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May 15, 2012

British Columbia Utilities Commission
Sixth Floor, 900 Howe Street, Box 250
Vancouver, BC, V6Z 2N3
Attn: Alanna Gillis, A/Commission Secretary
By Web Posting and courier

Dear Madam:

Re: British Columbia Hydro and Power Authority (BC Hydro)
F2012-F2014 Revenue Requirements Application
Project No. 3698622/Order G-40-11
British Columbia Sustainable Energy Association and Sierra Club of B.C. (BCSEA-SCBC) Responses to BC Hydro Information Request No.1

Attached please find BCSEA-SCBC's responses to BC Hydro IR No. 1. This will be posted on the Commission's website. Twenty hardcopies will be delivered to the Commission office.

Yours truly,

William J. Andrews

Barrister & Solicitor

cc. Distribution List by email

1.0 Mr. Plunkett's evidence, at page 6, lines 19 to 23, states that "BCSEA-SCBC engaged me to assess the adequacy of the electric energy-efficiency program savings and expenditures contained in BC Hydro's [Application]."

1.1 Please confirm Mr. Plunkett was <u>not</u> engaged by BCSEA to review whether BC Hydro's expenditures on DSM in F2012 and F2013 are cost-effective in accordance with B.C.'s Demand-Side Measures Regulation, and whether the expenditures are reasonable for achieving the reductions in demand attributable to the demand-side measures. If not confirmed, please provide a copy of Mr. Plunkett's retainer that demonstrates such terms of engagement.

Response:

Not confirmed. I consider the scope postulated in the question to be a subset of assessing the adequacy of the electric energy-efficiency program savings and expenditures contained in BC Hydro's application.

The best evidence of the scope of Mr. Plunkett's engagement with BCSEA-SCBC is in BCSEA-SCBC's 13 December 2011 PACA Budget Estimate. A redacted copy is attached as BCSEA Response to BCH 1.1 Att-01.pdf.

2.0 Mr. Plunkett's evidence, at page 13, line 19, states that "Portfolio performance falls into a range spanning four savings tiers." Mr. Plunkett has used a threshold of 1.5% of total retail electric energy sales as his threshold between Tier 1 and Tier 2.

2.1 Please confirm that the four Tiers used by Mr. Plunkett do not divide the states/provinces presented into quartiles.

Response:

Confirmed.

2.2 Please explain the basis for selecting 1.5 per cent as the threshold between Tier 1 and Tier 2.

Response:

These thresholds were chosen arbitrarily on the basis of visual inspection of the data. 1.5 percent appears to be the "break point" separating the top achievers from the rest. It is also the lowest point from which rounding to the nearest percentage point would result in 2 rather than 1 percent. No statistical significance of the tiers is implied.

3.0 Mr. Plunkett's evidence, at page 33, line 20, refers to a BC Hydro decision to "curtail energy-efficiency investment". Mr. Plunkett's answer to the

question, at lines 22 to 23, refers to BC Hydro's reluctance to scale up efficiency resource acquisition.

3.1 What is the evidence referring to with respect to a decision to curtail energy-efficiency investment?

Response:

BC Hydro says it decided to reduce spending on demand side management as one of a number measures required to reduce the proposed F2013 and F2014 rate increases. BC Hydro states in the Executive Summary of the Amended RRA:

> "This reduction [in F2013-F2014 proposed rate increases] cannot be achieved by cutting operating budgets alone and also includes lower finance charges, increased miscellaneous revenues, reduced capital additions, reduced spending on demand side management, an increase in the amortization period of the Demand Side Management Regulatory Account, an increase in the Trade Income forecast, a reduced forecast of taxes, and refunds of regulatory accounts with credit balances." [Exhibit B-1-3, p.3, lines 1-6, underline added]

BC Hydro provides a revised figure of a $30-million net reduction in DSM spending in F2012-F2013 [Exhibit B-15, BCUC IR 1.453.3].

The DSM proposed spending levels in the (pre-amendment) F2012-14 RRA were based on the DSM Plan that was filed in the 2008 Long-Term Acquisition Plan (2008 LTAP), updated to reflect new information and experience. [Exhibit B-1-3, p.1-38, lines 21-22; and B-15, BCUC 1.453.4.]

4.0 Mr. Plunkett's evidence, at page 35, lines 6 to 8, states that, "I do not agree with BC Hydro's contention that the proposed DSM program portfolio budget cuts will not jeopardize its ability to meet the modest electricity savings goals it proposes for F2013-2014." The answer at lines 10 to 18 does not adequately explain the basis for the statement. BC Hydro's response to BCUC IR 1.453.4 explained that there has been no reduction in DSM program expenditures or incentives attributable to "budget cuts".

