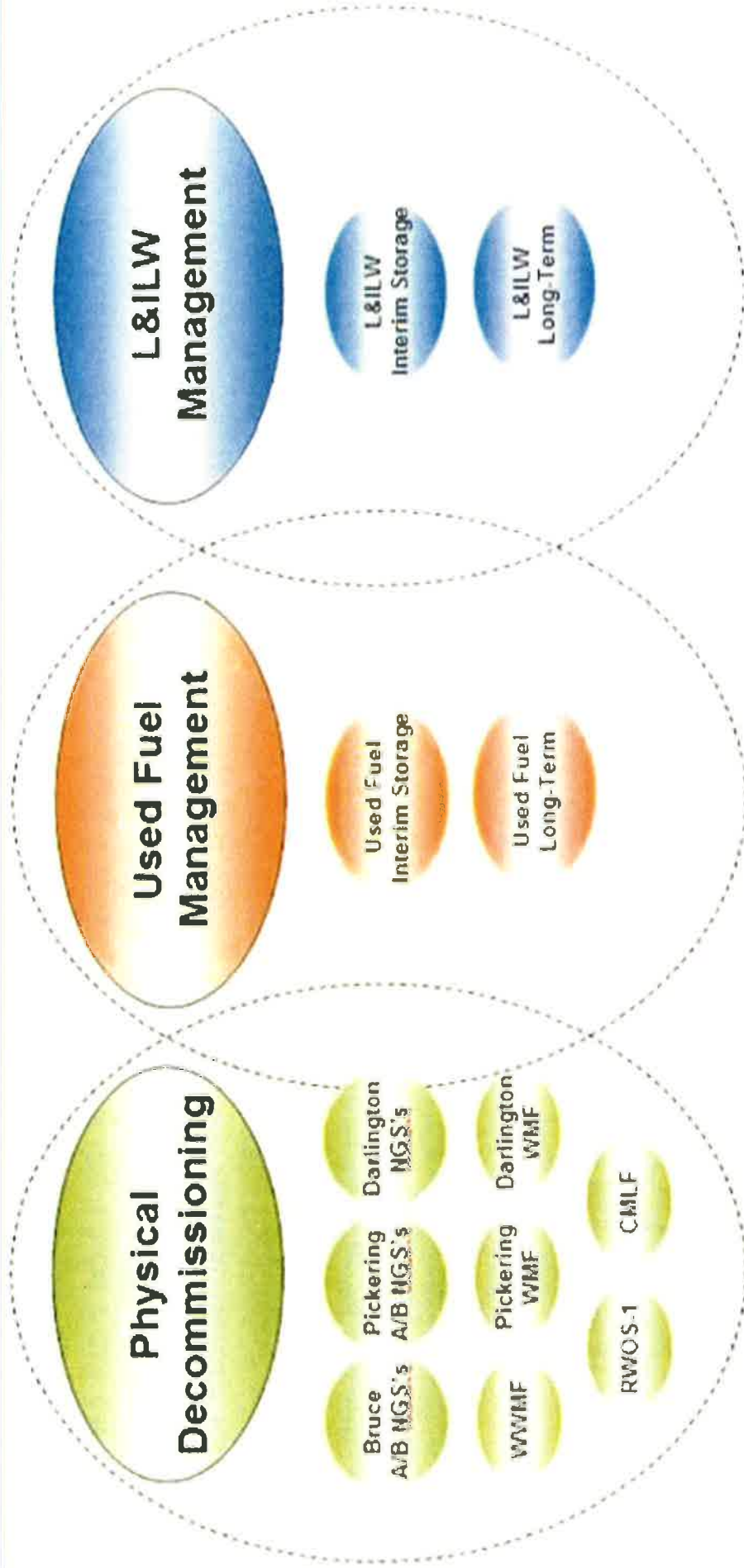
- The Ontario Nuclear Funds Agreement (“ONFA”) was entered into by the Province of Ontario and Ontario Power Generation (“OPG”) effective April 1, 1999. The intent is to:
  - Ensure sufficient funds are accumulated or otherwise are available to pay for the costs of the **long term disposal** of all of OPG’s fuel and nuclear waste and decommissioning of all OPG owned generating stations and waste facilities;
  - Limit financial exposure that OPG faces for costs related to used fuel management;
  - Support OPG requirements for a financial guarantee to the Canadian Nuclear Safety Commission (CNSC) to satisfy station license requirement under the Nuclear Safety and Control Act (Canada).

