



CANADIAN INSTITUTE OF PLUMBING & HEATING  
L'INSTITUTE CANADIEN DE PLOMBERIE ET DE CHAUFFAGE

A National Voice with Regional Roots | Une histoire régionale, une voix nationale

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C.Memo: C.003.08

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**SUBJECT: Province of BC Proposed Energy Efficiency Requirements for Residential Water Heaters**

Good Morning Katherine!

Thank you again for the opportunity and the extended deadline for the Canadian Institute of Plumbing & Heating to respond on behalf of its water heater manufacturers to provide feedback to the proposed regulation. At the Province's request the following will provide you with the Institute's counter proposal to the proposed regulation. Attached you will also find the following:

1. Energy Profiles Ltd. technical assessment to the report provided by Caneta Research Inc.; and
2. Additional industry issues.

**Counter Proposal from the Canadian Institute of Plumbing & Heating  
(For New Construction and Replacement Markets)**

**Phase 1**

a) Efficiency Proposal:

**Natural Gas and Propane Water Heaters**

"Energy Efficiency (EF) greater than or equal to  $0.70 - (0.0005 * V)$  as proposed by British Columbia."

Power Vent (PV) models effective December 1, 2009:

**Rationale:**

- Most PV current designs meet the proposed EF requirement. Those products that do not meet the requirement are very close and manufacturers will need time to modify and transition their designs to ensure compliance across all models and phase out obsolete inventory in the distribution channel.

Atmospherically Vented models effective September 1, 2010:

**Rationale:**

- Need time to develop products as current models do not meet the requirement;
- Timing is consistent with Energy Star which manufacturers are already working towards;
- BC will reap the benefits of Energy Star product sales and are encouraged to promote;
- Allows BC and manufacturers to gauge the success and cost implications (installation, freight, product design, etc) of Energy Star products before mandating (confirm payback, etc).

**Electric Water Heaters**

Leave the current "watts loss" requirement for both top inlet and bottom inlet heaters as it exists today until such time as a more indicative test method or more tests can be performed to determine real gains that can be economically achieved for consumers. Hydro Quebec has provided the Institute with a report which indicates the average standby loss to represent 16% of the overall energy consumption of an electric water heater. Thus 84% of the energy used goes into heating the consumed water. Furthermore, during the cold season, which lasts at least six months of the year, this translates to only a real 8% loss. As such, a 10% reduction in standby would only give an 0.8% reduction in overall energy consumption whereas a 10% reduction of hot water use would give an 8.4% reduction in energy. The complete report is available upon request.

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**Rationale:**

- Small incremental watts loss improvements to current designs cannot be justified in a cost of product vs. energy savings scenario;
- The addition of heat trap devices and pipe insulation make the watts loss differences between top inlet and bottom inlet designs insignificant.
- If Phase 2 is to be max 56 watts loss or similar as suggested, current products will be obsolete in 18 to 24 months and manufacturers will need the time to develop new products;

Effective September 1, 2009 mandate field-installed heat trap devices and water pipe insulation to improve efficiency until new technology and standards are developed. CIPH water heater members are prepared to work with the province, utilities and the distribution channel to educate contractors and consumers on these aspects. This will provide immediate 5 to 10 watts improvement across all models of electric water heaters when implemented at marginal cost.

- b) An important component of any new program is adequate education and training. Retailers, utilities, builders and contractors will need to understand the full impact of the proposed legislation and how best to change their business models to endorse and support energy efficiency initiatives.
- c) As important as energy efficient products; consumer understanding and behaviour towards hot water and hot water usage needs to increase. Every gallon of hot water not consumed, provides as great an opportunity to save energy.

**Phase 2 and Phase 3**

The Province has indicated that Phases 2 and 3 are visionary and that evaluations and exploration of options for these continue. If it is the Province's desire to achieve this vision, then CIPH requests that an industry/government partnership with allied stakeholders be established to explore and develop these together.

Whatever the criteria that may ultimately be proposed by the BC government, the proposal to have these requirements go into effect only two years after the implementation of the Phase 1 requirements is too short. A two-year period between the imposition of new, more stringent efficiency requirements is not appropriate given the practical realities of the complete process of developing new water heater models from inception to full production. Furthermore, such a short period does not allow manufacturers to recoup their investment for complying with Phase 1.

Katherine, our goal is to seek a win/win and the Institute believes that a workable and practical solution is being offered. We look forward to our teleconference call meeting set for January 7, 2009.

Yours sincerely  
Canadian Institute of Plumbing & Heating

Ralph Suppa, CAE  
President and General Manager

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ATTACHMENT: Energy Profiles Ltd Assessment  
Additional Industry Issues Document

c.c. CIPH Board of Directors  
CIPH BC Rgn Board of Directors  
Plumbing Industry Advisory Council (PIAC)  
Canadian Advisory Council on Plumbing (CACCP)  
Canadian Gas Association (CGA)  
J. Cockburn, NRCan  
A. Pape-Salmon, BC Ministry of Mines & Resources  
Plumbing Officials of British Columbia (POABC)  
Mechanical Contractors Association of Canada (MCAC)  
Canadian Home Builders Association (CHBA)  
Air-Conditioning, Heating and Refrigeration Institute (AHRI)  
Thermal Environmental Comfort Association (TECA)  
Canadian Fuel and Energy Supply Utilities