4.1 Please explain what budget cuts Mr. Plunkett refers to?

Response:

I was using the term "budget cuts" interchangeably with "reduction in DSM program expenditures." The "budget cuts" or "reduction in DSM program expenditures" that I was referring to were the $56.6 million in net DSM spending reduction over F2012-F2014 in the pre-amendment RRA or the $30 million in net DSM spending reduction over F2012-F2013 (amended DSM expenditure

schedule) that BC Hydro references in its response to BCUC IR1.453.3 [Exhibit B-15].

4.2 Given BC Hydro's responses to BCUC IRs 1.453.4 and 1.453.5, would Mr. Plunkett agree that BC Hydro has not jeopardized its ability to achieve its demand reduction goals for F2013 and F2014? If not, please explain and provide support for your response.

Response:

No. See my testimony at p. 34 line 3 through p. 37 line 13 [Exhibit C10-13].

5.0 Mr. Plunkett's evidence, at pages 40 to 45, discusses uniformity of program designs across utilities and energy sources.

5.1 Please confirm that the LiveSmart BC program is not BC Hydro's program.

Response:

Confirmed. LiveSmart BC is a program of the Government of British Columbia.

5.2 Please confirm that BC Hydro, FortisBC (electric), and FortisBC (gas) participate in and fund the Province's LiveSmart BC program, already resulting in integration of residential retrofit measures, which Mr. Plunkett suggests results in lower program costs.

Response:

Partially confirmed. I am aware that the three utilities co-fund LiveSmart BC. My testimony is that BC Hydro – and FortisBC – could do an even better job of integrating their investments in cost-effective efficiency resource acquisition. This will result in greater net economic benefits through increased participation and energy savings per participant, not necessarily lower total program costs.

I also understand that program funding for LiveSmart BC on the government side has been $15 million per year for F2012 and F2013, going to $0 in F2014 and F2015, according to the Ministry of Energy and Mines 2012/13 – 2014/15 Service Plan (copy attached as BCSEA Response to BCH 5.2 Att-01.pdf). The post-energy assessment required to entitle the homeowner to access program monies must be carried out before 31 March 2013 – in other words, the government funding is being eliminated. See also the attached LiveSmart BC brochure, 4th page (copy attached as BCSEA Response to BCH 5.2 Att-02.pdf).

Footnote 2 on p. 30 of the MEM Service Plan: "2 Fiscal year 2013/14 budget targets reflect the end of currently approved funding of the LiveSmart BC program." P. 29 shows the Electricity & Alternative Energy allocation going from $18.048 m to $3.048 m in F2014.

5.3 Given BC Hydro's response to BCUC IR 2.196.4, please confirm that BC Hydro and FortisBC (gas) have already integrated elements of their commercial sector programs.

Response:

Confirmed. This response corroborates my testimony that there remains room for further improvement.

5.4 Is it Mr. Plunkett's position that each of BC Hydro's existing residential DSM programs could effectively "piggyback" on an existing FortisBC (gas) DSM program this year (F2013)? If so, please explain and provide support for your answer. For example, which FortisBC (gas) DSM program could be fully integrated with BC Hydro's refrigerator buy-back and consumer electronics programs? If not, is it not true that Mr. Plunkett's recommendation would result in BC Hydro forfeiting cost-effective savings in F2013?

Response:

No. My position is BC Hydro can piggyback some of its programs on some of FortisBC's, in particular the FortisBC (gas) residential retrofit and new construction programs.. Using the example posed in the question, BC Hydro could integrate its refrigerator buyback with a gas heating retrofit program such as LiveSmart, so that a customer undergoing an FBC (gas) retrofit would also be encouraged to participate in BC Hydro's refrigerator buy-back program. The suggestion is not that, say, BC Hydro's entire refrigerator buy-back program be delivered <u>only</u> through the FBC (gas) retrofit program.

5.5 Please confirm that Mr. Plunkett's recommendations with respect to uniformity of program designs across utilities and energy sources is not intended to be criticism of BC Hydro's DSM programs in F2012 and F2013, but rather is intended to be a goal that the utilities should strive for over the long-term. If not confirmed, please explain in detail precisely which of BC Hydro's programs could realistically and pragmatically be improved and how they could be improved in this manner during the F2012 to F2013 period.

Response:

I can neither confirm nor deny the proposition as worded. My recommendations are not meant as criticisms of past actions; they apply to current and future decisions about program design, planning, and implementation. With respect to program uniformity, I recommend that BC Hydro begin taking steps immediately to further standardize programs with Fortis throughout the province as soon as is reasonably feasible. I see no reason why this process could not begin in F2013.

