

Green Technology Webinar

New Rooftop Incentive Program



Thursday, July 18, 2013



MAKE YOUR
Expertise
Pay Applicant Representative
Initiative

Incentives for Unitary Air Conditioning

Joe Bilé, Mgr. CDM Business Development & Program Delivery
Toronto Hydro
July 18, 2013



A mark of the Province of Ontario protected under Canadian trade-mark law. Used under sublicense. ^{OM}Official Mark of the Ontario Power Authority. Used under licence. The star design is a trade-mark of Toronto Hydro Corporation used under licence. 'Toronto Hydro' means Toronto Hydro-Electric System Limited.



Agenda

- 3 Paths to RTU Upgrade Incentives
 - RETROFIT Path
 - What's in it for customers?
 - What's in it for the supply chain?
 - Emergency Replacement Path
 - HVAC/HRAI Path
- Applicant Representative Initiative (ARI)
- Questions



Unitary Air Conditioner (A/C) Incentives

- Energy Efficiency Ratio (EER) driven:

$$\frac{\text{Cooling Capacity (BTU)}}{\text{Total Electrical Input at Peak Load (watts)}}$$

- **12000 BTU = 1 ton of cooling capacity**
- A/C energy consumption components: compressor and two fans
- Seasonal Energy Efficiency Ration (SEER) is an average load measurement



3 Paths to RTU Upgrade Incentives

1. Planned work – conventional Prescriptive or Engineered RETROFIT approach
2. Unplanned/Emergency Replacement – Prescriptive RETROFIT approach
3. Unplanned/Emergency Replacement – HVAC(HRAI) approach



1. Planned work – Conventional Prescriptive or Engineered RETROFIT Approach





Business Incentive Programs





RETROFIT PROGRAM

Business (Existing)

- **Prescriptive (worksheet-based)**

- Lighting, Solar Hot Water Collectors, Drain Water Heat Recovery, Domestic Hot Water Recirculation, Pump Control, Variable Frequency Drives, Synchronous Belts, Unitary A/C, Energy Star® Appliances, In-suite Programmable Thermostats, Motors

- **Engineered (worksheet-based)**

- \$400/kW of demand savings or \$0.05/kWh for first year electricity savings (lighting)*
- \$800/kW of demand savings or \$0.10/kWh for first year electricity savings (non-lighting)*

- **Custom (worksheet-based)**

- \$400/kW or \$0.05/kWh (lighting)*
- \$800/kW or \$0.10/kWh (non-lighting)*

Notes

* up to 50% of actual eligible project cost



PROPOSED NEW INCENTIVES FOR PRESCRIPTIVE UNITARY ACs

| Incentives ≥ 3.0 to < 7.0 Tons | | | | | |
|---|----------------------|---------------------|--|---|--|
| Tons | BTU per hour | Heating Type | CEE TIER 2 Efficiency Rating (Minimum EER) | Participant Incentive (\$/ton) without Economizer | Participant Incentive (\$/ton) with Economizer |
| Split System ≥ 3.0 to < 4.0 | ≥ 36,000 to < 48,000 | Electric Resistance | 12.5 | 346.00 | 396.00 |
| | | All Other | 12.5 | | |
| Single Package ≥ 3.0 to < 4.0 | ≥ 36,000 to < 48,000 | Electric Resistance | 12.0 | 346.00 | 396.00 |
| | | All Other | 12.0 | | |
| Split System ≥ 4.0 to < 5.0 | ≥ 48,000 to < 60,000 | Electric Resistance | 12.5 | 232.50 | 282.50 |
| | | All Other | 12.5 | | |
| Single Package ≥ 4.0 to < 5.0 | ≥ 48,000 to < 60,000 | Electric Resistance | 12.0 | 232.50 | 282.50 |
| | | All Other | 12.0 | | |
| Split System ≥ 5.0 to < 5.4 | ≥ 60,000 to < 65,000 | Electric Resistance | 12.5 | 221.00 | 271.00 |
| | | All Other | 12.5 | | |
| Single Package ≥ 5.0 to < 5.4 | ≥ 60,000 to < 65,000 | Electric Resistance | 12.0 | 221.00 | 271.20 |
| | | All Other | 12.0 | | |
| Single Package & Split System ≥ 5.4 to < 6.0 | ≥ 65,000 to < 72,000 | Electric Resistance | 12.2 | 221.00 | 271.20 |
| | | All Other | 12.0 | | |
| Single Package & Split System ≥ 6.0 to < 7.0 | ≥ 72,000 to < 84,000 | Electric Resistance | 12.2 | 197.17 | 247.17 |
| | | All Other | 12.0 | | |



