



Sustainable Energy Plan

2014 – 2023 CAPITAL BUDGET AND PLAN OVERVIEW

2014 – 2023 Capital Budget and Plan Highlights

The Sustainable Energy Plan provides funding to invest in local energy initiatives that maintain the City of Toronto as a world leader in the sustainable use of energy from local, clean and renewable sources.

The 2014–2023 Recommended Capital Budget and Plan of \$160.631 million invests in the City's energy infrastructure to continually reduce the energy requirements of City operations, meet the energy reduction targets set by City Council, pursue directives issued by City Council to ensure the future energy security of the City, and reduce the Green House Gas (GHG) footprint.

The 10-Year Recommended Capital Plan also allocates funding for community based green energy projects and various energy retrofit projects at facilities across the City.

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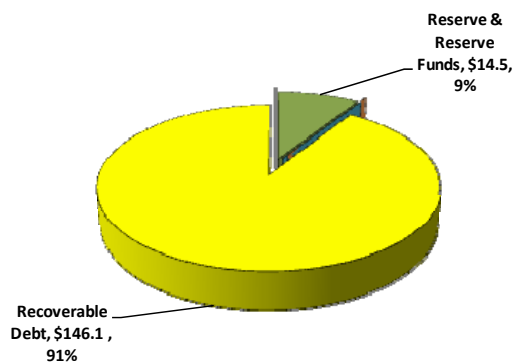
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Capital Spending and Financing

2014-2023 Capital Budget and Plan Expenditures
\$160.631 Million
(\$000)



2014-2023 Capital Budget and Plan by Funding Source \$160.631 Million
(\$000)



Where does the money go?

The 2014–2023 Recommended Capital Budget and Plan totals \$160.631 million for the following service improvement initiatives:

- Energy Retrofit Projects at various City Facilities which provide funding for comprehensive energy efficiency upgrades and improvements to City facilities.
- District Energy Systems which integrates City energy assets together to produce significant financial and operational savings.
- Demand Response Program that provides electricity capacity to balance province-wide demand and supply capability during periods of electricity constraint, resulting in relief to the grid and revenues as compensation for participating in the program.
- Renewable Energy Projects which generate electricity from natural resources (i.e. solar) producing significant reductions in GHG emissions and generating revenues through the Provincial Feed-In-Tariff program.
- Community Based Green Energy Projects that finance community-based organizations that promote upgrading facility utilities to reduce energy consumption and the carbon footprint.

Where the money comes from?

The 10-year Recommended Capital Plan is funded through 96% recoverable debt, and 4% from Reserve Funds. Operation revenues and savings that realized will be used first to repay capital costs and can then be used to reduce various Program Operating Budgets.

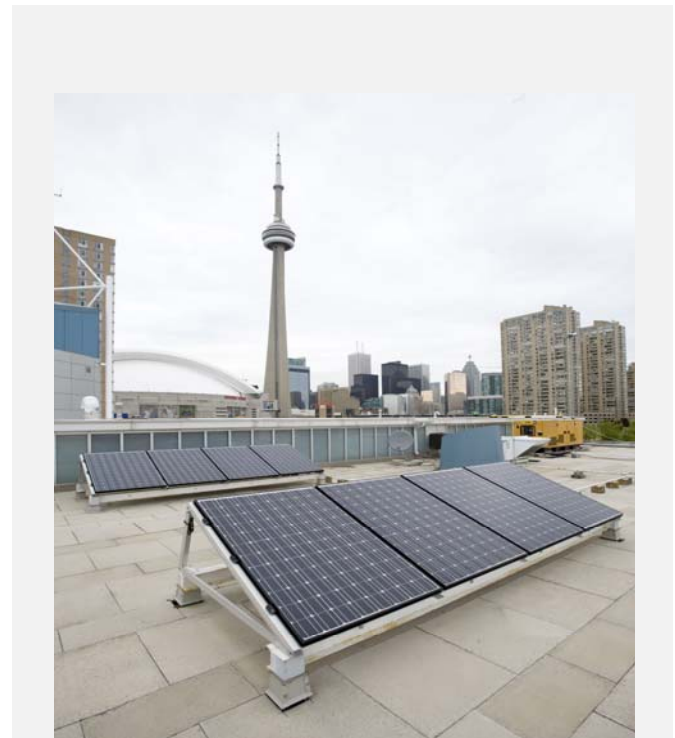
Key Challenges and Priority Actions

- Managing energy projects to maximize return on investment in a climate of rising energy costs.
 - Prudent financial management with extensive analysis and review will ensure that the recoverable debt model is successfully implemented.
- Working with internal and external stakeholders to ensure the City of Toronto improves its energy and environmental resiliency.
 - The development of local improvement charges (LICs) for residential energy efficiency and water conservation allowing homeowners to pay for energy improvements over time.

2014 Recommended Capital Budget

The 2014 Recommended Capital Budget for the Sustainable Energy Plan of \$10.719 million will:

- Enable the Program to begin 13 new energy projects for City Programs and Agencies that are funded solely through recoverable debt, including, but not limited to:
 - An investment of \$3.569 million (\$1.772 million in 2014 and a commitment of \$1.797 million in 2015) for upgrades to major energy consuming equipment at various locations.
 - Water heating efficiency upgrades totaling \$0.782 million at 100 Bain Avenue, as part of the program's dedication to community energy projects.
 - An investment in solar generated energy with the integration of the Pan Am Aquatic Centre Solar Photovoltaic Program (\$1.250 million) and the Solar Photovoltaic Installation MicroFIT Program (\$0.630 million).
- Integration of the new Residential Energy Retrofit Program (\$2.000 million in 2014) designed to initiate resource and energy conservation measures in single family homes and multi-residential locations.



II: RECOMMENDATIONS

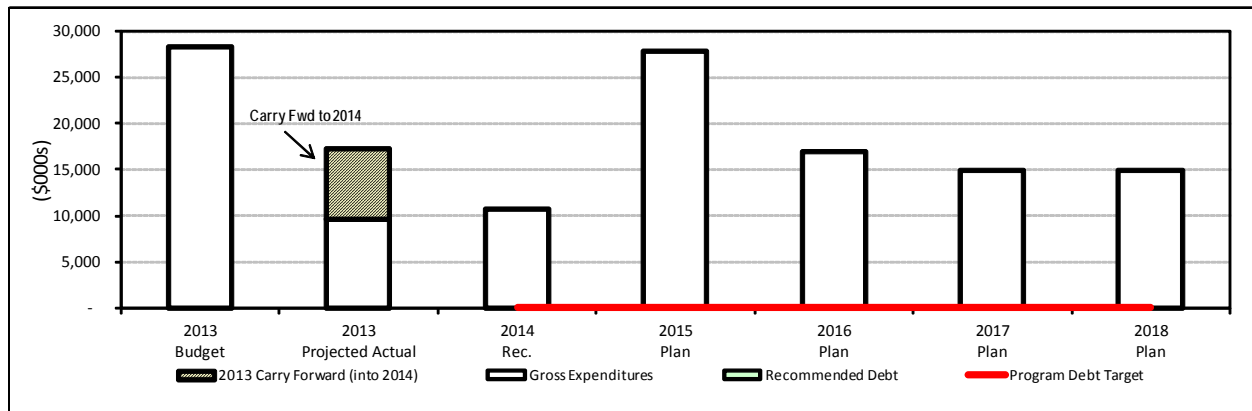
Recommendations

The City Manager and Chief Financial Officer recommend that:

1. City Council approve the 2014 Recommended Capital Budget for the Sustainable Energy Plan with a total project cost of \$10.111 million, and 2014 cash flow of \$18.428 million and future year commitments of \$3.442 million comprised of the following:
 - a) New Cash Flow Funding for:
 - i) 11 new / change in scope sub-projects with a 2014 total project cost of \$10.111 million that requires cash flow of \$6.669 million in 2014 and a future year cash flow commitment of \$3.442 million in 2015;
 - ii) 3 previously approved sub-projects with a 2014 cash flow of \$4.050 million;
 - b) 2013 approved cash flow for 2 previously approved sub-projects with carry forward funding from 2013 into 2014 totaling \$7.709 million.
2. City Council approve the 2015-2023 Recommended Capital Plan for the Sustainable Energy Plan totaling \$146.470 million in project estimates, comprised of \$24.470 million in 2015; \$17.000 million in 2016; \$15.000 million in 2017; \$15.000 million in 2018; \$15.000 million in 2019; \$15.000 million in 2020; \$15.000 million in 2021; \$15.000 million in 2022; and \$15.000 million in 2023.
3. City Council consider operating savings of \$1.188 million net in 2019; \$0.677 million net in 2020; \$0.437 million net in 2021; \$0.118 million net in 2022; and \$0.209 million net in 2023, emanating from the approval of the 2014 Recommended Capital Budget for repayment of debt borrowed for the planned projects.
4. City Council approve that any project utilizing the recoverable debt model completely repay all associated costs necessary to bring the project into use, including operating costs, prior to any operational savings being realized by the Program or Agency.
5. City Council direct the Environment and Energy Office and Financial Planning to monitor and report energy consumption and any associated operating savings through the City's annual budget process.
6. City Council authorize the Energy Efficiency Office to impose a fee on a property in the amount of any initial funding advanced to the property owner prior to completion of the project, which amount becomes due and payable to the City because the project is not completed or a Local Improvement Charge (LIC) can otherwise not be imposed, which fee can be added to the tax roll for the property for collection purposes.

