

OCT 1 2018

Ms. Maxime Fortin Clerk of the Committee Senate Committee on Energy, the Environment and Natural Resources Senate of Canada Ottawa, Ontario K1A 0A6

Dear Ms. Fortin:

Further to the appearance of departmental officials before the Senate Committee on Energy, the Environment and Natural Resources, on March 29, 2018, I am pleased to provide you with the enclosed responses to the questions raised by members.

I trust that this information addresses the questions raised.

Sincerely,

Hélène Laurendeau Deputy Minister Crown-Indigenous Relations and Northern Affairs Canada

Encl.

Jean-François Tremblay Deputy Minister Indigenous Services Canada



### Response to Follow Up Request from the Standing Senate Committee on Energy, the Environment and Natural Resources – 29 March 2018

### **Question/Request #1:**

**Senator Galvez (Chair):** The birth rate among First Nations people is much higher. You said the pressing needs were reflected in the figures you just gave. What are the needs in the medium and long term, given the growth of the Métis and Indigenous populations?

**Ms. Langevin:** The figure is only for First Nations and covers a projected period of 10 years.

Senator Galvez (Chair): You're saying we would have to ask a different organization for the data on the Inuit and Métis populations.

Ms. Langevin: Mr. Hopkins has the information here.

# Senator Galvez (Chair): If you could provide us with a copy of the [Clatworthy On Reserve Housing] report, we would appreciate it.

Ms. Langevin: All right.

### Answer:

The Government continues to work with Indigenous partners to co-develop distinctionsbased housing strategies that reflect the needs, aspirations and priorities of First Nations, Inuit and Métis Nation peoples for the long term.

Indigenous Services Canada and Crown-Indigenous Relations and Northern Affairs, with support from the Canada Mortgage and Housing Corporation, are currently engaging with First Nations, Inuit and Métis Nation partners to co-develop distinctions based housing strategies.

There is no data available for "Section 35 Métis"<sup>1</sup> households, therefore the core housing need for this group cannot be estimated at this time. However, data from the

<sup>&</sup>lt;sup>1</sup> To define "S.35 Métis" the "Powley test" is used. This test stipulates an individual must: identify as a metis person; be a member of a present day Métis community; and have ties to a historic Métis community.

Further to the third criterion, to be considered a "historic rights bearing community" it must be proven that a mixed-ancestry group of Indian-European or Inuit-European people:

<sup>1.</sup> Formed a 'distinctive' collective social identity;

<sup>2.</sup> Lived together in the same geographic area; and

<sup>3.</sup> Shared a common way of life.

In the Powley decision, the term Métis in S. 35 does not encompass all individuals with mixed Indian and European heritage. Rather it refers to distinctive peoples who, in addition to their mixed ancestry,

2016 Census shows that 15.5% of self-identified Métis households (the average for provinces from Ontario westward) were living in core housing need, compared to 14.0% of non-Indigenous households in the same region. To close this gap, the number of Métis Nation households experiencing core housing need must be reduced by approximately 7,100.

It is estimated that the current housing gap is approximately 4,370 housing units across the four Inuit regions, according to the March 2017 Standing Senate Committee on Aboriginal Peoples report entitled, *We Can Do Better: Housing in Inuit Nunangat*.

Among Aboriginal households in the Inuit Nunangat, 39.5% were living in core housing need in 2016, compared to 6.5% of non-Aboriginal households, resulting in a core housing need gap of roughly 4,200 households.

The Clatworthy Report entitled *Aboriginal Housing Conditions and Needs on Reserve:* 2011 Update – Detailed Report is attached as Annex A.

developed their own customs and recognizable group identity separate from their Indian or Inuit and European forbearers. The Métis communities claiming Aboriginal rights must have emerged in an area prior to the crown effecting control over a non-colonized region.

## Response to Follow Up Request from the Standing Senate Committee on Energy, the Environment and Natural Resources – 29 March 2018

### **Question/Request #2:**

## Senator Galvez (Chair): [...]

We hear, in this committee, about natural gas, and they say they are ready to go to the North. That, of course, continues to be fossil fuel, but with a much lower carbon footprint and, therefore, a lower carbon tax to pay.