Consolidated List of Attachments

File name	Description
BCSEA Response to BCH 1.1 Att-01.pdf	John Plunkett and GEEG scope of work, from redacted 13 December 2011 PACA Budget Estimate
BCSEA Response to BCH 5.2 Att-01.pdf	Ministry of Energy and Mines 2012/13 – 2014/15 Service Plan, excerpts
BCSEA Response to BCH 5.2 Att-02.pdf	LiveSmart BC brochure

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13 December 2011

British Columbia Utilities Commission
Sixth Floor, 900 Howe Street, Box 250
Vancouver, BC, V6Z 2N3
Attention: Ms. Alanna Gillis, Acting Commission Secretary
BY EMAIL: commission.secretary@bcuc.com

Dear Ms. Gillis,

Re: BC Hydro and Power Authority
F2012 – F2014 Revenue Requirements Application (RRA)
Project No. 3698622; Orders No. G-40-11 and G-173-11
Participant Assistance Cost Award (PACA) Budget Estimate

This is a Budget Estimate on behalf of the intervenors, B.C. Sustainable Energy Association and Sierra Club of B.C. ("BCSEA, *et al*").

I ask that Commission staff review this Budget Estimate and provide a staff review letter, as described in the *Participant Assistance Cost Award Guidelines*. BCSEA, *et al* intend to apply for a PACA award at the conclusion of these proceedings.

1. Eligibility of BCSEA, *et al*

(i) Interest of the Participant in the proceeding:

BCSEA is a non-profit association of citizens, professionals and practitioners committed to promoting the understanding, development and adoption of sustainable energy, energy efficiency and energy conservation in British Columbia. BCSEA has eight chapters across B.C. and approximately seven hundred individual and corporate members. BCSEA's goals include promoting sustainable energy, energy efficiency and energy conservation in British Columbia. Many of BCSEA's members are ratepayers of BC Hydro who want the electricity they purchase to be sustainably produced and come from a sustainably managed system.

SCBC is a non-profit organization of British Columbians from all walks of life who care about a broad range of environmental issues including climate change and clean energy. SCBC has over 5,000 members and supporters across the province, many of whom are ratepayers of BC Hydro who want the electricity they purchase to be sustainably produced and come from a sustainably managed system.

BCSEA, *et al*'s interests in the Application are as non-profit public interest environmental and energy policy organizations, and as representatives of their members' interests as ratepayers.

BCSEA, *et al's* main, though not exclusive, interests relate to demand-side management (DSM). BCSEA, *et al* are interested in rates that are just, reasonable and not unduly discriminatory as required by the *Utilities Commission Act* and as indicated by the Bonbright principles. In this context, BCSEA, *et al* are concerned with, among other things, the rates consequences of

conservation, efficiency and intergenerational equity. BCSEA, *et al* have a strong interest in the 44.2 expenditure schedule for demand-side measures and in maximizing the achievement of cost-effective energy efficiency and conservation through demand-side management programs and initiatives.

(ii) Contribution of Participant:

[redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

(iii) Reasonable Costs:

The budget estimate is outlined below.

(iv) Joining with other groups to reduce costs:

[redacted]

(v) Other matters – need for an award:

[redacted]

2. Proposed Participation (Key Issues)

[redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]

- A detailed review and assessment of BC Hydro's DSM programs and expenditures, as outlined more fully below, under *3(i) Expert assistance – DSM*.

3. Budget Estimate

[redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

(i) Expert assistance – DSM

The proposed expert is Green Energy Economics Group (GEEG; http://www.greenenergyeconomics.com), specifically John Plunkett and Francis Wyatt. Mr. Plunkett and Mr. Wyatt have done work for BCSEA and SCBC regarding previous BCUC proceedings, including the 2008 Terasen Energy Inc. EEC application, the BC Hydro F2007-F2008 Revenue Requirements Application, the BC Hydro 2006 IEP/LTAP proceeding and the BC Hydro 2005 Resource Expenditures and Acquisitions Plan proceeding. They provided written evidence in these proceedings, and Mr. Plunkett gave oral testimony in the IEP/LTAP hearing. GEEG prepared evidence filed in the current Fortis Energy Utilities' 2012-13 RRA and Natural Gas Rates application, and Mr. Plunkett gave oral testimony in that proceeding. GEEG prepared evidence filed in the current FortisBC Inc (electric) 2012-13 RRA and 2012 ISP.