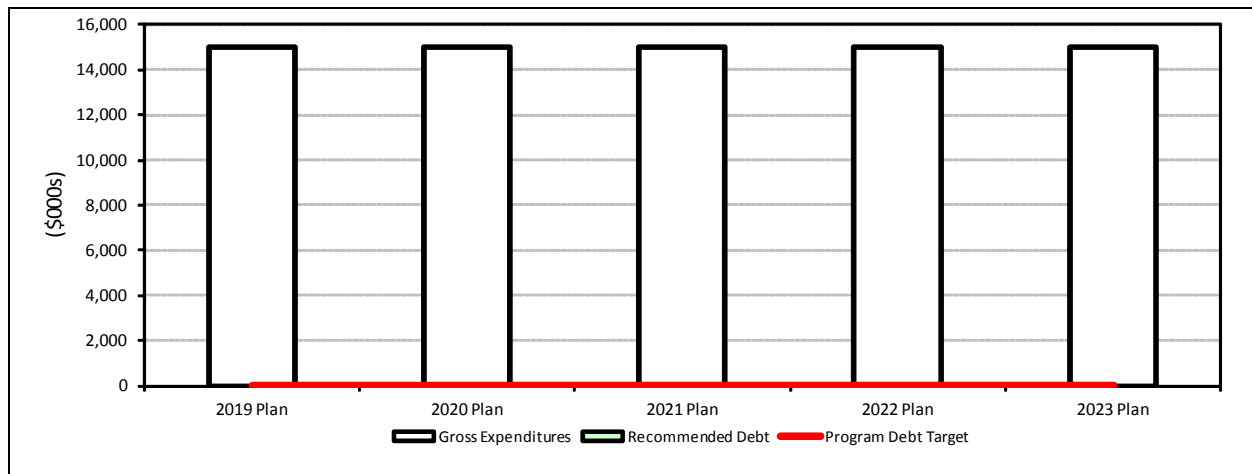
III: 10-YEAR CAPITAL PLAN

10 - Year Capital Plan 2014 Recommended Budget, 2015 – 2018 Recommended Plan



		2014 Budget and 2015 - 2018 Plan								
		2013	2014	2015	2016	2017	2018	2014 - 2018	5-Year Total Percent	
		Budget	Projected Actual							
Gross Expenditures:										
2013 Capital Budget & Approved FY Commitments	28,368	9,693	4,050					4,050	4.7%	
Recommended Changes to Approved FY Commitments										
2014 New/Change in Scope and Future Year Commitments			6,669	3,442				10,111	11.8%	
2015- 2018 Capital Plan Estimates				24,470	17,000	15,000	15,000	71,470	83.5%	
2-Year Carry Forward for Reapproval										
1-Year Carry Forward to 2014		7,709								
Total Gross Annual Expenditures & Plan	28,368	17,402	10,719	27,912	17,000	15,000	15,000	85,631	100.0%	
Program Debt Target										
Financing:										
Recommended Debt										
Reserves/Reserve Funds	19,900	9,492	5,300	6,600	2,600			14,500	16.9%	
Development Charges										
Provincial/Federal										
Debt Recoverable	7,709	7,709	5,419	21,312	14,400	15,000	15,000	71,131	83.1%	
Other Revenue	759	201								
Total Financing	28,368	17,402	10,719	27,912	17,000	15,000	15,000	85,631	100.0%	
By Project Category:										
Health & Safety										
Legislated										
SOGR										
Service Improvement	28,369	17,402	10,719	27,912	17,000	15,000	15,000	85,631	100.0%	
Growth Related										
Total by Project Category	28,369	17,402	10,719	27,912	17,000	15,000	15,000	85,631	100.0%	
Asset Value (\$) at year-end										
Yearly SOGR Backlog Estimate (not addressed by current plan)										
Accumulated Backlog Estimate (end of year)										
Backlog: Percentage of Asset Value (%)										
Debt Service Costs										
Operating Impact on Program Costs										
New Positions										

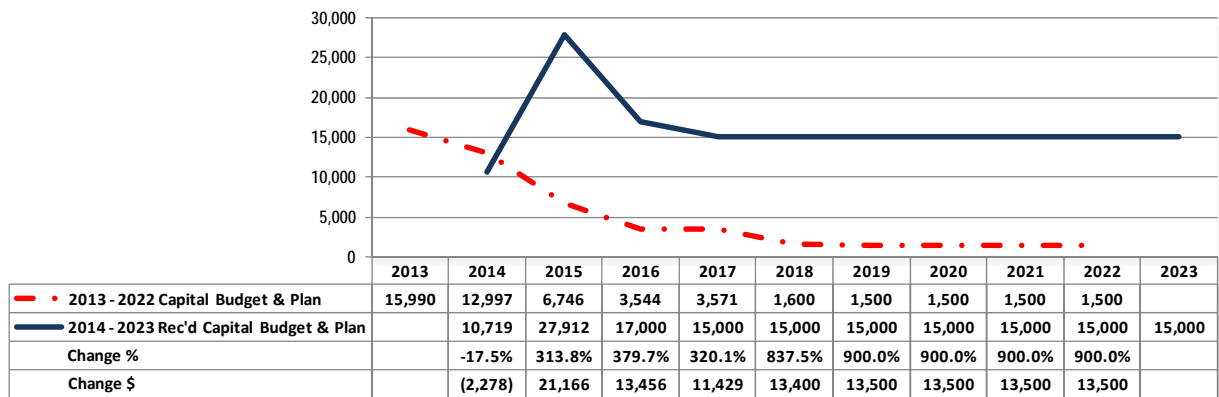
**10 - Year Capital Plan
2019 - 2023 Recommended Plan
(In \$000s)**



	2019 - 2023 Capital Plan							10-Year Total Percent
	2019	2020	2021	2022	2023	2014 - 2023		
Gross Expenditures:								
2013 Capital Budget & Approved FY Commitments						4,050		2.5%
Recommended Changes to Approved FY Commitments						10,111		6.3%
2014 New/Change in Scope and Future Year Commitments						146,470		91.2%
2019 - 2023 Capital Plan Estimates	15,000	15,000	15,000	15,000	15,000	160,631		100.0%
Total Gross Annual Expenditures & Plan	15,000	15,000	15,000	15,000	15,000	160,631		100.0%
Program Debt Target								
Financing:								
Recommended Debt								
Reserves/Reserve Funds						14,500		9.0%
Development Charges								
Provincial/Federal								
Debt Recoverable	15,000	15,000	15,000	15,000	15,000	146,131		91.0%
Other Revenue								
Total Financing	15,000	15,000	15,000	15,000	15,000	160,631		100.0%
By Project Category:								
Health & Safety								
Legislated								
SOGR								
Service Improvement	15,000	15,000	15,000	15,000	15,000	160,631		100.0%
Growth Related								
Total by Project Category	15,000	15,000	15,000	15,000	15,000	160,631		100.0%
Asset Value(\$) at year-end								
Yearly SOGR Backlog Estimate (not addressed by current plan)								
Accumulated Backlog Estimate (end of year)								
Backlog: Percentage of Asset Value (%)								
Debt Service Costs								
Operating Impact on Program Costs	(1,188)	(677)	(437)	(118)	(209)	(2,628)		
New Positions								

Key Changes to the 2013 - 2022 Approved Capital Plan

Changes to the 2013 -2022 Approved Capital Plan
(In \$000s)



The 2014 Recommended Capital Budget and the 2015 - 2023 Recommended Capital Plan reflects an increase of \$111.173 million from the 2013 to 2022 Approved Capital Plan.

Changes to the 2013 – 2022 Approved Capital Plan arise from City Council's adoption of the recommendations in the report (September 24, 2012) from the integration of the Toronto Environment Office with the Environment and Energy Office and from the inclusion of future year program estimates in the Recommended 10-Year Capital Plan.

Details of the changes to the 2013-2022 Capital Plan are noted below:

- Eleven new energy projects have been established in the Sustainable Energy Plan's 10-Year Capital Plan for City's Programs and Agencies that are funded solely through recoverable debt with repayment from resulting operating program energy savings and/or revenue generation:
 - The *Energy Retrofit Program* invests \$3.569 million (\$1.772 million in 2014 and \$1.797 million in 2015) for upgrades to major energy consuming equipment at various locations throughout the City. An additional \$25.500 million is projected for future year energy retrofit projects. All Energy Retrofit Projects are managed through the Environment and Energy Office.
 - The Capital Plan includes a \$1.250 million investment for the *Pan Am Aquatic Centre Solar Photovoltaic Program* in 2014 with annual operating revenues of \$0.178 million commencing upon project completion, with an expected cost recovery over an 8 year period. In addition, the Plan incorporates the Solar Photovoltaic Installation MicroFIT Program which includes a \$5.030 million investment (\$0.730 million in 2014, \$0.300 million in 2015, and \$0.500 million in each subsequent year).
 - The Plan includes the *GeoExchange* initiative which is a \$4.380 million investment (\$0.235 million in 2014, \$0.145 million in 2015 and \$0.500 million in each subsequent year). The 2014 and 2015 plan is for the installation of a GeoExchange (geothermal

heating and cooling) system at two locations: McGregor Community Centre and Long Branch Arena.

- The Plan continues the *Demand Response Program* which provides approaches to coordinate the reduction of electricity demand to balance province wide demand and supply capability during periods of electricity constraint. Through upgrading existing or replacing diesel generators and peak shifting load management, local load curtailment will create a new net revenue stream utilizing existing City assets. This program is offered through the Ontario Power Authority. In 2013, the Demand Response Program was approved for the upgrade and/or replacement of 28 generators in the amount of \$7.459 million. The majority of time spent in 2013 was to create awareness on the Demand Response Program. In continuation of this Program, unused funds will be carried forward into 2014 with \$8.970 million recommended for 2015.
- *Residential Energy Retrofit Program* – a pilot project valued at \$10.000 million is recommended (\$2.000 million in 2014, \$5.400 million in 2015 and \$2.600 million in 2016). The residential energy retrofit program is a pilot program designed to advance funding to consenting property owners interested in undertaking qualifying energy and water improvements and willing to allow the City to impose a Local Improvement Charge (LIC) on their property to secure repayment. This will initiate resource and energy conservation measures in single family homes (25-50% targeted reduction) and multi-residential locations, specifically in relation to natural gas, electricity and water efficiency. This program will be financed by the newly established Local Improvement Charges Energy Works Reserve Fund.
- In response to City Council's request, the Plan includes the *Community Based Green Energy Projects* which incorporates a \$9.782 million investment starting in 2014 through to 2023 inclusive. In 2014 there is \$0.782 million planned, and future potential projects are currently being identified through community energy planning activities. These will be included in the Sustainable Energy Plan 2015 Capital Budget and 2016 – 2025 Capital Plan.
- The Plan includes the *Solar PhotoVoltaic Feed-In-Tariff (FIT) Program* that includes \$3.200 million in 2014, \$6.200 million in 2015, \$3.000 million in 2016 through 2018 and \$1.000 million in 2019 through 2023. Solar PhotoVoltaic Panels will be purchased and installed on various rooftops across the City resulting in additional energy being produced and sold under the Feed-In-Tariff Program with the Ontario Power Authority.
- The Plan invests in *District Energy Systems Projects* that involve integrating City energy assets together to produce significant financial and operational savings. Two priority distributed energy node opportunities within the City of Toronto have been examined, namely Westwood Theatre Lands and the Scarborough Civic Centre, with another 27 potential sites identified. Five million has been reallocated from 2014 and 2015 to 2015 and 2016 for potential projects identified for the Scarborough Civic Centre and Westwood Theatre Lands. Future capital costs are projected at approximately \$3.000 million per year.

