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Pacific Northern Gas Ltd. and Pacific Northern Gas (N.E.) Ltd.  
Energy Conservation and Innovation Program Funding Application

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Decision  
and Order G-121-19

June 6, 2019

Before:  
W. M. Everett, QC, Panel Chair  
H. G. Harowitz, Commissioner  
T. A. Loski, Commissioner

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## **1.0 Introduction**

### **1.1 The Application**

On December 21, 2018, Pacific Northern Gas Ltd. and Pacific Northern Gas (N.E.) Ltd. (collectively, PNG) filed an application for approval of expenditures related to the development, execution and management of its Energy Conservation and Innovation Program (ECI) for 2019-2020 with the British Columbia Utilities Commission (BCUC) pursuant to section 44.2(1)(a) of the *Utilities Commission Act* (UCA) (Application).

PNG uses the term Energy Conservation and Innovation to describe its demand-side measures (DSM) program of expenditures, as defined by the [Demand-Side Measures Regulation](#).<sup>1</sup> ECI replaces the earlier Consolidated Energy Management and Efficiency (CEM) name used by PNG in its previous DSM application. To prevent confusion, the Panel will refer to the expenditures associated with this Application as either the ECI program, or the ECI expenditure schedule, and will not refer to the earlier program name.

### **1.2 Approvals Sought**

PNG seeks acceptance of the ECI program expenditure schedule in the amount of \$827,000 over the two-year term of 2019–2020<sup>2</sup> pursuant to section 44.2(3) of the UCA. The proposed ECI expenditure schedule, detailed at the DSM measure level, is outlined in the table below:

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<sup>1</sup> B.C. Reg. 326/2008 including amendments up to B.C. Reg. 117/2017.

<sup>2</sup> Exhibit B-1, p. 1.

Table 1<sup>3</sup>

DSM measure	2019 forecast	2020 forecast	Total 2019-2020
Low Income - ESK	\$ 11,848	\$ 11,848	\$ 23,696
Low Income - ECAP	\$ 35,000	\$ 28,500	\$ 63,500
Residential Furnace Replacement	\$ 95,800	\$ 120,800	\$ 216,600
Rental Accomodations - ECAP	na	na	\$ -
Commercial Boiler Replacement	\$ 29,300	\$ 29,300	\$ 58,600
Commercial Water Heater Replacement	\$ 31,100	\$ 40,300	\$ 71,400
Commercial Efficient Kitchen Program	\$ 18,650	\$ 24,500	\$ 43,150
Conservation Education and Outreach - Elementary School Program	\$ 39,983	\$ 39,983	\$ 79,966
Conservation Education and Outreach - Post Secondary Program	\$ 24,000	\$ 24,000	\$ 48,000
Conservation Education and Outreach - General	\$ 85,800	\$ 25,800	\$ 111,600
Codes and Standards	\$ 14,052	\$ 14,000	\$ 28,052
Innovation	\$ 35,000	\$ 35,000	\$ 70,000
Enabling Activities	\$ 6,000	\$ 6,000	\$ 12,000
<b>Total Annual Portfolio Expenditure</b>	<b>\$ 426,533</b>	<b>\$ 400,031</b>	<b>\$ 826,564</b>

Note: ESK – Energy Savings Kits; ECAP – Energy Conservation Assistance Program

PNG also seeks approval to continue with the existing funding transfer rules, cost allocation, and deferral accounting treatment, as previously approved by the BCUC in Order G-203-15A dated December 16, 2015 (the 2015 DSM Decision),<sup>4</sup> and outlined below.

### *Funding Transfer Rules*

- Funding transfers under 25 percent from one approved Program Area to another approved Program Area would be permitted without prior approval of the BCUC.
- In cases where a proposed transfer out of an approved Program Area is greater than 25 percent of that approved Program Area, prior BCUC approval would be required.

<sup>3</sup> Exhibit B-2, BCUC IR 15.2.

<sup>4</sup> The 2015 DSM Decision refers to both the Order G-203-15A and the PNG Application for Acceptance of the 2015 Consolidated Energy Management and Efficiency Program Funding Plan Decision accompanying the Order.

- In cases where a proposed transfer into an approved Program Area is greater than 25 percent of that approved Program Area, prior BCUC approval would be required.<sup>5</sup>

Further, in the event that PNG spends more or less than the full approved amount for a particular year, it also seeks approval to have the difference allocated to the ECI program spending in the following year, subject to the total expenditures by PNG on ECI activities between the date of approval and 2020 not exceeding the total amount sought in this Application, unless otherwise approved by the BCUC.<sup>6</sup>

### *Cost Allocation*

PNG proposes to maintain the market size approach to allocating costs of the ECI program between its PNG-West and PNG (N.E.) divisions. PNG also proposes to continue allocating ECI costs amongst customer classes on the basis of their relative contribution to the gross margin in each division. Both of these allocation approaches were reviewed and approved by the BCUC in the 2015 DSM Decision.<sup>7</sup>

### *Deferral Accounting Treatment*

PNG proposes to include ECI expenditures in a rate base deferral account and to recover those costs over five years. PNG submits this approach is consistent with that approved by the BCUC in the 2015 DSM Decision.<sup>8</sup>

## **1.3 Organization of the Decision**

This decision is structured into the following sections:

- Section 1.0 is the Introduction to the Application.
- Section 2.0 sets out the Background to the Application, including a discussion of the applicant, legislative and regulatory framework and regulatory process followed in the review of the Application.
- Section 3.0 addresses the Actual ECI Program Spending to Date and Overall Size of the ECI expenditure schedule.
- Section 4.0 examines the issues related to the acceptance of the 2019-2020 ECI expenditure schedule as specified by section 44.2 of the UCA.
- Section 5.0 examines the proposed funding transfer rules and accounting treatment.
- Section 6.0 sets out reporting requirements related to the ECI program.

## **2.0 Background**

### **2.1 The Applicant**

PNG is a wholly-owned subsidiary of AltaGas Canada Inc. PNG has a western division (PNG-West) that owns and operates a natural gas transmission and distribution system in west central British Columbia. The pipeline system commences at Summit Lake, just north of Prince George, and extends west to the deep water ports of Prince Rupert and Kitimat. PNG-West serves approximately 20,400 natural gas customers along this corridor, as well as approximately 150 propane customers in the community of Granisle, BC.<sup>9</sup>

<sup>5</sup> Exhibit B-1, p. 10.

<sup>6</sup> Exhibit B-1, p. 10.

<sup>7</sup> Exhibit B-1, p. 11.

<sup>8</sup> Exhibit B-1, p. 11.

<sup>9</sup> Exhibit B-1, p. 3.

PNG is also the parent company of PNG (N.E.) which owns and operates natural gas distribution systems and a gas processing plant in northeastern BC and provides service to approximately 20,000 natural gas customers in the communities of Fort St. John, Dawson Creek and Tumbler Ridge. PNG (N.E.) maintains separate rate schedules for both the Fort St. John/Dawson Creek (FSJ/DC) Division and the Tumbler Ridge (TR) Division and submits standalone revenue requirements applications to the BCUC for each of those divisions.<sup>10</sup>

This Application for approval of the proposed ECI expenditure schedule for 2019-2020 is the second application for a DSM-related expenditure schedule made by PNG. The first was for the three-year period ending December 31, 2018.

## **2.2 Legislative and Regulatory Framework**

The Panel is guided by the UCA, the *Clean Energy Act* (CEA) and the Demand-Side Measures Regulation (DSM Regulation) in the evaluation of this Application.

### **2.2.1 Utilities Commission Act**

Section 44.2 of the UCA pertains to expenditure schedule applications, including those for DSM-related expenditures.

Under section 44.2(3) of the UCA, after reviewing an expenditure schedule, the BCUC must accept the schedule if it considers that making the expenditures referred to in the schedule is in the public interest, or it must reject the schedule. Pursuant to section 44.2(4), the BCUC may also accept or reject part of an expenditure schedule.

Pursuant to section 44.2(5), in considering whether to accept an expenditure schedule, the BCUC must consider:

- (a) the applicability of British Columbia's energy objectives;
- (b) the most recent long-term resource plan filed by the public utility under section 44.1, if any;
- (c) the extent to which the schedule is consistent with the applicable requirements under sections 6 and 19 of the *Clean Energy Act*;
- (d) if the schedule includes expenditures on demand-side measures, whether the demand-side measures are cost-effective within the meaning prescribed by regulation, if any; and
- (e) the interests of persons in British Columbia who receive or may receive service from the public utility.

### **2.2.2 Clean Energy Act**

BC's energy objectives are specified in section 2 of the CEA and include the following:<sup>11</sup>

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<sup>10</sup> Exhibit B-1, p. 3.

<sup>11</sup> *Clean Energy Act*, SBC 2010, c. 22.

- b) to take demand-side measures and to conserve energy; ...
- d) to use and foster the development in British Columbia of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources; ...
- g) to reduce BC greenhouse gas emissions;
- h) to encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia; and
- i) to encourage communities to reduce greenhouse gas emissions and use energy efficiently.

### **2.2.3 DSM Regulation**

The DSM Regulation, BC Reg. 117/2017 enacted pursuant to the UCA, defines the DSM cost-effectiveness tests to be used by the BCUC in evaluating a DSM expenditure schedule under section 44.2(5)(d) of the UCA. The DSM Regulation also defines the adequacy tests to be used by the BCUC in the review of a DSM plan portfolio under section 44.1 (8)(c).

## **2.3 Previous BCUC Decisions**

There are two previous BCUC decisions that provide context for the Panel’s review of the Application, which are discussed below:

### *Order G-140-14*

On April 8, 2014, PNG filed its 2014 Resource Plan and DSM Resubmission application for PNG-West, seeking acceptance of a consolidated DSM Plan for PNG-West and PNG (N.E.) (2014 DSM Plan). In that application, PNG proposed a limited initial DSM Plan portfolio, with programs focused on the sectors identified in section 3 of the DSM Regulation regarding adequacy. PNG stated that this was its first foray into offering DSM programs to ratepayers and represented a good starting point. On September 16, 2014, by Order G-140-14, the BCUC accepted the 2014 DSM Plan as “an initial first step.” However, concerns were raised regarding the limited proposed scope of PNG’s proposed DSM measures and their cost-effectiveness. The BCUC directed PNG to file a consolidated DSM application and expenditure schedule by no later than June 30, 2015.<sup>12</sup>

### *The 2015 DSM Decision*

On June 26, 2015, PNG filed its 2015 Consolidated Energy Management and Efficiency Program Funding Plan application (2015 DSM Application) for approval of a DSM-related expenditure schedule in accordance with Order G-140-14. This expenditure schedule was for the period 2015–2018, with expenditures of up to \$67,000 for 2015, up to \$400,203 for 2016, up to \$362,639 for 2017, and up to \$410,424 for 2018, totalling \$1.240 million for the period. PNG also requested a number of accounting-related approvals regarding treatment of the expenditures.

Under the 2015 DSM Decision, the BCUC accepted “PNG’s 2015-2018 DSM expenditure schedule and the programs contained in the 2015 DSM application as an initial first step only”.<sup>13</sup> The BCUC also approved:

<sup>12</sup> PNG 2014 Resource Plan for the PNG-West Pipeline System and PNG (N.E.) Resubmission of the DSM Portion of the 2012 Resource Plan for PNG (N.E.) Pipeline Systems (PNG 2014 Resource Plan & DSM), Order G-140-14 dated September 16, 2014, Reasons for Decision, pp. 13–15.

<sup>13</sup> Decision accompanying Order G-203-15A, p. i.