# Nuclear Waste and Decommissioning Liability





# Cost Estimate Structure



# Nuclear Waste

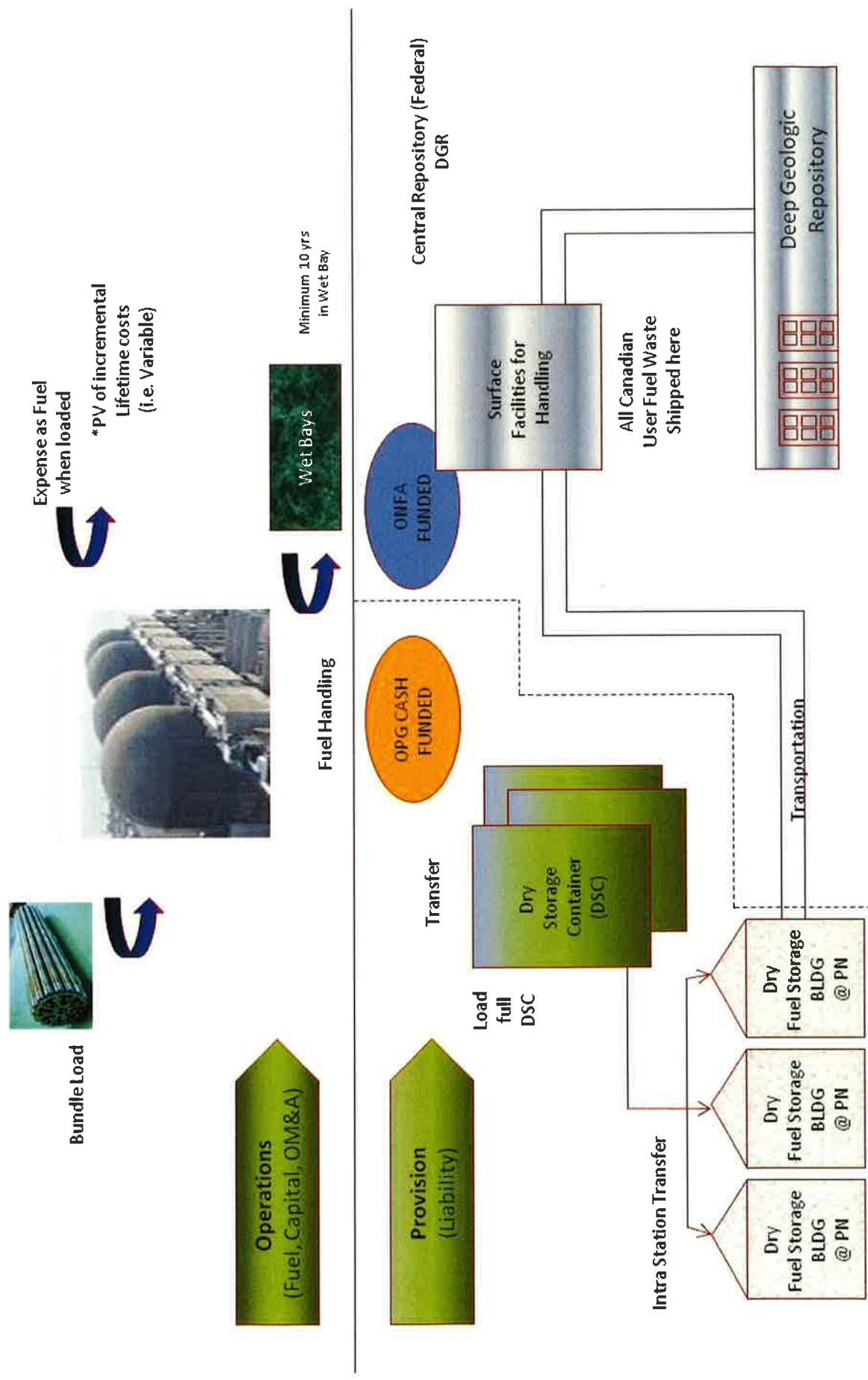
## Sources of Financing

### Pickering Community Advisory Council

February 21, 2012

**John Mauti**  
**Director – Nuclear Reporting**  
**Ontario Power Generation Inc.**

# Used Fuel Liability Flow





# Financial Considerations

## For Ontario Power Generation:

- All money required to manage fuel from reactors, to wet bays to interim dry storage at site is funded 100% by OPG using cash flow from operations – NO SEPARATE FUNDING AVAILABLE
- All money required to manage Low and Intermediate Level Waste (L&ILW) including transportation to a central facility at the Bruce site, handling, containers and storage in ground or in buildings is funded 100% by OPG using cash flow from operations – NO SEPARATE FUNDING AVAILABLE
- All money required to manage fuel from storage to eventual long term disposal deep underground comes from a separate segregated nuclear fund (Used Fuel Fund).
- All money required to manage L&ILW for the long term, including deep underground disposal and the cost to decommission nuclear facilities comes from a separate segregated nuclear fund (Decommissioning Fund).
- At year end 2010, value of Used Fuel Fund was \$5.98 B
- At year end 2010, Value of the Decommissioning Fund was \$5.27 B

# Some frequently asked questions ....

## **Q1 - How do you know you have enough money in the long run?**

The waste and decommissioning programs last several decades. Technology changes. Value of our segregated funds and their earnings change. Every five years, we completely re-estimate all factors (cost estimates and nuclear fund balances) and recalibrate.

## **Q2 - Why aren't all nuclear liability expenses paid by the ONFA funds?**

The primary purpose of the ONFA funds is to ensure cash will be available to pay for the long-term execution of each program. Cash we need in the short term (used for fuel storage, handling and safe storage of L&ILW) is part of our normal ongoing operations and we may as well pay from our operating cash funds. It's a normal part of everyday business for OPG.

## **Q3 - What if OPG is not around when some of these programs need to spend money?**

One main intent of ONFA is to provide for such a scenario. If the funds are available, in a segregated set of accounts, regardless of OPG's existence, the money can be accessed (by either the Province or the CNSC ) to pay for these programs.



**Nuclear Fixed Asset Removal and Nuclear Waste Management Funds as of December 31**

Asset	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Decommissioning Fund	\$ 4,583	\$ 5,169	\$ 5,075	\$ 4,325	\$ 4,876	\$ 5,267	\$ 5,342	\$ 5,771	\$ 6,591	\$ 6,878
Due to Province	\$ -484	\$ -294	\$ -3	\$ 0	\$ 0	\$ 0	\$ 0	\$ -64	\$ -624	\$ -845
Total	\$ 4,099	\$ 4,875	\$ 5,072	\$ 4,325	\$ 4,876	\$ 5,267	\$ 5,342	\$ 5,707	\$ 5,967	\$ 6,033
Used Fuel Fund	\$ 2,995	\$ 3,879	\$ 4,702	\$ 4,424	\$ 5,403	\$ 6,198	\$ 6,509	\$ 7,245	\$ 8,519	\$ 8,907
Due to Province	\$ -306	\$ -641	\$ -511	\$ 460	\$ -33	\$ -219	\$ 47	\$ -235	\$ -990	\$ -1,262
Total	\$ 2,689	\$ 3,238	\$ 4,191	\$ 4,884	\$ 5,370	\$ 5,979	\$ 6,556	\$ 7,010	\$ 7,529	\$ 7,645
Total Nuclear Funds	\$ 6,788	\$ 8,113	\$ 9,263	\$ 9,209	\$ 10,246	\$ 11,246	\$ 11,898	\$ 12,717	\$ 13,496	\$ 13,678
Less: Current Portion							\$ 20	\$ 27	\$ 25	\$ 16
Non-Current Nuclear Funds	\$ 6,788	\$ 8,113	\$ 9,263	\$ 9,209	\$ 10,246	\$ 11,246	\$ 11,878	\$ 12,690	\$ 13,471	\$ 13,662
Ontario NFWA Trust			\$ 1,244	\$ 1,386	\$ 1,693	\$ 1,949	\$ 2,296	\$ 2,559	\$ 2,668	\$ 2,913

Decommissioning Fund	2005	2006	2007	2008	2009	2010	2011	2012	2013
Start	\$ 3,882	\$ 4,099		\$ 4,875	\$ 5,072	\$ 4,325	\$ 4,876	\$ 5,267	\$ 5,342
Return on Investment	\$ 459	\$ 592		\$ 5	\$ -681	\$ 631	\$ 465	\$ 108	\$ 469
Reimbursement of expenditures	\$ -7	\$ -6		\$ -99	\$ -69	\$ -80	\$ -74	\$ -33	\$ -40
Increase Due to Province (Expense)	\$ -235			\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ -64
Decrease in Due to Province (Expense)		\$ 190		\$ 291	\$ 3	\$ 0	\$ 0	\$ 0	\$ 0
End	\$ 4,099	\$ 4,875		\$ 5,072	\$ 4,325	\$ 4,876	\$ 5,267	\$ 5,342	\$ 5,707