- The Plan includes the initiation of *Combined Heat & Power Projects* which involve the use of a heat engine or power station to simultaneously generate electricity and useful heat. Combined Heat and Power (CHP) captures some or all of the by-product for heating very close to the plant. Beginning in 2016, City staff will commence CHP projects for various City locations, with the expected approximate capital costs to be \$2.000 million per year, funded solely through recoverable debt.
- The following chart details the key project cash flow funding changes to the 2013 – 2022 Approved Capital Plan.

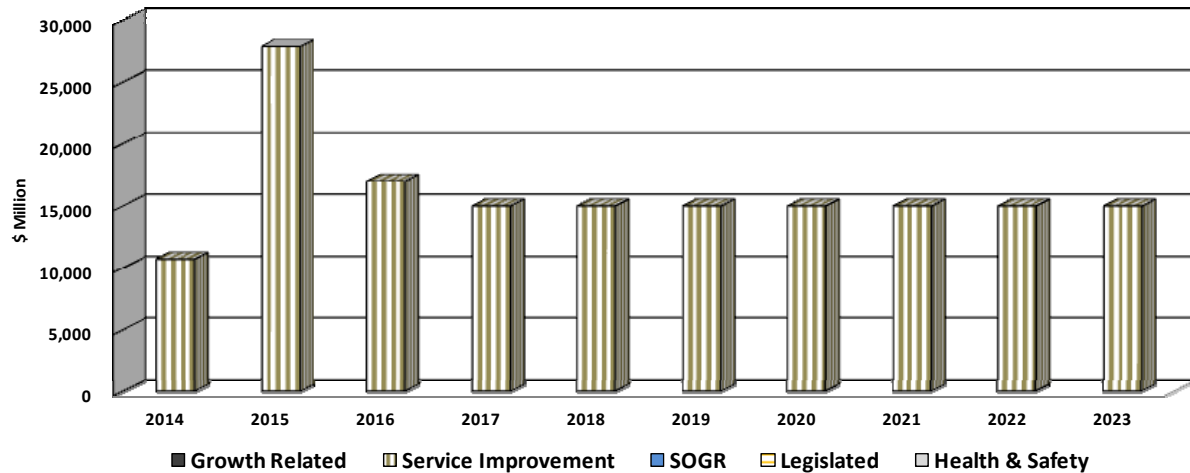
Summary of Project Changes

(In \$000s)

	Total Project Cost	2014		2015		2016		2017		2018		2014 - 2018		2014 - 2022		Revised Total Project
		Gross	Debt	Gross	Debt	Gross	Debt	Gross	Debt	Gross	Debt	Gross	Debt	Gross	Debt	
Previously Approved																
Better Building Partnership - Future Year Projects	5,214	(1,153)		(1,246)		(1,344)		(1,471)				(5,214)		(5,214)		0
Energy Retrofit Projects - Future Years	11,750	(1,250)				1,500		1,500		2,000		3,750		11,750		25,500
Solar PhotoVoltaic Program	4,500	3,300		1,200								4,500		4,500		4,500
District Energy Systems - Future Projects	26,000	(2,600)		200		2,400		3,000		3,000		6,000		18,000		26,000
Demand Response Program	29,970	(7,244)		7,370		1,300		1,400		1,400		4,226		14,226		29,970
Total Previously Approved	77,434	(8,947)		7,524		3,856		4,429		6,400		13,262		43,262		85,970
New																
Energy Retrofit Project - 1652 Keele & Ellesmere Yard	810	200		610								810		810		810
Energy Retrofit Project - Water Retrofits in Civic Centres	840	210		630								840		840		840
Energy Retrofit Project - Arena Facilities (Lighting Retrofits)	1,192	1,192										1,192		1,192		1,192
Energy Retrofit Project - Cummer Lodge	270	65		205								270		270		270
Energy Retrofit Project - Animal Services Efficiency Measures	192	45		147								192		192		192
Energy Retrofit Project - Efficiencies (Americas Pavillion Toronto Zoo)	265	60		205								265		265		265
Bain Apartment Co-Op - Loan	782	782										782		782		782
Pan Am Aquatic Centre - Solar PhotoVoltaic	1,250	1,250										1,250		1,250		1,250
GeoExchange Program	4,380	235		145		500		500		500		1,880		3,880		4,380
Solar PhotoVoltaic Installations - MicroFIT Program	4,930	630		300		500		500		500		2,430		4,430		4,930
Residential Energy Retrofit Program - Pilot	10,000	2,000		5,400		2,600						10,000		10,000		10,000
Future Year Community Based Green Energy Projects	9,000			1,000		1,000		1,000		1,000		4,000		8,000		9,000
Solar PV Installations - FIT Program	19,000			5,000		3,000		3,000		3,000		14,000		18,000		19,000
Combined Heat & Power - Future Years	21,000					2,000		2,000		2,000		6,000		18,000		21,000
Total New	73,911	6,669		13,642		9,600		7,000		7,000		43,911		67,911		73,911
Total Changes		(2,278)		21,166		13,456		11,429		13,400		57,173		111,173		159,881

2014 – 2023 Recommended Capital Plan

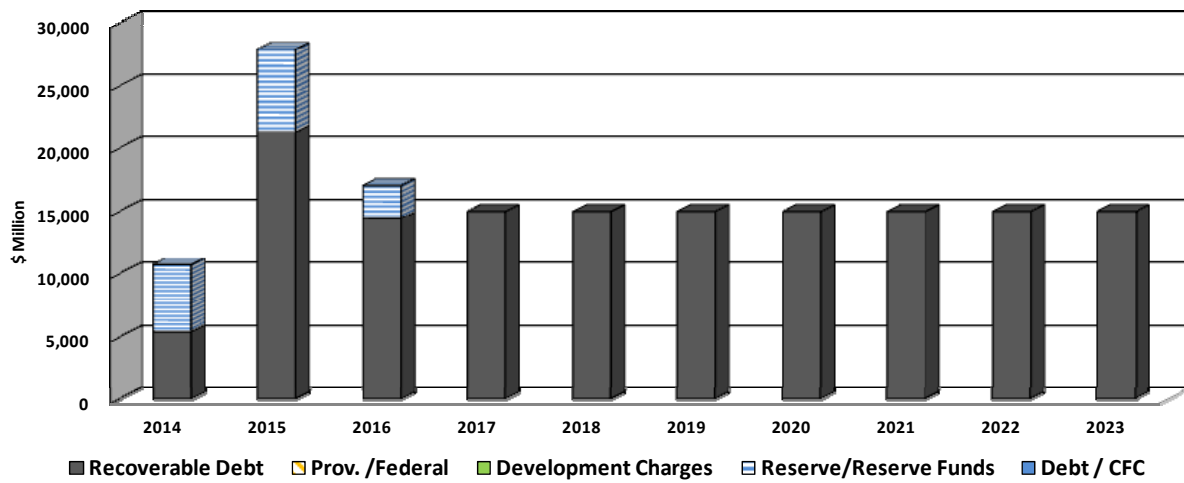
2014 – 2023 Capital Plan by Project Category
(In \$000s)



- The 10-Year Recommended Capital Plan for the Sustainable Energy Plan provides funding for Service Improvement projects totaling \$160.631 million.

 - \$85.631 million or 53.3% is allotted in the first five years of the 10-Year Capital Plan period. Funding in the amount of \$24.060 million or 28.1% is included for the Renewable Energy Projects (i.e. Solar Panel FIT Program) during the first five years of the Capital Plan. In addition, \$14.970 million is allocated to the Demand Response Program and \$14.819 million is provided for the Energy Retrofit Projects during this period.
 - \$75.000 million or 46.7% is allotted in years 6 to 10 of the 10-Year Capital Plan for the continuation of the GeoExchange Program (\$2.500 million), Solar PhotoVoltaic MicroFIT Program (\$2.500 million), Demand Response Program (\$15.000 million), Energy Retrofit Projects (\$15.000 million), Future Year Community Based Green Energy Projects (\$5.000 million), Solar PhotoVoltaic Installations (\$5.00 million), District Energy Systems project (\$15.000 million) and Combined Heat & Power Program (\$15.000 million).

2014–2023 Capital Plan by Funding Source
(In \$000s)



- The 10-Year Recommended Capital Plan of \$160.631 million will be financed by \$146.131 million of recoverable debt and \$14.500 million from Reserve / Reserve funds.
- Recoverable debt accounts for \$146.131 million or 91.0% of the financing for projects in the 10-Year Capital Plan. Projects funded through recoverable debt are limited by the qualifications outlined in the report entitled, "Repurposing of the Sustainable Energy Funds and New Funding Model for City Energy Projects". Specifically, projects must generate energy savings or revenue sufficient to offset their respective debt service schedule over the performance life of the asset. Each project that is funded through recoverable debt requires an extensive business case which clearly details the operating impact for City Programs and Agencies affected. All debt must be repaid within 20 years.
 - Recoverable debt totals \$71.131 million or 83.1% of the total funding in the first five years.
 - The second five years requires \$75.000 million in recoverable debt or 100% of total funding.
- Reserve and Reserve Funds constitute \$14.500 million or 16.9% of the required funding in the first 5 years.
 - The Local Improvement Charges Energy Works Reserve Fund is a revolving fund that supports the newly established Residential Energy Retrofit Program designed to advance funding to consenting property owners interested in undertaking qualifying energy and water improvements and willing to allow the City to impose a Local Improvement Charge (LIC) on their property to secure repayment. Funding in the amount of \$10.000 million is provided for the Residential Energy Retrofit Program.
 - The continuation of the Solar PhotoVoltaic Program will draw \$4.500 million from the Toronto Energy Conservation Fund.