- The flexibility requested by PNG in its application in the reallocation of expenditures amongst DSM programs and between program years;
- Establishment of a rate base regulatory asset deferral account to record the accepted DSM expenditures; and
- An amortization period of 5 years for all DSM expenditures charged to the rate base regulatory asset deferral account.

PNG was also directed to comply with all additional determinations and directives as set out in the 2015 DSM Decision.<sup>14</sup>

Despite the acceptance of the proposed expenditures, the BCUC determined that the portfolio of expenditures was not cost-effective,<sup>15</sup> and raised concerns with the lack of broad opportunities for PNG's customers to participate in DSM programs.<sup>16</sup> As a result, the BCUC encouraged PNG "to make supplemental DSM expenditure applications to the BCUC as additional cost-effective DSM programs are identified, such that the DSM expenditure schedule is cost-effective on a portfolio basis."<sup>17</sup> Additionally, in looking to future DSM filings, the BCUC provided a number of recommendations and directives for expanding the scope and breadth of PNG's DSM programs and improving the effectiveness of the portfolio.

## 2.4 Regulatory Process

By Order G-4-19 dated January 9, 2019, the BCUC established a written hearing process for its review of the Application. One round of BCUC and intervener information requests (IRs) were issued to PNG and answered by February 26, 2019, with final arguments of PNG and interveners, and reply argument by PNG filed by April 1, 2019.

Two parties registered as interveners in this proceeding:

- British Columbia Old Age Pensioners' Organization, Active Support Against Poverty, Disability Alliance BC, Council of Senior Citizens' Organizations of BC, and Tenant Resource and Advisory Centre, known collectively in regulatory processes as "BCOAPO et al." (BCOAPO), and
- Peace River Regional District (PRRD).

## 3.0 Actual ECI Program Spending to Date and Overall Size of the ECI Expenditure Schedule

In the 2015 DSM Decision the BCUC accepted the DSM expenditure schedule for 2015–2018 but viewed it as an initial first step only. The BCUC noted that PNG's proposed DSM spending (as a percentage of GJ sales and revenues) was significantly less than DSM expenditures by other utilities in North America.<sup>18</sup>

PNG's proposed expenditure schedule in its 2015 DSM Application represented approximately 0.54% of revenues, approximately five times lower than that of FortisBC Energy Inc. (FEI) and the average of other Canadian gas utilities reported.<sup>19</sup> However, the BCUC in that proceeding gave weight to the fact that the 2015

<sup>14</sup> Order G-203-15A.

<sup>15</sup> Decision accompanying Order G-203-15A, p. 16.

<sup>16</sup> Decision accompanying Order G-203-15A, p. i.

<sup>17</sup> Decision accompanying Order G-203-15A, p. 11.

<sup>18</sup> Decision accompanying Order G-203-15A, pp. i, 6.

<sup>19</sup> Decision Accompanying Order G-203-15A, p. 4.

DSM<sup>20</sup> expenditure schedule was PNG's first foray into offering DSM programs to its customers and that the results of the joint BC conservation potential review<sup>21</sup> would not be available until 2016.<sup>22</sup> The BCUC stated that it was encouraged by PNG's submission that, over the long term, its DSM Plan should evolve to achieve all cost-effective DSM savings<sup>23</sup>.

### Evidence

PNG acknowledges that it has underspent by approximately \$827,000 in the period 2015–2018,<sup>24</sup> 67% less than the approved amount of \$1,240,000. PNG identifies two factors responsible for actual expenditures on many of PNG's ECI programs being lower than originally forecast. First, the uptake on PNG's commercial incentive programs has been lower than anticipated. Second, PNG launched the commercial programs in 2017, rather than in 2016 as originally anticipated.<sup>25</sup> This reduced level of activity translated into a reduction in the ratio of DSM expenditures to revenues, from the anticipated 0.54% in 2015 to the lower actual results shown in the table below:

**Table 2**<sup>26</sup>

	2015	2016	2017	2018
<b>DSM Expenditures (\$)</b>	\$ -	\$ 215,244	\$ 70,696	\$ 110,035
<b>Utility Revenues normalized (\$000)</b>	\$ 75,467	\$ 64,572	\$ 72,703	\$ 65,151
<b>DSM Expenditures as a portion of Utility Revenues</b>	0.00%	0.33%	0.10%	0.17%

PNG also set out its estimated annual gas savings in the following table,<sup>27</sup> while stating that only its low-income Energy Savings Kits (ESK) program has achieved any energy savings to date.<sup>28</sup>

<sup>20</sup> The 2015–2018 DSM expenditure program application was titled the Consolidated Energy Management and Efficiency Program Funding Application, sometimes shortened to the CEM Funding application. For clarity, the current name of Energy Conservation and Innovation (ECI) program is used instead.

<sup>21</sup> PNG participated in the joint provincial CPR lead by FEI and BC Hydro, and received a copy of the Market Potential Review Report prepared for PNG based on FEI economic data and applied to PNG's services areas. A copy of the report is attached as Appendix B of Exhibit B-1.

<sup>22</sup> Decision Accompanying Order G-203-15A, p. 6.

<sup>23</sup> Decision Accompanying Order G-203-15A, p. 5.

<sup>24</sup> Exhibit B-1, p. 1.

<sup>25</sup> Exhibit B-2, BCUC IR 8.2.

<sup>26</sup> Exhibit B-2, BCUC IR 7.1.

<sup>27</sup> Exhibit B-2, BCUC IR 6.1.

<sup>28</sup> Exhibit B-2, BCUC IR 5.1.

Table 3<sup>29</sup>

Year	Estimated gross annual gas savings from ECI measures (GJ)	Total Annual Gas Sales (GJ)	ECI Savings as % of Gas Sales (gross)	Total Annual Deliveries (Sales + Transport) (GJ)	ECI Savings as % of Deliveries (gross)
	A	B	=A/B	C	=A/C
2018	1,961	6,313,276	0.03%	9,913,628	0.02%
2019	4,481	6,810,708	0.07%	11,295,176	0.04%
2020	8,840	6,810,708	0.13%	11,295,176	0.08%

PNG states that it has begun to promote its incentive programs through outreach activities involving municipalities and contractors.<sup>30</sup> PNG has created and begun to distribute materials that provide information on, and raise awareness of, PNG's ECI programs.<sup>31</sup> During the August and September 2018 billing cycles, PNG distributed a bill insert highlighting commercial offers to all its commercial customers.<sup>32</sup> In the spring of 2018, PNG reached out to community services organizations, chambers of commerce and municipalities' staff.<sup>33</sup>

PNG states that the responsibility for the implementation and administration of its ECI programs rests with the Manager, Energy Management and DSM who, in turn, relies on a consultant with deep expertise in developing and administering energy efficiency programs to complete many of the tasks related to establishing the programs. After beginning the implementation of its approved programs, PNG restructured the role of the DSM program manager.<sup>34</sup> When the Manager was hired in the fall of 2016, he was also assigned responsibility for PNG's gas supply portfolio that primarily entails managing the relationship with PNG's energy management service provider. In addition, PNG's Regulatory Affairs group relies on this Manager for developing rate and cost of service models as well as for developing future resource plans. PNG asserts that the reason for assigning multiple roles to the Manager is that, in the early stages of developing a DSM program with a fairly limited scope, a part-time role is appropriate.<sup>35</sup>

PNG considers that its Application is effectively a request to extend the schedule of expenditures for the DSM-related funding set out in the approved 2015 DSM Application by a further two years (to 2020). The amount of \$827,000 requested for the period 2019 – 2020 is equal to the amount of 2015 – 2018 funding approved in the 2015 DSM Decision that is projected to remain unspent at the end of 2018. The applied for schedule of expenditures for the period 2019-2020 effectively extends the funding period of the original \$1.2 million DSM expenditure schedule by an additional two years, to the end of 2020.<sup>36</sup>

### *Position of the Parties*

BCOAPO is concerned with significant past underspending on ECI programs. While BCOAPO accepts the two factors identified by PNG explaining this underspending, BCOAPO submits that close attention should be paid by

<sup>29</sup> Exhibit B-2, BCUC IR 6.1

<sup>30</sup> Exhibit B-2, BCUC IR 8.2.

<sup>31</sup> Exhibit B-1, p. 22.

<sup>32</sup> Exhibit B-1, p. 22.

<sup>33</sup> Exhibit B-1, p. 22.

<sup>34</sup> Exhibit B-1, p. 13.

<sup>35</sup> Exhibit B-2, BCUC IR 9.2.

<sup>36</sup> Exhibit B-1, p. 1.

PNG to ensure that the DSM expenditure proposed for 2019-2020 is achieved.<sup>37</sup> BCOAPO also submits that PNG is engaging in too tentative a DSM program<sup>38</sup> and takes issue with the low DSM expenditures as a percentage of total revenues of only 0.17% in 2018.<sup>39</sup>

PNG acknowledges that its spending on ECI programs has been significantly below that projected in the 2015 DSM Application, and submits that it has begun activities that address both factors through marketing efforts, and further consideration on the design of its commercial programs.<sup>40</sup>

PNG states that the results from its customer attitudes survey are now available and will help PNG re-evaluate the design of its commercial rebate programs and make adjustments, if appropriate.<sup>41</sup>

PNG submits that its growing experience with the implementation of its ECI programs and its marketing activities, and identification of additional activities for 2019 will help to promote its existing and proposed programs to a wider audience. PNG is confident that its efforts to improve both the awareness of its ECI programs amongst its customers, and the impact of the programs themselves, will be successful.<sup>42</sup>

### *Panel Discussion*

The Panel is concerned with poor customer uptake on programs to date and the pace at which PNG has been able to implement its programs. The Panel notes that PNG has only just begun, in the final year of the 2015–2018 period, to raise awareness of its DSM programs. The Panel considers that PNG’s decision to reduce the time that the Manager of DSM will devote to DSM matters, from 100% as originally intended, has contributed to this poor result. Given this situation, the Panel is concerned that the results may not significantly improve in 2019 and 2020.

The Panel is also concerned that the overall expenditure for DSM-related activities for the 2015–2018 period was extremely low as a proportion of revenues, a third of the approved amount, which the BCUC had found to be low in the first place. The Panel notes that actual spending in 2018 was only 0.17% of revenues, which is significantly lower than the level of 0.54% estimated in the 2015 DSM Application.

The Panel accepts that the PNG ECI program has not yet achieved the level of maturity that was anticipated at this juncture due to its slow start, and that additional time will be required before the size of the program will be comparable to other utilities. However, the Panel considers PNG should achieve significant improvement in both expenditures and achieved savings for the 2019-2020 period.

Notwithstanding PNG considering its Application to be an extension of its 2015 Application, the Panel notes the presence of new programs, in particular the Residential Furnace and Boiler Replacement Program. This new program, which is discussed below in Section 4.6.2, represents approximately one quarter of the proposed 2019-2020 ECI expenditure schedule.

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<sup>37</sup> BCOAPO Final Argument, pp. 6–7.

<sup>38</sup> BCOAPO Final Argument, p. 2.

<sup>39</sup> BCOAPO Final Argument, p. 6.

<sup>40</sup> PNG Reply Argument, p. 4.

<sup>41</sup> PNG Reply Argument, p. 4.

<sup>42</sup> PNG Reply Argument, p. 4.

## 4.0 Acceptance of the 2019-2020 ECI Expenditure Schedule

### 4.1 The Applicability of BC's Energy Objectives

Pursuant to section 44.2(5)(a) of the UCA, the BCUC must, in its review of applications for expenditure schedules, consider the applicability of BC's energy objectives, which are set out in section 2 of the CEA.

