

Enbridge Steam Saver Program Results to Date

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Incentive Grants for Audits and Studies

Enbridge Pays

- **Steam Plant Audits** **2/3 up to Maximum \$ 5,000.**
- **Steam Trap Surveys** **50% up to \$ 5,000.**
- **Insulation Surveys** **50% up to \$ 5,000.**
- **Industrial HVAC Audits** **50% up to \$ 5,000.**
- **Feasibility Studies** **50% up to \$ 5,000.**



Incentive Grants for Capital Projects

- For Natural Gas Efficiency Projects Enbridge Pays a one-time incentive grant on the annual savings.
- \$ 0.05 per Cubic Metre of Natural Gas Saved.
- Maximum Grant \$ 30,000 per Project.
- Financial Payback can not be less than 2 years.
- Projects Can be Bundled to include short and long payback projects.



Steam Saver Programs

1. Steam Plant Performance Test and Audit
2. New Boiler Installations
3. The Steam Trap Survey
4. Combustion Tune-up for Larger Boiler Plants
5. Metering and Energy Management
6. The Insulation Survey

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The Steam Plant Performance Test and Audit Identified Savings 1997 to 2002

- **Number of Audits Completed:** 62
- **Total Annual Gas Consumption:** 528 MCU M/YR
- **Annual Fuel Cost:** \$ 132 Million
- **Savings Projects Identified:** 329
- **Annual Fuel Savings Identified:** 65.5 MCU M/YR
12.4% of Total
- **Annual Dollar Savings Identified:** \$ 16.4 M per YR
- **Note: M CU M = Million Cubic Metres**



The Steam Plant Performance Test and Audit Implemented Projects 1997 to 2002

- **Projects Implemented:** 70
- **Annual Fuel Savings:** 21.9 M CU M/YR
- **Annual Cost Savings:** \$ 5.5 M per Year
- **Implementation Rate:** 33%

**Note: Savings figure excludes electricity, fuel oil,
water and chemicals.**

\$ M = Million Dollars



Where Do the Savings Come From?

329 Projects Identified, 62 Plants

	<u>M CU M</u>	<u>% of Fuel</u>
■ Combustion Improvements	8.5	1.6%
■ Boiler Plant Capital Projects	10.3	2.0%
■ Heat Recovery	15.7	3.0%
■ Operating Changes	14.9	2.8%
■ Steam & Condensate System	8.5	1.6%
■ Building HVAC	2.5	0.5%
■ Insulation Improvements	1.9	0.4 %
■ Other	3.2	0.5%
■ TOTAL	65.5	12.4%



Steam Trap Surveys Years 2000 and 2001

■ Number of Surveys Completed:	80	
■ Number of Traps Identified:	16,251	
■ Number of Traps Tested:	14,330	
■ Leaking or Blow-Through:	2,180	15.2%
■ Blocked or Flooded:	854	6.0%
■ Total Defects:	3,034	21.2%
■ Annual Steam Loss:	210.3 Million LB/YR	
■ Annual Savings Identified:	9.3 Million CU M/YR	
■ Traps repaired or replaced:	7.8 Million CU M/YR	



Other Steam Saver Programs Annual Savings Implemented

- Steam Pressure Reduction: 1.7 M CU M/YR
- Combustion Improvements: 1.1
- Insulation Improvements: 2.2
- Other Projects (Stand alone) 3.5
- eg. Direct Contact Water Heaters
M.U. Air Unit Conversions
- Total Savings Implemented-Other 8.5 M CU M/YR
\$ 2.1 Million per YR



Total Savings and Financial Payback All Projects to date Identified

	<u>Savings</u>	<u>Cap. Cost</u>	<u>Payback</u>
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Note: M = Millions of Dollars

Savings based on natural gas at \$ 0.25 per CU M

Savings exclude electricity, water, fuel oil and chemicals



Total Savings-Implemented Saver Program- To date

	<u>M CU M/YR</u>	<u>M Dollars</u>
■ Steam Plant Audit	21.9	\$ 5.5
■ Steam Trap Surveys	7.8	\$ 2.3
■ Other	8.5	\$ 2.1
<u>Total</u>	<u>38.2</u>	<u>\$ 9.9</u>



How Much Does a Survey Cost? Average for All Surveys To Date

	<u>Total Cost</u>	<u>Enbridge Share</u>
■ Boiler Plant Audit	\$ 8,500	\$ 5,000
■ Steam Trap Survey	\$ 2,200	\$ 1,100
■ Insulation Survey	\$ 4,000	\$ 2,000