Capital Initiatives by Category

Summary of Capital Initiatives by Category
(In \$000s)

	2014 Budget	2015 Plan	2016 Plan	2017 Plan	2018 Plan	2019 Plan	2020 Plan	2021 Plan	2022 Plan	2023 Plan	2014 - 2023 Total
Service Improvements											
Energy Retrofit Projects - Booth Yard	750										750
Energy Retrofit Project - 1652 Keele & Ellesmere Yard	200	610									810
Energy Retrofit Project - Water Retrofits in Civic Centres	210	630									840
Energy Retrofit Project - Arena Facilities (Lighting Retrofits)	1,192										1,192
Energy Retrofit Project - Cummer Lodge	65	205									270
Energy Retrofit Project - Animal Services	45	147									192
Energy Retrofit Project - Efficiencies (Americas Pavillion Toronto Zoo)	60	205									265
Bain Apartment Co-Op - Loan	782										782
PanAm Aquatic Centre - Solar PV	1,250										1,250
GeoExchange Program	235	145	500	500	500	500	500	500	500	500	4,380
Solar PV Installations - MicroFIT Program	730	300	500	500	500	500	500	500	500	500	5,030
Demand Response Program		8,970	2,000	2,000	2,000	3,000	3,000	3,000	3,000	3,000	29,970
Residential Energy Retrofit Program - Pilot	2,000	5,400	2,600								10,000
Energy Retrofit Projects - Future Years		1,500	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	25,500
Future Year Community Based Green Energy Projects		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	9,000
Solar PV Installations - FIT Program	3,200	6,200	3,000	3,000	3,000	1,000	1,000	1,000	1,000	1,000	23,400
District Energy Systems - Future Projects		2,600	2,400	3,000	3,000	3,000	3,000	3,000	3,000	3,000	26,000
Combined Heat & Power - Future Years			2,000	2,000	2,000	3,000	3,000	3,000	3,000	3,000	21,000
Sub-Total	10,719	27,912	17,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	160,631
Total Expenditures by Category	10,719	27,912	17,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	160,631

Major Capital Initiatives

The 10-Year Recommended Capital Plan supports the Sustainable Energy Plan in reducing the City's greenhouse gas emissions and meeting energy reduction targets set by City Council. The Sustainable Energy Plan is a program of service improvement projects for City Programs and Agencies that invest in energy conservation, efficiency, renewable and other strategic energy measures which result in a reduction in energy consumption or a tangible revenue stream for the City and property owners. Within each program, projects will be subject to an assessment of its contributions to meeting the City's energy reduction targets, and its ability to generate financial benefits for the City.

Service Improvement Projects

- *The Energy Retrofit Program* involves replacing and/or upgrading major energy consuming equipment within City facilities where substantial energy savings can be achieved. Energy Retrofit projects represent an attractive asset renewal and energy saving opportunity which includes a rate of return on capital, as well as improving energy security to achieve environmental benefits. The 10-Year Recommended Capital Plan includes funding of \$29.819 million for this service improvement initiative.
- *The District Energy Systems Program* integrates City energy assets together to produce significant financial and operational savings. Modern district energy systems provide an

opportunity to meet the demand and minimize energy waste, reduce energy costs, provide increased security of energy supply, and reduce the need for large scale central generation and reliance exclusively on grid transmission infrastructure. The 10-Year Recommended Capital Plan includes funding of \$26.000 million for this service improvement initiative.

- *The Demand Response Program* provides electricity to balance province wide demand and supply capability during periods of electricity constraint as identified by the Independent Electricity System Operator. Curtailment of loads and generation may incorporate Building Automation Systems, interior and/or exterior lighting modifications, and upgrades in HVAC (heating, ventilation, and air conditioning) systems. The 10-Year Recommended Capital Plan includes funding of \$29.970 million for the service improvement project.
- *Community Based Green Energy Projects* are aimed at community groups located within Toronto to help build green energy installations in their local area. At the heart of this model is the principle that the benefits of energy should be localized, and that strong links between communities and energy should be forged to increase awareness and encourage community benefit through the way agreements are structured. The Sustainable Energy Plan offers funding to community based organizations to replace and upgrade equipment within Community facilities where significant energy savings can be achieved. This will create an incentive for shared investment in and ownership of renewable energy technologies. The 10-Year Recommended Capital Plan includes funding of \$9.782 million for this service improvement initiative.
- *The Renewable Energy Program* encompasses projects that harness energy that comes from natural, sustainable sources, like the sun, wind and water. Generating energy from these sources is a cleaner alternative to generating energy from more traditional sources like coal. Generating energy from renewable sources creates significantly less pollution than coal-fired power generation, which is better for our health and our economy. The 10-Year Recommended Capital Plan includes funding of \$34.060 million for this service improvement program.
- *The Residential Energy Retrofit* program assists property owners in reducing energy use and saving money on energy bills by improving the energy efficiency of their homes and buildings. With recent changes to Local Improvement Charges (LIC) regulation, a new financing mechanism is available to the City of Toronto. It is expected that the availability of this mechanism will increase the number of property owners who undertake energy retrofits. Some eligibility criteria for this program includes:
 - That the residential property has above average utility-calculated natural gas and electricity end-use consumption; the registered owner(s) of the property provide consent to participating in the Program;
 - All property tax, utility bills and all other payment obligations to the City for the past five years are in good standing; and,

The 10-Year Recommended Capital Plan includes funding of \$10.000 million for this service improvement initiative.

10-Year Capital Plan: Impact on the Operating Budget

The 10-Year Recommended Capital Plan will result in energy cost savings and/or revenue generation in various City Programs and Agencies.

The savings and/or revenues generated will be used to repay the debt issued as a result of the program. Once the debt has been repaid, the City will realize net savings.

Savings/revenues will be realized from the following projects:

- *The Energy Retrofit Projects* will generate net energy savings of \$0.097 million in 2019, \$0.007 million in 2020, \$0.055 million in 2021, \$0.095 million in 2022 and \$0.055 million in 2023. The project is expected to have a payback period of 8 years.
- *The Solar PhotoVoltaic Program and PanAm Aquatic Centre Solar PhotoVoltaic project* will generate net revenue of \$0.058 million in 2020, \$0.382 million in 2021 and \$0.115 million in 2023. The project is expected to have a payback period of 8 years prior to any operational savings being realized by the Program or Agency.
- *The Demand Response Program* is expected to generate net revenue of \$1.091 million in 2019, \$0.619 million in 2020 for Facilities Management, Toronto Water and the Toronto Community Housing Corporation. The project is expected to have a payback period of 4 years prior to any operational savings being realized by the Program or Agency.
- *The GeoExchange Program* will generate net revenue of \$0.023 million in 2022 and \$0.039 million in 2023. The project is expected to have a payback period of 8 years prior to any operational savings being realized by the Program or Agency.
- These estimates do not include net savings from the future year *Energy Retrofit, GeoExchange, Demand Response, Community Based Green Energy, District Energy Systems, and Combined Heat & Power projects* as these programs are still being finalized.

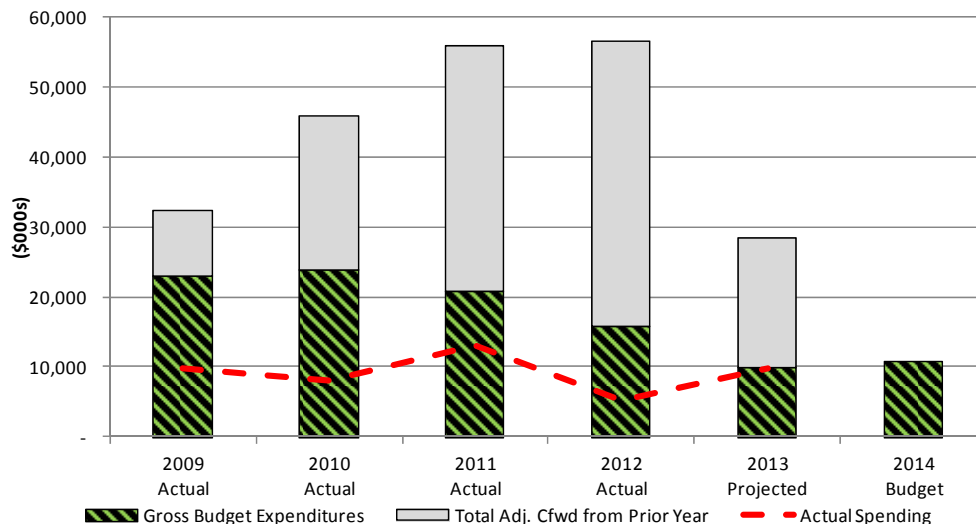
The table below indicates the timing and magnitude of the net savings/revenues as a result of the 10-Year Recommended Capital Plan.