Topics addressed by GEEG will include:

1. Benchmarking BC Hydro's DSM expenditures and projected electricity savings against those of other North American Utilities;

[redacted]

2. Comparing BC Hydro's test period DSM expenditures proposals against BC requirements and energy objectives, e.g., in the *Utilities Commission Act*, the *Clean Energy Act* and the *Demand-Side Measures Regulation* (as amended);
3. Addressing the content of BC Hydro's DSM portfolio in terms of program selection, such as programs in the low income area and potentially "missing" programs and appropriate incentive levels, and including without limitation issues such as the implementation of best practices and the integration of DSM programs with those of other utilities;
4. Addressing the amortization of the DSM deferral account and estimation of the persistence of DSM savings;
5. Addressing DSM planning at a high level, including without limitation the relationship between current expenditure levels and future DSM spending and goals.
6. Addressing evaluation, measurement and verification (addressing methodologies and practices, but not including conducting audits of specific program evaluations).
7. Addressing other DSM issues that may arise.

GEEG work product includes the following:

- Review application as it pertains to DSM;
- Assist in preparation of BCSEA, *et al* information requests;
- Review of information requests by BCUC and other intervenors regarding DSM and responses thereto;
- Preparation and filing of evidence;
- Responding to IRs on GEEG evidence;
- Providing expert testimony at an oral hearing; and
- Assistance to BCSEA, *et al* in reviewing final arguments and preparing final argument for submission.

The following are brief bios of Mr. Plunkett and Mr. Wyatt:

> **John Plunkett** is an economist with 30 years of experience in energy utility planning, specializing in energy efficiency as a resource and as an investment strategy for energy service providers.
>
> He has played key advisory and negotiating roles on all aspects of electric and gas utility demand side management (DSM), including residential, industrial, and commercial program design, implementation, oversight, performance incentives, and monitoring and evaluation planning. His design and analysis work examines the role of DSM management in business, regulatory, ratemaking, resource planning, and policy decisions. He has led and/or prepared analyses and reports on the achievable potential for cost-effective efficiency and renewable resources. He is also a seasoned expert witness providing testimony to regulators in Vermont, Florida, Maine, Indiana, Maryland, New Jersey, New York, Pennsylvania, British Columbia, Ontario and Quebec.

He has worked with Francis Wyatt since 1992.

Francis Wyatt brings 19 years of technical support and analytical experience in energy efficiency to GEEG's clients. His background in DSM program planning ranges from critiques and analysis to assistance with design and implementation. He has particular expertise in the commercial and industrial sectors, and in the development of cost-effectiveness screening and modeling.

He has provided pivotal technical support for Efficiency Vermont, the nation's first statewide energy efficiency utility, as well as assistance to Central Vermont Public Service and the Green Mountain Power Efficiency Fund. In China he has worked with Jiangsu Province to develop and implement Efficiency Power Plants (EPPs). He also provided economic analysis and technical support for an Asian Development Bank study of a $100 million loan in 2008 for an 18-year EPP re-lending project in China's Guangdong Province. Francis has also provided analysis and support for GEEG's testimony before utility regulators in Florida, Pennsylvania, New York, Vermont, and British Columbia on energy efficiency portfolio economics and performance goals.

He and John Plunkett co-founded the Green Energy Economics Group in 2005.

[redacted]

- [redacted]
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[redacted]

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- [redacted]
- [redacted]
- [redacted]

Ministry of Energy and Mines

2012/13 – 2014/15 SERVICE PLAN

February 2012

BRITISH COLUMBIA

The targets reflect the anticipated average number of accident claims per year at B.C. mines, including open pit coal and metal mines, quarries and underground mines per 100 person years. B.C.'s mining workforce is constantly evolving and is expected to have an incremental percentage of workers who are new to mining operations over the next ten years. Enhanced health and safety training and inspections are required to ensure mining remains one of B.C.'s safest heavy industries. To provide context for this measure, using 2009 estimates, a 0.1 decrease in short term injury rate would result in approximately 10 fewer claims or an 8.6 per cent decrease in the number of claims. The claims cost for the three major mines subsectors was estimated at $3.34 Million in 2009. Therefore, an 8.6 per cent decrease in the number of claims would result in an estimated $288,000 savings in cost.

Objective 2.2: Increased energy conservation and use of alternative, clean energy and fuels, and efficient technologies

Strategies

- Support energy utilities with the implementation of cost effective demand side management measures.
- Participate in and support long-term clean energy planning initiatives at the regional and provincial level, including the Western Renewable Energy Zones initiative and BC Hydro's Integrated Resource Plan.
- Work with the Climate Action Secretariat (Ministry of Environment), other government ministries and agencies, Crown corporations, the public, electricity producers and utilities across B.C. to implement a coordinated approach to energy conservation and efficiency measures and support the deployment of alternative energy options to meet the province's energy needs.
- Continue to support energy efficiency in homes and buildings through the LiveSmart BC: Energy Efficiency Program which provides one-stop access to provincial and utility programs and the LiveSmart Small Business Program which provides small businesses with energy assessments, direct installation and incentives.
- Ensure the procurement of clean and renewable electricity continues to account for at least 93 per cent of total generation.
- Continue to implement the BC Bioenergy Strategy to take advantage of B.C.'s abundant sources of Mountain Pine Beetle timber, wood wastes and agricultural residues.
- Through the Innovative Clean Energy Fund, accelerate the development of new energy technologies with the potential to solve real, everyday energy and environmental issues and create economic benefits for all British Columbians.
- Reduce the carbon intensity of the energy used by British Columbians by implementing a low carbon fuel requirement and increasing the supply of clean electricity.