PROPOSED NEW INCENTIVES FOR PRESCRIPTIVE UNITARY ACs

| Incentives ≥ 7 tons | | | | |
|--|---------------------------|---------------------|--|---|
| Tons | BTU per hour | Heating Type | CEE Tier 2 Efficiency Rating (Minimum EER) | Participant Incentive (\$/ton) without Economizer |
| Split System & Single Package ≥ 7.0 to < 11.25 | ≥ 84,000 to < 135,000 | Electric Resistance | 12.2 | 145.15 |
| | | All Other | 12.0 | 132.03 |
| Split System & Single Package ≥ 11.25 to < 20.0 | ≥ 135,000 to < 240,000 | Electric Resistance | 12.2 | 202.80 |
| | | All Other | 12.0 | 189.69 |
| Split System & Single Package ≥ 20.0 to < 63.3 | ≥ 240,000 to < 760,000 | Electric Resistance | 10.8 | 137.79 |
| | | All Other | 10.6 | 121.63 |
| Split System & Single Package ≥ 63.3 | ≥ 760,000 | Electric Resistance | 10.4 | 120.40 |
| | | All Other | 10.2 | 102.30 |



What's in it for customers?

Engineered Track Incentives

| | | EER of Old Unit | | | | | | | | | | |
|-----------------|-----------|-----------------|--|-----------|-----------|-----------|-----------|-----------|----------|----------|----|----------|
| | | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | |
| ERR of New Unit | 8 | | | | | | | | | | | |
| | 9 | \$ 111.30 | Rebate Per Ton, Engineered Worksheet Rooftop Unit Replacement | | | | | | | | | |
| | 10 | \$ 200.40 | | | | | | | | | | \$ 89.10 |
| | 11 | \$ 273.20 | \$ 161.90 | \$ 72.90 | | | | | | | | |
| | 12 | \$ 334.00 | \$ 222.60 | \$ 133.60 | \$ 60.73 | | | | | | | |
| | 13 | \$ 385.30 | \$ 274.00 | \$ 184.98 | \$ 112.11 | \$ 51.38 | | | | | | |
| | 14 | \$ 429.40 | \$ 318.10 | \$ 229.03 | \$ 156.16 | \$ 95.43 | \$ 44.04 | | | | | |
| | 15 | \$ 467.50 | \$ 356.20 | \$ 267.20 | \$ 194.33 | \$ 133.60 | \$ 82.22 | \$ 38.17 | | | | |
| | 16 | \$ 500.90 | \$ 389.60 | \$ 300.60 | \$ 227.73 | \$ 167.00 | \$ 115.62 | \$ 71.57 | \$ 33.40 | | | |
| | 17 | \$ 530.40 | \$ 419.10 | \$ 330.07 | \$ 257.20 | \$ 196.47 | \$ 145.09 | \$ 101.04 | \$ 62.87 | \$ 29.47 | | |
| 18 | \$ 556.60 | \$ 445.30 | \$ 356.27 | \$ 283.39 | \$ 222.67 | \$ 171.28 | \$ 127.24 | \$ 89.07 | \$ 55.67 | \$ 26.20 | | |

Source: tabulated calculations from RETROFIT PROGRAM
engineered worksheets



What's in it for the supply chain?

