A Condominium Perspective
Roger Thompson, VP Strategy and Sustainability
FirstService Residential
• North America's largest manager of residential communities
  • 1.6 MM units under management
  • 16,000+ associates
  • 7,900 communities (2,750 high rise condominiums)
  • $7.5BN under administration

FirstService Brands
• North America's largest providers of essential property services to residential and commercial customers
FirstService Residential Ontario

- Located near Pearson International Airport
- 20+ years in Ontario
- 45,000+ units under management
- 350+ condominium corporations (100+ high rise)
- Residential Focused Services:
  - Property (Condo) Management
  - Property Services
    - Superintendent
    - Housekeeping
    - Security/Concierge
Legal Requirements to be a:

Condominium Board Member
- 18+ years of age
- Mentally competent
- Not bankrupt

Condominium Manager
- None
<table>
<thead>
<tr>
<th>Year</th>
<th>Count</th>
<th>kWh</th>
<th>Incentive Paid</th>
<th>Project Costs</th>
<th>Simple Payback</th>
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<tr>
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<td>2014</td>
<td>25</td>
<td>3,962,356</td>
<td>$210,253</td>
<td>$1,341,397</td>
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<td>2015</td>
<td>19</td>
<td>1,544,971</td>
<td>$86,591</td>
<td>$603,514</td>
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<tr>
<td>Total</td>
<td>60</td>
<td>7,121,726</td>
<td>$394,482</td>
<td>$2,498,906</td>
<td>2.5</td>
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</table>
Benchmarking the FirstService Portfolio

FirstService Median, 11,057 kWh/suite

All Condos - Median, 9,317 kWh/suite

All Condos - Top 25%, 6,013 kWh/suite

All Condos - Bottom 75%, 12,213 kWh/suite
### 132 MULBERRY STREET, Manhattan, 10013

#### Multifamily Housing
- **ENERGY STAR Score:** Not Available
- **Year built:** 1915
- **Number of buildings on lot:** 1
- **Number of floors in primary building:** 6

#### Weather-Normalized Energy Use Intensity (EUI)
- The EUI for this property is 267.2.
- This is more than 99% of properties of this type.

#### Indoor Water Use Intensity (WUI)
- The WUI for this property is 124.82.
- This is more than 92% of properties of this type.

#### Greenhouse Gas Intensity
- The GHG intensity for this property is 9.92.
- This is more than 85% of properties of this type.

#### Gross Floor Area
- The gross floor area for this property is 60,508.
- This is smaller than 82% of properties of this type.

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<table>
<thead>
<tr>
<th>Property type</th>
<th>No. of properties</th>
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<tbody>
<tr>
<td>All Property Types</td>
<td>10019</td>
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<tr>
<td>Multifamily Housing</td>
<td>6475</td>
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<tr>
<td>Office</td>
<td>936</td>
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<tr>
<td>Hotel</td>
<td>150</td>
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<tr>
<td>Non-Refrigerated Warehouse</td>
<td>112</td>
</tr>
<tr>
<td>Residence Hall/Dormitory</td>
<td>81</td>
</tr>
<tr>
<td>Retail Store</td>
<td>77</td>
</tr>
<tr>
<td>Senior Care Community</td>
<td>73</td>
</tr>
<tr>
<td>K-12 School</td>
<td>49</td>
</tr>
<tr>
<td>College/University</td>
<td>38</td>
</tr>
<tr>
<td>Hospital (General Medical and Surgical)</td>
<td>28</td>
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</table>
Multi-Site Customer Energy Managers

The Multi-Site Customer (MSC) Energy Manager Program helps customers with facilities across multiple hydro company territories to access funding through one agreement with the IESO. This program eliminates the need for duplicative agreements, and complements other programs offered by local hydro companies.

Program Overview

You are eligible to apply for this program if:

- You have facilities located in five or more hydro company service areas; and
- the facilities have a combined peak demand of 15 MW, or an annual electricity consumption of 75,000 MWh

The IESO will provide an up-front payment of $40,000 annually upon the hiring of an Energy Manager, with an annual total funding cap of $150,000. The Energy Manager is required to meet certain pay-by-performance criteria, which includes:

- Minimum annual energy savings of 2,000 MWh with $40 paid for every megawatt-hour saved.
- Energy managers can reach their targets through projects supported by other Save on Energy incentives, but a minimum of 10 per cent of energy savings must come from other projects that have not received an incentive.
Energy Retrofit Opportunities with Expected Common Area Electricity Savings

Chiller/Heat Pump Tune-Up
(≈ 5-10% electricity savings w. 1-3 year payback)

Ventilation Optimization
(≈ 5-10% electricity and gas savings w. 0.5-3 year payback)

Heating/Cooling Hydronic Pump Optimization
(≈ 1-5% electricity savings w. 0-3 year payback)