Promoting the deployment of alternative energy technology contributes to environmentally responsible energy development and use. The Government plays a key role in providing information

to the public about practical conservation initiatives, establishing new standards through the B.C. Building Code and *Energy Efficiency Act*, and encouraging the private sector to develop alternative energy sources. The up-front expense to retrofit existing homes and buildings to conserve energy, as well as the expense of material and equipment for energy efficient new buildings, will be fully recovered over time through lower energy bills.

B.C. has a number of alternative energy options such as solar, tidal, biomass, wave, geothermal and wind power. These sources of alternative energy are renewable and can complement existing electricity generating facilities and heating and transportation fuels.

Performance Measure 7: Total energy savings achieved each year through utility and provincial conservation policies, programs, and regulations

Performance Measure	2011/12 Forecast[1]	2012/13 Target	2013/14 Target	2014/15 Target
Total energy savings achieved each year through electric utility and provincial conservation policies, programs, and regulations [1]	3,272,051 GJ	4,729,427 GJ	5,548,652 GJ	6,185,790 GJ

Data Source: Ministry of Energy and Mines.

[1] Measured in Gigajoules to include both gas and electricity savings. Excludes gas savings from FortisBC.

Discussion

This measure is driven by policy actions one through nine of the BC Energy Plan. Targets represent energy savings from the LiveSmart BC: Efficiency Incentive Program, regulated standards under the *Energy Efficiency Act*, green building code changes, and utility programs from BC Hydro's and FortisBC's demand side management programs and conservation/stepped rate participants. These utilities design and direct their energy efficiency programs to three main market sectors — residential, commercial and industrial.

The performance measure for energy savings has been improved by including natural gas savings to the extent possible, rather than only the electricity savings reported in previous years. In order to add two different forms of energy savings, the measure is now in Gigajoules rather than Gigawatt hours. The conversion formula is one Gigawatt hour equals 3,600 Gigajoules. By reporting both natural gas and electricity savings, this measure provides a more complete indicator of the performance of the total energy demand side management effort by Government and electric utilities and their customers.

The increase in the 2011/12 target is the result of the General Service Lighting Regulation coming into effect in January 2011.

Resource Summary

Core Business Area	2011/12 Restated Estimates[1]	2012/13 Estimates	2013/14 Plan	2014/15 Plan
Operating Expenses ($000)				
Oil and Gas	12,042	13,819	13,066	13,066
Mines and Mineral Resources	10,013	10,013	10,013	10,013
Titles and Corporate Relations	3,861	3,861	3,861	3,861
Electricity and Alternative Energy[2]	18,048	18,048	3,048	3,048
Executive and Support Services	4,493	4,493	4,493	4,493
Housing	345,444	346,242	346,242	346,242
Liquor Control and Licensing	1	1	1	1
Gaming Policy and Enforcement	18,361	18,145	18,145	18,145
Housing Endowment Fund Special Account	10,000	10,000	10,000	10,000
Innovative Clean Energy Fund Special Account	14,947	14,947	12,000	12,000
Total	437,210	439,569	420,869	420,869
Ministry Capital Expenditures (Consolidated Revenue Fund) ($000)				
Executive and Support Services	65,135	28,168	28,181	233
Housing Capital Funding [3]	161,262	44,506	17,011	16,463
Total	226,397	72,674	45,192	16,696

	2011/12 Restated Estimates	2012/13 Estimates	2013/14 Plan	2014/15 Plan
Other Financing Transactions ($000)				
Oil and Gas Commission Receipts	40,750	31,157	30,627	33,559
Oil and Gas Commission Disbursements	(40,750)	(31,157)	(30,627)	(33,559)
Total Net Cash Source (Requirements)	0	0	0	0
Northwest Transmission Line Receipts	61,000	60,000	52,000	1,750
Northwest Transmission Line Disbursements	(61,000)	(60,000)	(52,000)	(1,750)
Total Net Cash Source (Requirements)	0	0	0	0

1 For comparative purposes, amounts shown for 2011/12 have been restated to be consistent with the presentation of the *2012/13 Estimates*.
2 Fiscal year 2013/14 budget targets reflect the end of currently approved funding of the LiveSmart BC program.
3 The grant for Housing Capital Funding meets the British Columbia Housing Management Commission's objective to increase the supply of housing for those at risk of homelessness and to fund infrastructure projects to increase the supply of provincially owned housing for seniors and persons with disabilities.