| ARI Incentive Per Ton Incented | | | | | | | | | | | | |
|--------------------------------|----------|-----------------|----------|---------|--|---------|---------|---------|---------|---------|----|--|
| \$20/kw | | EER of Old Unit | | | | | | | | | | |
| | | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | |
| ERR of New Unit | 8 | | | | | | | | | | | |
| | 9 | \$ 2.78 | | | AR Incentive Per Ton, Engineered Worksheet Rooftop Unit Replacement | | | | | | | |
| | 10 | \$ 5.01 | \$ 2.23 | | | | | | | | | |
| | 11 | \$ 6.83 | \$ 4.05 | \$ 1.82 | - | - | - | - | - | - | - | |
| | 12 | \$ 8.35 | \$ 5.57 | \$ 3.34 | \$ 1.52 | - | - | - | - | - | - | |
| | 13 | \$ 9.63 | \$ 6.85 | \$ 4.62 | \$ 2.80 | \$ 1.28 | - | - | - | - | - | |
| | 14 | \$ 10.74 | \$ 7.95 | \$ 5.73 | \$ 3.90 | \$ 2.39 | \$ 1.10 | - | - | - | - | |
| | 15 | \$ 11.69 | \$ 8.91 | \$ 6.68 | \$ 4.86 | \$ 3.34 | \$ 2.06 | \$ 0.95 | - | - | - | |
| | 16 | \$ 12.52 | \$ 9.74 | \$ 7.52 | \$ 5.69 | \$ 4.18 | \$ 2.89 | \$ 1.79 | \$ 0.84 | - | - | |
| | 17 | \$ 13.26 | \$ 10.48 | \$ 8.25 | \$ 6.43 | \$ 4.91 | \$ 3.63 | \$ 2.53 | \$ 1.57 | \$ 0.74 | - | |
| 18 | \$ 13.92 | \$ 11.13 | \$ 8.91 | \$ 7.08 | \$ 5.57 | \$ 4.28 | \$ 3.18 | \$ 2.23 | \$ 1.39 | \$ 0.65 | | |

Source: tabulated calculations from RETROFIT PROGRAM
engineered worksheets



RETROFIT Worksheets – Unitary A/Cs

- Prescriptive vs. Engineered
- Requirements



RETROFIT Worksheets – Unitary Air Conditioners (A/C)

Accessing worksheets:

1. www.saveonenergy.ca
 2. Click on “For Business”
 3. Click on “RETROFIT PROGRAM”
 4. Click on “Relevant Documents”
- For Prescriptive worksheets
 - Click on **RETROFIT-Unitary.AC-Eligible Measures-Worksheet**
 - For Engineered worksheets
 - Click on **RETROFIT. Unitary AC Eng. Worksheet**



Prescriptive Worksheet – Unitary A/C

| Required Information | Example | #1 | #2 | #3 | #4 | #5 | #6 |
|---|----------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Reason: "N"=New or "F"=Failed | F | | | | | | |
| Manufacturer | ABC | | | | | | |
| Model Number | EE-9876 | | | | | | |
| Split or Single Package (SP) | SP | | | | | | |
| Heating Type (Electric Resistance or Other) | Other | | | | | | |
| EER | 12.0 | | | | | | |
| Annual Run Hours | 1500 | | | | | | |
| Quantity | 2 | | | | | | |
| Size in Tons | 15 | | | | | | |
| CEE Tier 2 | CEE Tier 2 | | | | | | |
| Participant Incentive (\$/ton) | \$203 | | | | | | |
| Total Participant Incentive | \$6,084 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |

Note: The Eligible Measures Lists and Eligible Measures Worksheets are based on assumptions and are subject to change and the incentive amounts do not include HST or other applicable taxes.

| | |
|---|---------------|
| TOTAL PARTICIPANT INCENTIVE REQUESTED: | \$0.00 |
|---|---------------|



Engineered Worksheet – Unitary A/C

| FLOOR AREA | | | |
|---|---|---------------------------------|----------------------------------|
| | Floor Area Served By AC Unit (m ²): | | |
| CLIMATE | | | |
| | Select the region which best represents the climate at the building location: | Southern Ontario - (eg Toronto) | <input type="button" value="v"/> |
| EXISTING AC UNIT | | | |
| Manufacturer / Series / Model: | | | |
| Capacity (BTU/h): | | EER: | |
| 12,000 BTU/h = 1 Ton | | | |
| Database of equipment with EER ratings: | | | |
| http://oee.nrcan.gc.ca/residential/business/manufacturers/search/large-air-conditioners-search.cfm | | | |
| REPLACEMENT UNIT COST | | | |
| Manufacturer / Series / Model: | | | |
| Capacity (BTU/h): | | EER: | |
| 12,000 BTU/h = 1 Ton | | | |
| Database of equipment with EER ratings: | | | |
| http://oee.nrcan.gc.ca/residential/business/manufacturers/search/large-air-conditioners-search.cfm | | | |



Engineered Worksheet – Unitary A/C

PROJECT COST BREAKDOWN

Costs which are eligible to be included in determining applicable Participant Incentives must be directly related to the procurement and implementation of the Eligible Measures and are limited to the following list. Please enter the Eligible Costs as applicable.

