

Efficient boiler program

Terms and conditions



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The incentives

Efficient boiler incentives are made up of two parts: a purchase incentive which is based on the type of boiler purchased, plus either; a new construction incentive; or a retrofit incentive.

Purchase incentive

For all participants, the incentive applies to the incremental purchase price of a natural gas near-condensing or condensing boiler over the purchase price of a standard-efficiency boiler. The purchase price incentive is based on space heating and ventilating load. They will be calculated as follows:

- near-condensing boilers: \$4,000 per boiler plus \$3 per MBH plant input
- condensing boilers: \$6,000 per boiler plus \$9 per MBH plant input

The purchase price of a standard-efficiency boiler will be estimated using \$7 per MBH of the input required to meet the space heating load.

In addition to the purchase price incentives above, Terasen Gas will also contribute additional incentives to your upgrade project as outlined below.

New construction

Terasen Gas will contribute 50 per cent of engineering fees to a maximum of \$1,500 toward the cost of estimating the annual gas usage for space heating using a standard-efficiency boiler system versus a higher efficiency boiler system. Purchase price

incentive payments are limited to a maximum of 75 per cent of the purchase price premium over a standard boiler.

Retrofit of existing buildings

The program will pay your contractor up to a maximum of \$400 for performing an estimate of the peak space heating load. It will also pay 50 per cent of the cost of necessary venting modifications up to a maximum of \$2,000. During the first year of operation you are also entitled to a monitoring incentive of \$1,500 plus \$1 per gigajoule of total natural gas saved. Purchase price incentive payments are limited to a maximum of 50 per cent of the purchase price premium over a standard-efficiency boiler.

The benefits

Ongoing savings of up to 40 per cent

- operating savings from lower natural gas expenditures
- greater potential savings if boilers are also used for domestic hot water heating

Higher performance

- improved operating efficiency through correct boiler sizing
- improved reliability if a modular boiler system with multiple boilers is used

Energy efficiency assistance

- assistance in determining your facility's potential for energy improvements
- help in finding ways to save money and improve your facility's operation

Space efficiency and comfort

- requirement for less space in mechanical rooms
- excellent opportunity to increase occupant comfort and reduce building maintenance and operating costs to end buyers

Increased marketability

- improved efficiency appealing to customers who recognize the value it adds to their investment
- increased value of your development
- competitive advantage over other projects

Environmental benefits

- fewer CO, CO₂ and NO_x emissions into the atmosphere
- responsible use of a clean burning natural resource

Program terms and conditions

Note: Subject to change without notice.

1.0 Overview

- 1.1 The Efficient Boiler Program (the program) from Terasen Gas Inc. (Terasen Gas) is designed to stimulate investment in appropriately sized energy-efficient space heating boilers that will reduce natural gas usage and associated operating costs. The program is targeted to both new construction and replacement markets.
- 1.2 The program offers all market participants an incentive payment to partially offset the higher purchase price of higher efficiency boilers, a contribution to the cost of accurately estimating the building's space heating load.
- 1.3 In new construction, the program contributes to the engineering fees for estimating the building's annual natural gas usage for space heating with a standard efficiency boiler and comparing it to that with a higher efficiency boiler. It also partially offsets the higher boiler purchase price incurred by a developer, builder or owner. Terasen Gas will also recognize the developer's, builder's or owner's commitment to energy efficiency on behalf of tenants, end users and subsequent owners.
- 1.4 In the replacement market, the program compensates a mechanical contractor to accurately estimate the peak space-heating load. It also reduces the building owner's higher purchase price for an energy-efficient boiler, including an allowance for required venting upgrade modifications. It also promotes proper ongoing operation and maintenance of the heating plant to reduce annual space heating costs, maintain efficiency and lower life cycle costs by paying building owners a monitoring incentive and a natural gas-saving bonus.
- 1.5 By taking part in this offer, your boiler may use less natural gas and produce fewer emissions. You agree Terasen Gas Inc. may record any resulting emission reductions you have along with those of other participating customers and credit them to our Greenhouse Gas Management Program.