Used Fuel	2005	2006	2007	2008	2009	2010	2011	2012	2013
Start	\$ 2,118	\$ 2,689	\$ 3,238	\$ 4,191	\$ 4,884	\$ 5,370	\$ 5,979	\$ 6,556	\$ 7,010
Contributions	\$ 454	\$ 454	\$ 788	\$ 454	\$ 339	\$ 264	\$ 250	\$ 182	\$ 184
Return on Investment	\$ 283	\$ 443	\$ 55	\$ -719	\$ 664	\$ 557	\$ 87	\$ 584	\$ 1,131
Reimbursement of expenditures	\$ -16	\$ -13	\$ -20	\$ -13	\$ -24	\$ -26	\$ -26	\$ -30	\$ -41
Increase Due (to) from Province (Expense)	\$ -150	\$ -335		\$ 460	\$ -493	\$ -186	\$ 266	\$ -282	\$ -755
Decrease in Due to Province (Expense)			\$ 130	\$ 511					
End	\$ 2,689	\$ 3,238	\$ 4,191	\$ 4,884	\$ 5,370	\$ 5,979	\$ 6,556	\$ 7,010	\$ 7,529

## 6. FIXED ASSET REMOVAL AND NUCLEAR WASTE MANAGEMENT LIABILITIES

The liabilities for fixed asset removal and nuclear waste management on a present value basis as at March 31, 2014 and December 31, 2013 consist of the following:

<i>(millions of dollars)</i>	<b>March 31 2014</b>	<b>December 31 2013</b>
Liability for nuclear used fuel management	<b>10,086</b>	9,957
Liability for nuclear decommissioning and low and intermediate level waste management	<b>6,012</b>	5,946
Liability for non-nuclear fixed asset removal	<b>358</b>	354
<b>Fixed asset removal and nuclear waste management liabilities</b>	<b>16,456</b>	16,257

### Nuclear Funds

Beginning January 1, 2014, the Company applied ASC 946 for all investments owned by the Decommissioning Fund and the Used Fuel Fund. OPG's consolidated financial statements retained investment company accounting for the Nuclear Funds. The adoption of investment company accounting for the Nuclear Funds did not result in an effect on net income or change in net assets from operations as investments held by OPG's Nuclear Funds continue to be recorded at fair value.

The policy for distinguishing the nature and type of investments made by OPG which retain investment company accounting from other investments made by OPG is that these investments have the attributes of an investment company in accordance with ASC 946 as amended by Accounting Standards Update 2013-08, *Financial Services – Investment Companies (Topic 946): Amendments to the Scope, Measurement, and Disclosure Requirements*.

The historical cost, gross unrealized aggregate appreciation and depreciation of investment, gross unrealized foreign exchange gains and fair value of the Nuclear Funds as of March 31, 2014 are summarized as follows:

<i>(millions of dollars)</i>	<b>Decommissioning Fund</b>	<b>Used Fuel Fund <sup>1</sup></b>	<b>Total</b>
Historical cost	<b>5,837</b>	<b>7,633</b>	<b>13,470</b>
Unrealized gains			
Gross unrealized aggregate appreciation	<b>1,041</b>	<b>1,233</b>	<b>2,274</b>
Gross unrealized aggregate depreciation	<b>(98)</b>	<b>(101)</b>	<b>(199)</b>
Gross unrealized foreign exchange gains	<b>98</b>	<b>142</b>	<b>240</b>
	<b>6,878</b>	<b>8,907</b>	<b>15,785</b>
Due to Province	<b>(845)</b>	<b>(1,262)</b>	<b>(2,107)</b>
Total fair value	<b>6,033</b>	<b>7,645</b>	<b>13,678</b>
Less: current portion	<b>9</b>	<b>7</b>	<b>16</b>
<b>Non-current fair value</b>	<b>6,024</b>	<b>7,638</b>	<b>13,662</b>

<sup>1</sup> The Ontario NFWA Trust represented \$2,913 million as at March 31, 2014 of the Used Fuel Fund on a fair value basis.

The historical cost, gross unrealized aggregate appreciation and depreciation of investment, gross unrealized foreign exchange gains and fair value of the Nuclear Funds as of December 31, 2013 are summarized as follows:

<i>(millions of dollars)</i>	<b>Decommissioning Fund</b>	<b>Used Fuel Fund <sup>1</sup></b>	<b>Total</b>
Historical cost	5,571	7,240	12,811
Unrealized gains			
Gross unrealized aggregate appreciation	1,111	1,365	2,476
Gross unrealized aggregate depreciation	(118)	(136)	(254)
Gross unrealized foreign exchange gains	27	50	77
	6,591	8,519	15,110
Due to Province	(624)	(990)	(1,614)
Fair value	5,967	7,529	13,496
Less: current portion	12	13	25
Non-current fair value	5,955	7,516	13,471

<sup>1</sup> The Ontario NFWA Trust represented \$2,668 million as at December 31, 2013 of the Used Fuel Fund on a fair value basis.

Net realized and unrealized gains or losses from investments for the three months ended March 31, 2014 are summarized as follows:

<i>(millions of dollars)</i>	<b>Decommissioning Fund</b>	<b>Used Fuel Fund</b>	<b>Total</b>
<b>Net realized gains</b>			
Realized gains	204	293	497
Realized foreign exchange gains	25	24	49
Net realized gains	229	317	546
<b>Net unrealized gains (losses)</b>			
Unrealized losses	(50)	(97)	(147)
Unrealized foreign exchange gains	71	92	163
Net unrealized gains (losses)	21	(5)	16

Net realized and unrealized gains or losses from investments for the three months ended March 31, 2013 are summarized as follows:

<i>(millions of dollars)</i>	<b>Decommissioning Fund</b>	<b>Used Fuel Fund</b>	<b>Total</b>
<b>Net realized gains</b>			
Realized gains	43	53	96
Realized foreign exchange losses	(3)	(1)	(4)
Net realized gains	40	52	92
<b>Net unrealized gains</b>			
Unrealized gains	180	241	421
Unrealized foreign exchange losses	(5)	(10)	(15)
Net unrealized gains	175	231	406



The nuclear fixed asset removal and nuclear waste management funds as at December 31 consist of the following:

<i>(millions of dollars)</i>	Fair Value	
	2012	2011
Decommissioning Fund	5,771	5,342
Due to Province – Decommissioning Fund	(64)	-
	<b>5,707</b>	<b>5,342</b>
Used Fuel Fund <sup>1</sup>	7,245	6,509
Due (to) from Province – Used Fuel Fund	(235)	47
	<b>7,010</b>	<b>6,556</b>
Total Nuclear Funds	<b>12,717</b>	<b>11,898</b>
Less: current portion	<b>27</b>	<b>20</b>
Non-current Nuclear Funds	<b>12,690</b>	<b>11,878</b>

<sup>1</sup> The Ontario NFWA Trust represented \$2,559 million as at December 31, 2012 (2011 – \$2,296 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>	Fair Value	
	2012	2011
Cash and cash equivalents and short-term investments	335	555
Alternative investments	362	212
Pooled funds	2,093	1,842
Marketable equity securities	5,670	4,863
Fixed income securities	4,523	4,345
Derivatives	-	2
Net receivables/payables	41	38
Administrative expense payable	(8)	(6)
	<b>13,016</b>	<b>11,851</b>
Due (to) from Province	<b>(299)</b>	<b>47</b>
	<b>12,717</b>	<b>11,898</b>

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>	Fair Value	
	2012	2011
1 – 5 years	1,151	1,153
5 – 10 years	631	594
More than 10 years	2,741	2,598
Total maturities of debt securities	<b>4,523</b>	<b>4,345</b>
Average yield	<b>2.7%</b>	<b>2.8%</b>

The change in the Nuclear Funds for the years ended December 31 is as follows:

<i>(millions of dollars)</i>	<b>Fair Value</b>	
	<b>2012</b>	<b>2011</b>
Decommissioning Fund, beginning of year	<b>5,342</b>	5,267
Increase in fund due to return on investments	<b>469</b>	108
Decrease in fund due to reimbursement of expenditures	<b>(40)</b>	(33)
Increase in due to Province	<b>(64)</b>	-
<b>Decommissioning Fund, end of year</b>	<b>5,707</b>	5,342
Used Fuel Fund, beginning of year	<b>6,556</b>	5,979
Increase in fund due to contributions made	<b>182</b>	250
Increase in fund due to return on investments	<b>584</b>	87
Decrease in fund due to reimbursement of expenditures	<b>(30)</b>	(26)
Increase in due (to) from Province	<b>(282)</b>	266
<b>Used Fuel Fund, end of year</b>	<b>7,010</b>	6,556

The earnings from the Nuclear Funds during 2012 and 2011 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>	<b>2012</b>	<b>2011</b>
Decommissioning Fund	<b>405</b>	108
Used Fuel Fund	<b>302</b>	353
Bruce Lease Net Revenues Variance Account <i>(Note 5)</i>	<b>(56)</b>	48
<b>Total earnings</b>	<b>651</b>	509

## 9. INCOME TAXES

OPG follows the liability method of tax accounting for all 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 2012, OPG recorded a decrease in the deferred income tax liability for the deferred income taxes that are expected to be recovered or refunded through regulated prices charged to customers of \$31 million (2011 – \$28 million). Since these deferred income taxes are expected to be recovered 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 2012 and 2011 were not impacted.

The amount of tax refund received net of taxes paid during 2012 was \$7 million (2011 – \$23 million).

As at December 31, 2011, the Used Fuel Fund asset value on a fair value basis was \$6,556 million. The Used Fuel Fund value included a receivable from the Province of \$47 million related to the committed return adjustment. As at December 31, 2010, the Used Fuel Fund asset value on a fair value basis was \$5,979 million, including a payable to the Province of \$219 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:

(millions of dollars)	Fair Value	
	2011	2010
Decommissioning Fund	5,342	5,267
Used Fuel Fund <sup>1</sup>	6,509	6,198
Due from (to) Province – Used Fuel Fund	47	(219)
	6,556	5,979
	11,898	11,246

<sup>1</sup> The Ontario NFWA Trust represented \$2,296 million as at December 31, 2011 (2010 – \$1,949 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:

(millions of dollars)	Fair Value	
	2011	2010
Cash and cash equivalents and short-term investments	555	581
Alternative investments	212	61
Pooled funds	1,842	1,835
Marketable equity securities	4,863	5,226
Fixed income securities	4,345	3,735
Derivatives	2	3
Net receivables/payables	38	29
Administrative expense payable	(6)	(5)
	11,851	11,465
Due from (to) Province – Used Fuel Fund	47	(219)
	11,898	11,246

The bonds and debentures held in the Used Fuel Fund and the Decommissioning Fund as at December 31 mature according to the following schedule:

(millions of dollars)	Fair Value	
	2011	2010
1 – 5 years	1,153	1,135
5 – 10 years	594	1,092
More than 10 years	2,598	1,508
Total maturities of debt securities	4,345	3,735
Average yield	2.8%	3.4%



The change in the Nuclear Funds for the years ended December 31 is as follows:

(millions of dollars)	Fair Value	
	2011	2010
Decommissioning Fund, beginning of year	5,267	4,876
Increase in fund due to return on investments	108	465
Decrease in fund due to reimbursement of expenditures	(33)	(74)
Decommissioning Fund, end of year	5,342	5,267
Used Fuel Fund, beginning of year	5,979	5,370
Increase in fund due to contributions made	250	264
Increase in fund due to return on investments	87	557
Decrease in fund due to reimbursement of expenditures	(26)	(26)
Increase in due from (to) Province	266	(186)
Used Fuel Fund, end of year	6,556	5,979

The earnings from the Nuclear Funds during 2011 and 2010 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:

(millions of dollars)	2011	2010
Decommissioning Fund	108	465
Used Fuel Fund	353	371
Bruce Lease Net Revenues Variance Account (NOTE 7)	48	(168)
Total earnings	509	668

## NOTE 11 INCOME TAXES

OPG follows the liability method of tax accounting for all its business segments and records an offsetting regulatory asset or liability for the future income taxes that are expected to be recovered or refunded through future regulated prices charged to customers.

During 2011, OPG recorded a decrease to the future income tax liability for the future income taxes that are expected to be recovered or refunded through regulated prices charged to customers of \$19 million. Since these future income taxes are expected to be recovered through future regulated prices, OPG has recorded a corresponding decrease to the regulatory asset for future income taxes. As a result, the future income taxes for 2011 were not impacted. The decrease in the future income tax liability of \$19 million for the rate regulated operations for the year ended December 31, 2011 included \$5 million related to the decrease to the regulatory asset for future income taxes.

