

# Achieving Deeper Energy Savings: The Resurgence of On-Bill Financing

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Conservation & Demand Management  
in a Sustainable Energy Future  
McMaster University



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# What is On-Bill Financing?

The collection of loan repayment installments for energy retrofits by an energy utility through the regular utility bill

**1** uniongas  
A Spectra Energy Company

**2** Your Union Gas bill  
July 31, 2010 to August 30, 2010

**3** JANE CUSTOMER

**4** Page 1 of 2  
Bill date: September 6, 2010  
Account number: 123-4567 123-4567

**5** Summary of what you owe

Amount owing on your last bill	\$67.00
Payments received before Sept 6	-\$67.00
Your balance forward	\$0.00
New Charges - details on page 2	\$67.00
<b>Total payment now due (with a mail date Sept 25, 2010)</b>	<b>\$67.00</b>

**6** If payment is not received by Sept 25, 2010, a late payment fee equal to 1.5% (annual effective rate of 19.56%) of any unpaid balance will be charged.

**7** Your Equal Billing Plan update

New charge gas added to your EBP this month:	\$51.55
EBP instalment:	\$67.00
Adjustments this month:	\$0.00
Total charges to date:	\$531.06
Total EBP instalments billed:	\$602.00

After paying this bill you have paid \$71.94 more than you have used.

**8** Savings, Convenience, Quality. Save Installation. Visit [uniongas.com/grill](http://uniongas.com/grill) for even more reasons why dad would love a natural gas barbecue for Father's Day!

**9** Comparing your monthly gas use

You used 123,903 cubic metres in this billing period.

	This month	This year to date	Last month
Number of billing days	30	30	28
Average outdoor temperature	10°C	12°C	8°C
Your average daily gas use in cubic metres	5.3	4.1	6.8

**10** Fair off here - keep top part for your records

**11** 200 uniongas  
001C  
0502  
FACT  
228

**12** JANE CUSTOMER  
123 NO NAME ST  
YOUR CITY ON  
M0C 0A9

**13** See page 2 for payment options. If paying by mail, return this slip with your payment to the address below. Make your cheque payable to Union Gas and write your account number on the front.

UNION GAS  
PO Box 2025  
Chatham ON N7E 6C7

Your account number:  
123-4567 123-4567

Amount due: \$67.00

Amount paid: \$

The amount due will be withdrawn from your financial institution on Sept 25, 2010.

# Why is On-Bill Financing Important?

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Energy markets are not perfect



# Potential for Energy Efficiency

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- DSM is a maturing service
- From 1990 to 2007 energy efficiency in Canada improved by 16%
- Per capita energy use increased by 7%
- There is significant untapped potential

# Key Barriers to Energy Efficiency

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- Transaction costs
- Lack of information
- Uncertainty in the savings and other benefits from an energy retrofit
- High upfront costs for deep energy retrofits
- Limited financing options available

# On-Bill Financing Opportunity

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On-bill financing provides consumers a powerful tool to achieve potential energy savings



# Innovative On-Bill Financing

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- On-bill financing is embedded in an energy efficiency program
- Multiple loan options and providers
- Loan approved based on customer bill payment history
- Loan interest buy down
- Long loan amortization terms
- Loan repayment transferability

# Key Factors to Consider in Designing On-Bill Financing Programs

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- Legislative/Regulatory/Policy Context
- Whole-house Approach
- Selection of Measures
- Target Market
- Financing and Funding



# Whole-House Approach

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“A system plan for indoor air climate control and comfort that considers the interaction between humans, the structure, the building orientation, climate and other elements or components”

(Authority: HVAC)

# Whole-House Approach



Source: Northsight Energy Solutions

- Pre- and post energy assessments
- Cost-effectiveness test (e.g. TRC, Saving-to-Investment Ratio)

# Selection of Measures

- Weatherization (e.g. attic, exterior wall and basement insulation, draft proofing)
- Windows & Doors
- Furnaces and Water Heaters
- Other Appliances
- Water Conserving Measures (e.g. water conserving toilets, low-flow shower heads)



Source: Homes & Condos Blog – The Toronto Star

# Target Market

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**Homeowners**  
**Low-income**  
**Seniors**



**Tenants**

*Sources: CMC Dot Blogspot, Tenantrisk Verification*

# Financing and Funding

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- Loan service as standard utility service
- Terms of the loan (amortization period, size of the loan)
- Transferability of the loan payment obligation
- Loan administration
- Source of funding