2.0 Participant eligibility criteria

- 2.1 The applicant must be a building developer, builder, building owner or owner's designated representative.
- 2.2 The facility where the boiler is installed must be in the Terasen Gas service territory in the Lower Mainland, Vancouver Island, Sunshine Coast, or the Interior of BC. (Not available in Whistler).
- 2.3 The facility where the boiler is installed must use natural gas purchased according to one of the following Terasen Gas Rate Schedules: 2, 2U, 3, 3U, 23, 5, 25, AGS, SCS-1, SCS-2, LCS-1, LCS-2 or LCS-3.
- 2.4 Only eligible boilers under the program qualify for the incentive (see section 4.0 for the boiler eligibility criteria).
- 2.5 The incentive will only be paid for space heating boilers. When the boiler is used for space heating as well as other applications such as domestic hot water and pool heating, the domestic hot water load and the pool heating load will be subtracted from the boiler input to determine the space heating load for incentive calculations.
- 2.6 Standby or backup space heating boiler plants will not normally qualify under this program. Standby or backup boilers are defined as boilers that normally only operate during peak heating load. However, a boiler plant that is not the primary source (i.e. does not provide over 50 per cent) of space heating for the facility, can qualify if the facility uses natural gas for domestic hot water and make-up air units.

3.0 Program process

All market participants

- 3.1 Applicant's contractor or qualified professional determines the capacity of the space heating plant, type of boiler (i.e. condensing or near-condensing), capacity and number of boilers required to meet the space-heating requirements of the building.
- 3.2 Applicant completes Efficient Boiler Program Application Form and submits it along with required documentation (7.0) to Terasen Gas.
- 3.3 Terasen Gas reviews application for completeness.
 - (i) If application is complete, Terasen Gas estimates the incentive that is payable to the applicant.
 - (ii) If application is incomplete, Terasen Gas will ask applicant for additional information.
 - (iii) If required documents are not completed and submitted within one month of the application date the application may be cancelled.
- 3.4 Applicant receives a letter from Terasen Gas stating whether the application was approved or rejected. If approved, an estimate of the incentive(s) payable to the applicant will be attached to the letter.
- 3.5 Applicant purchases and installs the boiler within 12 months from the date of approval (3.4) by Terasen Gas.
- 3.6 Applicant submits required documentation to Terasen Gas within one month of boiler installation. (See Section 7.0 for documentation).
- 3.7 Terasen Gas reviews documents for completeness.
 - (i) If all documents are in order and the applicant has met all the requirements of the program and the boiler capacity has not changed from original application, Terasen Gas issues a boiler incentive cheque to the applicant.
 - (ii) If all documents are in order and the applicant has met all the requirements of the program, but the installed boiler capacity and/or purchase price has changed since the application was first submitted, Terasen Gas recalculates the incentive and issues a cheque for the revised boiler incentive.

New construction market participants

- 3.8 The contribution of Terasen Gas to the engineering fees required to estimate annual gas usage will be included in the boiler incentive cheque issued to the applicant.

Replacement market participants

- 3.9. The contributions of Terasen Gas to the contractor's cost to estimate the peak space heating load, and to the cost of the required venting upgrades, will be included in the boiler incentive cheque issued to the applicant.
- 3.10 Terasen Gas will send the reporting requirements for the monitoring incentive and gas-saving bonus to the applicant with the incentive cheque.
- 3.11 Applicant prepares the reports that are required for the monitoring incentive and gas-saving bonus.
- 3.12 Applicant submits the reports to Terasen Gas. One report is submitted six months after boiler installation; the second report is submitted 12 months after boiler installation.
- 3.13 Terasen Gas reviews the reports for completeness.
 - (i) If applicant meets the reporting requirements, Terasen Gas calculates the monitoring incentive and gas-saving bonus and issues a cheque. Cheque is issued after Terasen Gas receives the two complete sequential six month reports.
 - (ii) If applicant has not met the reporting requirements, Terasen Gas advises applicant that reporting requirements have not been met and applicant does not qualify for monitoring incentive and gas-saving bonus.