The following table summarizes the future income tax liabilities recorded for the rate regulated operations:

(millions of dollars)	2011	2010
<b>January 1:</b>		
Future income tax liabilities on temporary differences related to regulated operations	547	452
Future income tax liabilities resulting from the regulatory asset for future income taxes	164	140
	711	592
<b>Changes during the year:</b>		
(Decrease) increase in future income tax liabilities on temporary differences related to regulated operations	(14)	95
(Decrease) increase in future income tax liabilities resulting from the regulatory asset for future income taxes	(5)	24
Balance at December 31	692	711

## NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

For the years ended December 31, 2010 and 2009

### 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 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 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 part of its regular contributions to the Used Fuel Fund, OPG was required to allocate \$147 million of its 2010 contribution towards its liability associated with future fuel bundles that exceed the 2.23 million threshold. As prescribed under the ONFA, earnings related to OPG's contributions for incremental fuel bundles do not grow at the Province's guaranteed rate of return, but rather earn the return of the Used Fuel Fund based on changes in the market value of the assets.

As at December 31, 2010, the Used Fuel Fund asset value on a fair value basis was \$5,979 million. The Used Fuel Fund value included a payable to the Province of \$219 million related to the committed return adjustment. As at December 31, 2009, the Used Fuel Fund asset value on a fair value basis was \$5,370 million, including a payable to the Province of \$33 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, 2010 and 2009 consist of the following:

(millions of dollars)	Fair Value	
	2010	2009
Decommissioning Fund	5,267	4,876
Used Fuel Fund <sup>1</sup>	6,198	5,403
Due to Province – Used Fuel Fund	(219)	(33)
	5,979	5,370
	11,246	10,246

<sup>1</sup> The Ontario NFWA Trust represented \$1,949 million as at December 31, 2010 (2009 – \$1,693 million) of the Used Fuel Fund on a fair value basis.

The fair value of the securities invested in the Nuclear Funds, which include the Used Fuel Fund and the Decommissioning Fund, as at December 31, 2010 and 2009, is as follows:

(millions of dollars)	Fair Value	
	2010	2009
Cash and cash equivalents and short-term investments	581	463
Alternative investments	61	–
Pooled funds	1,835	1,497
Marketable equity securities	5,226	4,699
Fixed income securities	3,735	3,596
Derivatives	3	–
Net receivables/payables	29	30
Administrative expense payable	(5)	(6)
	11,465	10,279
Due to Province – Used Fuel Fund	(219)	(33)
	11,246	10,246

The bonds and debentures held in the Used Fuel Fund and the Decommissioning Fund as at December 31, 2010 and 2009 mature according to the following schedule:

(millions of dollars)	Fair Value	
	2010	2009
1 – 5 years	1,135	1,276
5 – 10 years	1,092	857
More than 10 years	1,508	1,463
Total maturities of debt securities	3,735	3,596
Average yield	3.4%	3.7%

The change in the Nuclear Funds for the years ended December 31, 2010 and 2009, is as follows:

(millions of dollars)	Fair Value	
	2010	2009
Decommissioning Fund, beginning of year	4,876	4,325
Increase in fund due to return on investments	465	631
Decrease in fund due to reimbursement of expenditures	(74)	(80)
Decommissioning Fund, end of year	5,267	4,876
Used Fuel Fund, beginning of year	5,370	4,884
Increase in fund due to contributions made	264	339
Increase in fund due to return on investments	557	664
Decrease in fund due to reimbursement of expenditures	(26)	(24)
Increase in due to Province	(186)	(493)
Used Fuel Fund, end of year	5,979	5,370

The earnings from the Nuclear Funds during 2010 and 2009 were partially reduced by the impact of the Bruce Lease Net Revenues Variance Account established by the OEB's 2008 decision. The earnings on the Nuclear Funds for 2010 and 2009 are as follows:

(millions of dollars)	2010	2009
Decommissioning Fund	465	631
Used Fuel Fund	371	171
Bruce Lease Net Revenues Variance Account (Note 7)	(168)	(119)
Total earnings	668	683



#### 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 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 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 part of its regular contributions to the Used Fuel Fund, OPG was required to allocate \$31 million of its December 31, 2009 contribution towards its liability associated with future fuel bundles that exceed the 2.23 million threshold. As prescribed under the ONFA, earnings related to OPG's contributions for

incremental fuel bundles do not grow at the Province's guaranteed rate of return, but rather earn the return of the Used Fuel Fund based on changes in the market value of the assets.

As at December 31, 2009, the Used Fuel Fund asset value on a fair value basis was \$5,370 million. The Used Fuel Fund value included a payable to the Province of \$33 million related to the committed return adjustment. As at December 31, 2008, the Used Fuel Fund asset value on a fair value basis was \$4,884 million, including a receivable from the Province of \$460 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, 2009 and 2008 consist of the following:

(millions of dollars)	Fair Value	
	2009	2008
Decommissioning Fund	<b>4,876</b>	4,325
Used Fuel Fund <sup>1</sup>	<b>5,403</b>	4,424
Due (to) from Province – Used Fuel Fund	<b>(33)</b>	460
	<b>5,370</b>	4,884
	<b>10,246</b>	9,209

<sup>1</sup> The Ontario NFWA Trust represented \$1,693 million as at December 31, 2009 (2008 – \$1,386 million) of the Used Fuel Fund on a fair value basis.

The fair value of the securities invested in the Nuclear Funds, which include the Used Fuel

Fund and the Decommissioning Fund, as at December 31, 2009 and 2008, are as follows:

(millions of dollars)	Fair Value	
	2009	2008
Cash and cash equivalents and short-term investments	463	455
Pooled funds	1,497	1,412
Marketable equity securities	4,699	3,795
Fixed income securities	3,596	3,090
Net receivables/payables	30	7
Administrative expense payable	(6)	(10)
	10,279	8,749
Due (to) from Province – Used Fuel Fund	(33)	460
	10,246	9,209

The bonds and debentures held in the Used Fuel Fund and the Decommissioning Fund as at

December 31, 2009 and 2008 mature according to the following schedule:

(millions of dollars except where noted)	Fair Value	
	2009	2008
1 – 5 years	1,276	1,142
5 – 10 years	857	777
More than 10 years	1,463	1,171
Total maturities of debt securities	3,596	3,090
Average yield	3.7%	4.3%

The change in the Nuclear Funds for the years ended December 31, 2009 and 2008, is as follows:

(millions of dollars)	Fair Value	
	2009	2008
Decommissioning Fund, beginning of year	4,325	5,072
Increase (decrease) in fund due to return on investments	631	(681)
Decrease in fund due to reimbursement of expenditures	(80)	(69)
Decrease in Due to Province	-	3
Decommissioning Fund, end of year	4,876	4,325
Used Fuel Fund, beginning of year	4,884	4,191
Increase in fund due to contributions made	339	454
Increase (decrease) in fund due to return on investments	664	(719)
Decrease in fund due to reimbursement of expenditures	(24)	(13)
(Decrease) increase in Due to/from Province	(493)	971
Used Fuel Fund, end of year	5,370	4,884