| | |
|-----------|--|
| | Actual costs of the equipment purchased and installed |
| | Actual costs of labour for the installation of the equipment by suppliers |
| | Actual costs to dispose of or decommission the replaced equipment |
| | Actual costs of inspections of the Project as may be required pursuant to Laws and Regulations |
| \$ | TOTAL ELIGIBLE COSTS FOR THE PROJECT |

For certainty, costs which are not eligible to be included in Eligible Costs include:

- (i) any costs that are not third party costs or that are internal costs of the Participant, including costs of the Participant's labour, service, administration or overhead;
- (ii) financing costs of the Participant;
- (iii) related insurance costs of the Participant;
- (iv) costs associated with post-installation maintenance or service contracts;
- (v) costs of spare parts, spare equipment or other inventories;
- (vi) purchase or lease of tools for installation of equipment;
- (vii) HST; and
- (viii) a portion of the costs of Eligible Measures that have been or will be received from financial incentives generally funded by energy ratepayers or taxpayers in the Province of Ontario (other than funding principally directed to Social Housing Providers if, combined with the Participant Incentive, such funding does not exceed the actual cost of the Project) or rebates from manufacturers or wholesalers or other supply chain participants.

Note: Capitalized terms above are as defined in the Participant Agreement



Default EER Based on System Age

| Capacity (Tons) | 1992 | 1999 | 2001 | 2004 | 2007 |
|-----------------|------|------|------|------|------|
| 2 to 5 | 6.1 | 8.9 | 8.9 | 10.0 | 10.0 |
| 5.5 to 11.5 | 8.9 | 8.9 | 10.3 | 10.3 | 10.3 |
| 11.5 to 20.0 | 8.2 | 8.5 | 9.5 | 9.5 | 9.5 |
| 20 to 63 | 8.0 | 8.3 | 9.2 | 9.3 | 9.8 |



2. Unplanned/Emergency Replacement – Prescriptive RETROFIT Approach



Breaking Down Program Barriers

| | Barrier | Mitigation |
|---|---------------------------------|---|
| 1 | Complexity of Application | •Applicant Representative Initiative (ARI) |
| 2 | Application Completion Problems | •Vendor / Client Application Support |
| 3 | Long Pre-Approval Times | •Unitary Fast-Track Initiative •Emergency Breakdown Option |
| 4 | Insufficient Time to Apply | •45 Day Grace Period After Construction |
| 5 | Resistance to Participate | •Temporarily Increased Incentives |



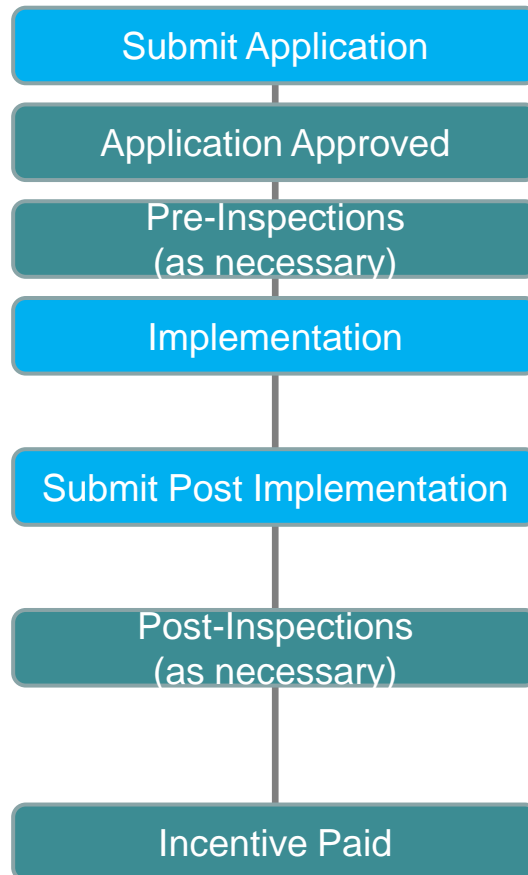
Summary of Changes under Emergency Replacement

- Building owner can now go ahead and install high-efficiency equipment without OPA approval in advance
 - **Apply simultaneously or immediately following installation**
 - **Up to 45 day grace period to apply for incentive**
- Higher efficiency premiums offset significantly by incentive
- Higher prescriptive incentives until December 31, 2013
- Higher Efficiency RTUs
 - **CEE Tier 1 eliminated**
 - **CEE Tier 2 Efficiency Rating of 12.0 - 12.5**