#### *Evidence*

As PNG considers its Application to essentially be a funding extension, it maintains that the alignment of its ECI programs with BC's energy objectives, as set out in the 2015 DSM Application, remains applicable to this Application.<sup>43</sup> The alignment with provincial energy objectives is set out in Table 4 below:

**Table 4**<sup>44</sup>

Energy Objective	PNG ECI Initiatives
(b) to take demand-side measures and to conserve energy, including the objective of the authority reducing its expected increase in demand for electricity by the year 2020 by at least 66%;	PNG's ECI initiatives are designed to conserve natural gas.
(g) to reduce BC greenhouse gas emissions	PNG's proposed ECI initiatives are designed to conserve natural gas, which will in turn reduce BC's greenhouse gas (GHG) emissions.
(h) to encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia;	Although PNG's current ECI portfolio does not include any fuel switching programs, in the future, PNG may consider offering programs to encourage switching from a high GHG emitting fuel to a low GHG emitting fuel.
(i) to encourage communities to reduce greenhouse gas emissions and use energy efficiently;	PNG's ECI programs will encourage communities to use natural gas efficiently and thereby reduce their GHG emissions.

PNG's states that its proposed ECI expenditures are consistent with BC's energy objectives that include conserving energy as well as greenhouse gas (GHG) emissions.<sup>45</sup> PNG estimates that the net present value (NPV) of gross natural gas savings will be 129,004 GJ, and the resulting gross GHG reductions will be 7,224 tonnes.<sup>46</sup> The gross and net savings are set out in Table 5:

<sup>43</sup> Exhibit B-2, BCUC IR 13.1.

<sup>44</sup> Exhibit B-2, BCUC IR 13.1.

<sup>45</sup> PNG Final Argument, pp. 1–2.

<sup>46</sup> Exhibit B-2, BCUC IR 6.2.

Table 5<sup>47</sup>

Indicator <sup>(1)</sup>	Year	Gross Savings and Reductions		Net Savings and Reductions <sup>(3)</sup>	
		Total Natural Gas Savings (GJ)	GHG Emission Reductions <sup>(2)</sup> (tonnes)	Total Natural Gas Savings (GJ)	GHG Emission Reductions (tonnes)
Net Annual Gas Savings (GJ/y) and GHG Reductions (tonnes/y)	2019	2,520	141	2,056	115
	2020	6,879	385	5,720	320
Cumulative Net Annual Gas Savings (GJ) and GHG Reductions (tonnes)	2019 - 2020	9,399	526	7,776	435
NPV of Net Gas Savings (GJ) and resulting GHG Reductions (tonnes)		129,004	7,224	109,929	6,156

(1) For measures installed beginning in 2019

(2) Based on a GHG intensity of 56 kg/GJ. (Source: NRCan)

(3) After applying the free ridership and spillover rates<sup>48</sup>

In summary, PNG states that its ECI expenditures are consistent with BC's energy objectives that include conserving energy as well as reducing greenhouse gas emissions.<sup>49</sup>

No submissions were made on this topic by interveners.

### Panel Determination

**The Panel finds that the ECI expenditure schedule is consistent with and supports the relevant BC energy objectives, as set out in the CEA.** To the extent that PNG is successful in implementing its ECI program, natural gas will be used more efficiently and consumption will be reduced, which in turn will lead to a reduction of GHG emissions in the province.

## 4.2 Most Recently Filed Resource Plan

Pursuant to section 44.2(5)(b) of the UCA, the BCUC must consider the utility's most recently filed long-term resource plan in its review of DSM expenditure schedules. In this regard, the BCUC has typically reviewed the general "consistency" of proposed DSM expenditure schedules with DSM Plans that were included in the most recent long-term resource plan.

### Evidence

PNG filed its most recent resource plan for Pacific Northern Gas Ltd. for its PNG-West division (PNG-West) in 2014 (2014 Resource Plan), which included a DSM Plan. By Order G-140-14, dated September 16, 2014, the BCUC accepted the 2014 Resource Plan as being in the public interest and stated that it accepted the DSM Plan as an initial first step in conservation programs for PNG.<sup>50</sup> PNG filed its most recent resource plan for Pacific

<sup>47</sup> Exhibit B-2, BCUC IR 6.2.

<sup>48</sup> Exhibit B-2, BCUC IR 6.2.

<sup>49</sup> PNG Final Argument, p. 1.

<sup>50</sup> Reasons for Decision Accompanying Order G-140-14, dated September 16, 2014, p. 14.

Northern Gas (N.E.) Ltd (PNG [N.E.]) in 2015 (2015 Resource Plan), which was accepted by the BCUC on September 30, 2015 by Order G-155-15. The DSM Plan was also referenced in the 2015 Resource Plan filing.<sup>51</sup>

PNG maintains that its ECI expenditure schedule submitted in this Application remains consistent with the most recently filed resource plans for PNG-West and PNG (N.E.).<sup>52</sup>

No submissions were made by interveners.

### *Panel Determination*

**The Panel finds that the proposed ECI expenditure schedule is generally consistent with PNG's most recently filed long term resource plans.**

However, the Panel notes that the long term resource plans filed by PNG in 2014 and 2015 included a limited DSM portfolio, with programs focussed on the sectors identified in section 3(1) of the DSM Regulation.<sup>53</sup> Further, the DSM Plan included in the 2014 Resource Plan only provided a preliminary budget for one year.<sup>54</sup> The Panel notes it has little information to guide it, in light of the limited information regarding DSM in the resource plans. Consequently, the Panel can only broadly note that PNG's proposed ECI expenditure schedule is not inconsistent with the most current resource plans.

## **4.3 The Adequacy of the ECI Expenditure Schedule**

The Adequacy requirements of the DSM Regulation are set out in section 3 (1) of the DSM Regulation. The DSM Regulation requires that the plan portfolio include demand-side measures targeting either low-income households or housing owned or operated by a local government or the governing body of a First Nation. Other requirements include demand-side measures targeting rental accommodations; education programs for students; the provision of resources to standards making body; and demand-side measures intended to promote the adoption by local governments and First Nations of a step code.

### *Evidence*

#### Low Income Households

PNG has two programs targeting residential, low-income customers. In the first program, PNG delivers ESKs to its customers, in partnership with British Columbia Hydro and Power Authority (BC Hydro). PNG began this program on October 1, 2016, and deliveries of ESKs to PNG's customers have exceeded expectations.<sup>55</sup> The proposed expenditures and deliveries of ESKs in 2019-2020 are forecast to be at approximately the same level as in 2018.<sup>56</sup>

The second program, PNG's Energy Conservation Assistance Program (ECAP)<sup>57</sup> for qualifying customers, offers a personalized home energy evaluation, personalized energy efficiency advice and the installation of energy saving

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<sup>51</sup> Exhibit B-2, BCUC IR 13.2.

<sup>52</sup> Exhibit B-2, BCUC IR 13.2.

<sup>53</sup> Reasons for Decision Accompanying Order G-140-14, dated September 16, 2014, p. 16.

<sup>54</sup> PNG Ltd 2014 Resource Plan for the PNG-West Pipeline System, Exhibit B-1, p. 93.

<sup>55</sup> Exhibit B-1, p. 15.

<sup>56</sup> Exhibit B-1, p. 16.

<sup>57</sup> Exhibit B-1, p. 16.



products by a qualified contractor.<sup>58</sup> This program, which will also be delivered in partnership with BC Hydro, will commence in 2019.<sup>59</sup>

PNG has not explored any potential energy conservation programs aimed at housing providers or registered charities that provide assistance to low-income persons.<sup>60</sup>

#### Housing Provided by a Local Government or a Governing Body of a First Nation

PNG has not explored any potential DSM measures aimed at housing provided by either local government or First Nations governing bodies. PNG submits that its ECI program was launched in 2016 with the aim of meeting the Adequacy requirements contained in section 3(1) of the DSM Regulation, along with providing additional programs aimed at the commercial sector that were assessed as cost-effective, based on information available at the time. The intention of PNG's Application is to effectively extend the funding for PNG's approved programs through to the end of 2020, and request BCUC approval for the initiation of a program aimed at the under-served residential sector. PNG has prioritized these intentions ahead of activities to develop additional measures aimed at housing provided by either local government or First Nations governing bodies.<sup>61</sup>

#### Rental Accommodations

PNG acknowledges that its existing low-income and commercial programs are targeted at a broader segment of commercial customers than just those commercial customers operating rental buildings. PNG's rental accommodation market segment is small, comprising approximately 200 buildings. Implementing a cost-effective program for such a small customer segment is challenging and, while PNG concedes that it is possible, it submits that extending the existing commercial programs to the rental segment is an appropriate step at this stage of the development of the ECI programs.<sup>62</sup>

PNG is aware of only one program currently offered by FEI that is intended specifically to improve the energy efficiency of rental accommodations. The FEI Rental Apartment Efficiency Program provides direct installation of free water-saving showerheads and faucet aerators, a building energy assessment and ongoing professional assistance to guide apartment owners through the process of completing energy efficiency upgrades and applying for incentives offered by FEI's commercial programs. PNG notes that FEI's Rental Apartment Efficiency Program is a bundle of measures that are also available through their Residential and Commercial Program Areas. PNG states that the only difference between FEI's approach and PNG's approach to targeting the rental accommodation market is the additional outreach and support offered by FEI to that segment. PNG submits that such support can be offered through PNG's general conservation and education outreach (CEO) initiatives.<sup>63</sup>

PNG interprets section 3(1)b of the DSM Regulation as referring to a demand-side measure aimed at rental accommodations, rather than directly at rental residents. In PNG's view, its existing Commercial Efficient Boiler and Commercial Efficient Water Heater programs, which are available to owners and operators of rental buildings, meet the adequacy requirements of the DSM Regulation.<sup>64</sup>

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<sup>58</sup> Exhibit B-1, Appendix C, p. 4.

<sup>59</sup> Exhibit B-1, p. 17.

<sup>60</sup> Exhibit B-3, BCOAPO IR 8.1.

<sup>61</sup> Exhibit B-2, BCUC IR 2.1.

<sup>62</sup> Exhibit B-2, BCUC IR 1.1.

<sup>63</sup> Exhibit B-2, BCUC IR 1.1.

<sup>64</sup> Exhibit B-2, BCUC IR 1.1.1.



### Education Programs

PNG has entered into a partnership with the Northern Environmental Action Team (NEAT), a not-for-profit society active in PNG's Fort St. John and Dawson Creek service areas, to deliver the Energy is Awesome program to elementary school children. PNG has set a goal to provide the Energy is Awesome program to every child in grades four and five in those service areas on a two-year revolving basis. PNG and NEAT are on track to a full delivery of the program by the 2018/19 school year that will see approximately 2,300 students in 75 classrooms receive the program every year.<sup>65</sup>

PNG has not initiated any further conservation and education programs aimed at students in post-secondary institutions at this time. However, PNG affirms they remain committed to developing a post-secondary program that supports PNG's ECI initiatives and is aligned with the objectives of post-secondary institutions in PNG's service territory.<sup>66</sup>

### Standards Making Bodies and the Step Code

Amendments to the DSM Regulation that came into force on March 22, 2017 include additions to the adequacy requirements that specify support for the development of standards related to energy conservation and energy efficiency and promote the adoption of the Energy Step Code by local governments and First Nations. In order to bring PNG's ECI program into compliance with the DSM Regulation, PNG proposes to allocate approximately \$14,000 in each of 2019 and 2020 to support the development of standards and the adoption of the Energy Step Code.<sup>67</sup>

PNG has also begun discussions with BC Housing on delivering the Natural Resources Canada Local Energy Efficiency Partnerships (LEEP) initiative to builders in PNG's service territories. LEEP accelerates energy efficient construction by enabling builders to reduce their time and risk finding and trying innovations that can help them build higher performance homes (that achieve the BC Energy Step Code Step 2 and higher) better, faster and more affordably.<sup>68</sup>

### *Positions of the Parties*

While BCOAPO acknowledges that PNG is facing challenges targeting measures to rental accommodation due to the small size of its rental accommodation market share, it is unsure whether extending the existing programs for commercial and residential sectors is actually meeting the rental adequacy requirement. However, BCOAPO is content that the BCUC turn its mind to whether PNG's practical actions in the face of the barriers cited are sufficient.<sup>69</sup>

PNG submits that their proposed expenditures for the 2019–2020 period meet the adequacy requirements with regard to including "...a demand-side measure intended specifically to improve the energy efficiency of rental accommodations;" as specified in the DSM Regulation.<sup>70</sup>

PNG agrees with BCOAPO that whether PNG's approach satisfactorily addresses the rental adequacy requirement is a matter for the BCUC to determine. PNG reiterates that, in light of the small size of its rental

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<sup>65</sup> Exhibit B-1, p. 21.

