# CustomerFirst Enhanced TOU Pilot Program

## Application for Pilot Project on RPP Pricing

## Submitted to the Ontario Energy Board, August 19, 2016

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| 1. **Key Information**
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| Project title: | CustomerFirst Enhanced TOU Pilot Program |
| Distributors: | 1. Newmarket-Tay Power Distribution Ltd.
2. Greater Sudbury Hydro Inc.
3. North Bay Hydro Distribution Ltd.
4. Northern Ontario Wires Inc.
5. PUC Distribution Inc.
6. St. Thomas Energy Inc.
7. Espanola Regional Hydro Distribution Corporation
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| Applicant Contact Name: | Chris Barker |
| Applicant Contact Title: | Executive Director, Conservation |
| Mailing Address: | 3080 Yonge Street, Suite 6060Toronto, ONM4N 3N1 |
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| Submission Date: | August 19, 2016 |

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| 1. **Project Overview**
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| **Regulated Price Plan Category**  |
| [x] Price | [x] Non-Price |
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| **Target Market**  |
| [x] Existing Homes | [x] High Usage Customers |
| [ ] New Homes | [x] Other: Customers with electric heating |
| [x] Multi-family |  |
| [x] Single family |  |
| [x] Low Income Customers |  |
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| **Project Type**  |
| [x] Time-of-use | [ ] Other Pricing |
| [ ] Critical Peak Pricing |  |
| [x] Appliance/Household Automation |  |
| [x] Information Provision |  |
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| **Expected Project Duration: 12 months** |

# Funding Request

Most of the costs of the pilot will be paid either in cash or in-kind by the distributors and CustomerFirst. Distributors will be looking to recover some costs, however, this is a relatively small amount considering that seven distributors will be participating in the pilot.

The total pilot budget is $1,532,687 and the cash and in-kind contribution from the distributors and CustomerFirst is $1,447,687. The distributors are requesting $85,000 total in funding for the pilot. Costs will be shared by the distributors and the financial contribution from each distributor will be determined according to their proportional share of customers as shown in the OEB yearbook.

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|   | **Cash ($)** | **Cash (% of total project value)** | **In-kind ($)** | **In-kind (% of total project value)** |
| **CustomerFirst contribution** | - | - | 68,050  | 4% |
| **Newmarket-Tay Power Distribution Ltd. contribution** | 291,110  | 19% | 2,000  | - |
| **Greater Sudbury Hydro Inc. contribution** | 393,541  | 26% | 2,000  | - |
| **North Bay Hydro Distribution Ltd. contribution** | 194,193  | 13% | 2,000  | - |
| **Northern Ontario Wires Inc. contribution** | 48,049  | 3% | 2,000  | - |
| **PUC Distribution Inc. contribution** | 272,466  | 18% | 2,000  | - |
| **St. Thomas Energy Inc. contribution** | 140,003  | 9% | 2,000  | - |
| **Espanola Regional Hydro Distribution Corp. contribution** | 26,275  | 2% | 2,000  | - |
| **Subtotal (non-OEB funding contribution)** | 1,365,637  | 89% | 82,050  | 4% |
| **Requested Funding** | 85,000  | 6% | N/A | N/A |
| **Totals** | 1,450,637  | - | 82,050  | 4% |
| **Total project value (all cash + in-kind)** | 1,532,687 |

# Project Concept and Rationale

## Project Goal

Multiple distributors to pilot a pricing and non-pricing combination RPP program using enhanced TOU prices as well as enabling tools and information by leveraging a CDM program currently in market to provide customers with incentives and opportunities to decrease their energy consumption and shift their time of electricity use.