Net Operating Impact by Project (In \$000s)

Projects	2014 Rec'd Budget		2015 Plan		2016 Plan		2017 Plan		2018 Plan		2014 - 2018 Budget & Plan		2019 - 2023 Capital Plan	
	\$000s	Positions	\$000s	Positions	\$000s	Positions	\$000s	Positions	\$000s	Positions	\$000s	Positions	\$000s	Positions
Previously Approved projects														
Energy Retrofit Project - Booth Yard														(150.0)
Solar PhotoVoltaic Program														(440.0)
Demand Response														(1,710.0)
New Projects -2014														
Energy Retrofit Project - Water Retrofits in Civic Centres														(54.6)
Energy Retrofit Project - Cummer Lodge														(97.0)
PanAm Aquatic Centre - Solar PV														(115.3)
GeoExchange Program														(61.5)
Total Recommended (Net)														(2,628.4)

Capacity to Spend

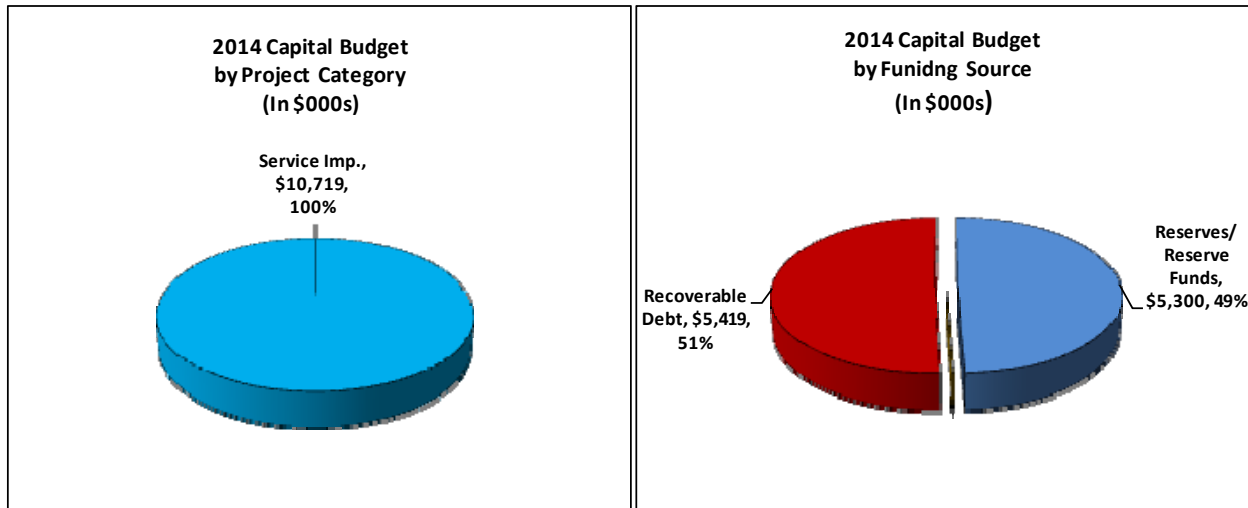
Capacity to Spend – Budget vs. Actual
(In \$000s)



- The report entitled "Repurposing of the Sustainable Energy Funds and New Funding Model for City Energy Projects" was adopted by City Council at its meeting on January 15 and 16, 2013. For the period March 2011 through to the release of the Report, the Environment and Energy Office was directed to stop accepting applications for funding from the Sustainable Energy Reserve Funds. This resulted in a less than expected use of funding from 2011 to 2013.
- The 2014 Recommended Capital Budget and 2015 - 2023 Capital Plan incorporates a reasonable level of funding based on the history of the Program. The Program's current financial model provides greater spending capacity and a more effective means to invest in energy initiatives.
- The capacity to spend review has been completed and the 2014 – 2023 Recommended Capital Budget and Plan reflects this review. The Recommended Capital Budget incorporates a realistic timeline for project completion, and takes into account the recent amalgamation of the Toronto Environment Office and the Environment and Energy Office.

IV: 2014 RECOMMENDED CAPITAL BUDGET

2014 Capital Budget by Project Category and Funding Source



Note: Excludes carry forward funding

The 2014 Recommended Capital Budget, excluding funding carried forward from 2013 to 2014, requires new 2014 cash flow funding of \$10.719 million.

- The Program is entirely comprised of Service Improvement projects totaling \$7.419 million, dedicated to reducing greenhouse gas emissions and reducing energy consumption:
 - The Energy Retrofit Project is allocated \$2.522 million.
 - The Community Based Program for the Bain Apartment Co-Op has recommended funds of \$0.782 million in 2014.
 - The Renewable Energy Program is provided \$2.115 million.
 - The Residential Energy Retrofit Program is allocated \$2.000 million in 2014.
- The 2014 Capital Budget for the Sustainable Energy Plan is funded primarily through recoverable debt, which accounts for 51% or \$5.419 million of total funds. The remaining funding of \$5.300 million or 49% is allocated to the Residential Energy Retrofit Program (\$2.000 million) which is funded through the Local Improvement Charge Energy Works Reserve Fund and the Solar PhotoVoltaic Program (\$3.300 million) through the Toronto Energy Conservation Fund.

**2014 Recommended Cash Flow & Future Year Commitments
(In \$000s)**

	2012 & Prior Year Carry Forward	2013 Previously Approved Cash Flow Commitments	2014 New Cash Flow Rec'd	2014 Total Cash Flow Rec'd	2013 Carry Forwards	Total 2014 Cash Flow (Incl 2013 C/Fwd)	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total Cost
Expenditures																
Previously Approved		4,050		4,050	7,709	11,759										11,759
Change in Scope																
New			3,224	3,224		3,224										3,224
New w/Future Year			3,445	3,445		3,445	3,442									6,887
Total Expenditure		4,050	6,669	10,719	7,709	18,428	3,442									21,870
Financing																
Debt																
Recoverable Debt		750	4,669	5,419	7,709	13,128	2,242									15,370
Reserves/Res Funds		3,300	2,000	5,300		5,300	1,200									6,500
Development Charges																
Provincial/Federal																
Total Financing (including carry forward funding)		4,050	6,669	10,719	7,709	18,428	3,442									21,870

The Sustainable Energy Plan's 2014 Recommended Capital Budget is \$18.428 million including carry forward funding of \$7.709 million, and provides \$0.750 million for previously approved projects already underway.

Approval of the 2014 Recommended Capital Budget will result in future year commitment of \$3.442 million in 2015. These future year commitments support:

- *The Energy Retrofit Project at 1652 Keele & Ellesmere Yard project* requires a \$0.810 million investment (\$0.200 million in 2014 and \$0.610 million in 2015). In addition, it is approximated that a reduction of 270 tonnes of Green House Gas (GHG) CO₂ emissions per year would result.
- *The Energy Retrofit Project for Water Retrofits in Civic Centres* project has a cost of a \$0.840 million with \$0.210 million in 2014 and \$0.630 million in 2015. Project activities will occur at seven buildings, namely: the Etobicoke Civic Centre, York Civic Centre, North York Civic Centre, Scarborough Civic Centre, East York Civic Centre, City Hall and Metro Hall with the majority of water fixtures being retrofitted.
- *The Energy Retrofit Project for Arena Facilities (Lighting Retrofits)* requires \$1.192 million investment in 2014. The lighting retrofit will replace existing high intensity discharge fixtures with new linear florescent T5 High Output fixtures in 28 Arena facilities.
- *The Energy Retrofit Project at Cummer Lodge* requires \$0.270 million investment with \$0.065 million in 2014 and \$0.205 million in 2015. In addition, it is approximated that a reduction of 305 tonnes of Green House Gas (GHG) CO₂ emissions per year would result.
- *The Energy Retrofit Project for Animal Services Efficiency Measures* has a total cost of \$0.192 million investment with \$0.045 million in 2014 and \$0.147 million in 2015.
- *The Energy Retrofit Project for facility efficiency upgrades at the Toronto Zoo (Americas Pavillion)* requires a \$0.265 million investment with \$0.060 million in 2014 and \$0.205 million in 2015.
- *The Solar Photovoltaic Installation project and participation in the microFIT Program* requires \$0.730 million in 2014 and \$0.300 million in 2015 and the *GeoExchange Program*

has a total project cost of \$0.380 million with \$0.235 million in 2014 and \$0.145 million in 2015.

2014 Recommended Capital Project Highlights

2014 Recommended Capital Project Highlights (In \$000s)

Project	Total Project Cost	2014	2015	2016	2017	2018	2014 - 2018	2019	2020	2021	2022	2023	2014 - 2023 Total
Energy Retrofit Projects	4,569	2,772	1,797				4,569						4,569
Sustainable Energy Plan Community Based Projects	782	782					782						782
Renewable Energy Program	7,060	5,415	1,645				7,060						7,060
Demand Response Program	7,459	7,459					7,459						7,459
Residential Energy Retrofit Program	10,000	2,000					2,000						2,000
Total (including carry forward funding)	29,870	18,428	3,442				21,870						21,870

The 2014 Recommended Capital Budget provides funding of \$18.428 million to:

- Begin a variety of energy retrofit projects at various locations including 1652 Keele & Ellesmere Yard (\$0.200 million), City of Toronto Civic Centres (\$0.210 million), Arenas (\$1.192 million), Cummer Lodge (\$0.065 million), Toronto Zoo American Pavillion (\$0.060) and Animal Services facilities (\$0.045 million).
- Begin community based energy initiatives, such as the Bain Apartment Co-Op project (\$0.782 million).
- Continue the Demand Response Program from 2013 with a carry forward amount of \$7.459 million into 2014.
- Continue the Renewable Energy Program, including the commencement of the Solar Photovoltaic microFIT installations (\$0.730 million), Solar Photovoltaic FIT installations (\$3.300 million), the PanAm Aquatic Centre Solar Photovoltaic project (\$1.250 million) and the GeoExchange project (\$0.235 million).
- Begin the Residential Energy Retrofit Program (\$2.000 million) to initiate resource and energy conservation measures in single family homes and multi-residential locations.

V: ISSUES FOR DISCUSSION

Key Program Issues

Recoverable Debt Funding Framework

The report entitled "Repurposing of the Sustainable Energy Funds and New Funding Model for City Energy Projects" was adopted by City Council at its meeting on January 15 and 16, 2013. The report recommended a funding model that does not affect the City of Toronto's debt capacity and offers City Programs and Agencies the opportunity to undertake additional projects that incorporate a rate of return on capital investment. A recommended Capital Plan that includes prudent financial management with analysis and review will ensure that the recoverable debt model is successfully implemented for each project utilizing this funding source. The 2014 Recommended Capital Budget and 2015 – 2024 Plan reflect a significant change as a result of the introduction of this new financing model. An accountability framework is currently under development that will provide for the identification, assessment and evaluation of projects. This will outline the necessary agreements that will be required and the roles and responsibilities between the Environment & Energy Office and the client group. Projects that go through this process will then be considered as part of future year Sustainable Energy Plan capital budget submissions.