# Examples of On-Bill Financing Programs

# Power Smart Residential Loan Program

## Manitoba Hydro

Program Administrator	Regulatory/Policy Framework	Financing	Funding
<p>Power Smart Residential Loan Program – Manitoba Hydro</p> <p>Delivered since 2001</p> <p>Manitoba Hydro finances upfront capital costs of energy and water retrofits (to be in place by fall 2012)</p>	<p>Manitoba Hydro is governed by the Manitoba Hydro Act</p>	<p>Up to \$7,500 per residence</p> <p>Maximum term is 5 years</p> <p>Annual interest rate is fixed at 3.9 per cent</p>	<p>The Winter Heating Cost Control Act required Manitoba Hydro to create an Affordable Energy Fund from electricity exports in 2006-07</p>

# EcoSave Energy Retrofits

## City of Nelson, BC

Program Administrator	Regulatory/Policy Framework	Financing	Funding
<p>EcoSave Energy Retrofits – Nelson Hydro</p> <p>Launched in April 2012</p>	<p>Municipally-owned utilities in BC are not regulated by the BCUC</p>	<p>Maximum loan amount is \$10,000</p> <p>Interest rate is 3.5% fixed rate, for a 5- year term</p> <p>10 year term is 3.5% fixed rate with a renewal date at 5 years</p>	<p>Funding from Nelson Hydro, the City of Nelson, Columbia Basin Trust, FortisBC and Natural Resources Canada</p>



# PAYS-British Columbia

Program Administrator	Regulatory/Policy Framework	Financing	Funding	Other Key Features
<p>Public utilities (i.e. FortisBC and BC Hydro)</p> <p>This program has not been launched yet</p> <p>Consultative process is underway</p>	<p>Amendments to the Clean Energy Act (2011)</p>	<p>FortisBC Loan cap up to \$10,000 (source: interview in Jan. 2012)</p> <p>Loan term up to 10 years (source: interview in Jan. 2012)</p>	<p>Public utilities are allowed to recover the costs of the loan program in rates</p> <p>BC Government to make available a loan loss reserve fund (source: interview in Jan. 2012)</p>	<p>Legislation includes loan repayment provisions</p>

# Clean Energy Works Oregon

## State of Oregon

Program Administrator	Regulatory/Policy Framework	Financing	Funding	Other Key Features
Clean Energy Works Oregon (CEWO)	Enabling Legislation: HB 2626	Multiple loan providers	U.S. Department of Energy Better Buildings Grant	Legislation includes loan repayment provisions
State of Oregon	Oregon Public Utility Commission approved On-bill loan repayment schedule for participating utilities	Multiple loan options including on-bill financing	Additional funding from the State of Oregon	Secondary lien placed on title
Launched in 2009		Up to USD\$30,000 Up to 20 year term As low as 5.99% for OBF (as of May 2012)	CEWO plans to attract private capital	

# Green Jobs-Green New York New York State

Program Administrator	Regulatory/Policy Framework	Financing	Funding	Other Key Features
<p>Green Jobs-Green New York (GJGNY) New York State</p> <p>On-bill financing has been available since January 2012</p>	<p>Enabling Legislation: GJGNY Act of 2009 and Power New York Act of 2011</p> <p>The NY Public Service Commission approved participating utilities' Rider H Tariff Changes</p>	<p>Lender: Energy Financial Solutions</p> <p>Two Loan Options: On-Bill Recovery Loans and Unsecured Loans</p> <p>Up to USD\$25,000 for residential consumers</p> <p>Up to 15 year term</p> <p>2.99 % for On-bill Recovery Loan (as of April 2012)</p>	<p>U.S. Department of Energy Better Buildings Grant</p> <p>Allocation to NY State of the federally authorized Qualified Energy Conservation Bonds</p>	<p>Loan repayment transferability as required by legislation</p> <p>Each on-bill recovery loan is secured with a mortgage upon the real property and recorded with County Clerk pursuant to the Real Property Law</p>

# How\$mart® - Midwest Energy

## State of Kansas

Program Administrator	Regulatory/Policy Framework	Financing	Funding	Other Key Features
<p>How\$mart® – Midwest Energy</p> <p>State of Kansas Inception of the program: 2007</p>	<p>Enabling Legislation: Kansas Statute 66-1248</p> <p>How\$mart® Pilot approved by the Kansas Corporation Commission</p>	<p>Lender: Midwest Energy</p> <p>Up to 15 year term</p> <p>Interest rate for residential customers is 4.5% (as of May 2012)</p>	<p>Utility rate base or low-cost alternative financing</p>	<p>Transferability of the How\$mart® payment obligation to a new owner or to the incoming tenant</p>