## RPP Roadmap Objectives Addressed

The pilot will address many of the objectives of the RPP roadmap:

**Combination pilot** – the pilot will combine pricing and non-pricing treatments, complimenting enhanced TOU pricing with new tools and information for customers

**Enhanced TOU prices** – enhanced TOU pricing will introduce a greater ratio between on and off peak prices while maintaining the existing pricing structure

**Utilizing automation treatments and enabling technologies** – customers will be provided with intelligent thermostats pre-programmed to take advantage of TOU pricing opportunities

**Increase customer energy literacy through additional information** – customers will receive additional information about TOU and recommendations on how to reduce their consumption and shift the time of their electricity use

**Greater customer control** **and empowerment** – programmable thermostats will be Wi-Fi, allowing heating and cooling equipment to be controlled remotely where available to give customers greater control. Programmable thermostats will also have demand response capability. Through the pilot, customers will have the ability to choose between different TOU pricing options.

**Testing multiple treatments** – different treatments in different regions will be tested to determine the efficacy of each

**Leverage CDM programs** – CDM will be leveraged as much as possible to minimize costs and for further conservation and consumer benefits

**Customer diversity including low income and high usage customers** – all residential customers will be included in the pilot including low income customers and high usage customers including those with electric heating

**Distributor collaboration** – seven distributors will be working together to deliver the pilot

**Provincial diversity** - the pilot will be run simultaneously with small and medium size distributors covering multiple service areas including winter peaking in the northern region and summer peaking in the southern region

**Potential for scalability** – the pilot has the potential to be scaled to be province-wide for all RPP customers and to also include low-volume business customers. The automation treatments will have demand response capability for possible future use.

## Pilot Outline and Alignment with RPP Objectives

The pilot will incent and encourage residential customers to take advantage of mid-peak and off-peak times using a combination of pricing and non-pricing treatments. Customers will be offered an enhanced TOU pricing mechanism and provided with additional information and tools such as intelligent thermostats.

The pricing component of the pilot will be Enhanced Status Quo (ESQ), which will introduce a greater ratio between on and off peak prices while maintaining the existing pricing structure. Under ESQ, all TOU periods stay the same (status quo), however, the prices will be different.

The pilot will leverage the Home Energy Assessment & Retrofit (HEAR) program, which is a pilot/local CDM program that is currently in market with CustomerFirst distributors. Through the HEAR program, customers receive information through an in-home assessment by a qualified assessor plus a customized report showing them the potential savings and financial opportunity from changing how they use electricity or by upgrading to more efficient equipment. Customers also receive energy efficient measures including intelligent thermostats that are directly installed by their distributor at no-charge.

Customers who participate in the HEAR program will be encouraged to also participate in the RPP pricing pilot and will receive additional information about TOU pricing including a specialized report showing them the cost savings by switching to an ESQ pricing treatment. This report will be generated using a cost comparison tool and will use customers’ historical billing data. The intelligent thermostats will be pre-programmed for pricing periods, adjusting the heating and cooling temperature settings according to the pricing period. For the RPP pilot, intelligent thermostats with demand response capability will be provided for possible future programs. The opportunity to include control devices for customers with electric water heating will also be explored. Customers who do not participate in the HEAR program will also be eligible to participate in the RPP pilot and will have access to the same tools and reports.

Through the participation of different distributors in the pilot, multiple treatments will be tested to determine the effectiveness of treatments relative to others. All treatments, including the testing of multiple treatments such as the combination of the pricing treatments and/or non-price treatments, will be determined with input and approval from the OEB.

The pilot will be a collaborative effort between CustomerFirst distributors. The pilot will be in market March 1, 2017 – March 1, 2018, with EM&V completed and the final report submitted to the OEB on or before October 1, 2018.

Pilot Objectives

1. Test a pricing and non-pricing combination pilot with multiple treatments that gives customers incentives, tools and information to reduce their electricity bills by shifting their time of electricity use.
2. Test the pilot with multiple distributors including smaller and medium sized distributors and distributors located in different regions of the province. Create economies of scale and larger customer participation through a joint pilot with multiple distributors.
3. Enhance customer energy literacy including understanding of TOU.
4. Leverage CDM to reduce costs and provide additional customer benefits and savings.