4.0 Eligible boilers

All boilers

- 4.1 Must be a natural gas space heating boiler system (propane boilers in Revelstoke can also qualify). Multiple boiler modules housed in a single jacket constitute one boiler.
- 4.2 The minimum boiler input rating is 300,000 Btu/hr.
- 4.3 The maximum boiler input rating is 5,000,000 Btu/hr.
- 4.4 The minimum space heating plant input rating is 300,000 Btu/hr.
- 4.5 The maximum space heating plant input rating is 10,000,000 Btu/hr.
- 4.6 The incentive will only be paid for space heating boilers. (see section 2.5 for details).
- 4.7 Boiler efficiency ratings must be independently tested in accordance with BTS-2000 Testing Standard for Efficiency of Commercial Space Heating Boilers from the Hydronics Institute Division of GAMA (www.gamanet.org) or CSA 4.9 Gas-Fired Low Pressure Steam and Hot Water Boilers.
- 4.8 Third party documentation of boiler combustion efficiencies must be provided for boiler eligibility. Acceptable documentation includes either
 - (i) combustion efficiency test reports from testing laboratories accredited by the Canadian Standards Association (CSA International) or the American National Standards Institute or from the Hydronics Institute Division of GAMA;
 - (ii) a combustion efficiency certification letter from CSA International; or
 - (iii) inclusion in the I=B=R Ratings for Boilers, Baseboard Radiation and Finned Tube (Commercial) Radiation Directory, January 2008 Edition, with the steady state combustion efficiency rating published in the directory (www.gamanet.org).
- 4.9 Boiler must be installed in accordance with the manufacturer's specification and must comply with applicable laws, codes, standards and ordinances.
- 4.10 The boiler must be new. Used or rebuilt boilers do not qualify for the incentive.
- 4.11 Boilers must be covered by a standard or optional minimum two-year parts and labour warranty.

Near-condensing boilers

4.12 Definition of near-condensing boiler:

- (i) has a minimum steady state combustion efficiency of 85 per cent as tested throughout the turn down range in accordance with BTS-2000ⁱ or CSA 4.9ⁱⁱ
- (ii) has a factory installed intermittent ignition
- (iii) has a forced draft or induced draft burner that properly controls excess air
- (iv) conforming boilers will have continuous capacity modulation (not staged burner output control) to enable operation at reduced output down to 50 per cent or less of maximum continuous output. This turndown will be achieved by continuously varying fuel and air input quantities

Condensing boilers

4.13 Definition of condensing boiler:

- (i) has a minimum steady state combustion efficiency of 88 per cent throughout the turn down range as tested in accordance with BTS-2000ⁱ or CSA 4.9ⁱⁱ
- (ii) a Category IV boiler that vents through a Class II Type BH stack or a stack that complies with the manufacturer's recommendations
- (iii) conforming boilers will have continuous capacity modulation (not staged burner output control) to enable operation at reduced output down to 50 per cent or less of maximum continuous output. This turndown will be achieved by continuously varying fuel and air input quantities
- (iv) the boiler can continuously withstand heating system return water temperatures that do not exceed 49°C

List of eligible boilers

- 4.14 A list of eligible boilers is available on our website at terasengas.com. This list may be updated during the course of the program.

i - BTS 2000 Testing Standard for Efficiency of Commercial Space Heating Boilers, Hydronics Institute Division of GAMA - 2000

ii - Gas-Fired Low Pressure Steam and Hot Water Boilers, Canadian Standards Association

5.0 Incentives

All market participants

- 5.1 Boiler purchase price incentives will be calculated as follows:
 - (i) near-condensing boilers: \$4,000 per boiler plus \$3.00 per MBH plant input for space heating load
 - (ii) condensing boilers: \$6,000 per boiler plus \$9.00 per MBH plant input for space heating load
- 5.2 The purchase price of a standard efficiency boiler will be estimated using \$7.00 per MBH of input for space heating load.
- 5.3 The boiler purchase price is the applicant's purchase price of the boiler net of any vendor rebates excluding installation labour, venting and accessories.
- 5.4 Terasen Gas reserves the right to limit the number of incentive payments it provides for the program.

New construction market participants

- 5.5 In new construction, Terasen Gas will pay 50 per cent of a qualified professional's fees to compare the estimated annual natural gas usage for space heating using a standard efficiency boiler to that with a higher efficiency boiler to a maximum of \$1,500. This will be payable to the applicant at the time the boiler purchase price rebate is paid to the applicant and will not be paid unless an eligible boiler is actually installed. Proof of payment must be submitted with the application. The energy modelling must be completed by a qualified professional using DOE, EE4, TRACE, HAP or equivalent program and must compare the space heating energy use of the building using a standard efficiency boiler and a higher efficiency boiler.
- 5.6 In new construction, boiler purchase price incentive payments are limited to a maximum of 75 per cent of the premium over a standard efficiency boiler.