# Notes to the Consolidated Financial Statements

(for the years ended December 31, 2008 and 2007)

As at December 31, 2008, the Used Fuel Fund asset value on a fair value basis was \$4,424 million. The asset value included a receivable from the Province of \$460 million related to the committed return adjustment. As at December 31, 2007, the Used Fuel Fund asset value on a fair value basis was \$4,702 million. The asset value was offset by a payable to the Province of \$511 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, 2008 and 2007 consist of the following:

(millions of dollars)	Fair Value	
	2008	2007
Decommissioning Fund	4,325	5,075
Due to Province – Decommissioning Fund	–	(3)
	4,325	5,072
Used Fuel Fund <sup>1</sup>	4,424	4,702
Due from (to) Province – Used Fuel Fund	460	(511)
	4,884	4,191
	9,209	9,263

1 The Ontario NFWA Trust represented \$1,386 million as at December 31, 2008 (December 31, 2007 – \$1,244 million) of the Used Fuel Fund on a fair value basis.

The fair value of the securities invested in the Nuclear Funds, which include the Used Fuel Fund and Decommissioning Fund, as at December 31, 2008 and 2007, are as follows:

(millions of dollars)	Fair Value	
	2008	2007
Cash and cash equivalents and short-term investments	503	833
Marketable equity securities	4,451	5,391
Bonds and debentures	3,805	3,559
Administrative expense payable	(10)	(6)
	8,749	9,777
Due to Province – Decommissioning Fund	–	(3)
Due from (to) Province – Used Fuel Fund	460	(511)
Total	9,209	9,263

The bonds and debentures held in the Used Fuel Fund and the Decommissioning Fund as at December 31, 2008 and 2007 mature according to the following schedule:

(millions of dollars)	Fair Value	
	2008	2007
1 – 5 years	1,618	1,631
5 – 10 years	962	879
More than 10 years	1,225	1,049
Total maturities of debt securities	3,805	3,559
Average yield	4.6%	4.9%



The change in the Nuclear Funds for the years ended December 31, 2008 and 2007, are as follows:

(millions of dollars)	Fair Value	
	2008	2007
Decommissioning Fund at beginning of year	5,072	4,875
(Decrease) increase in fund due to return on investments	(681)	5
Decrease in fund due to reimbursement of expenditures	(69)	(99)
Decrease in Due to Province	3	291
Decommissioning Fund, end of year	4,325	5,072
Used Fuel Fund, beginning of year	4,191	3,238
Increase in fund due to contributions made	454	788
(Decrease) increase in fund due to return on investments	(719)	55
Decrease in fund due to reimbursement of expenditures	(13)	(20)
Decrease in Due to Province	511	130
Increase in Due from Province	460	–
Used Fuel Fund, end of year	4,884	4,191

The earnings (losses) from the Nuclear Funds during 2008 were partially mitigated by the establishment of a variance account for revenues and costs associated with the Bruce nuclear stations, as a result of the OEB's decision. The earnings on the Nuclear Funds for 2008 and 2007 are as follows:

(millions of dollars)	2008	2007
Decommissioning Fund	(678)	296
Used Fuel Fund	252	185
Bruce Variance Account	333	–
Total earnings (losses)	(93)	481

## 11. INCOME TAXES

Commencing April 1, 2005, OPG accounts for income taxes related to the rate regulated segments of its business using the taxes payable method. Under the taxes payable method, OPG does not recognize future income taxes related to the rate regulated segments of its business to the extent that the future income taxes are expected to be recovered or refunded through future regulated prices charged to customers.

A reconciliation between the statutory and the effective rate of income taxes is as follows:

(millions of dollars unless otherwise stated)	2008	2007
Income before income taxes	271	477
Combined Canadian federal and provincial statutory income tax rates, including surtax	33.5%	36.1%
Statutory income tax rates applied to accounting income	91	172
Increase in income taxes resulting from:		
Income tax component of the Bruce variance account	95	–
Lower future tax rate on temporary differences	(33)	(10)
Non-taxable income items	(15)	(7)
Unrecorded future income tax related to regulated operations	151	(127)
Change in income tax positions	(106)	(13)
Changes in future tax rate	–	(66)
	92	(223)
Income tax expense (recovery)	183	(51)
Effective rate of income taxes	67.5%	(10.7%)

The nuclear fixed asset removal and nuclear waste management funds as at December 31, 2007 and 2006, consist of the following:

	Fair Value		Amortized Cost
(millions of dollars)	2007	2006	2006
Decommissioning Fund	<b>5,075</b>	5,169	4,356
Due to Province – Decommissioning Fund	<b>(3)</b>	(294)	–
	<b>5,072</b>	4,875	4,356
Used Fuel Fund <sup>1</sup>	<b>4,702</b>	3,879	3,338
Due to Province – Used Fuel Fund	<b>(511)</b>	(641)	(100)
	<b>4,191</b>	3,238	3,238
	<b>9,263</b>	8,113	7,594

<sup>1</sup> The Ontario NFWA Trust represented \$1,244 million as at December 31, 2007 of the Used Fuel Fund on a fair value basis. The Ontario NFWA Trust represented \$1,102 million as at December 31, 2006 of the Used Fuel Fund on an amortized cost and fair value basis.

The amortized cost and fair value of the securities invested in the Nuclear Funds, which include the Used Fuel Fund and Decommissioning Fund, as at December 31, 2007 and 2006 are as follows:

	Fair Value		Amortized Cost
(millions of dollars)	2007	2006	2006
Cash and cash equivalents and short-term investments	<b>833</b>	553	556
Marketable equity securities	<b>5,391</b>	5,608	4,250
Bonds and debentures	<b>3,559</b>	2,305	2,306
Receivable from the OEFC	<b>–</b>	588	588
Administrative expense payable	<b>(6)</b>	(6)	(6)
	<b>9,777</b>	9,048	7,694
Due to Province – Decommissioning Fund	<b>(3)</b>	(294)	–
Due to Province – Used Fuel Fund	<b>(511)</b>	(641)	(100)
Total	<b>9,263</b>	8,113	7,594

The bonds and debentures held in the Used Fuel Fund and the Decommissioning Fund as at December 31, 2007 and 2006 mature according to the following schedule:

	Fair Value	
(millions of dollars)	2007	2006
Less than 1 year	<b>–</b>	–
1 – 5 years	<b>1,631</b>	1,167
5 – 10 years	<b>879</b>	467
More than 10 years	<b>1,049</b>	671
Total maturities of debt securities	<b>3,559</b>	2,305
Average yield	<b>4.9%</b>	4.5%

The receivable of \$588 million in 2006 from the OEFC was repaid in 2007. The effective rate of interest on the OEFC receivable was 3.9 per cent in 2006.