The following is the eligibility criteria for energy loans for City Agencies, Corporations and Divisions that was included in the "Repurposing of the Sustainable Energy Funds and New Funding Model for City Energy Projects" approved by City Council at its meeting on January 15 and 16, 2013.

1. Capital Budget Review & Approval

- a. Projects eligible for energy loans will be included in the capital budget submission of the Sustainable Energy Plan.
- b. Projects will go through the various stages of budget review and approval – EMT/Standing Committee/Council review and approval and quarterly variance reporting.
- c. Projects financed from net operating cost savings will not impact the annual debt target for each program.
- d. If operating cost savings are not sufficient to finance a project, the project may be considered for funding as part of the program's regular capital works and will be included in the debt target for the program.
- e. When Council approves the project it becomes part of the Sustainable Energy Plan's capital budget.
- f. Accountability for the assets and post-retrofit performance rest with Facilities Management.

2. Project Financing

- a. Energy projects to be considered shall be limited to tax supported, non-growth related projects that are projected to generate energy savings sufficient to offset a debt service schedule over the performance life of the asset but not more than twenty years, inclusive of all financing costs at 2.0% above the corresponding Bank of Canada bond yield at the time of approval.
- b. The division that experiences the energy savings will incorporate repayment obligations in their operating budget.

3. Project Evaluation

- a. Once project submissions are received, they will be screened against the eligibility criteria. If the project is approved, a financing arrangement for the project will be agreed to by both the Program and the Sustainable Energy Plan.

4. Monitoring and Reporting

- a. Facilities Management will be responsible for monitoring and reporting energy consumption and associated savings through the City's annual budget process.

Community Based Green Energy Projects

Subsequently, at its meeting on January 15 and 16, 2013, Council also approved a motion to amend the Sustainable Energy Plan Capital Budget and "direct that the 2013-2022 Recommended Capital Plan for the Sustainable Energy Plan include Community-Based (including not-for-profit) Green Energy projects that demonstrate energy savings and/or revenue generation that meet the program's eligibility criteria, to be financed through recoverable debt and repayable with paybacks ranging from 3 years to a maximum of 20 years, and that Appendix 1 of the report (September 24, 2012) from the Deputy City Manager and Chief Financial Officer entitled "Repurposing of the Sustainable Energy Funds and New Funding Model for City Energy Projects" be adjusted accordingly. The eligibility criteria and accountability framework currently under development will be amended to include this direction.

Local Improvement Charges

- City Council at its meeting on July 16, 17, 18 and 19, 2013 adopted the report entitled "Proposed Energy and Water Efficiency Initiative for the Residential Sector" enabling the City to impose a Local Improvement Charge (LIC) on private property to secure repayment. Integration of LICs on property tax bills will ensure timely payback by a maximum of 15 years for single family home and 20 years for multifamily home energy retrofit projects. The residential retrofit projects undertaken through this initiative are projected to stimulate job creation, increase housing affordability through operating cost savings and annually avoid 5,000 tonnes of greenhouse gas emissions.

Appendix 1

2013 Performance

2013 Key Accomplishments

In 2013, the Sustainable Energy Plan accomplished the following:

- ✓ Expected completion of the Parks, Forestry and Recreation Phase IV Energy Retrofit Project.
- ✓ Completion of Phase I of the Solar Photovoltaic Program (in partnership with Toronto Hydro).
- ✓ Received approval to proceed with Solar Photovoltaic installations which are 100% owned by the City of Toronto.
- ✓ Disbursed funds to the Toronto Community Housing Corporation as part of the Tower Renewal initiatives totaling \$6.000 million.

2013 Capital Variance Review

2013 Budget to Actual Comparison (In \$000s)

2013 Approved	Actuals as of Sept. 30, 2013 (3rd Quarter Variance)		Projected Actuals at Year End		Unspent Balance	
	\$	% Spent	\$	% Spent	\$ Unspent	% Unspent
28,368	1,915	6.8%	9,693	34.2%	18,675	65.8%

Capital expenditures for the 9 months ending September 30, 2013 totaled \$1.915 million or 6.8% of the 2013 Approved Capital Budget of \$28.368 million.

The Program spent \$1.915 million on multi-phase projects that are underway and will be completed on schedule in future years including:

- The *Solar Photo-Voltaic Program* (\$0.771 million) which will provide City of Toronto facilities with solar panels that will generate approximately 2,600 MWh of electricity annually resulting in the estimated reduction of 480 tonnes of greenhouse gas emissions per year.
- The *Parks, Forestry, and Recreation Phase IV Retrofit Project* (\$0.979 million) for energy efficiency initiatives at various Parks facilities is expected to be completed by December 2013.

The under-spending in 2013 is mainly driven by the following projects:

- Changes to the *Solar PhotoVoltaic Program* will result in \$4.800 million of the \$6.800 million cash flow not being spent in 2013. These funds will be allocated to revised Solar PhotoVoltaic programs, including smaller installations 100% owned by the City and a revised program in partnership with Toronto Hydro.
- There was no *Better Building Partnership* capital expenditures in the nine month period ended September 30, 2013. Overall funding utilization for the Better Building Partnership program is contingent on applications being received, reviewed and processed. Staff have received applications in excess of \$1.000 million, however it is not expected that these

loans will be processed prior to year end. The Better Building Partnership Program will transfer to the 2014 Facilities Management Operating Budget.

- The *Demand Response Program* had no capital expenditures during the nine month period ended September 30, 2013. The majority of work on the demand response program was planned for TCHC facilities. TCHC has informed the City they will not be implementing these planned projects in 2013 as they proceed with securing an Energy Services Agreement to guarantee conservation and demand management results. As a result, \$7.459 million will be carried forward to 2014.

Appendix 2

10-Year Recommended Capital Plan Project Summary (In \$000s)

Project	2014 Budget	Plan									2014 - 2023
		2015	2016	2017	2018	2019	2020	2021	2022	2023	
Energy Retrofit Projects - Booth Yard	750.0										750.0
Energy Retrofit Project - 1652 Keele & Ellesmere Yard	200.0	610.0									810.0
Energy Retrofit Project - Water Retrofits in Civic Centres	210.0	630.0									840.0
Energy Retrofit Project - Arena Facilities (Lighting Retrofits)	1,192.0										1,192.0
Energy Retrofit Project - Cummer Lodge	65.0	205.0									270.0
Energy Retrofit Project - Animal Services Efficiency Measures	45.0	147.0									192.0
Energy Retrofit Project - Efficiencies (Americas Pavillion Toronto Zoo)	60.0	205.0									265.0
Bain Apartment Co-Op - Loan	782.0										782.0
PanAm Aquatic Centre - Solar PV	1,250.0										1,250.0
GeoExchange Program	235.0	145.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0	4,380.0
Solar PV Installations - MicroFIT Program	730.0	300.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0	5,030.0
Residential Energy Retrofit Program - Pilot	2,000.0	5,400.0	2,600.0								10,000.0
Energy Retrofit Projects - Future Years		1,500.0	3,000.0	3,000.0	3,000.0	3,000.0	3,000.0	3,000.0	3,000.0	3,000.0	25,500.0
Community Based Green Energy Projects - Future Years		1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	9,000.0
Solar PV Installations - FIT Program - Demand Response Program - Future Years	3,200.0	6,200.0	3,000.0	3,000.0	3,000.0	3,000.0	3,000.0	3,000.0	3,000.0	3,000.0	23,400.0
District Energy Systems - Future Projects		8,970.0	2,000.0	2,000.0	2,000.0	3,000.0	3,000.0	3,000.0	3,000.0	3,000.0	29,970.0
Combined Heat & Power - Future Years		2,600.0	2,400.0	3,000.0	3,000.0	3,000.0	3,000.0	3,000.0	3,000.0	3,000.0	26,000.0
			2,000.0	2,000.0	2,000.0	3,000.0	3,000.0	3,000.0	3,000.0	3,000.0	21,000.0
Total (Including carry forward funding)	10,719.0	27,912.0	17,000.0	15,000.0	15,000.0	15,000.0	15,000.0	15,000.0	15,000.0	15,000.0	160,631.0