Whole building LED Conversion
Garage, Hallways, Corridor, Service rooms, Amenities, Exterior, etc.  
(≈ 10-20% electricity savings w. 1-3 year payback)

Cold Water Booster Pumps Optimization
(≈ 1-5% electricity savings w. 1-3 year payback)

20-40% Annual Electricity Savings
Condominium Board Member
- 18+ years of age
- Mentally competent
- Not bankrupt

Condominium Manager
- None
Barriers

Identify:
- Access to Capital
- Investment Decision analysis knowledge
- Building Systems knowledge
- Awareness
- Energy Savings Doubt
- Lack of Trust
- Reserve Fund Usage Restrictions
- Barriers to Borrowing
- Benchmarking (the data)

Educate:

Focus:

- Investment Decision analysis knowledge
- Building Systems knowledge
- Awareness
- Energy Savings Doubt
- Lack of Trust
- Reserve Fund Usage Restrictions
- Barriers to Borrowing
- Benchmarking (the data)
- Access to Capital
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- Access to Capital

Educate

Focus
Liberty Towers

• 286 units
• 7 years young
• Party room
• Catering kitchen
• Private bar and lounge
• BBQ area
• Multi-Media Lounge
• Two guest suites
• Car wash bay on P1
• 3 elevators
Liberty Towers

- Progressive/Active board members
- Board President started the Liberty Village Residents Association
  - A neighbourhood association for the residents of Liberty Village, Toronto, Canada.
  - 8,600 members
- Focused on community building, energy conservation/sustainability and quality of life

✓ Investment Decision analysis knowledge
✓ Building Systems knowledge
✓ Awareness
✓ Energy Savings Doubt
✓ Lack of Trust

Reserve Fund Usage Restrictions

Barriers to Borrowing

Benchmarking (the data)

Access to Capital
Liberty Towers Energy Investments
1. LED Lighting Conversion
2. VFD on Make-Up Air
3. VFD on Building Pumps
37% Reduction in Common Area Electricity and 15% Reduction in Natural Gas use.

Measures Already in place
VFD on Domestic Water Booster Pump
Carbon Monoxide on Garage Ventilation Fans
Liberty Towers LED Conversion

• Lighting in common areas ON - 24hrs/365days. LED retrofit reduces common area consumption by 12.5%.
  • **Project Cost:** $45,600
  • **Incentive:** $8,190
  • **Annual Electricity Savings:** $24,600/year
  • **Project Payback:** 1.5 years
  • **Bulb Replacement avoided costs:** $3,525/year
Liberty Towers
VFD on Make-Up Air

• Install Variable Frequency Drive on Make-Up Air and operate on Time of Day Schedule. Ventilation operates - 24hrs/365days. Measure retrofit reduces common area electricity by 8% and Natural gas by 10%
  • **Project Cost:** $16,884
  • **Incentive:** $8,442 (Combined IESO and Enbridge)
  • **Annual Utility Savings:** $34,175/year
  • **Project Payback:** 3 months

- Investment Decision analysis knowledge
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Liberty Towers

VFD’s on Building Pumps

• Balance Building Pumps and install Variable Frequency Drives. Building pumps operate 24hrs/365days. Measure retrofit reduces common area electricity by 14%
  • **Project Cost:** $33,450
  • **Incentive:** $10,000 (estimated)
  • **Annual Operating Savings:** $28,500/year
  • **Simple Payback:** 10 month
Liberty Towers Resident Engagement (ongoing)

• Waste Diversion – goal to divert 80% from landfill (approx. 50-60% thus far)

• Energy Awareness/Conservation is used as a community building initiative
  • Continuous education/events
  • Communication strategy

• Resident Engagement Pilot Project.
  • Pilot to leverage detailed data to incorporate Behaviour, Retrofit and incentives to improve energy uses in suites.
Electricity Use/Day Trends
Natural Gas Use/Day Trends

Annualized Rolling Avg m3/D
Ontario Success (2016)

• Current Pipeline - 49 active energy projects totaling 7,685 MWh savings (and growing).
• Savings of $1,306,450/year
• Investment of $1,590,222 (Benefit of $358,681 IESO incentives)
Ontario Success (2016)

- Overall Project Payback of 1.2 years
- Over a 5 year measure life - Risk adjusted Present Value of these projects is estimated at $2,846,397
- IRR of 66.6%.
Our Mission:
Deliver exceptional service and solutions that enhance the value of every property and the lifestyle of every resident in the communities we manage.
"I am extremely happy with our condominium management team, Ilir and Shawn. Ilir has repeatedly helped us resolve maintenance and structural issues which frequently arise in our older building. Shawn has significantly improved project status communications to the owners."

Making a Difference. Every Day.