## Comparison to Other RPP Pricing Pilots

This is a unique pilot because it is a combination of pricing and non-pricing treatments that will be run simultaneously with multiple distributors of different sizes located in different regions of the province. The pilot will also be integrated with a CDM program.

# Project Plan

The RPP pilot will be fully integrated with the HEAR conservation program that is currently available to customers, leveraging its marketing, staff, technology, information and data collection and reporting, and all other program elements that will help the RPP project be in market as quickly as possible. Integrating with an existing CDM program should also lead to greater participation in the pilot and this will drive additional savings and benefits and a more robust evaluation of program effectiveness. The program will be delivered simultaneously by seven distributors with project coordination and administration functions provided by CustomerFirst. Having multiple distributors in the program will provide the opportunity to test multiple treatments in different regions with different sizes of distributors. Because customers will have a choice between different pricing options and will also have devices installed in their home by their distributor, the pilot is proposing that customers opt-in.

## Project Task Areas - Program Design

The enhanced TOU rates outlined in the 2014 Navigant study: “Time of Use Rates in Ontario Part 2: Alternative Scenario Analysis”, will be used for the pricing component of the pilot.

##### Enhanced Status Quo TOU Pricing

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| **Time of Day** | **Price ($/kWh)** | **Applicable Period** |
| Off-Peak | $0.046 | 7pm-7am weekdays, 24-hours weekends and holidays |
| Mid-Peak | $0.137 | 7am-11am and 5pm-7pm summer weekdays, 11am-5pm winter weekdays |
| On-Peak | $0.182 | 7am-11am, 5pm-7pm winter weekdays, 11am-5pm summer weekdays |

For the non-pricing component of the pilot, the existing HEAR conservation program will be utilized as much as possible with new elements developed and added to the program for the RPP pilot.

##### Integration with Home Energy & Assessment Retrofit Program (HEAR)

The HEAR program is an innovative pilot program that uses automation technology to help customers conserve electricity and save money on their electricity bills. Through the program, an assessor visits customers to undertake an energy assessment of their home and provides them with a report outlining different actions they can take to conserve energy. Customers then receive energy efficient measures including an intelligent thermostats that are installed by the assessor.

If approved, the RPP pilot will become an integral part of the HEAR program. Under the RPP pilot, assessors would educate customers about TOU and a new cost comparison tool will be developed that will be used to help show customers the potential savings from changing behaviours and switching to the ESQ pricing plan.

## Project Task Areas - Program Delivery

##### Enrollment, Marketing and Communications

Program enrollment will be driven through the HEAR program and marketing materials for HEAR will be enhanced to include RPP pilot and TOU information. New materials about the RPP pilot for customers not participating in the HEAR program will also be developed.

Extensive market research on residential customers including multiple focus groups in different service areas has recently been completed by the distributors. The focus groups provided valuable insights that were used to develop effective marketing strategies including advertising for the HEAR program and this research will be used for the RPP pilot.

The websites of all the distributors participating in this pilot recently had significant upgrades and the websites are more user friendly and allow customers to arrange a home assessment under the HEAR program. The RPP pilot and additional information about TOU will be added to the websites.

The recommendations from the OEB’s Working Group around effective communication tools and techniques for RPP pricing will be an important input towards the development of an effective communications plan for the pilot. Input from the OEB in this area will also be sought.

##### Technology

Customers will receive programmable thermostats that are pre-programmed for the different pricing times. These thermostats will also be demand response ‘ready’ for possible future use. The opportunity to include control devices for electric water heaters that are demand response capable and communicate on the same platform as the programmable thermostats will also be explored.

Customers will have access to a cost comparison tool that will show them the potential savings from changing behaviours and switching to an enhanced pricing treatment. This tool will produce a customized report that includes the customer’s current and past electricity consumption. The tool will be built using the same platform that is currently being used for the home assessment and customer report under the HEAR program.