The change in the Nuclear Funds for the years ended December 31, 2007 and 2006 are as follows:

(millions of dollars)	Amortized Cost	
	2007	2006
Decommissioning Fund at amortized cost, beginning of year	4,356	4,099
Transition adjustment to fund on adoption of financial instruments accounting standards	519	—
Increase in fund due to return on investments	5	256
Decrease in fund due to reimbursement of expenditures	(99)	(6)
Decrease in Due to Province	291	7
Decommissioning Fund, end of year	5,072	4,356
Used Fuel Fund, beginning of year	3,238	2,689
Increase in fund due to contributions made	788	454
Increase in fund due to return on investments	55	204
Decrease in fund due to reimbursement of expenditures	(20)	(13)
Decrease (increase) in Due to Province	130	(96)
Used Fuel Fund, end of year	4,191	3,238

## 11 Income Taxes

Commencing April 1, 2005, OPG accounts for income taxes related to the rate regulated segments of its business using the taxes payable method. Under the taxes payable method, OPG does not recognize future income taxes related to the rate regulated segments of its business to the extent that the future income taxes are expected to be recovered or refunded through future regulated prices charged to customers.

A reconciliation between the statutory and the effective rate of income taxes is as follows:

(millions of dollars)	2007	2006
Income before income taxes	477	576
Combined Canadian federal and provincial statutory income tax rates, including surtax	36.1%	36.1%
Statutory income tax rates applied to accounting income	172	208
Decrease in income taxes resulting from:		
Lower future tax rate on temporary differences	(10)	(4)
Non-taxable income items	(7)	(5)
Unrecorded future income tax related to regulated operations	(127)	(89)
Change in income tax positions	(13)	10
Changes in future tax rate	(66)	(34)
	(223)	(122)
Income tax (recovery) expense	(51)	86
Effective rate of income taxes	(10.7%)	14.9%

The Company has revised its future income tax assets and liabilities to reflect the lower federal income tax rates recently enacted.

In the third quarter of 2006, OPG received a preliminary communication from the Provincial Tax Auditors with respect to their initial findings from their audit of OPG's 1999 taxation year. Many of the issues raised through the audit are unique to OPG and relate either to start-up matters and positions taken on April 1, 1999 upon commencement of operations, or matters that were not adequately addressed through the *Electricity Act, 1998*. Although OPG has subsequently resolved some of these issues, there is uncertainty as to how the remaining issues will be resolved. OPG expects to receive a reassessment for its 1999 taxation year. The Company would defend its position through the tax appeals process.

OPG has previously recorded income tax charges related to certain income tax positions that the Company has taken in prior years that may be disallowed. Given the uncertainty as to how these income tax matters will be resolved, OPG has not adjusted its income tax liabilities. Should the ultimate outcome materially differ from OPG's recorded income tax liabilities, the Company's effective tax rate and its earnings could be affected positively or negatively in the period in which the matters are resolved.

The nuclear fixed asset removal and nuclear waste management funds as at December 31, 2006 and 2005, consist of the following:

	Amortized Cost Basis		Fair Value	
(millions of dollars)	2006	2005	2006	2005
Decommissioning Fund	<b>4,356</b>	4,106	<b>5,169</b>	4,583
Due to Province – Decommissioning Fund	<b>–</b>	(7)	<b>(294)</b>	(484)
	<b>4,356</b>	4,099	<b>4,875</b>	4,099
Used Fuel Fund <sup>1</sup>	<b>3,338</b>	2,693	<b>3,879</b>	2,995
Due to Province – Used Fuel Fund	<b>(100)</b>	(4)	<b>(641)</b>	(306)
	<b>3,238</b>	2,689	<b>3,238</b>	2,689
	<b>7,594</b>	6,788	<b>8,113</b>	6,788

1 The Ontario NFWA Trust represents \$1,102 million as at December 31, 2006 (December 31, 2005 – \$1,003 million) of the Used Fuel Fund on an amortized cost basis.

The amortized cost and fair value of the securities invested in the segregated funds, which include the Used Fuel Fund and Decommissioning Fund, as at December 31, 2006 and 2005 are as follows:

	Amortized Cost Basis		Fair Value	
(millions of dollars)	2006	2005	2006	2005
Cash and cash equivalents and short-term investments	<b>556</b>	516	<b>553</b>	515
Marketable equity securities	<b>4,250</b>	3,772	<b>5,608</b>	4,547
Bonds and debentures	<b>2,306</b>	1,757	<b>2,305</b>	1,762
Receivable from the OEFC	<b>588</b>	759	<b>588</b>	759
Administrative expense payable	<b>(6)</b>	(5)	<b>(6)</b>	(5)
	<b>7,694</b>	6,799	<b>9,048</b>	7,578
Due to Province – Decommissioning Fund	<b>–</b>	(7)	<b>(294)</b>	(484)
Due to Province – Used Fuel Fund	<b>(100)</b>	(4)	<b>(641)</b>	(306)
Total	<b>7,594</b>	6,788	<b>8,113</b>	6,788

The bonds and debentures held in the Used Fuel Fund and the Decommissioning Fund as at December 31, 2006 and 2005 mature according to the following schedule:

	Fair Value	
(millions of dollars)	2006	2005
Less than 1 year	<b>–</b>	–
1 – 5 years	<b>1,167</b>	769
5 – 10 years	<b>467</b>	485
More than 10 years	<b>671</b>	508
Total maturities of debt securities	<b>2,305</b>	1,762
Average yield	<b>4.5%</b>	4.3%

The receivable of \$588 million (2005 – \$759 million) from the OEFC does not have a specified maturity date. The effective rate of interest on the OEFC receivable was 3.9 per cent in 2006 (2005 – 5.8 per cent).