<sup>66</sup> Exhibit B-1, p. 22.

<sup>67</sup> Exhibit B-1, p. 27.

<sup>68</sup> Exhibit B-2, BCUC IR 3.1

<sup>69</sup> BCOAPO Final Argument, p. 3.

<sup>70</sup> PNG Final Argument, p. 4.

accommodation market segment, extending its existing commercial programs to the rental segment is an appropriate step at this stage of the development of its ECI programs.<sup>71</sup>

### *Panel Determination*

**The Panel finds that the ECI expenditure schedule is adequate within the meaning prescribed by the DSM Regulation.**

The ECI expenditure schedule includes measures (ESK and ECAP) intended specifically to assist residents of low-income households in reducing their energy consumption. The ECI expenditure schedule does not include measures intended specifically to reduce energy consumption in housing owned or operated by a local government or the governing body of a first nation. However, the Panel notes the DSM regulation does not require both low-income related measures and either local or first nations government related measures, in order to be considered adequate. Rather, the expenditure schedule has to meet only one of the two requirements. In the Panel's view, the ECI expenditure schedule meets this portion of the adequacy requirements of the DSM Regulation.

The ECI expenditure schedule includes conservation education and outreach measures intended specifically for students in elementary and secondary schools and funds ear-marked for the development of outreach programs aimed at post-secondary schools. It also includes funds for standards making bodies and adoption of the step code. In the Panel's view, the ECI expenditure schedule meets these particular adequacy requirements of the DSM Regulation.

The DSM Regulation 3(1)(b) requires a demand-side measure to improve the energy efficiency of rental accommodations. The Panel notes that the ECI expenditure schedule does not include any measures specifically targeting rental accommodation, although the 2015 DSM Application expenditure schedule did include such measures. The Panel accepts PNG's submission regarding the small size of its rental accommodation market, and agrees that extending PNG's existing commercial programs to the rental market is an appropriate step at this stage of the development of its ECI programs. However, the Panel urges PNG to re-evaluate the merits of programs targeted specifically to rental accommodations, with a view to providing more in this regard, in the next DSM plan expenditure schedule application.

## **4.4 The Cost-Effectiveness of the ECI Expenditure Schedule**

Pursuant to UCA section 44.2(5)(d), the BCUC must consider whether the demand-side measures are cost-effective within the meaning prescribed by regulation. Section 4 of the DSM Regulation sets out the cost-effectiveness criteria, referencing the Total Resource Cost (TRC) test,<sup>72</sup> and the modified TRC (mTRC) test which includes an adder for non-energy benefits. The BCUC may determine cost-effectiveness at a program or portfolio level, subject to section 4(1) of the DSM Regulation, and up to 40% of the qualifying portfolio expenditure may be determined to be cost-effective using the mTRC.

In the 2015 DSM Decision, the BCUC directed PNG to address three matters regarding cost-effectiveness in future DSM expenditure requests. First, to demonstrate how the DSM portfolio meets the cost-effectiveness requirements of section 4 of the DSM Regulation.<sup>73</sup> Second, to include estimates of free rider and spillover

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<sup>71</sup> PNG Reply Argument, p. 3.

<sup>72</sup> TRC = avoided energy and capacity costs / incremental cost of measure to customer and utility.

<sup>73</sup> Decision Accompanying Order G-203-15A, p. 9.

effects for each DSM program together with justification used to support these estimates.<sup>74</sup> Third, to include emission reduction benefits.<sup>75</sup>

## Evidence

PNG has determined the TRC and mTRC ratios for each program, and for the portfolio as a whole, using the portfolio cost-effectiveness model (PCEM) presented in its 2015 DSM Application. The PCEM incorporates the equations and methodology described in the California Standard Practice Manual.<sup>76</sup> PNG has updated the PCEM to reflect the amendments to the DSM Regulation, as well as updated parameters as set out in the Application.<sup>77</sup> The results of the various cost-benefit tests are set out in Table 6 below:

**Table 6**<sup>78</sup>

Measure		Gas Savings (over life)	GHG Reduction (over life)	Cost-Benefit Tests				
Sector	Name	GJ	tonnes	TRC	mTRC	PACT/UCT	PCT	RIM
Low Income	ESK *	15,019	841	1.88	19.25	1.07	13.87	0.18
Low Income	ECAP *	10,560	591	0.47	4.76	0.27	4.52	0.12
Residential	Furnace Replacement	27,900	1,562	0.13	1.11	0.18	1.38	0.10
Commercial	Domestic Hot Water	5,453	305	0.15	1.32	0.11	1.80	0.08
Commercial	Commercial Kitchen	3,240	181	0.26	2.31	0.14	3.84	0.09
Commercial	Boiler Replacement	47,757	2,674	1.18	na	1.07	10.47	0.21
Education	K-12	-	-	-	-	-	-	-
Education	Post Secondary	-	-	-	-	-	-	-
Outreach	Community Engagement	-	-	-	-	-	-	-
Codes and Standards	Support for Codes and Standards	-	-	-	-	-	-	-
Innovation	Innovation	-	-	-	-	-	-	-
Admin	Enabling Activities	-	-	-	-	-	-	-
<b>Portfolio Total</b>		<b>109,929</b>	<b>6,156</b>	<b>1.41 **</b>		<b>0.19</b>	<b>3.02</b>	<b>0.10</b>

\* Section 4 of the BC Demand-Side Measures Regulation, as amended in March 2017, requires the use of the Zero Emission Energy Alternative and a 40 percent benefit adder in calculating the mTRC for Low Income programs.

\*\* Includes the MTRC adder for programs that require it.

The expenditures of the three programs requiring the mTRC test comprise 40% of the total expenditures of the ECI portfolio.<sup>79</sup> PNG states that at the portfolio level, the combination of the mTRC benefits for those programs that require use of the mTRC, and the TRC benefits for all other programs are compared to the portfolio costs to determine the TRC/mTRC cost-effectiveness ratio of 1.41. PNG submits that the ECI portfolio therefore meets the cost-effectiveness requirement of section 4 of the DSM Regulation.<sup>80</sup>

PNG updated the free rider and spill over factors to be consistent with those used by FEI in determining the cost-effectiveness of similar programs proposed in FEI's 2019-2022 Demand Side Management Expenditures Plan, accepted by the BCUC by way of Order G-10-19.<sup>81</sup> PNG has also adopted BC Hydro's free ridership and spillover rates applicable to its ESK and ECAP programs.<sup>82</sup> PNG submits that these rates are appropriate because there is

<sup>74</sup> Decision Accompanying Order G-203-15A, p. 11.

<sup>75</sup> Decision Accompanying Order G-203-15A, p. 12.

<sup>76</sup> Exhibit B-1, p. 12.

<sup>77</sup> Exhibit B-1, p. 12.

<sup>78</sup> Exhibit B-1, Table 28, p. 30.

<sup>79</sup> Exhibit B-1, p. 30.

<sup>80</sup> Exhibit B-1, p. 30.

<sup>81</sup> Exhibit B-2, IR 4.1, IR 4.3.

<sup>82</sup> Exhibit B-2, BCUC IR 4.2.

currently no available evidence indicating that the behaviours of PNG's, FEI's and BC Hydro's customers with regard to incentive programs are any different.<sup>83</sup>

PNG does not have any data on free ridership and spillover rates specific to its own ECI programs. PNG has not endeavoured to collect the necessary data or complete an analysis to determine these rates because having such information is not expected to significantly alter the outcome of most cost-effectiveness tests. Nor would it be expected to alter PNG's decisions regarding the implementation of its programs. PNG notes that the determination of free ridership and spillover rates is subject to a host of assumptions and would require considerable analysis. PNG submits that the benefits associated with developing free rider and spillover rates specific to its service areas would be outweighed by the cost of doing so.<sup>84</sup>

PNG has adopted the measure life used by FEI in determining the cost-effectiveness of programs proposed in FEI's 2019-2022 Demand Side Management Expenditures Plan. PNG submits that adopting the measure life of FEI programs that are similar to PNG's own programs is appropriate in that there is currently no available evidence indicating that the measure lives in PNG's and FEI's service areas are any different.<sup>85</sup>

### *Positions of the Parties*

PNG submits that its ECI programs are cost-effective on a portfolio basis under the modified TRC test prescribed in the DSM Regulation<sup>86</sup>. PNG notes that BCOPA has reviewed PNG's evidence on its cost-effectiveness and has not expressed any concerns with PNG's free ridership and spillover methodologies,<sup>87</sup> nor with the results of its cost-effectiveness tests, specifically the TRC/mTRC results.<sup>88</sup>

### *Panel Determination*

#### **The Panel finds that the ECI expenditure schedule is cost-effective at the portfolio level within the meaning prescribed by the DSM Regulation**

While finding that the ECI expenditure schedule meets the minimum thresholds for cost-effectiveness, the Panel does so with some reservation. The Panel notes the expenditures of the three programs requiring the mTRC test comprise 40% of the total expenditures of the ECI portfolio, the maximum allowed for inclusion using the mTRC test. Further, only two of the six proposed DSM measures (ESKs and Commercial Boiler Replacement) have a TRC result greater than 1.0, and these two programs<sup>89</sup> represent only 10%<sup>90</sup> of the total program spending over the two-year period. In summary, the Panel urges PNG to focus on more cost-effective programs for inclusion in its next ECI application (more will be said on this latter point in Section 4.6 below).

The Panel finds it is reasonable to use the free rider and spill over factors, and measure lives that are consistent with those used by FEI in determining the cost-effectiveness of similar programs proposed by FEI. The Panel accepts that PNG has no available evidence indicating that the behaviours of PNG's and FEI's customers in regard to these incentive programs are any different.

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<sup>83</sup> Exhibit B-2, BCUC IR 4.4.

<sup>84</sup> Exhibit B-3, BCOAPO IR 3.1.

<sup>85</sup> Exhibit B-2, BCUC IR 4.1.1.

<sup>86</sup> PNG Final Argument, p. 2.

<sup>87</sup> BCOAPO Final Argument, p. 6.

<sup>88</sup> PNG Reply Argument, p. 4.

<sup>89</sup> As per the response to BCUC IR 15.2, the two year forecast spending for ESKs is \$23,696 and for Commercial Boiler Replacement is \$58,600, which totals \$82,296.

<sup>90</sup> Total two-year forecast spending, as per the response to BCUC IR 15.2 is \$826,564.  $\$82,296 / \$826,564 = 10.0\%$ .