A separate rate class will be created for customers included in the pilot and this will be added to each distributor’s billing system.

##### Estimated Pilot Participation

The distributors of CustomerFirst combined have over 148,000 residential customers. The CustomerFirst joint CDM Plan that was approved by the IESO includes 2,068 participants in the HEAR program for 2017 and 2018. Because the RPP pilot is for a single year and overlaps the two calendar years, it is expected that 1,034 will participate in the HEAR program during the pilot period and a significant portion of those participants will elect to participate in the RPP pilot as well. Many of the customers currently participating in the HEAR program are low income and/or high usage. There will also be additional customers that participant in the RPP pilot from outside the HEAR program.

##### Distributor Coordination and Testing of Multiple Treatments

The seven distributors of CustomerFirst will participate in the pilot and all project activities will be coordinated for the group by CustomerFirst. Each distributor will be represented on the project team.

Through the participation of multiple distributors, different treatments will be tested to determine the effectiveness of some treatments relative to others. For example, the effectiveness of having an assessor help to educate customers about pricing periods and installing a programmable thermostat through the HEAR program can be tested against customers who do not participate in the HEAR program. These customers could be provided TOU information through the bill or direct mail and can access the TOU cost comparison tool through their distributor’s website. Different priority information treatments can also be tested including where one group of customers would receive information about the financial opportunity of switching TOU pricing and another group would receive information related to environmental/health benefits such as C02 saved. The treatments that will be tested and what service areas they will be tested in will be determined with input and approval from the OEB.

##### Staffing, Training & Development

Distributor staff will be used as much as possible for the pilot. All staff will be trained on the RPP pilot and this includes customer service representatives who can help educate and enroll customers in the program. This approach will help build capability within each distributor.

##### Channel Engagement

There is the potential to engage various channels, for example manufacturers, retailers and contractors, in the pilot. Including channel partners can help to increase awareness and education of TOU, and encourage additional customer participation in the pilot.

##### Including Community Partners

Community partners, including social agencies supporting low income customers, will be engaged to help promote the program to their constituents to help them save money on their energy bills.

##### Risk Management & Mitigation

Risks are an inherit part of any project and these include timeline delays, lower than expected participation, technical issues, staffing issues, and cost increases. Having multiple distributors in the pilot as well as leveraging an existing CDM program that is already in market will help to mitigate risks, however, a full risk management plan will be developed prior to program launch.

## Pilot Implementation

The pilot will be implemented in accordance with the approach set out in the technical manual provided by the OEB and will adhere to all requirements related to experimental design, recruitment, sampling, survey design and pilot outputs.

The pilot will be in market March 1, 2017 – March 1, 2018, with EM&V completed and the final report submitted to the OEB on or before October 1, 2018.

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| **Date** | **Key Activity** |
| March 1, 2017 | Pilot launched and available to customers |
| October 1, 2017 | Midpoint Report submitted to OEB |
| March 1, 2018 | Pilot completed |
| March-October, 2018 | Program wind-up and EM&V |
| October 1, 2018 | Final Report submitted to OEB |
| December 1, 2018 | Reconciliation Report submitted to OEB (if necessary) |

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| **Activities and Milestones** | **Reports** | **Delivery Date** |
| Participant agreement developedMarketing materials developedCost comparison tool developedStaff hired, trained and in placeEM&V provider contractedSurveys developed and data collection processes in placeBilling system upgrades completedPerformance monitoring and tracking systems in placeCustomer reports developed50% of anticipated participants enrolledMidpoint report completed and submitted to OEB | Midpoint Report | October 1, 2017 |
| Remaining anticipated participants enrolledEM&V completedFinal report completed and submitted to OEB | Final Report | October 1, 2018 |
| Reconciliations completed and Reconciliation Report (revised Final Report (if necessary)) submitted to OEB | Reconciliation Report | January 1, 2019 |

## Customer Surveys and Evaluation Measurement & Verification

The pilot will adhere to all customer survey requirements provided by the OEB and ensure that all requested information and data is being collected and results are provided to the OEB, including those required for EM&V purposes. Customer surveys for pre-treatment, within experiment and post-treatment, plus any additional data requested by the OEB, will be developed for the RPP pilot.