LiveSmart BC.ca
EFFICIENCY INCENTIVE PROGRAM

Energy efficiency really pays!

Join your neighbours and invest in your home's energy efficiency.

The first step to become eligible for incentives is to have an energy efficiency assessment of your home. To find a Certified Energy Advisor in your area to perform your home energy efficiency assessment, visit: **www.livesmartbc.ca/rebates**

Your house works as a system. When making decisions about energy and comfort improvements, consider your home's building envelope before undertaking heating system upgrades. Be sure to seek advice on ventilation and moisture control improvements. Your Certified Energy Advisor will provide expert advice and help you decide your best path forward.

Hiring the right contractor will help you put your Certified Energy Advisors' advice into action. When choosing a contractor remember to consider not only cost but value for money. Visit **www.hiringacontractor.com**

Please note: There are specific requirements that must be met in order to be eligible for incentives.
NOT ALL REQUIREMENTS ARE DETAILED IN THIS DOCUMENT.
Refer to "Important Notes" on the back of this brochure and consult the "LiveSmart BC Notes for Contractors".
Insist that your contractor consult this information before purchasing or installing any equipment.
If you are unclear about requirements, consult your Certified Energy Advisor.

Incentives provided by:

BRITISH COLUMBIA | Ministry of Energy and Mines
www.gov.bc.ca/ener

BC hydro powersmart
www.bchydro.com

FORTIS BC™
www.fortisbc.com

Updated January, 2012

ELIGIBLE IMPROVEMENTS – *Not all requirements detailed in this document. Refer to "Important Notes" on the back of this brochure and consult the "LiveSmart BC Notes for Contractors".*		Interior/ Northern	South Coastal
LIVESMART CHAMPION			
Undertake a Champion Level upgrade in at least **five** upgrade categories. Champion Level upgrades are identified by a ★. Upgrade categories are divided by green or blue bands. Please see the "LiveSmart Notes for Contractors" for more details.		$500	$400
Achieve CHBA Built Green Renovation Standard Platinum. Visit **www.builtgreencanada.ca** for information.		$500	$400
AIR SEALING AND MECHANICAL VENTILATION			
Perform Air Sealing of the Home to Achieve	Base Target + 25%	$500	$400
	Base Target + 15%	$300	$250
	Base Target + 5%	$125	$100
Install or replace mechanical ventilation Note: In order to qualify bathroom fans must be ducted to the exterior of the house.	Install an HVI certified ENERGY STAR Heat Recovery Ventilator and a house air tightness of 3ach@50Pa in Interior/Northern or 4.5 ach @50Pa in South Coastal ★	$1000	$800
	Install an ENERGY STAR Bathroom Fan where there was not previously a bathroom fan	$100	$100
	Replace an existing bathroom fan with an ENERGY STAR bathroom fan	$50	$50
ATTIC INSULATION – *100% coverage required upon completion. Incentive pro-rated based on coverage before upgrade*			
Increase Attic Insulation	Existing insulation R12 or less. Upgrades to achieve a minimum of R50 ★	$750	$600
	Existing insulation R13-R25. Upgrades to achieve a minimum of R50	$375	$300
	Existing insulation R26-R35. Upgrades to achieve a minimum of R50	$125	$100
Increase Cathedral or Flat Roof Insulation	No existing insulation. Upgrade to achieve a minimum of R14 ★	$750	$600
	Existing insulation R1 – R12. Upgrade to achieve a minimum of R28 ★	$750	$600
	Existing insulation R13 – R35. Upgrade to achieve a minimum of R50	$250	$200
EXTERIOR WALL INSULATION			
Exterior Wall Insulation	Add at least R9 for 100% of building to achieve a minimum of R12 ★	$1500	$1200
	Add at least R9 for 80% of building to achieve a minimum of R12 ★	$1200	$1000
	Add at least R9 for 60% of building to achieve a minimum of R12	$900	$700
	Add at least R3.8 for 100% of building to achieve a minimum of R12 ★	$1000	$750
	Add at least R3.8 for 80% of building to achieve a minimum of R12	$800	$600
	Add at least R3.8 for 60% of building to achieve a minimum of R12	$600	$450
BASEMENT INSULATION AND OTHER INSULATION			
Basement Insulation	Add at least R23 for 100% of surface area ★	$1250	$1000
	Add at least R23 for 80% of surface area ★	$1000	$800
	Add at least R23 for 60% of surface area	$750	$600
	Add at least R10 for 100% of surface area ★	$625	$500
	Add at least R10 for 80% of surface area	$500	$400
	Add at least R10 for 60% of surface area	$375	$300
Other Insulation – 100% coverage required upon completion. Incentive pro-rated based on coverage before upgrade			
Basement Header	Add at least R20	$125	$100
Crawl Space Wall (can qualify for only this rebate **or** Floor Above Crawl Space Rebate)	Add at least R23 ★	$1000	$800
	Add at least R10	$500	$400
Floor Above Crawl Space	Add at least R24 ★	$550	$450
Exposed Floor	Add at least R20 (150 sq ft minimum)	$225	$175
WINDOWS, DOORS AND SKYLIGHTS – *Heated space only*			
ENERGY STAR Windows, Doors and Skylights Replacement	Rated one ENERGY STAR zone better ★ (must upgrade a minimum of 75% of windows to achieve Champion Level)	$70	$60
	Rated for your ENERGY STAR zone	$35	$30
	LiveSmart qualified storm windows. Only available for formally recognized heritage homes. For qualification requirements and a list of eligible, formally-recognized heritage homes, speak to your energy advisor.	$25	$20