The Panel finds it reasonable to use the free ridership and spillover rates, that BC Hydro has used, applicable to its ESK and ECAP programs. As BC Hydro is delivering the ESK and ECAP programs to PNG customers through a partnership arrangement, the Panel finds it appropriate to use the BC Hydro free ridership and spillover rates. The Panel accepts that PNG has no available evidence indicating that the behaviours of PNG’s and BC Hydro’s customers in regard to these incentive programs are any different.

**4.5 The Interests of Persons in BC Who Receive Service or May Receive Service**

Pursuant to section 44.2(5)(e) of the UCA, the BCUC must consider the interests of persons in BC who receive or may receive service from the public utility.

In considering the foregoing interests, the Panel considers both the effectiveness and balance of PNG’s ECI portfolio. Effectiveness is defined as the average cost of saved energy. Balance assesses how successful the portfolio is at providing broad opportunities for customers to participate, in particular for “hard to reach” customers not otherwise addressed by the adequacy requirements.

*Evidence*

PNG estimates the non-incentive portion of costs for its incentive programs collectively to be 44% of total measure costs over the approval period, noting that this falls below its target ceiling of 50% of expenditures in a given year.<sup>91</sup> PNG provides the following summary of the actual and forecast energy costs for its ECI program.

**Table 7<sup>92</sup>**

	Cost of Energy Saved (\$/GJ)		
	2016 - 2018	2016 - 2018	2019-2020
	Forecast <sup>(1)</sup>	Actual <sup>(2)</sup>	Forecast <sup>(3)</sup>
<b>PNG Total</b>	\$ 13.84	\$ 15.83	\$ 7.52

- (1) 2015 CEM [DSM] Application, Exhibit B-3, PNG response to BCUC 1.19.1
- (2) Actual expenditures (\$395,975) divided by estimated undiscounted gross energy savings over the life of each measure.
- (3) Forecast expenditures (Table 27 of the Application) divided by undiscounted gross energy savings of the life of each measure (Table 28).

PNG states that the proposed ECI expenditures are in the interests of customers and potential customers as they encourage energy efficiency and conservation, reduce GHG emissions and are cost-effective. Individual consumers that avail themselves of ECI measures will reduce their natural gas consumption and their natural gas bills.<sup>93</sup>

<sup>91</sup> Exhibit B-1, p. 29.  
<sup>92</sup> Exhibit B-2, BCUC IR 5.1.  
<sup>93</sup> PNG Final Argument, p. 2.

### *Positions of the parties*

BCOAPO generally supports PNG's proposal that it continue its existing programs with the addition of the residential furnace and boiler rebate program. However, BCOAPO also submits that PNG is engaging in too tentative a DSM program, with ECI expenditures of only 0.17% as a percentage of total revenues in 2018.<sup>94</sup>

BCOAPO submits that its clients are the most economically vulnerable of PNG's residential customer base, so it wishes to state on the record that it is not encouraging the utility to undertake spending for its own sake, simply to meet a target. BCOAPO expects that PNG is sophisticated enough to engage in thoughtful and creative planning and implementation of programs, perhaps in partnership with or modelled after more experienced DSM players like BC Hydro and Fortis.<sup>95</sup>

### *Panel Determination*

**The Panel finds that the ECI expenditure schedule is in the interests of persons in BC who receive service or may receive service from PNG.**

The Panel's portfolio level review of the effectiveness of PNG's ECI portfolio includes a review of the average cost of energy saved in PNG's portfolio, and a review of potential missing ECI programs. The Panel notes the significant improvement in the forecast cost of saved energy from \$13.84/GJ<sup>96</sup> in the 2015 Application to \$7.52/GJ in the current Application.<sup>97</sup> There also appears to have been a proportional increase in incentive costs, from the 15%–29% range forecast over the 2015–18 approval period,<sup>98</sup> to the current forecast of 66% for the 2019–2020 period.<sup>99</sup>

The Panel notes that PNG has made some attempt to broaden the suite of ECI measures by proposing the residential furnace and boiler rebate program but considers that this does not yet go far enough. Issues of balance, coverage and potential missing programs are addressed further in Section 4.6 below.

## **4.6 Program Level Discussion**

In accepting the expenditure schedule in the 2015 DSM Decision, the BCUC noted that it viewed it as an initial first step only, giving weight to the fact that this was PNG's first foray into offering DSM programs to its customers and to PNG's submission that over the long-term its DSM Plan should evolve to achieve all cost-effective DSM savings.<sup>100</sup> The BCUC also noted that the results of the Conservation Potential Review (CPR) would be available to PNG well before the end of the (then) current funding period, and encouraged PNG to apply for new programs based on the results of the new CPR.<sup>101</sup>

In addition, the 2015 DSM Decision set out two directives under the sub-heading "Lost opportunities and missing programs" for PNG to address in its subsequent ECI expenditure schedule application.<sup>102</sup>

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<sup>94</sup> BCOAPO Final Argument, p. 2.

<sup>95</sup> BCOAPO Final Argument, p. 3.

<sup>96</sup> Decision Accompanying Order G-203-15A, p. 14.

<sup>97</sup> Calculated based on data in Table 27 and 28 of Exhibit B-1, pp. 29–30.

<sup>98</sup> Decision Accompanying Order G-203-15A, p. 14.

<sup>99</sup> Exhibit B-1, p. 29.

<sup>100</sup> Decision Accompanying Order G-203-15A, p. 6.

<sup>101</sup> Decision Accompanying Order G-203-15A, p. 18.

<sup>102</sup> Decision Accompanying Order G-203-15A, pp. 15–16.

**Directive #7. Applicability of FEI’s Programs:** *The Panel directs PNG to include the results of its research and analysis of the applicability of the programs currently offered by FEI in the next DSM expenditure schedule filing, and to specifically include a review of the costs and benefits of offering ‘new construction’ program(s) to mitigate lost DSM opportunities.*<sup>103</sup>

**Directive #8. Expansion to Other Customer Segments:** *The Panel directs PNG to include in its next DSM Expenditure Application a review and discussion of whether opportunities exist to cost-effectively expand DSM funding to under-served customer segments, specifically industrial customers and residential customers not covered by PNG’s adequacy programs.*<sup>104</sup>

The following sections explore how PNG has addressed these directives, in particular with regard to the CPR results, the proposed new Residential Furnace and Boiler Replacement program, and the allocation of overhead for enabling activities.

#### 4.6.1 The Conservation Potential Review and PNG Market Potential

##### *Evidence*

According to PNG the purpose of the CPR is to develop estimates of electricity and natural gas conservation potential in BC. PNG participated in the joint provincial CPR lead by FEI and BC Hydro, and received a copy of the Market Potential Review report,<sup>105</sup> dated May 2017, prepared for PNG based on FEI economic data and applied to PNG’s service areas.<sup>106</sup>

PNG provided results from the CPR as part of its Application. PNG summarizes the key outputs as follows:

The CPR report identifies a market potential of 362 TJ in annual savings in 2025 (Table B-1 on page B-1 of Appendix B), equivalent to 4.5 percent of consumption (Table B-2 on page B-2). The report also identifies the top measures by market potential savings in 2025 (Table B-7 on page B-7). Four measures – (i) ENERGY STAR® homes, (ii) commercial new construction measures > 45% above code, (iii) commercial HVAC control upgrades, and (iv) residential home energy reports – account for 190 TJ or over half of the total market potential annual savings.<sup>107</sup>

The CPR includes the following figures ranking the top forty programs in declining order of potential energy savings,<sup>108</sup> and indicates that the benefit-cost test ratios by sector and total portfolio are greater than 1.0.<sup>109</sup>

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<sup>103</sup> Exhibit B-1, p. 8.

<sup>104</sup> Exhibit B-1, p. 9.

<sup>105</sup> The report was prepared for PNG by Navigant, based on FEI economic data and applied to PNG’s service areas. See Exhibit B-1, Appendix B for more information.

<sup>106</sup> Exhibit B-1, p. 6.

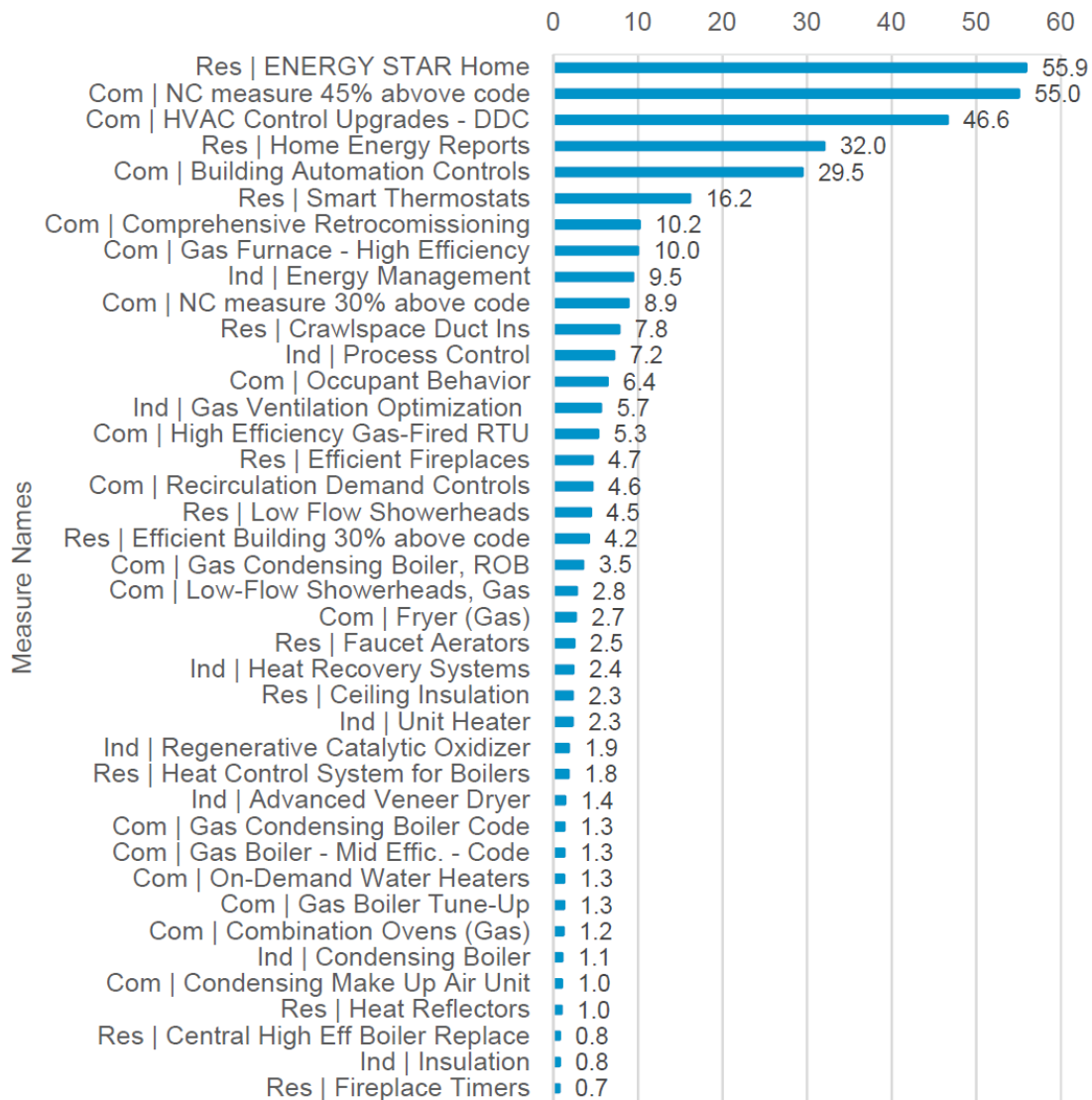
<sup>107</sup> Exhibit B-2, BCUC IR 7.2.