It is expected that the following Evaluation Measurement & Verification (EM&V) activities will be undertaken in accordance with the IESO’s Conservation First EM&V Protocols and Requirements, however, a full EM&V plan for the pilot will be developed with input from the OEB prior to program launch:

1. Process Evaluation – Detailed review of the delivery model and participation rates
2. Impact Evaluation – Deemed savings from the IESO’s Measure & Assumptions List will be applied to measures and detailed net-to-gross research will be conducted

Data Requirements:

1. Pre and post TOU billing data for all participants
2. Pre and post TOU billing data for a selected group of non-participants to act as a control
3. Survey results

## Major Project Deliverables

Under the pilot, the OEB will be provided with a Midpoint Report, Final Report and Reconciliation Report (if necessary)

The Midpoint Report will include the following:

1. Deliverables for midpoint milestones
2. Updates on expenditures to date of Midpoint Report
3. An update on the progress of all activities
4. A description of any intellectual or other property procured, developed or created
5. An analysis (strengths, weaknesses, threats and opportunities) of program design and delivery as implemented to date
6. Surveys and survey results to date
7. Other such information regarding the implementation of the pilot that the OEB may request

The Final Report will include the following:

1. Deliverables for remaining program milestones
2. Updates on expenditures to date of Final Report.
3. An update of the project schedule, including status of each activity
4. A description of any intellectual or other property procured, developed or created since midpoint
5. An analysis (strengths, weaknesses, threats and opportunities of Collaboration Activity design and delivery as implemented)
6. An analysis (strengths, weaknesses, threats and opportunities) of program design and delivery as implemented to date
7. Final surveys and survey results
8. Other such information regarding the implementation of the pilot that the OEB may request
9. A summary of lessons learned from the pilot and recommendations for implementation to a full scale or province-wide program
10. Other such information regarding the implementation of the pilot the OEB may request

A Reconciliation Report will be submitted if necessary following submission of the Final Report that contains any additional information on the pilot requested by the OEB.

# Project Team & Partners

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| **PROJECT TEAM** |
| **Project team member** | **Organization and job title** | **Major accountability** |
| Chris Barker | CustomerFirst, Executive Director | Project lead |
| Paul Ferguson | Newmarket-Tay Power Distribution Ltd., President & CEO | Distributor |
| Frank Kallonen | Greater Sudbury Hydro Inc., President & CEO | Distributor |
| Todd Wilcox | North Bay Hydro Distribution Ltd., President & CEO | Distributor |
| Dan Boucher | Northern Ontario Wires Inc., President & CEO | Distributor |
| Dominic Parrella | PUC Distribution Inc., President & CEO | Distributor |
| Duane Orth | St. Thomas Energy Inc., Conservation Officer | Distributor |
| **PROJECT PARTNERS** |
| **Organization** | **Project role** | **Contribution – Financial, in-kind** |
| CustomerFirst | Project management, coordinator, administration activities, funder | Financial and in-kind |
| Newmarket-Tay Power Distribution Ltd. | Distributor, funder | Financial and in-kind |
| Greater Sudbury Hydro Inc. | Distributor, funder | Financial and in-kind |
| North Bay Hydro Distribution Ltd. | Distributor, funder | Financial and in-kind |
| Northern Ontario Wires Inc. | Distributor, funder | Financial and in-kind |
| PUC Distribution Inc. | Distributor, funder | Financial and in-kind |
| St. Thomas Energy Inc. | Distributor, funder | Financial and in-kind |
| Espanola Regional Hydro Distribution Corporation | Distributor, funder | Financial and in-kind |
| TBD | TBD | EM&V |