Appendix 3

2014 Recommended Capital Budget; 2015 to 2023 Capital Plan

CITY OF TORONTO

**Gross Expenditures (\$000's)
Appendix 3**

Sustainable Energy Plan

Sub- Priority	Project No. SubProj No.	Project Name Sub-project Name	Ward	Stat.	Cat.	Current and Future Year Cash Flow Commitments							Current and Future Year Cash Flow Commitments Financed By													
						2014	2015	2016	2017	2018	Total 2014-2018	Total 2019-2023	Total 2014-2023	Provincial Grants and Subsidies	Federal Subsidy	Development Charges	Reserves	Reserve Funds	Capital from Current	Other 1	Other2	Debt - Recoverable Debt	Total Financing			
ERP906993 Energy Retrofit Projects																										
0	17	Energy Retrofit Projects - Booth Yard	30	S2	04	1,000	0	0	0	0	1,000	0	1,000	0	0	0	0	0	0	0	0	0	0	0	1,000	1,000
0	18	Energy Retrofit Projects - Future Years	CW	S6	04	0	1,500	3,000	3,000	3,000	10,500	15,000	25,500	0	0	0	0	0	0	0	0	0	0	0	25,500	25,500
0	19	ERP - 1652 Keele & Ellesmere Yard	CW	S4	04	200	610	0	0	0	810	0	810	0	0	0	0	0	0	0	0	0	0	0	810	810
0	20	ERP - Water Retrofits in Civic Centres	CW	S4	04	210	630	0	0	0	840	0	840	0	0	0	0	0	0	0	0	0	0	0	840	840
0	21	ERP - Arena Facilities - Lighting Retrofits	CW	S4	04	1,192	0	0	0	0	1,192	0	1,192	0	0	0	0	0	0	0	0	0	0	0	1,192	1,192
0	23	ERP - Cummer Lodge	24	S4	04	65	205	0	0	0	270	0	270	0	0	0	0	0	0	0	0	0	0	0	270	270
0	24	ERP - Animal Services Efficiency Measures	CW	S4	04	45	147	0	0	0	192	0	192	0	0	0	0	0	0	0	0	0	0	0	192	192
0	25	ERP - Efficiencies-Americas Pavillion Toronto Zoo	42	S4	04	60	205	0	0	0	265	0	265	0	0	0	0	0	0	0	0	0	0	0	265	265
Sub-total						2,772	3,297	3,000	3,000	3,000	15,069	15,000	30,069	0	0	0	0	0	0	0	0	0	0	0	30,069	30,069
ERP907354 Sustainable Energy Plan - Various																										
0	3	Bain Apartment Co-Op - Loan	30	S4	04	782	0	0	0	0	782	0	782	0	0	0	0	0	0	0	0	0	0	0	782	782
0	4	Future Year Community Based Green Energy Projects	CW	S6	04	0	1,000	1,000	1,000	1,000	4,000	5,000	9,000	0	0	0	0	0	0	0	0	0	0	0	9,000	9,000
Sub-total						782	1,000	1,000	1,000	1,000	4,782	5,000	9,782	0	0	0	0	0	0	0	0	0	0	0	9,782	9,782
ERP907661 Renewable Energy Program																										
1	5	Solar PV Installations - MicroFIT Program	CW	S4	04	630	300	0	0	0	930	0	930	0	0	0	0	0	0	0	0	0	0	0	930	930
0	6	PanAm Aquatic Centre - Solar PV	44	S4	04	1,250	0	0	0	0	1,250	0	1,250	0	0	0	0	0	0	0	0	0	0	0	1,250	1,250
0	9	Solar PV Installations - FIT Program	CW	S6	04	0	5,000	3,000	3,000	3,000	14,000	5,000	19,000	0	0	0	0	0	0	0	0	0	0	0	19,000	19,000
0	10	GeoExchange - 2013	CW	S4	04	235	145	0	0	0	380	0	380	0	0	0	0	0	0	0	0	0	0	0	380	380
0	11	Solar PV - MicroFIT - Future Years	CW	S6	04	0	0	500	500	500	1,500	2,500	4,000	0	0	0	0	0	0	0	0	0	0	0	4,000	4,000
0	12	GeoExchange - Future Years	CW	S6	04	0	0	500	500	500	1,500	2,500	4,000	0	0	0	0	0	0	0	0	0	0	0	4,000	4,000
0	13	Solar PV - MircoFIT (Reserves)	CW	S2	04	100	0	0	0	0	100	0	100	0	0	0	0	100	0	0	0	0	0	0	0	100
0	14	Solar PV - FIT Program (Revised) (Reserves)	CW	S2	04	3,200	1,200	0	0	0	4,400	0	4,400	0	0	0	0	4,400	0	0	0	0	0	0	0	4,400
Sub-total						5,415	6,645	4,000	4,000	4,000	24,060	10,000	34,060	0	0	0	0	4,500	0	0	0	0	0	0	29,560	34,060
ERP907832 District Energy Systems																										

CITY OF TORONTO

**Gross Expenditures (\$000's)
Appendix 3**

Sustainable Energy Plan

Sub- Project No. Project Name PrioritySubProj No. Sub-project Name Ward Stat. Cat.						Current and Future Year Cash Flow Commitments						Current and Future Year Cash Flow Commitments Financed By														
						2014	2015	2016	2017	2018	Total 2014-2018	Total 2019-2023	Total 2014-2023	Provincial Grants and Subsidies	Federal Subsidy	Development Charges	Reserves	Reserve Funds	Capital from Current	Other 1	Other2	Debt - Recoverable Debt	Total Financing			
<u>ERP907832 District Energy Systems</u>																										
0	2	District Energy Systems - Future Projects			CW S6 04	0	2,600	2,400	3,000	3,000	11,000	15,000	26,000	0	0	0	0	0	0	0	0	0	0	26,000	26,000	
Sub-total						0	2,600	2,400	3,000	3,000	11,000	15,000	26,000	0	0	0	0	0	0	0	0	0	0	26,000	26,000	
<u>ERP907833 Demand Response Program</u>																										
0	1	Demand Response - 2013			CW S2 04	7,459	0	0	0	0	7,459	0	7,459	0	0	0	0	0	0	0	0	0	0	7,459	7,459	
0	2	Demand Response - Future Years			CW S6 04	0	1,600	2,000	2,000	2,000	7,600	15,000	22,600	0	0	0	0	0	0	0	0	0	0	22,600	22,600	
0	3	Demand Response - 2015			CW S6 04	0	7,370	0	0	0	7,370	0	7,370	0	0	0	0	0	0	0	0	0	0	7,370	7,370	
Sub-total						7,459	8,970	2,000	2,000	2,000	22,429	15,000	37,429	0	0	0	0	0	0	0	0	0	0	0	37,429	37,429
<u>ERP908006 Combined Heat & Power</u>																										
0	1	Combined Heat & Power - Future Years			CW S6 04	0	0	2,000	2,000	2,000	6,000	15,000	21,000	0	0	0	0	0	0	0	0	0	0	0	21,000	21,000
Sub-total						0	0	2,000	2,000	2,000	6,000	15,000	21,000	0	0	0	0	0	0	0	0	0	0	0	21,000	21,000
<u>ERP908007 Residential Energy Retrofit Program</u>																										
0	1	Residential Energy Retrofit Program - Pilot			CW S5 04	2,000	5,400	2,600	0	0	10,000	0	10,000	0	0	0	10,000	0	0	0	0	0	0	0	10,000	10,000
Sub-total						2,000	5,400	2,600	0	0	10,000	0	10,000	0	0	0	10,000	0	0	0	0	0	0	0	10,000	10,000
Total Program Expenditure						18,428	27,912	17,000	15,000	15,000	93,340	75,000	168,340	0	0	0	10,000	4,500	0	0	0	0	0	0	153,840	168,340

Report Phase 2 - Program 48 Sustainable Energy Plan Program Phase 2 Sub-Project Category 01,02,03,04,05,06,07 Part B Sub-Project Status S2,S5,S6 Part C Sub-Project Status S2,S3,S4

CITY OF TORONTO

Gross Expenditures (\$000's)

Appendix 3

Sustainable Energy Plan

Sub- Project No. Project Name Priority SubProj No. Sub-project Name Ward Stat. Cat.						Current and Future Year Cash Flow Commitments and Estimates						Current and Future Year Cash Flow Commitments and Estimates Financed By										
						2014	2015	2016	2017	2018	Total 2014-2018	Total 2019-2023	Total 2014-2023	Provincial Grants and Subsidies	Federal Subsidy	Development Charges	Reserve Reserves	Reserve Funds	Capital from Current	Other 1	Other2	Debt - Recoverable Debt
Financed By:																						
Reserves (Ind. "XQ" Ref.)						2,000	5,400	2,600	0	0	10,000	0	10,000	0	0	0	0	0	0	10,000		
Reserve Funds (Ind."XR" Ref.)						3,300	1,200	0	0	0	4,500	0	4,500	0	4,500	0	0	0	0	4,500		
Debt - Recoverable						13,128	21,312	14,400	15,000	15,000	78,840	75,000	153,840	0	0	0	0	0	153,840	153,840		
Total Program Financing						18,428	27,912	17,000	15,000	15,000	93,340	75,000	168,340	0	0	0	10,000	4,500	0	0	153,840	168,340

Status Code	Description
S2	S2 Prior Year (With 2014 and/or Future Year Cashflow)
S3	S3 Prior Year - Change of Scope 2014 and/or Future Year Cost(Cashflow)
S4	S4 New - Stand-Alone Project (Current Year Only)
S5	S5 New (On-going or Phased Projects)
S6	S6 New - Future Year (Commencing in 2015 & Beyond)

Category Code	Description
01	Health and Safety C01
02	Legislated C02
03	State of Good Repair C03
04	Service Improvement and Enhancement C04
05	Growth Related C05
06	Reserved Category 1 C06
07	Reserved Category 2 C07

Appendix 4
2014 Recommended Cash Flow and
Future Year Commitments

Report Phase 2 - Program 48 Sustainable Energy Plan Program Phase 2 Sub-Project Category 01,02,03,04,05,06,07 Part B Sub-Project Status S2 Part C Sub-Project Status S2,S3,S4,S5