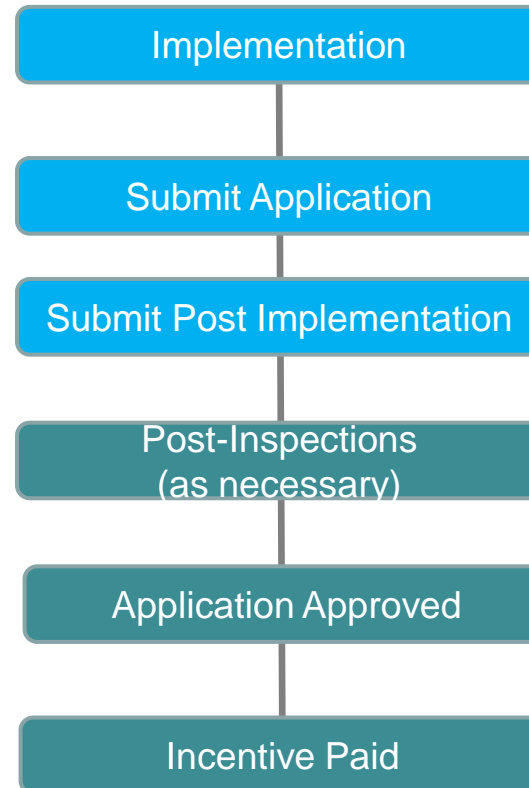


Normal vs. Emergency Replacement Process

NORMAL PATH



EMERGENCY PATH





3. Unplanned/Emergency Replacement – HVAC(HRAI) Approach





Residential Incentive Programs

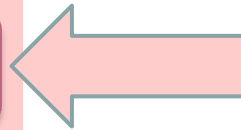
Commercial & Institutional

Industrial

Residential

Home Assistance Program

- COUPONS
- HVAC INCENTIVE
- APPLIANCE RETIREMENT
- APPLIANCE EXCHANGE
- NEW CONSTRUCTION





HEATING AND COOLING

Enrol as a participating contractor



Complete online orientation



**Contractor assists customer with
selecting RTU**



**Contractor determines whether the RTU meets
eligibility criteria for saveONenergy incentive**

~ see product eligibility and incentive criteria ~



HVAC APPLICATION

saveONenergy[™]
HEATING & COOLING INCENTIVE

HVAC

| Existing Unit | Replacement Unit |
|---------------------------------|---|
| | *Installation date: |
| | *Incentive amount (Per ton): |
| | *Split or Single Package: |
| | *Heating Type: <input type="checkbox"/> Electrical Resistance <input type="checkbox"/> All Other |
| Manufacturer: | *Manufacturer: |
| Brand Name: | *Brand Name: |
| Condensing Unit Model # | *Condensing Unit Model # |
| Serial #: | *Serial #: |
| Energy Efficiency Rating (EER): | *Energy Efficiency Ratio (EER): |
| Age of existing CAC: | Heat loss/heat gain calculation completed: <input type="checkbox"/> Yes <input type="checkbox"/> No |
| AHRI Ref #: | *AHRI Ref #: |
| *BTUs: | *BTUs: |
| | Economizer Installed: <input type="checkbox"/> Yes <input type="checkbox"/> No |

Participant Details:
 Business Name: _____
 Business Contact First Name: _____
 Business Contact Phone number: _____
 Business Contact email (optional): _____
 Service Address: _____
 Service Address (line 2): _____
 City: _____
 Local Distribution Company (Electrical): _____

Mailing/Billing address:
 Same as Service Address
 Use another address

Billing Address
 Billing Name: _____
 Billing Address: _____
 Billing Address (line 2): _____
 City: _____

CONTRACTOR information
 Contractor Company Name: _____
 Contractor Registration #: _____
 Technician Name: _____

Existing Unit

Manufacturer: _____
 Brand Name: _____
 Condensing Unit Model #: _____
 Serial #: _____
 Energy Efficiency Rating (EER): _____
 Age of existing CAC: _____
 AHRI Ref #: _____
 *BTUs: _____

I confirm that I have read and understand the Terms and Conditions of the Incentive Program.

I confirm that the information provided is true and correct.

I confirm that I am a qualified HVAC Contractor.

Contractor Signature: _____

Additional Questions:
 1. How did the Participant find out about the Incentive Program?
 2. Was the Participant satisfied with the service provided?
 3. Does the Participant intend to purchase additional HVAC equipment?
 4. Did the Participant recommend the Incentive Program to others?