Updated January, 2012

ELIGIBLE IMPROVEMENTS – *Not all requirements are detailed in this document. Refer to "Important Notes" on the back of this brochure and consult the "LiveSmart BC Notes for Contractors".*			Interior / Northern	South Coastal
PRIMARY SPACE HEATING – *Maximum of one incentive for Primary Space Heating* *Please note: Heating systems may be advertised with an AFUE "up to" a certain percentage. Please ensure that the installed efficiency of your heating system meets the requirements below.*				
Contractor with TECA or HRAI accreditation or AScT Mechanical Technologist credential	Furnace, Heat Pump, Boiler or Heat Recovery Ventilator system design and installation signed off by a TECA Quality First, HRAI Skilltech or AScT Mechanical Technologist accredited professional. See "Important Notes" on the back for details.		$100	$100
Gas Furnace or Boiler Replacement	ENERGY STAR gas furnace 95% AFUE or better with DC variable speed motor ★		$600	$500
	ENERGY STAR condensing gas boiler 90% AFUE or better ★		$600	$500
	Zero-clearance gas furnace that has a 90% AFUE or higher. Only available for mobile homes.		$300	$250
Air Source Heat Pump Note: All components of each ENERGY STAR qualified Air Source Heat Pump system must have a qualifying AHRI number. This includes new or existing furnaces, indoor and outdoor air handlers, and heat pumps. If you are planning on installing an Air Source Heat Pump insist that your contractor consult the "LiveSmart BC Notes for Contractors" before purchasing or installing any equipment.	ENERGY STAR central system verified with an AHRI number, with either a new DC variable speed air handler or a new ENERGY STAR furnace with DC variable speed motor ★		$1500	$1500
	Ductless mini-split: one head in main occupied area plus one additional head on a different floor, ENERGY STAR or LiveSmart qualified inverter-based system ★			
	ENERGY STAR central system added to an existing furnace or added to an existing indoor air handling unit ★		$1000	$1000
	Ductless mini-split: single head in main occupied area, ENERGY STAR or LiveSmart qualified inverter-based system ★			
	ENERGY STAR single package system ★			
Ground or Water Source Heat Pump Note: Canadian Geo Exchange Coalition certificate must be available at the time of the follow-up assessment	CAN/CSA C448 compliant, new ground source heat pump installation that is certified by the Canadian GeoExchange Coalition ★		$2500	$2500
	CAN/CSA C448 compliant, ground source heat pump replacement that is certified by the Canadian GeoExchange Coalition ★		$1000	$1000
	CAN/CSA C448 compliant, new shared ground source heat pump serving two or more homes that is certified by the Canadian Geo Exchange Coalition	One incentive per shared loop	$1500	$1500
		One for each distribution system in the shared loop ★	$1000	$1000
OTHER SPACE HEATING				
Wood Stove or Gas Fireplace Replacement to Pellet Stove	Replace existing supplementary heating system with a pellet burning appliance that meets or exceeds the Washington State particulate emission standards for solid fuel burning domestic appliance. For a list of qualifying appliances, speak to your advisor.		$500	$500
Electronic Thermostats	Replace a minimum of five thermostats for electric baseboards with electronic thermostats		$50	$50
WATER HEATING – *Maximum of one incentive for Gas or Electric Water Heater*				
Gas Water Heater Replacement	ENERGY STAR condensing type with an Energy Factor of 0.90 ★		$300	$300
	ENERGY STAR with an Energy Factor of 0.82		$200	$200
	Condensing gas storage type that has a Thermal Efficiency of 94%		$300	$300
	Condensing gas storage-type with Thermal Efficiency of 90%		$200	$200
Electric Heat Pump Water Heater Installation	Electric heat pump water heater with an Energy Factor of 2.0 or greater. Must be installed in an unconditioned space or have the supply and exhaust air ducted to the outdoors	ENERGY STAR Integrated system ★	$500	$500
		Add-on system	$250	$250
Solar Water Heater Installation	CSAF 378 compliant. Installed by company with one installer trained to CSAF383.08. See Important Notes for Contractors for lists of eligible systems and contractors ★		$500	$500
Drain Water Heat Recovery Installation	With efficiency greater than 42%		$150	$150