CITY OF TORONTO

Gross Expenditures (\$000's)
Appendix 4

Sustainable Energy Plan

Sub- Project No. Project Name PrioritySubProj No. Sub-project Name Ward Stat. Cat.						Current and Future Year Cash Flow Commitments							Current and Future Year Cash Flow Commitments Financed By												
						2014	2015	2016	2017	2018	Total 2014-2018	Total 2019-2023	Total 2014-2023	Provincial Grants and Subsidies	Federal Subsidy	Development Charges	Reserves	Reserve Funds	Capital from Current	Other 1	Other2	Debt - Recoverable Debt	Total Financing		
<u>ERP906993 Energy Retrofit Projects</u>																									
0	17	Energy Retrofit Projects - Booth Yard	30	S2	04	1,000	0	0	0	0	1,000	0	1,000	0	0	0	0	0	0	0	0	0	1,000	1,000	
0	19	ERP - 1652 Keele & Ellesmere Yard	CW	S4	04	200	610	0	0	0	810	0	810	0	0	0	0	0	0	0	0	0	810	810	
0	20	ERP - Water Retrofits in Civic Centres	CW	S4	04	210	630	0	0	0	840	0	840	0	0	0	0	0	0	0	0	0	840	840	
0	21	ERP - Arena Facilities - Lighting Retrofits	CW	S4	04	1,192	0	0	0	0	1,192	0	1,192	0	0	0	0	0	0	0	0	0	1,192	1,192	
0	23	ERP - Cummer Lodge	24	S4	04	65	205	0	0	0	270	0	270	0	0	0	0	0	0	0	0	0	270	270	
0	24	ERP - Animal Services Efficiency Measures	CW	S4	04	45	147	0	0	0	192	0	192	0	0	0	0	0	0	0	0	0	192	192	
0	25	ERP - Efficiencies-Americas Pavillion Toronto Zoo	42	S4	04	60	205	0	0	0	265	0	265	0	0	0	0	0	0	0	0	0	265	265	
Sub-total						2,772	1,797	0	0	0	4,569	0	4,569	0	0	0	0	0	0	0	0	0	4,569	4,569	
<u>ERP907354 Sustainable Energy Plan - Various</u>																									
0	3	Bain Apartment Co-Op - Loan	30	S4	04	782	0	0	0	0	782	0	782	0	0	0	0	0	0	0	0	0	782	782	
Sub-total						782	0	0	0	0	782	0	782	0	0	0	0	0	0	0	0	0	0	782	782
<u>ERP907661 Renewable Energy Program</u>																									
1	5	Solar PV Installations - MicroFIT Program	CW	S4	04	630	300	0	0	0	930	0	930	0	0	0	0	0	0	0	0	0	930	930	
0	6	PanAm Aquatic Centre - Solar PV	44	S4	04	1,250	0	0	0	0	1,250	0	1,250	0	0	0	0	0	0	0	0	0	1,250	1,250	
0	10	GeoExchange - 2013	CW	S4	04	235	145	0	0	0	380	0	380	0	0	0	0	0	0	0	0	0	380	380	
0	13	Solar PV - MircoFIT (Reserves)	CW	S2	04	100	0	0	0	0	100	0	100	0	0	0	100	0	0	0	0	0	0	100	
0	14	Solar PV - FIT Program (Revised) (Reserves)	CW	S2	04	3,200	1,200	0	0	0	4,400	0	4,400	0	0	0	4,400	0	0	0	0	0	0	4,400	
Sub-total						5,415	1,645	0	0	0	7,060	0	7,060	0	0	0	4,500	0	0	0	0	0	2,560	7,060	
<u>ERP907833 Demand Response Program</u>																									
0	1	Demand Response - 2013	CW	S2	04	7,459	0	0	0	0	7,459	0	7,459	0	0	0	0	0	0	0	0	0	7,459	7,459	
Sub-total						7,459	0	0	0	0	7,459	0	7,459	0	0	0	0	0	0	0	0	0	0	7,459	7,459
<u>ERP908007 Residential Energy Retrofit Program</u>																									
0	1	Residential Energy Retrofit Program - Pilot	CW	S5	04	2,000	0	0	0	0	2,000	0	2,000	0	0	0	2,000	0	0	0	0	0	2,000		
Sub-total						2,000	0	0	0	0	2,000	0	2,000	0	0	0	2,000	0	0	0	0	0	0	0	2,000
Total Program Expenditure						18,428	3,442	0	0	0	21,870	0	21,870	0	0	0	2,000	4,500	0	0	0	0	0	15,370	21,870

Report Phase 2 - Program 48 Sustainable Energy Plan Program Phase 2 Sub-Project Category 01,02,03,04,05,06,07 Part B Sub-Project Status S2 Part C Sub-Project Status S2,S3,S4,S5

CITY OF TORONTO

Gross Expenditures (\$000's)

Appendix 4

Sustainable Energy Plan

Sub- Project No. Project Name Priority SubProj No. Sub-project Name Ward Stat. Cat.						Current and Future Year Cash Flow Commitments and Estimates						Current and Future Year Cash Flow Commitments and Estimates Financed By								
						2014	2015	2016	2017	2018	Total 2014-2018	Total 2019-2023	Total 2014-2023	Provincial Grants and Subsidies	Federal Subsidy	Development Charges	Reserve Reserves	Reserve Funds	Capital from Current	Other 1
Financed By:																				
Reserves (Ind. "XQ" Ref.)						2,000	0	0	0	0	2,000	0	2,000	0	0	0	0	0	0	2,000
Reserve Funds (Ind."XR" Ref.)						3,300	1,200	0	0	0	4,500	0	4,500	0	4,500	0	0	0	0	4,500
Debt - Recoverable						13,128	2,242	0	0	0	15,370	0	15,370	0	0	0	0	0	15,370	15,370
Total Program Financing						18,428	3,442	0	0	0	21,870	0	21,870	0	4,500	0	0	0	15,370	21,870

Status Code	Description
S2	S2 Prior Year (With 2014 and/or Future Year Cashflow)
S3	S3 Prior Year - Change of Scope 2014 and/or Future Year Cost(Cashflow)
S4	S4 New - Stand-Alone Project (Current Year Only)
S5	S5 New (On-going or Phased Projects)

Category Code	Description
01	Health and Safety C01
02	Legislated C02
03	State of Good Repair C03
04	Service Improvement and Enhancement C04
05	Growth Related C05
06	Reserved Category 1 C06
07	Reserved Category 2 C07

Appendix 5

2014 Recommended Capital Project with Financing Details

(Phase 2) 48-Sustainable Energy Plan

Sub-Project Category: 01,02,03,04,05,06,07

Type: B Sub-Project Status: S2

Type: C Sub-Project Status: S2,S3,S4,S5



CITY OF TORONTO

Appendix 5

Sustainable Energy Plan
Sub-Project Summary

Project/Financing

Priority Project Project Name

Project/Financing	Priority Project	Project Name	Start Date	Completion Date	2014	Financing								
					Cash Flow	Provincial Grants Subsidies	Federal Subsidy	Developmt Charges	Reserves	Reserve Funds	Capital From Current	Other 1	Other 2	Debt
0	ERP906993	Energy Retrofit Projects												
0		17 Energy Retrofit Projects - Booth Yard	01/01/2013	31/12/2014	1,000	0	0	0	0	0	0	0	0	1,000
0		19 ERP - 1652 Keele & Ellesmere Yard	01/01/2014	13/02/2015	200	0	0	0	0	0	0	0	0	200
0		20 ERP - Water Retrofits in Civic Centres	01/01/2014	31/12/2015	210	0	0	0	0	0	0	0	0	210
0		21 ERP - Arena Facilities - Lighting Retrofits	01/01/2014	31/12/2014	1,192	0	0	0	0	0	0	0	0	1,192
0		23 ERP - Cummer Lodge	01/01/2014	31/12/2015	65	0	0	0	0	0	0	0	0	65
0		24 ERP - Animal Services Efficiency Measures	01/01/2014	31/12/2015	45	0	0	0	0	0	0	0	0	45
0		25 ERP - Efficiencies-Americas Pavillion Toronto Zoo	01/01/2014	31/12/2015	60	0	0	0	0	0	0	0	0	60
		Project Sub-total:			2,772	0	0	0	0	0	0	0	0	2,772
0	ERP907354	Sustainable Energy Plan - Various												
0		3 Bain Apartment Co-Op - Loan	01/01/2014	31/12/2014	782	0	0	0	0	0	0	0	0	782
		Project Sub-total:			782	0	0	0	0	0	0	0	0	782
0	ERP907661	Renewable Energy Program												
0		6 PanAm Aquatic Centre - Solar PV	01/01/2014	31/12/2014	1,250	0	0	0	0	0	0	0	0	1,250
0		10 GeoExchange - 2013	01/01/2014	31/12/2015	235	0	0	0	0	0	0	0	0	235
0		13 Solar PV - MircoFIT (Reserves)	08/10/2013	31/12/2014	100	0	0	0	0	100	0	0	0	0
0		14 Solar PV - FIT Program (Revised) (Reserves)	01/01/2013	31/12/2015	3,200	0	0	0	0	3,200	0	0	0	0
1		5 Solar PV Installations - MicroFIT Program	01/01/2014	31/12/2015	630	0	0	0	0	0	0	0	0	630
		Project Sub-total:			5,415	0	0	0	0	3,300	0	0	0	2,115
0	ERP907833	Demand Response Program												
0		1 Demand Response - 2013	01/01/2013	31/12/2014	7,459	0	0	0	0	0	0	0	0	7,459
		Project Sub-total:			7,459	0	0	0	0	0	0	0	0	7,459
0	ERP908007	Residential Energy Retrofit Program												
0		1 Residential Energy Retrofit Program - Pilot	01/01/2014	31/12/2016	2,000	0	0	0	2,000	0	0	0	0	0
		Project Sub-total:			2,000	0	0	0	2,000	0	0	0	0	0
		Program Total:			18,428	0	0	0	2,000	3,300	0	0	0	13,128

Status Code	Description
S2	S2 Prior Year (With 2014 and/or Future Year Cashflow)
S3	S3 Prior Year - Change of Scope 2014 and/or Future Year Cost(Cashflow)
S4	S4 New - Stand-Alone Project (Current Year Only)
S5	S5 New (On-going or Phased Projects)

Category Code	Description
01	Health and Safety C01
02	Legislated C02
03	State of Good Repair C03

Appendix 6

2014 Reserve / Reserve Fund Review (In \$000s)

Reserve/Reserve Fund Review - Program Specific

Reserve / Reserve Fund Name	Project / SubProject Name and Number	Projected Balance as at Dec 31, 2013 *	Contributions / (Withdrawals)										2014 - 2023 Total Contributions / (Withdrawals)
			2014 Budget	2015 Plan	2016 Plan	2017 Plan	2018 Plan	2019 Plan	2020 Plan	2021 Plan	2022 Plan	2023 Plan	
Local Improvement Charge Energy Works Reserve Fund	Beginning Balance		20,000	18,000	12,600	10,000	10,000	10,000	10,000	10,000	10,000	10,000	
	Contributions / (Withdrawals)		(2,000)	(5,400)	(2,600)								
	Total Withdrawals		(2,000)	(5,400)	(2,600)								(10,000)
	Contributions / Interest												
Total Reserve Fund Balance at Year-End			18,000	12,600	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	

* Based on the 3rd Quarter Variance Report

Reserve / Reserve Fund Name	Project / SubProject Name and Number	Projected Balance as at Dec 31, 2013 *	Contributions / (Withdrawals)										2014 - 2023 Total Contributions / (Withdrawals)
			2014 Budget	2015 Plan	2016 Plan	2017 Plan	2018 Plan	2019 Plan	2020 Plan	2021 Plan	2022 Plan	2023 Plan	
Toronto Energy Conservation Fund	Beginning Balance	3,400	3,400										
	Contributions / (Withdrawals)		(3,400)										
	Total Withdrawals		(3,400)										(3,400)
	Contributions / Interest												
Total Reserve Fund Balance at Year-End													

* Based on the 3rd Quarter Variance Report