# Green Deal UK

Program Administrator	Regulatory/Policy Framework	Financing	Funding	Other Key Features
<p>Green Deal</p> <p>United Kingdom</p> <p>To be launched in 2012</p>	<p>Energy Act 2011</p>	<p>Green Deal Financier</p> <p>Green Deal finance arrangement could be for as long as 25 years</p>	<p>Golden Rule</p> <p>Energy Company Obligation (ECO)</p>	<p>Green Deal Advisor</p> <p>Green Deal Provider</p> <p>Green Installer</p> <p>Electricity supplier</p>

# Simplified Administration Process

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Applicant Registers for the Program

Home Energy Assessment

Signing of Contract

Implementation of Retrofit

Post-Retrofit Assessment

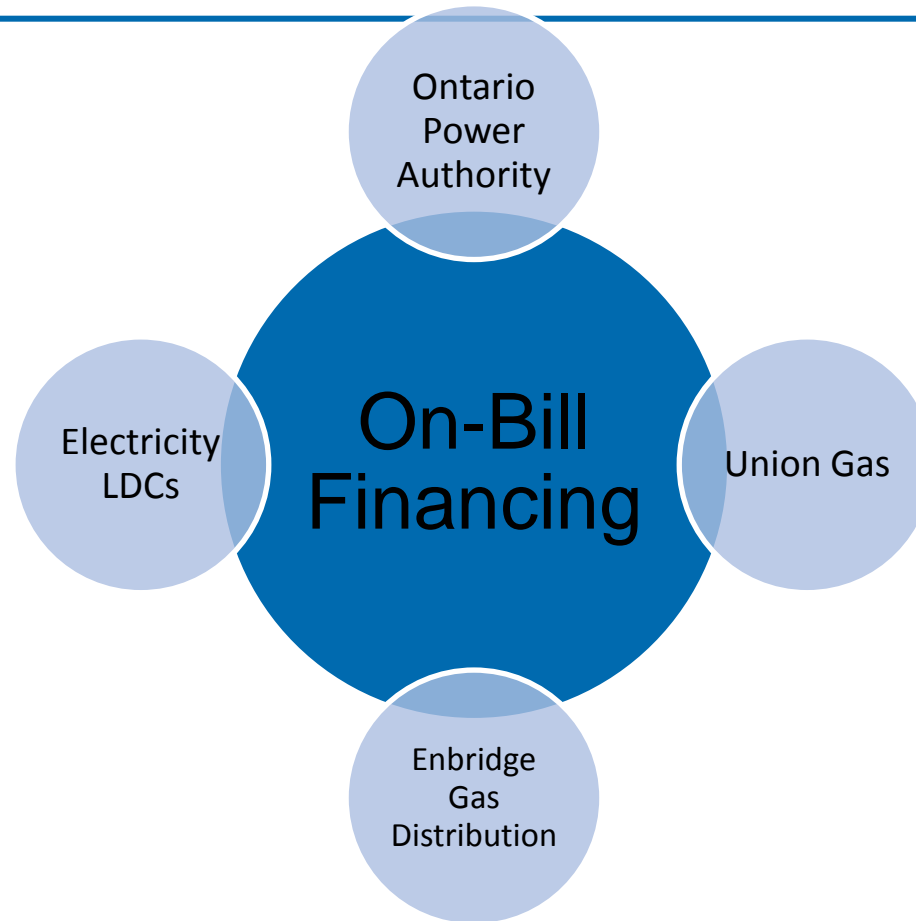
Signing of Loan Agreement

Payment to the contractor

Utility notified to start billing of loan repayment

# Current Status of On-Bill Financing in Ontario

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# On-Bill Financing Opportunity

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Opportunities for:

- Low-income consumers
- Other residential consumers
- Financial institutions
- Contractors
- Governments



# Integrating Electricity and Natural Gas Conservation and Financing

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- Whole-House Approach
- Program Incentives
- Gas and Electricity Distributors
- OPA
- Financial Institutions
- Funding

- Energy Savings
- Increased Property Value
- Home Comfort
- Smaller Environmental Footprint

# Thank You

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