<sup>108</sup> Exhibit B-1, Appendix A, p. 24.

<sup>109</sup> Exhibit B-1, Appendix B, p. 31.



**Figure 5-17. Top 40 Measures for Gas Energy Market Savings Potential in 2025 (TJ/year)**



PNG states that over the next two years, it intends to focus on raising awareness amongst its customers of its existing ECI programs before embarking on the development of additional programs.<sup>110</sup> PNG has not evaluated any programs related to new construction.<sup>111</sup>

During the 2019 to 2020 period, PNG commits to actively investigate opportunities to support and promote the construction of homes meeting the BC Energy Step Code and, if appropriate, to request BCUC approval for a new construction program or programs.<sup>112</sup>

PNG is not requesting funding for any additional programs aimed at any specific customer segment at this time, other than its proposed residential furnace and boiler rebate program,<sup>113</sup> which is discussed in the following section.

<sup>110</sup> Exhibit B-2, BCUC IR 7.2.

<sup>111</sup> Exhibit B-1, p. 9.

<sup>112</sup> PNG Reply Argument, p. 3.

<sup>113</sup> Exhibit B-1, p. 9.



#### 4.6.2 New Program: Residential Furnace and Boiler Replacement Program

##### *Evidence*

PNG proposes a Residential Furnace and Boiler Replacement Program aligned with a similar program currently offered by FEI.

Despite the CPR results which profile the top measures, PNG has elected to implement this new Residential Furnace and Boiler Replacement Program targeting residential customers that appears further down the CPR ranking list.<sup>114</sup> Under this program, PNG will provide a \$500 incentive to qualified residential customers who replace their low and mid-efficiency furnace or boiler with an eligible model having a fuel efficiency of 95.0 to 96.9% AFUE (annualized fuel utilization efficiency) in the case of furnaces, and at least 94% AFUE in the case of boilers.<sup>115</sup> Consistent with the program offered by FEI, PNG will also offer a \$100 incentive to licensed gas contractors who install the qualifying natural gas furnaces and boilers. In addition, PNG will pay FEI a fee for its ongoing administration of the program on PNG's behalf.<sup>116</sup>

PNG puts forward the following statements to support its proposal to implement the Residential Furnace and Boiler Replacement Program:

1. A similar program is offered by FEI. PNG receives comments from its customers asking about programs offered by FEI and whether these are also offered by PNG. The majority of these comments have been about a residential furnace replacement incentive program;
2. A residential efficient furnace and boiler replacement rebate program is a common program that is often "top-of-mind" with residential customers when replacing their furnace or boiler equipment;
3. The program is relatively simple to set up and operate, and straight forward to administer. It is therefore a natural fit for PNG's ECI program, which was launched just three years ago on a modest budget and which is still developing its capacity to develop and administer more complex and ambitious programs;
4. The program takes advantage of additional funding provided by EfficiencyBC, to customers opting to upgrade to an ultra-high efficiency (97% AFUE or higher) gas furnace; and
5. PNG has a low rate of growth in both its residential and commercial sectors. Consequently, and despite the recommendations contained in the CPR report, PNG has not prioritized measures targeting new construction (ENERGY STAR® homes, and commercial new construction measures) at this time.<sup>117</sup>

The following table compares data for the proposed new Furnace and Boiler Replacement Program with PNG's existing programs included in the Application.

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<sup>114</sup> Exhibit B-2, BCUC IR 7.2.

<sup>115</sup> Exhibit B-1, p. 25.

<sup>116</sup> Exhibit B-1, p. 26.

<sup>117</sup> Exhibit B-2, BCUC IR 7.2.

**Table 8**

Programs	Proposed Funding Levels <sup>1</sup>	As % of Total <sup>2</sup>	TRC <sup>3</sup>	mTRC <sup>3</sup>
ESK	23,696	5%	1.88	19.25
ECAP - low income	63,500	13%	0.47	4.76
<b>Residential Furnace and Boiler Replacement</b>	<b>216,600</b>	<b>45%</b>	<b>0.13</b>	<b>1.11</b>
Commercial Boiler Replacement	58,600	12%	1.18	
Commercial Water Heater Replacement	71,400	15%	0.15	1.32
Commercial Kitchen	<u>43,150</u>	<u>9%</u>	0.26	2.31
	476,946	100%		
Footnotes <sup>1</sup> Exhibit B-2 BCUC IR 15.2, note these amounts are for 2019-2020, and do not include amounts from 2018 <sup>2</sup> Calculated, and rounded <sup>3</sup> Exhibit B-1, Table 28, p. 30				

PNG provides the following information on expected program costs and participation rates.

**Table 9**

Program Budget	2018	2019	2020	Total
Setup Costs	\$ 9,000	\$ 5,000	\$ -	\$ 14,000
Administrative Costs	\$ -	\$ 25,000	\$ 30,000	\$ 55,000
Marketing Costs	\$ -	\$ 15,800	\$ 15,800	\$ 31,600
Incentives	\$ -	\$ 50,000	\$ 75,000	\$ 125,000
<b>Total</b>	<b>\$ 9,000</b>	<b>\$ 95,800</b>	<b>\$ 120,800</b>	<b>\$ 225,600</b>
<b>Number of Incentives</b>	<b>-</b>	<b>100</b>	<b>150</b>	<b>250</b>

### *Positions of the Parties*

BCOAPO asserts that PNG has not complied with BCUC Directive No. 7 from the 2015 DSM Decision, regarding the completion of a review of the costs and benefits of a “new construction” program or programs for DSM. While BCOAPO supports PNG’s Residential Furnace and Boiler Replacement Program, it does not believe that this is an appropriate offset to the purpose and focus of Directive No. 7. BCOAPO claims concerns about affordability, GHG emissions and other issues are on the rise and while offsetting some costs when replacing furnaces and boilers is a good start, it does not go far enough. BCOAPO is not advocating that PNG jump into this activity without doing appropriate investigation, as its clients have no interest in shouldering unnecessary or imprudently incurred costs, but they do see long-term value of looking at the opportunity to build cleaner, more efficient housing for our elders, and all other low- and fixed-income PNG ratepayers.<sup>118</sup>

BCOAPO submits that the BCUC follow up on Directive No. 7 to ensure PNG actively investigates these opportunities, by seeking information and considering possible partnerships with our provincial government, municipalities, housing providers, advocacy groups, First Nations and private developers. Such information can

<sup>118</sup> BCOAPO Final Argument, pp. 5–6.

be used to identify suitable DSM opportunities which may be in the public interest and meet the requirements of the DSM regulations and UCA while remaining cost-effective.<sup>119</sup>

PNG agrees with BCOAPO that the construction of more energy efficient homes for all of PNG's residential customers, including low- and fixed-income customers, should be encouraged. During the 2019 to 2020 period, PNG will commit to actively investigate opportunities to support and promote the construction of homes meeting the BC Energy Step Code and, if appropriate, to request BCUC approval for a new construction program or programs. PNG further notes that in its Application, it proposes to allocate funds to support the development of standards related to energy efficiency and to promote the adoption of the Energy Step Code by local governments and First Nations.<sup>120</sup>

### *Panel Determination*

For the reasons set out below, **the Panel finds that the proposed Residential Furnace and Boiler Replacement Program is not in the public interest and rejects this program.**

The Panel acknowledges that the proposed Residential Furnace and Boiler Replacement Program is cost-effective using the modified TRC and is included in the CPR. That said, the Panel notes that the proposed program sits well down the CPR rating list, at position thirty-eight of the top forty programs. When viewed from the perspective of potential energy savings as opposed to ordinal rankings, the proposed program fares even worse, representing well under one half of one percent of the potential savings of the top forty programs.

PNG comments that low levels of new construction activity factored into its decision. The Panel accepts that low construction activity levels are a factor that can be taken into account, but that does not in itself support the selection of the Residential Furnace and Boiler Replacement Program put forward by PNG. First, the CPR notes that its findings incorporate PNG's building stock forecasts (amongst other PNG specific factors).<sup>121</sup> The Panel understands that to mean that the CPR findings have already taken what PNG considers low construction activity into account in coming up with the rankings. Second, the Panel notes that the CPR identified many residential programs targeted to existing housing stock that have significantly greater potential impact than the Residential Furnace and Boiler Replacement Program proposed by PNG.

The Panel also puts weight on the fact that the proposed Program will represent 45% of the proposed total program spending on the one hand, while having the lowest TRC and mTRC of all programs put forward in the portfolio.

Furthermore, the Panel is concerned by the high overhead burden budgeted for this program. More specifically, of the \$216,600 total funding requested for the program \$125,000 is going to incentives and \$91,600 (42%)<sup>122</sup> is going to direct costs for administration and marketing. Said another way, PNG is forecasting a total direct delivery cost of \$366 per participant to deliver a \$500 incentive.

In summary, while the Panel has no problem with the Residential Furnace and Boiler Replacement Program in general, it does take issue with this specific PNG program, given the current CPR. More impactful programs

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<sup>119</sup> BCOAPO Final Argument, p. 6.

<sup>120</sup> PNG Reply Argument, p. 3.

<sup>121</sup> Exhibit B-1, Appendix A, p. 4.

<sup>122</sup> Exhibit B-1, Table 27, p. 29.

identified through the CPR have been passed over in favour of one that is projected to have very limited impact on energy savings and has rather tenuous cost-effectiveness indicators (TRC and mTRC). Thus, while the Panel agrees with the BCUC's prior sentiment expressed in the 2015 DSM Decision, that PNG is encouraged to expand both its total spending and its array of programming, the Panel does not believe that the proposed new Residential Furnace and Boiler Replacement Program is an effective or adequate response.

The Panel is disappointed that PNG has not included any new programs beyond the new Residential Furnace and Boiler Replacement Program. The Panel considers that PNG should be able to simultaneously focus on raising customer awareness regarding existing programs while developing cost-effective new programs for implementation. This is especially true given that the CPR shows many potential DSM programs to be cost-effective. The CPR report was available in May 2017, more than one year in advance of the Application filing date, which provided PNG a reasonable period of time to develop some programs based on the findings of the CPR.

The Panel notes that PNG is due to file its consolidated long-term resource plan, which must include a DSM plan,<sup>123</sup> by September 30, 2019.<sup>124</sup>

**The Panel directs PNG to include in its next DSM plan and related expenditure schedule applications, a review and discussion of new programs for new construction, under-served markets, and cost-effective programs identified in the CPR.**

#### 4.6.3 Allocation of Overhead Costs and Enabling Activities

In the 2015 DSM Decision, the BCUC made the following directive:

**Directive #17. Overhead Cost Allocation:** *To aid transparency, the Panel also directs PNG to better attempt to allocate its DSM overhead costs (including but not limited to the DSM program manager) to individual programs, and to include in its next DSM expenditure schedule application a description of the cost allocation method used.*<sup>125</sup>

##### *Evidence*

In response to BCUC Directive No. 17, PNG will begin to allocate overhead costs to individual programs. PNG has examined the nature of the activities it has categorized as Enabling Activities over the past two and a half years. Costs assigned to Enabling Activities are primarily external consulting fees for a consultant retained by PNG to assist with the implementation of the ECI programs and the development of outreach and marketing materials promoting ECI programs in general. Therefore, PNG has allocated most of the costs forecast for the remainder of 2018 and through 2020, to individual programs in accordance with the ratios presented in Table 4 of the Application, shown below.

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<sup>123</sup> Section 44.1 (2) (b) requires a plan of how the public utility intends to reduce demand, by taking cost-effective demand-side measures.

<sup>124</sup> Order C-76-19.

<sup>125</sup> Exhibit B-1, p. 9.