Replacement market participants

- 5.7 In replacement applications, Terasen Gas will pay a maximum \$400 of the cost incurred to estimate the peak space heating load. This will be payable to the applicant at the time the purchase price incentive is paid and will not be paid unless an eligible boiler is actually installed. Proof of payment must be submitted with the application.
- 5.8 In replacement applications, boiler purchase price incentive payments are limited to a maximum of 50 per cent of the premium over a standard efficiency boiler.
- 5.9 In replacement applications, the total amount of the boiler purchase price incentive and the venting replacement incentive is subject to a maximum limit equal to the price of the installed boiler.
- 5.10 In replacement applications, Terasen Gas will pay a monitoring incentive of \$1,500 plus \$1/GJ of gas-saving bonus for each GJ of annual weather-normalized reduction in total natural gas consumption. The weather-normalized gas consumption in the 12-month period following the boiler installation will be compared to the weather-normalized gas consumption during the 12-month period prior to the boiler installation. The applicant must report the data from the following inspections:
 - (i) perform combustion analysis and record combustion efficiency, %CO₂, %O₂, ppm NO_x and flue gas temperature every six months
 - (ii) perform a diagnostic check of the controls weekly
 - (iii) perform visual check of system components weekly
 - (iv) record boiler water outlet temperature weekly
 - (v) record boiler water inlet temperature weekly
 - (vi) record boiler room temperature weekly
- 5.11 Applicant must submit reports that include the data listed above to Terasen Gas six months and 12 months after the boiler installation to qualify for the monitoring incentive and gas-saving bonus.

6.0 Additional terms and conditions

All market participants

- 6.1 One application form must be submitted per each gas account (gas meter) in your facility, that serves the qualifying boiler plant or plants you want to apply for.
- 6.2 The building's heat load must be calculated and the heating plant must be sized in accordance with ASHRAE Standard 90.1 to ensure the heating plant is not oversized.

Equipment requirements

- 6.3 HVAC systems must be sized to meet the needs of the conditioned spaces.
- 6.4 Equipment installed outdoors or in unconditioned spaces must be designed by the manufacturer for such installation.
- 6.5 HVAC equipment and components included in the scope of Model National Energy Code for Buildings (MNECB) Table 5.2.13.1 must comply with the relevant local appliance/equipment energy efficiency act or the relevant standard listed.

Hydronic systems

- 6.6 All hydronic systems must be designed so they can be balanced.
- 6.7 Multiple boiler systems must prevent heat loss through boilers when they are not in operation through the use of such items as draft dampers or shut-off valves interlocked with burners.
- 6.8 Pipes containing fluids with design operating temperatures outside the 13°C to 40°C range must be insulated as per MNECB Table 5.4.2.3. Some exemptions apply.
- 6.9 Boiler hot water distribution piping outside the building envelope must be insulated to the maximum requirements as per MNECB Table 5.4.2.3. Insulation must be protected where it may be subjected to mechanical damage, weathering or condensation.
- 6.10 Seasonal pumping systems, such as heated and chilled water pumping systems, must have automatic controls or readily accessible and clearly labelled manual controls to shut down the pumps when they are not required.

Additional requirements

- 6.11 All boiler installations with a maximum rated input of 400,000 BTU/hr or higher must be approved by the BC Safety Authority. (See 7.2 (ii))
- 6.12 The manufacturer or an authorized factory representative must either perform or supervise equipment start up and provide a written report to Terasen Gas indicating that the installation meets manufacturer's requirements. The report must include:
 - (i) boiler inlet return water temperature °C
 - (ii) boiler outlet supply water temperature °C
 - (iii) boiler room temperature °C
 - (iv) exhaust gas temperature °C
 - (v) %CO₂ in the exhaust
 - (vi) %O₂ in the exhaust
 - (vii) % steady state combustion efficiency
 - (viii) boiler clocked firing rate (Btu/hr)
- 6.13 The applicant agrees to periodic inspections of the applicant's premises by Terasen Gas or its representative to verify that the boiler has been installed and is in operation, and to cooperate with Terasen Gas thereafter to gather information necessary to assess the success of the program.
- 6.14 Applicant agrees to allow Terasen Gas to publish their business name, a general description of the system upgrade undertaken and resulting energy performance and payback period.

New construction market participants

- 6.15 In new construction, a qualified professional must be retained to estimate:
 - (i) the facility's peak space heating load based upon the January 2.5 per cent °C winter design temperature for your location (reference Table C-2 National Building Code)
 - (ii) a standard efficiency boiler's peak annual gas consumption (GJ)
 - (iii) the higher efficiency boiler's annual gas consumption (GJ)

Replacement market participants

- 6.16 In replacement markets, the contractor must prepare an estimate of the facility peak space heating load based upon the January 2.5 per cent °C winter design temperature for your location (reference Table C-2 National Building Code).