DISTRIBUTED POWER GENERATION – *A maximum of $1300 for any combination of new equipment*						
Through net metering, generate power via	Photovoltaic	Wind	Micro-hydro	Fuel Cell		
	per 1 kw	per 0.6 kw	per 0.4 kw	per 0.25 kw	$260	$260

IMPORTANT NOTES

This offer is available to homeowners in the Province of B.C. who have not yet accessed incentives from either the LiveSmart BC or ecoENERGY Programs. Homeowners must have an initial Energy Assessment performed on or after April 1, 2011 and complete a follow-up Energy Assessment within 18 months of their initial Energy Assessment or before March 31, 2013, whichever comes first.

Required Documentation

Homeowners must retain copies of all documentation to be eligible for incentives. Invoices and product technical documents must be available for your Certified Energy Advisor on the date of your post-retrofit energy assessment.

Fortis BC Contribution

A portion of these incentives may be provided by FortisBC. The incentive can only be claimed once, either from Livesmart BC or through FortisBC. Homeowners who have received an incentive directly from FortisBC will have their LiveSmart BC incentive amount reduced by the amount received from FortisBC.

Interior and Northern/South Coastal

The Interior and Northern region covers most of British Columbia. South Coastal is comprised of the following: District of Squamish Municipality and Regional Districts: Metro Vancouver, Fraser Valley, Sunshine Coast, Powell River, Comox Valley, Strathcona, Alberni-Clayoquot, Nanaimo, Cowichan Valley and Capital Regional District.

Attic Insulation

When more than one attic type is present, all applicable incentives are pro-rated based on the total area that is insulated. 100% coverage upon completion must still be achieved in either area to receive the qualifying pro-rated rebate.

Basement/Other Insulation

When both a basement and crawl space are present, all applicable grants are pro-rated based on the total wall area that is insulated.

Windows, Doors and Skylights

Grants for windows, doors and skylights are based on the number of rough openings (RO) in which windows or skylights were replaced between the pre- and post-retrofit evaluations. Each RO is counted as one window, door or skylight. A bay window, which may be made up of several windows, is regarded as one RO.

Equipment Replacement

To be eligible for incentives, the new equipment must have a higher efficiency than the original equipment.

TECA or HRAI Accredited Contractor or AScT Mechanical Technologist

Homeowners must receive a signed copy of the appropriate LiveSmart form from their TECA, HRAI or AScT Mechanical Technologist contractor to be eligible. Only installations of equipment that are eligible for other LiveSmart incentives are eligible. To find a TECA or HRAI-accredited contractor or an AScT Mechanical Technologist, visit www.teca.ca/Q1st_contractors.php or www.hrai.ca/certification_canada.php or www.asttbc.org/registration/technologists. You may also want to ask your contractor whether their installation staff has a technical certification (e.g. Refrigeration Mechanic for air source heat pump installations). Please see "LiveSmart Notes for Contractors" for complete details.

NOTE: Contractors and installers who do not currently hold TECA, HRAI or AScT Mechanical Technologist accreditation can still install equipment that is eligible for other LiveSmart incentives.

Space Heating

If more than one "Primary Space Heating" measure is installed, the participant will be awarded one incentive for the highest LiveSmart BC Program amount for which they are eligible. No LiveSmart BC Program incentive will be provided for a second "Primary Space Heating" measure. Participants will continue to qualify, if eligible, for pellet stove replacement.

Water Heating

In addition to Gas or Electric Water Heater incentives, participants are eligible for the Drain Water Heat Recovery and Solar Water Heater incentives.

For complete details on the LiveSmart BC: Efficiency Incentive Program criteria, talk to your Energy Advisor. These incentives are subject to revision, and will be paid in accordance with the terms and conditions in place at the time of the homeowner's second energy assessment. For current terms and conditions visit www.livesmartbc.ca/rebates

Payment of LiveSmart BC incentives is subject to the availability of funds.

The Province of B.C. does not endorse the services of any contractor nor any specific products and accepts no liability in the selection of materials, products, and contractors or performance or workmanship.

LiveSmart BC: Efficiency Incentive Program
www.livesmartbc.ca/rebates
Email: EfficiencyIncentives@gov.bc.ca Tel: 1.866.430.8765

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