Supporting Documents:
 Completed Copy of Incentive Application
 Signed copy of Incentive Terms and Conditions; and
 Invoice, receipt or other form of proof-of-purchase provided to the Participant by the HVAC Contractor of the HVAC Measure(s)
 AHRI Certificate

*It is important that you keep the original invoice for your records

with all supporting documentation to:

HEATING & COOLING INCENTIVE PROGRAM
 P.O. Box 10099
 Winona, ON L9E 5R1

Facsimile: 1-866-945-6474
Email: heatingcoolingincentive@dhtld.com







Make Your Expertise Pay

- With Toronto Hydro's **Applicant Representative Initiative (ARI)**
- Help your clients qualify for **RETROFIT PROGRAM** incentives and earn fees





What's in it for the supply chain?

Earn fees as an Applicant Representative (AR)

➤ Fees for successful projects

| Demand Savings | Fees \$/kW |
|--------------------------|--|
| 0 – 300 kW | \$20/kW (cumulative) |
| Over 300 kW (cumulative) | \$40/kW (payable incrementally above 300 kW) |

– What are successful projects?

- **Completed and verified by Toronto Hydro and delivers peak demand**

➤ Training

– RETROFIT PROGRAM details and application knowledge

➤ Resources



ARI Requirements

- Completed AR application
- Training session (mandatory)
- Pay day – when fees owing meeting or exceed \$1,000 or Dec. 31st of each year, whichever is earlier



Disclaimer

The information in these materials is based on information currently available to Toronto Hydro Corporation and its affiliates (together hereinafter referred to as "Toronto Hydro"), and is provided for information purposes only. Toronto Hydro does not warrant the accuracy, reliability, completeness or timeliness of the information and undertakes no obligation to revise or update these materials. Toronto Hydro (including its directors, officers, employees, agents and subcontractors) hereby waives any and all liability for damages of whatever kind and nature which may occur or be suffered as a result of the use of these materials or reliance on the information therein.

These materials may also contain forward-looking information within the meaning of applicable securities laws in Canada ("Forward-Looking Information"). The purpose of the Forward-Looking Information is to provide Toronto Hydro's expectations about future results of operations, performance, business prospects and opportunities and may not be appropriate for other purposes. All Forward-Looking Information is given pursuant to the "safe harbour" provisions of applicable Canadian securities legislation. The words "anticipates", "believes", "budgets", "could", "estimates", "expects", "forecasts", "intends", "may", "might", "plans", "projects", "schedule", "should", "will", "would" and similar expressions are often intended to identify Forward-Looking Information, although not all Forward-Looking Information contains these identifying words. The Forward-Looking Information reflects the current beliefs of, and is based on information currently available to, Toronto Hydro's management. The Forward-Looking Information in these materials includes, but is not limited to, statements regarding Toronto Hydro's future results of operations, performance, business prospects and opportunities. The statements that make up the Forward-Looking Information are based on assumptions that include, but are not limited to, the future course of the economy and financial markets, the receipt of applicable regulatory approvals and requested rate orders, the receipt of favourable judgments, the level of interest rates, Toronto Hydro's ability to borrow, and the fair market value of Toronto Hydro's investments. The Forward-Looking Information is subject to risks, uncertainties and other factors that could cause actual results to differ materially from historical results or results anticipated by the Forward-Looking Information. The factors which could cause results or events to differ from current expectations include, but are not limited to, the timing and amount of future cash flows generated by Toronto Hydro's investments, market liquidity and the quality of the underlying assets and financial instruments, the timing and extent of changes in prevailing interest rates, inflation levels, legislative, judicial and regulatory developments that could affect revenues, and the results of borrowing efforts. Toronto Hydro cautions that this list of factors is not exclusive. All Forward-Looking Information in these materials is qualified in its entirety by the above cautionary statements and, except as required by law, Toronto Hydro undertakes no obligation to revise or update any Forward-Looking Information as a result of new information, future events or otherwise after the date hereof.



Questions?

Iain Robertson

Technical Energy Consultant

irobertson@torontohydro.com

416) 542-3391

Sam Ramtahal

Manger, Strategic Projects

Sramtahal@enersource.com

905-283-3999

Syed Abbas

Energy Services Advisor

Email: sabbas@hydroonebrampton.com

(905) 452 5567



Thank You!

For more about saveONenergy incentive programs, visit www.torontohydro.com/business

Stay connected by subscribing to our quarterly *eConnect for Biz* newsletter

www.econnectforbiz.com