Program deadlines

- 6.17 The program, including the eligible boiler criteria and eligible boiler list, may be amended or modified at any time without notice and the program may be terminated at any time without notice.
- 6.18 Funding for this program is limited. Terasen Gas may, in its sole discretion, determine how this funding will be shared between the new construction market and the replacement market. This may mean that Terasen Gas will continue to accept new construction market applications after the program has been terminated for the replacement market or the converse.
- 6.19 Applications must be submitted to Terasen Gas and pre-approved by Terasen Gas prior to the purchase and installation of the boiler.
- 6.20 Final documents must be submitted within one month of boiler installation.
- 6.21 If Terasen Gas amends or modifies the program after an application is received and pre-approved by Terasen Gas, the applicant cannot resubmit an application for the same boiler plant under the amended or modified program.

Representations and warranties

- 6.22 Applicant acknowledges the program eligibility criteria and warrants that it fully qualifies and will comply with such criteria.
- 6.23 Applicant warrants that all information contained in the application and the information attached thereto is true and correct.
- 6.24 Applicant covenants that it will notify Terasen Gas immediately if there is any material change in the application and information attached thereto after it is approved by Terasen Gas.
- 6.25 Applicant acknowledges that by taking part in the program, their boiler may use less natural gas and produce fewer emissions. Applicant agrees that Terasen Gas may record any resulting reductions in emissions along with those of participating customers and credit them to the Terasen Gas Greenhouse Gas Management Program.

Default or fraud

- 6.26 The incentive approved is based on the information in the application documents. If there are any changes to the information in the application documents after it is approved, Terasen Gas in its sole discretion may void the application documents and Terasen Gas will be released from any and all obligations under the program.
- 6.27 Applicant agrees to the terms and conditions of the program. If the applicant fails to perform according to these terms and conditions, then upon notice of default from Terasen Gas, the applicant shall refund the full amount of the incentive upon request from Terasen Gas.

Liability

- 6.28 Terasen Gas shall have no ownership interest in the boiler.
- 6.29 Terasen Gas, not being the designer or manufacturer of the boiler, makes no representation or warranty, express or implied as to the fitness, design or capability of the material, equipment or workmanship in the boiler, nor any warranty that the boiler will satisfy the requirements of any law, specification, or contract, which may be made against or incurred by Terasen Gas, its contractors, agents and employees in any way relating to, or arising out of, the program.
- 6.30 Applicant indemnifies and saves harmless Terasen Gas, its contractors, agents, and employees from all liability and all claims, damages, expenses and costs.
- 6.31 Terasen Gas does not endorse any particular manufacturer, product, system, design, supplier or installer in promoting the program.

Tax implication

- 6.32 Terasen Gas will not be responsible for any tax liability imposed on the applicant as a result of payments of the incentive. For GST Registrants, incentives received by the applicant include GST which must be remitted by the applicant to the Receiver General of Canada.

7.0 Documentation

All market participants

- 7.1 Terasen Gas is not responsible for lost, delayed, damaged, illegible or incomplete applications.
- 7.2 The following documents must be submitted to Terasen Gas:
- (i) prior to approval:
 - completed application form
 - (ii) after boiler installation:
 - a confirmation letter must be submitted stating that the boiler(s) have been installed
 - the following documents must be submitted with the confirmation letter:
 - gas permit and, if applicable, an approval certificate with a Certificate of Inspection from the BC Safety Authority
 - copy of the start up report by the manufacturer or an authorized factory representative
 - copy of boiler and vent material sales invoice

New construction market participants

- 7.3 The following documents from a qualified professional must also be submitted within one month of the date of application prior to approval otherwise the application may be cancelled.
- (i) estimate of the peak space heating load
 - (ii) report on projected natural gas usage for space heating
 - (iii) invoice for completing the report on projected natural gas usage for space heating
 - (iv) proof the invoice has been paid

Replacement market participants

- 7.4 The following documents from the contractor must also be submitted within one month of the date of application prior to approval otherwise the application may be cancelled.
- (i) estimate of the peak space heating load
 - (ii) invoice for completing the estimate of the peak space heating load
 - (iii) proof the invoice has been paid
- 7.5 The following documents must also be submitted after boiler installation:
- (i) confirmation letter must be submitted indicating the interest to participate with the monitoring phase of the program
 - (ii) first report with the data from Section 5.10 above must be submitted 6 months after boiler installation
 - (ii) second report with the data from Section 5.10 above must be submitted 12 months after boiler installation

8.0 Contact information

Toll-free: 1-888-477-0777

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