The change in the Nuclear Funds for the years ended December 31, 2006 and 2005 are as follows:

	Amortized Cost Basis		Fair Value	
(millions of dollars)	2006	2005	2006	2005
Decommissioning Fund, beginning of year	<b>4,099</b>	3,858	<b>4,099</b>	3,882
Increase in fund due to return on investments	<b>256</b>	255	<b>592</b>	459
Decrease in fund due to reimbursement of expenditures	<b>(6)</b>	(7)	<b>(6)</b>	(7)
Decrease (increase) in Due to Province	<b>7</b>	(7)	<b>190</b>	(235)
Decommissioning Fund, end of year	<b>4,356</b>	4,099	<b>4,875</b>	4,099
Used Fuel Fund, beginning of year	<b>2,689</b>	2,118	<b>2,689</b>	2,118
Increase in fund due to contributions made	<b>454</b>	454	<b>454</b>	454
Increase in fund due to return on investments	<b>204</b>	133	<b>443</b>	283
Decrease in fund due to reimbursement of expenditures	<b>(13)</b>	(16)	<b>(13)</b>	(16)
(Increase) decrease in Due to Province	<b>(96)</b>	–	<b>(335)</b>	(150)
Used Fuel Fund, end of year	<b>3,238</b>	2,689	<b>3,238</b>	2,689

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## Income Taxes

Commencing April 1, 2005, OPG accounts for income taxes related to the rate regulated segments of its business using the taxes payable method. Under the taxes payable method, OPG does not recognize future income taxes related to the rate regulated segments of its business to the extent that the future income taxes are expected to be recovered in future regulated prices charged to customers. As part of the transition, on April 1, 2005, OPG reversed the net future income tax asset balance of \$74 million relating to the rate regulated segments of its business, and recognized the amount as an extraordinary loss in determining net income. The extraordinary item reduced basic and diluted earnings per share for the year ended December 31, 2005 by \$0.29 per share.

A reconciliation between the statutory and the effective rate of income taxes is as follows:

(millions of dollars)	2006	2005
Income before income taxes	<b>576</b>	558
Combined Canadian federal and provincial statutory income tax rates, including surtax	<b>36.1%</b>	36.1%
Statutory income tax rates applied to accounting income	<b>208</b>	202
Increase (decrease) in income taxes resulting from:		
Large corporations tax in excess of surtax	<b>–</b>	28
Lower future tax rate on temporary differences	<b>(4)</b>	(12)
Non-taxable income items	<b>(5)</b>	7
Unrecorded future income tax related to regulated operations	<b>(89)</b>	(157)
Change in income tax positions	<b>10</b>	50
Other changes in future tax rate	<b>(34)</b>	–
	<b>(122)</b>	(84)
Income tax expense	<b>86</b>	118
Effective rate of income taxes	<b>14.9%</b>	21.1%

The Company has revised its future income tax assets and liabilities to reflect the lower federal income tax rates recently enacted.

Under the ONFA, the Province guarantees OPG's annual return in the Used Fuel Fund at 3.25 per cent plus the change in the Ontario Consumer Price Index ("committed return"). The difference between the committed return on the Used Fuel Fund and the actual market return, based on the fair value of fund assets, which includes realized and unrealized returns, is due to or due from the Province. Since OPG accounts for the investments in the segregated funds on an amortized cost basis, the amount due to or due from the Province recorded in the consolidated financial statements is the difference between the committed return and the actual return based on realized returns only. At December 31, 2005, the Used Fuel Fund accounts included an amount due to the Province of \$4 million (2004 – \$4 million). If the investments in the Used Fuel Fund were accounted for at fair market value in the consolidated financial statements, at December 31, 2005, there would be an amount due to the Province of \$306 million (2004 – \$156 million).

Under the ONFA, a rate of return target of 5.75 per cent per annum was established for the Decommissioning Fund, subject to changes in the ONFA Reference Plan. If the rate of return deviates from 5.75 per cent, or if the estimate of the liabilities changes under the current approved ONFA Reference Plan, the Decommissioning Fund may become over or underfunded. Under the ONFA, if there is a surplus in the Decommissioning Fund such that the liabilities, as defined by the Current Approved ONFA Reference Plan, are at least 120 per cent funded, OPG may direct up to 50 per cent of the surplus over 120 per cent as a contribution to the Used Fuel Fund, and the OEFC is entitled to a distribution of an equal amount. In addition, upon termination of the ONFA, the Province has a right to any excess funds, which is the extent to which the fair market value of the Decommissioning Fund exceeds the estimated completion costs approved under the Current Approved ONFA Reference Plan. At December 31, 2005, the balance of the Decommissioning Fund, on an amortized cost basis, exceeded the estimated completion costs under the Current Approved ONFA Reference Plan. The Decommissioning Fund had an excess of \$7 million due to the Province on an amortized cost basis. If the investments in the Decommissioning Fund were accounted for at fair market value in the consolidated financial statements at December 31, 2005, and the Decommissioning Fund was terminated under the ONFA, there would be an amount due to the Province of \$484 million (2004 – \$249 million).

The nuclear fixed asset removal and nuclear waste management funds as at December 31, 2005 and 2004, consist of the following:

	Amortized Cost Basis		Fair Value	
(millions of dollars)	2005	2004	2005	2004
Decommissioning Fund	<b>4,106</b>	3,858	<b>4,583</b>	4,131
Due to Province – Decommissioning Fund	<b>(7)</b>	–	<b>(484)</b>	(249)
	<b>4,099</b>	3,858	<b>4,099</b>	3,882
Used Fuel Fund <sup>1</sup>	<b>2,693</b>	2,122	<b>2,995</b>	2,274
Due (to) from Province – Used Fuel Fund	<b>(4)</b>	(4)	<b>(306)</b>	(156)
	<b>2,689</b>	2,118	<b>2,689</b>	2,118
	<b>6,788</b>	5,976	<b>6,788</b>	6,000

1. The Ontario NFWA Trust represents \$1,003 million as at December 31, 2005 (2004 – \$794 million) of the Used Fuel Fund on an amortized cost basis.

The amortized cost and fair value of the securities invested in the segregated funds, which include the Used Fuel Fund and Decommissioning Fund, as at December 31, 2005 and 2004 are as follows:

	Amortized Cost Basis		Fair Value	
(millions of dollars)	2005	2004	2005	2004
Cash and cash equivalents and short-term investments	<b>516</b>	211	<b>515</b>	211
Marketable equity securities	<b>3,772</b>	3,056	<b>4,547</b>	3,472
Bonds and debentures	<b>1,757</b>	723	<b>1,762</b>	732
Receivable from the OEFC	<b>759</b>	1,993	<b>759</b>	1,993
Administrative expense payable	<b>(5)</b>	(3)	<b>(5)</b>	(3)
	<b>6,799</b>	5,980	<b>7,578</b>	6,405
Due to Province – Decommissioning Fund	<b>(7)</b>	–	<b>(484)</b>	(249)
Due to Province – Used Fuel Fund	<b>(4)</b>	(4)	<b>(306)</b>	(156)
Total	<b>6,788</b>	5,976	<b>6,788</b>	6,000