**Table 10**<sup>126</sup>

Enabling Activities (Forecast) Allocation to Programs	2018 (Jul - Dec)		2019		2020	
	%	\$	%	\$	%	\$
ESK	0.0%	\$ -	0.0%	\$ -	0.0%	\$ -
ECAP	10.0%	\$ 3,600	0.0%	\$ -	0.0%	\$ -
Residential Furnace	25.0%	\$ 9,000	18.0%	\$ 10,800	18.0%	\$ 10,800
Commercial Boiler	13.8%	\$ 4,950	18.0%	\$ 10,800	18.0%	\$ 10,800
Commercial DHW	13.8%	\$ 4,950	18.0%	\$ 10,800	18.0%	\$ 10,800
Commercial Pre-Rinse Spray Valve	13.8%	\$ 4,950	18.0%	\$ 10,800	18.0%	\$ 10,800
CEO- Elementary School	0.0%	\$ -	0.0%	\$ -	0.0%	\$ -
CEO - Post Secondary	0.0%	\$ -	0.0%	\$ -	0.0%	\$ -
CEO - General	13.8%	\$ 4,950	18.0%	\$ 10,800	18.0%	\$ 10,800
Enabling	10.0%	\$ 3,600	10.0%	\$ 6,000	10.0%	\$ 6,000
Total	100.0%	\$ 36,000	100.0%	\$ 60,000	100.0%	\$ 60,000

For 2019 and 2020, PNG anticipates continuing to develop its marketing campaigns and outreach programs. Overhead costs previously included in the budget for Enabling Activities therefore are reallocated to each of the established programs benefitting from these activities. The remaining budget for Enabling Activities is anticipated for monitoring of industry activities and best practices that could lead to the identification and development of further programs.<sup>127</sup>

The revised forecast that reflects the reallocation of the budget for Enabling Activities is presented in Table 11 below. Forecasts of the budgets for individual programs now include an allocation of the budget for Enabling Activities.

**Table 11**<sup>128</sup>

Enabling Activities						
Item	2016*	2017	2018	2019	2020	Total
	(Act)	(Act)	(F/C)	(F/C)	(F/C)	(F/C)
Actual/Forecast Expenditures	\$ 202,770	\$ 28,668	\$ 37,425	\$ 6,000	\$ 6,000	\$ 280,863
Approved Expenditures	\$ 217,000	\$ 193,500	\$ 193,500	\$ -	\$ -	\$ 604,000
Variance (Actual - Approved)	\$ (14,230)	\$ (164,832)	\$ (156,075)	\$ 6,000	\$ 6,000	\$ (323,137)

\* Includes amounts in 2015 related to the Section 44.2 application for expenditures related to the ECI program over the period 2015-2018.

No submissions were made by interveners.

### *Panel Determination*

**The Panel finds the reallocation of the overhead costs and the enabling activities included in the Application are reasonable,** and that PNG has addressed the directives set out in the 2015 DSM Decision in a reasonable manner.

<sup>126</sup> Exhibit B-1, p. 14.

<sup>127</sup> Exhibit B-1, p. 14.

<sup>128</sup> Exhibit B-1, p. 14.

## 4.7 Panel Determination on Acceptance of the Expenditure Schedule

Having determined that the proposed Residential Furnace and Boiler Replacement Program is not in the public interest (for reasons set out in Section 4.6), **pursuant to section 44.2 (4), the Panel rejects the Residential Furnace and Boiler Replacement Program and costs associated with that program for inclusion in the ECI expenditure schedule.**

For reasons set out in Sections 4.1 through 4.5, **the Panel finds the ECI expenditure schedule, adjusted for the exclusion of the Residential Furnace and Boiler Replacement Program, is in the public interest. Pursuant to section 44.2(3) of the UCA, the Panel accepts the expenditure schedule once adjusted for the exclusion of the Residential Furnace and Boiler Replacement Program.**

**PNG is directed to file a revised expenditure schedule with the BCUC by no later than 30 days from the date of this decision, that reflects these determinations.**

## 5.0 Proposed Funding Transfer Rules and Accounting Treatment

### 5.1 The Funding Transfer Rules

The Panel in the 2015 DSM Decision approved PNG's proposed framework for reallocating expenditures amongst DSM programs and between program years as set out in the Application, on the basis that the approach is reasonable and appropriate for managing the portfolio.<sup>129</sup>

#### *Evidence*

In its 2015 DSM Application, PNG proposed funding transfer rules consistent with those of FEI's DSM program. In that application, PNG stated that such transfer rules are necessary to allow it the flexibility to respond in a timely manner to changes in market conditions, customer responses to programs, input from potential partners and from other stakeholders, and changes in the political environment in which PNG operates. The BCUC subsequently approved those rules in its 2015 DSM Decision.<sup>130</sup>

PNG notes that its low-income ESK program had actual expenditures for 2016 and 2017 that exceeded the approved amount by \$4,798, or by 35%, resulting in a funding transfer that is \$1,418 greater than the 25% threshold. In consideration of the small amount that actual expenditures exceed the 25% threshold, PNG submits that a test of materiality should be applied before considering whether such an exceedance should trigger an application with the BCUC.<sup>131</sup>

PNG states that it interprets its funding transfer rules as pertaining to program areas, rather than to individual programs. PNG notes that it remains underspent on the low-income program area that consists of both the ESK and ECAP. Approved expenditures over the period 2016 – 2017 for those programs are presented in Tables 7

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<sup>129</sup> Decision accompanying Order G-203-15A, p. 33.

<sup>130</sup> Exhibit B-2, BCUC IR 14.3.

<sup>131</sup> Exhibit B-2, BCUC IR 14.1.

and 9 of the Application and total \$41,522, which is significantly greater than the amount spent over that period.<sup>132</sup>

One general purpose for establishing funding transfer rules is to ensure that utilities do not allocate too many resources to programs that have a significant uptake by participants, but which nevertheless are not the most cost-effective programs in the DSM portfolio, as quantified by the TRC and mTRC tests. Higher than anticipated participation in such programs could “pull” funds away from more cost-effective programs and lower the overall cost-effectiveness of the portfolio.<sup>133</sup>

No submissions were made by interveners.

### *Panel Determination*

**The Panel approves the proposed funding transfer rules for reallocating expenditures amongst DSM programs and between program years, as set out in the Application and in Section 1.2 of this Decision.** The Panel accepts the approach as being reasonable and appropriate for managing the portfolio. Additionally, the Panel accepts that it is reasonable to consider that the funding transfer rules apply to program areas, rather than to individual programs.

The Panel agrees the purpose of establishing funding transfer rules in general is to ensure that utilities do not allocate too many resources to programs that have a significant uptake by participants, but which nevertheless are not the most cost-effective programs. Higher than anticipated participation in such programs could “pull” funds away from more cost-effective programs and lower the overall cost-effectiveness of the portfolio.

## **5.2 Allocation of DSM Costs between Divisions and Customer Classes**

The Panel, in the 2015 DSM Decision, approved PNG’s proposed method of allocating costs between PNG-West and PNG (N.E.) using the market size approach as set out more fully in the 2015 Application. The Panel was satisfied that PNG had adequately considered various allocation options and arrived at a method that is both straightforward and equitable.<sup>134</sup> The Panel also found the allocation of DSM costs to customer classes based on the respective relative gross margin to be reasonable.<sup>135</sup>

### *Evidence*

PNG proposes to maintain the market size approach to allocating costs of the ECI program between PNG-West and PNG (N.E.), and to allocate ECI costs amongst customer classes on the basis of their relative contribution to the gross margin in each division. Both these allocation approaches were reviewed and approved by the BCUC in its 2015 DSM Decision.<sup>136</sup>

PNG updates its divisional cost allocation annually, based on actual residential and commercial customer counts from the preceding year. The allocation of 2018 expenditures is presented in the table below and differs slightly from that originally presented in the 2015 DSM Application.

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<sup>132</sup> Exhibit B-2, BCUC IR 14.1.

<sup>133</sup> Exhibit B-2, BCUC IR 14.2.

<sup>134</sup> Decision Accompanying Order G-203-15A, p. 31.

<sup>135</sup> Decision Accompanying Order G-203-15A, p. 32.

<sup>136</sup> Exhibit B-1, p. 11.



**Table 12**<sup>137</sup>

Division:	PNG-West	Fort St John /Dawson Creek	Tumbler Ridge
Allocation of DSM costs	51.9%	46.3%	1.8%

PNG confirms that it has applied for BCUC acceptance of a consolidated schedule of expenditures. PNG does not allocate actual expenditures on the basis of which division they were incurred in, rather PNG allocates actual expenditures in accordance with the market-size approach proposed in the 2015 DSM Application.<sup>138</sup>

PNG submits that this is consistent with the intention of the allocation method originally proposed and that, until more information on actual uptake of the ECI programs in each division becomes available, this remains appropriate.<sup>139</sup>

No submissions were made by interveners.

### *Panel Determination*

**The Panel approves PNG's proposed method of allocating the ECI costs between PNG-West and PNG (N.E.) using the market size approach as set out more fully in its Application and approves PNG's proposed allocation of ECI costs amongst customer classes on the basis of their relative contribution to the gross margin in each division as set out more fully in its Application.**

## **5.3 Deferral Account Treatment**

The Panel, in the 2015 DSM Decision, determined that all approved DSM expenditures were to be captured in a rate-base regulatory asset deferral account, to be amortized over a five-year period.<sup>140</sup> The use of deferral account treatment rests on several factors, including generally conforming with the treatment afforded to other utilities in BC for their DSM programs.<sup>141</sup> While PNG had requested a ten-year amortization period in 2015, five years was approved based on a combination of factors, including both average measure life, and the proportion of expenditure with no direct reduction benefits.<sup>142</sup>

### *Evidence*

PNG proposes to continue to include ECI expenditures in a rate base deferral account and to recover those costs over five years. This approach is consistent with that approved by the BCUC in its 2015 DSM Decision.<sup>143</sup>

PNG is not proposing any changes to the funding transfer rules, accounting treatment, or cost allocation that was set out in PNG's 2015 DSM Application and subsequently approved by the BCUC in its 2015 DSM Decision.<sup>144</sup>

<sup>145</sup>

<sup>137</sup> Exhibit B-2, BCUC IR 15.1.

<sup>138</sup> Exhibit B-2, BCUC IR 15.3.

<sup>139</sup> Exhibit B-2, BCUC IR 15.3.1.

<sup>140</sup> Decision Accompanying Order G-203-15A, p. 35.

<sup>141</sup> Decision Accompanying Order G-203-15A, p. 35.

<sup>142</sup> Decision Accompanying Order G-203-15A, p. 36.

<sup>143</sup> Exhibit B-1, p. 11.

<sup>144</sup> Exhibit B-1, p. 11.

<sup>145</sup> PNG Final Argument, p. 1.



PNG's proposed accounting treatment of recording ECI expenditures in a rate base deferral account was primarily driven by: 1) a desire to match the recovery of program costs to the period over which benefits would accrue to customers; and 2) to smooth impacts to customer rates resulting from the proposed expenditures.<sup>146</sup>

No submissions were made by interveners.

### *Panel Determination*

**The Panel approves the continued inclusion of ECI expenditures in a rate base deferral account to be amortized over a five-year period.**

The Panel notes that the deferral of DSM expenditures continues to be aligned with other utilities treatment of DSM programs in BC. Additionally, the Panel considers that maintaining a five-year amortization period is appropriate given that PNG's ECI program continues to be in its initial phase, and that any change to the amortization period would be arbitrary, as there is no evidence on the record regarding the appropriateness of an alternative.

## **6.0 Annual DSM Reporting, and Evaluation, Measurement and Verification Requirements**

The 2015 DSM Decision instructed PNG to file annual DSM reports covering each year of the 2015–2018 expenditure schedule period. Each annual DSM report was to provide at a minimum:

- A comparison of the DSM accepted budget to amounts spent (for each year and period to date);
- A description of key milestones achieved in the delivery of programs;
- An update on PNG's progress towards its commitment to apply for funding of new programs or expansions of existing programs during the 2015-2018 period based on the results of the new CPR;
- A summary of the role, responsibility and key achievements of the DSM manager position; and
- EM&V results of PNG's DSM programs as they become available (including TRC, mTRC and UCT [Utility Cost Test] results).<sup>147</sup>

The 2015 DSM Decision instructed PNG to file annual DSM reports each year and to provide at a minimum Evaluation, Measurement and Verification (EM&V) results of PNG's DSM programs as they become available, including TRC/mTRC and UCT [Utility Cost Test] results.<sup>148</sup>

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<sup>146</sup> Exhibit B-3, BCOAPO IR 2.2.

<sup>147</sup> Decision accompanying G-203-15A, p. 39.

<sup>148</sup> Decision accompanying G-203-15A, p. 39.

## Evidence

PNG states in its 2017 Annual Report that, at this stage of the implementation of these programs, there is little, if any, operational experience on which to conduct EM&V activities, and these costs have not yet been incurred.<sup>149</sup>

At this time, only PNG's low-income ESK program has achieved any energy savings.<sup>150</sup> PNG does not track whether delivered ESK's have been installed or partly installed.<sup>151</sup>

PNG's plan regarding EM&V has not changed from that proposed in the 2015 DSM Application. PNG submits that its EM&V plan will become relevant once PNG has achieved increased uptake of its programs.<sup>152</sup>

PNG has not yet applied its EM&V framework to the results from PNG's existing ECI programs. As stated in the 2015 DSM Application, PNG plans to complete its EM&V at the appropriate time in the life cycle of the ECI programs to properly assess the effectiveness of the programs.<sup>153</sup> As programs reach maturity and program data becomes available, PNG will use the results to update its ECI programs. At this time, PNG remains focussed on implementing and promoting its approved and proposed ECI programs.<sup>154</sup>

## Positions of the Parties

BCOAPO understands that PNG has not yet applied its EM&V framework to the results from PNG's existing ECI programs and plans to complete its EM&V at the appropriate time in the life cycle of the ECI programs to properly assess their effectiveness. BCOAPO looks forward to seeing these programs develop so that EM&V can be implemented.<sup>155</sup>

With respect to the lack of tracking of the installation of ESKs, BCOAPO submits this "is an issue because actual energy savings and GHG reductions should be calculated based on installed measures. BCOAPO urges PNG to develop a mechanism to track installation of the ESK's measures."<sup>156</sup>

PNG states it could consider processes to verify the installation of ESK measures as part of its EM&V framework. PNG submits that such processes would add further costs and that the benefit – improved accuracy of the quantities of energy saved and GHG emissions reduced – is *de minimis*, especially once PNG's other ECI programs begin to achieve energy and GHG reductions.<sup>157</sup>

## Panel Determination

**The Panel directs PNG to continue filing DSM annual reports with the BCUC for the period 2019-2020 in the manner and form of previous years. Additionally, PNG is directed to include information that clearly identifies all funding transfers that occur between program areas within a year, the amounts to be transferred within a program area to the following year, and the impact of those transfers on the cost-effectiveness and adequacy of the overall portfolio.**

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<sup>149</sup> Exhibit B-1, Appendix C, p. 10.

<sup>150</sup> Exhibit B-2, BCUC IR 5.1.

<sup>151</sup> Exhibit B-3, BCOAPO IR 7.1.

<sup>152</sup> Exhibit B-2, BCUC IR 12.1.

<sup>153</sup> Decision accompanying G-203-15A, p. 53.

<sup>154</sup> Exhibit B-3, BCOAPO IR 6.1.

<sup>155</sup> BCOAPO Final Argument, p. 4.

<sup>156</sup> BCOAPO Final Argument, p. 5.

<sup>157</sup> PNG Reply Argument, p. 2.

The Panel considers PNG's approach to the implementation of its EM&V framework as being reasonable for the purposes of the ECI expenditure schedule.

Regarding the verification of the installation of ESK measures as urged by BCOAPO, the Panel notes that the gas savings and the GHG reductions over the measure life represents approximately 13.7% of the total portfolio<sup>158</sup> savings, which the Panel considers to be significant. Although PNG has stated that capturing this information would further increase costs, with no significant benefits, it has not provided any evidence as to the degree of additional costs or the amount of savings. Therefore, the Panel recommends that PNG evaluate the costs and benefits of capturing the installation of ESK's as part of its proposed EM&V framework to be included in its next DSM-related expenditure schedule filing.

## 7.0 Summary of Directives

This summary is provided for the convenience of readers. In the event of any difference between the directions in this summary and those in the body of the decision, the wording in the decision shall prevail.

	Directive	Page
1.	The Panel rejects the Residential Furnace and Boiler Replacement Program and costs associated with that program for inclusion in the ECI expenditure schedule.	27
2.	The Panel accepts the expenditure schedule once adjusted for the exclusion of the Residential Furnace and Boiler Replacement Program.	27
3.	PNG is directed to file a revised expenditure schedule with the BCUC by no later than 30 days from the date of this decision, that reflects these determinations.	27
4.	The Panel approves the proposed funding transfer rules for reallocating expenditures amongst DSM programs and between program years, as set out in the Application and in Section 1.2 of this Decision.	28
5.	The Panel approves PNG's proposed method of allocating the ECI costs between PNG-West and PNG (N.E.) using the market size approach as set out more fully in its Application and approves PNG's proposed allocation of ECI costs amongst customer classes on the basis of their relative contribution to the gross margin in each division as set out more fully in its Application.	29
6.	The Panel approves the continued inclusion of ECI expenditures in a rate base deferral account to be amortized over a five-year period.	30
7.	The Panel directs PNG to continue filing DSM annual reports with the BCUC for the period 2019-2020 in the manner and form of previous years. Additionally, PNG is directed to include information that clearly identifies all funding transfers that occur between program areas within a year, the amounts to be transferred within a program area to the following year, and the impact of those transfers on the cost-effectiveness and adequacy of the overall portfolio.	31

<sup>158</sup> Exhibit B-1, Table 28, p. 30 (calculated as: ESK Gas Savings Over Life/Portfolio Total Savings Over Life = 15,019GJ/109,929GJ).

**DATED** at the City of Vancouver, in the Province of British Columbia, this 6<sup>th</sup> day of June 2019.

*Original signed by:*

---

W. M. Everett, Q.C.  
Panel Chair/Commissioner

*Original signed by:*

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H. G. Harowitz  
Commissioner

*Original signed by:*

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T. A. Loski  
Commissioner



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**ORDER NUMBER  
G-121-19**

IN THE MATTER OF  
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

Pacific Northern Gas Ltd. and Pacific Northern Gas (N.E.) Ltd.  
Energy Conservation and Innovation Program Funding Application

**BEFORE:**

W. M. Everett, QC, Panel Chair  
H. G. Harowitz, Commissioner  
T. A. Loski, Commissioner

on June 6, 2019

**ORDER**

**WHEREAS:**

- A. On December 21, 2018, Pacific Northern Gas Ltd. and Pacific Northern Gas (N.E.) Ltd. (collectively, PNG) applied to the British Columbia Utilities Commission (BCUC), for acceptance of the expenditure schedule for PNG's Energy Conservation and Innovation (ECI) programs for 2019 and 2020 (the Application), pursuant to section 44.2 of the *Utilities Commission Act* (UCA);
- B. PNG also seeks the following approvals:
  1. granting PNG flexibility in the reallocation of expenditures amongst demand-side measure (DSM) programs and between program years, subject to the total amount not exceeding the total amount of \$827,000 sought in this Application; and
  2. approval to record all DSM expenditures in a rate base regulatory asset deferral account, and to retain the 5-year amortization period for DSM expenditures approved by BCUC Order G-203-15;
- C. British Columbia Old Age Pensioners' Organization, Active Support Against Poverty, Disability Alliance BC, Council of Senior Citizens' Organizations of BC, and Tenant Resource and Advisory Centre, known collectively in regulatory process as "BCOAPO et al." (BCOAPO), and the Peace River Regional District registered as interveners;
- D. On January 9, 2019, by Order G-4-19, the BCUC established a written public hearing process for the review of the Application, providing for one round of BCUC and intervener information requests, final arguments from PNG and interveners, and reply argument from PNG. The process was completed on April 1, 2019; and
- E. The BCUC has reviewed the evidence and considers that PNG's Application for acceptance of its 2019-2020 ECI expenditure schedule is warranted, in part.

**NOW THEREFORE** pursuant to section 44.2 of the UCA the BCUC orders as follows:

1. The Residential Furnace and Boiler Replacement Program and costs associated with that program in the PNG ECI expenditure schedule are rejected.
2. PNG's ECI expenditure schedule outlined in Section 1.2 of the Decision, adjusted for the exclusion of the Residential Furnace and Boiler Replacement Program, is accepted.
3. PNG is directed to file with the BCUC for acceptance, within 30 days of the date of this order, a revised expenditure schedule for 2019 through 2020 adjusted for the exclusion of the Residential Furnace and Boiler Replacement Program.
4. PNG's proposed funding transfer rules for reallocating expenditures amongst DSM programs and between program years as set out in the Application are approved.
5. PNG's proposed continuation of the inclusion of ECI expenditures in a rate base deferral account to be amortized over a five-year period is approved.
6. PNG shall comply with all additional determinations and directions contained in the Decision attached to this order.

**DATED** at the City of Vancouver, in the Province of British Columbia, this 6<sup>th</sup> day of June 2019.

BY ORDER

*Original signed by:*

W. M. Everett, QC  
Commissioner

IN THE MATTER OF  
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

Pacific Northern Gas Ltd. and Pacific Northern Gas (N.E.) Ltd.  
Energy Conservation and Innovation Program Funding Application

**EXHIBIT LIST**

Exhibit No.	Description
<i>COMMISSION DOCUMENTS</i>	
A-1	Letter dated January 9, 2019 - Appointing the Panel for the review of Pacific Northern Gas Ltd. and Pacific Northern Gas (N.E.) Ltd. Energy Conservation and Innovation Program Funding Application
A-2	Letter dated January 9, 2019 - BCUC Order G-4-19 establishing the regulatory timetable
A-3	Letter dated February 5, 2019 - BCUC Information Request No. 1 to PNG
<i>APPLICANT DOCUMENTS</i>	
B-1	<b>PACIFIC NORTHERN GAS LTD. AND PACIFIC NORTHERN GAS (N.E.) LTD. (PNG)</b> – Letter dated December 21, 2018 – PNG submitting Energy Conservation and Innovation Program Funding Application
B-2	Letter dated February 26, 2019 – PNG submitting Responses to BCUC Information Request No. 1
B-3	Letter dated February 26, 2019 – PNG submitting Responses to BCOAPO Information Request No. 1

*INTERVENER DOCUMENTS*

- C1-1      **BRITISH COLUMBIA OLD AGE PENSIONERS' ORGANIZATION (BCOAPO)** - Letter dated January 28, 2019 - Request to Intervene by Leigha Worth and Irina Mis
- C1-2      Letter dated February 12, 2019 - BCOAPO Information Request No. 1 to PNG
- C2-1      **PEACE RIVER REGIONAL DISTRICT (PRRD)** - Letter dated January 29, 2019 - Request to Intervene by Karen Goodings