You said that you are building houses with solar roofs. The new houses have solar rooves and very high energy (efficient) windows facing south. Among these ideas and these projects bring in natural gas, is that something you have evaluated or imagined?

**Mr. Hopkins**: I don't know that we have a study to present. The logistics are a really important factor here. [...] You still have the same problem you have with diesel in terms of needing to ship it in; therefore, it still becomes very expensive because that's a main component of the cost. But it certainly has a much lower carbon footprint than diesel.

**Senator Galvez (Chair):** [...] transporting liquid natural gas is not more dangerous or difficult than transporting diesel. Wherever diesel can get, natural gas can get there too. I don't necessarily understand the real problem.

**Mr. Hopkins**: I'm giving you only a partial answer [...] because the other factor is the diesel-generating facilities themselves, many of which, especially in Nunavut, are very old, some of which[...] are 20 or 30 years beyond their expected life. [...]

The question becomes **whether or not those diesel facilities can work on natural gas.** The capital expenditure around the diesel facility is also a big cost component. Now, I can't answer that question with complete confidence.

# Senator Galvez (Chair): Do you think you will be able to complete the answer and send the clerk some complementary information?

Mr. Hopkins: Yes, we will.

## Answer:

## An assessment of feasibility of LNG as a substitute for diesel

- Liquefied Natural Gas (LNG) for electricity production is thought to produce about 25% less GHG emissions than diesel fuel, however, environmental benefits depend on the source of the natural gas.
- LNG in the North is transported by all-season road from production facilities in Alberta and British Columbia and stored in low pressure, insulated tanks, which can

store the gas for a limited amount of time before it loses its cost effectiveness and energy value.

- Storage and transportation increase the GHG emissions associated to LNG. Access to information based on well scoped life-cycle analysis, with all factors considered, is limited.
- LNG-produced electricity can be cheaper than diesel produced electricity. The cost depends on the price of diesel and how far the LNG must be shipped.
- Due to the significant cost of storage, LNG is feasible for large communities and mines connected by all season roads.
- LNG delivery must be regular and constant in order to avoid the need to build larger and more expensive LNG storage tanks, which are a significant capital cost component.
- Without access to all-season roads, delivery becomes very expensive and is not a viable replacement to diesel fuel.
- LNG is used for electricity production in two communities in the North: Whitehorse and Inuvik.
- Mid-term (5-years) local natural gas could be produced from on-shore well(s) near Tuktoyaktuk which could supply natural gas to the region.
- The GNWT is considering two new LNG storage and electricity generation facilities in the communities of Fort Simpson and Tuktoyaktuk.

## Barriers

- There is significant sunk cost in diesel infrastructure in the North.
- Rationalizing the cost of LNG infrastructure for small communities will be a significant barrier.
- Renewables (with federal funding) are entering the energy mix, making the case for transitioning to LNG difficult in all but a few communities.

Information for response came from the following sources:

- Norwest Territories Power Corporation. Inuvik LNG project. <u>https://www.ntpc.com/smart-energy/how-to-save-energy/inuvik-Ing-project</u>.
- NT Energy. 2014. Building our energy future, LNG Potential in the NWT, Inuvik Case Study. <u>https://nwtchamber.com/sites/default/files/NT%20ENERGY%20-%20LNG%20IN%20THE%20NWT.pdf</u>
- S&T<sup>2</sup> Consultants Inc. 2014. Amended Lifecycle Analysis of Diesel and LNG Power Production. <u>https://yukonenergy.ca/media/site\_documents/LNG\_Life\_Cycle\_Assess</u> ment\_S\_and\_T\_Squared\_Consultants\_Inc. - Final\_Report.pdf
- ICF Marbek. 2013. Yukon Power Plant Fuel Life Cycle Analysis. <u>https://yukonenergy.ca/media/site\_documents/1260\_ICF%20Marbek%20Final%20Report\_LNG\_lifecycle\_july2013.pdf</u>
- Additional information was provided by Environmental Policy Analysts from CIRNAC's Northern REACHE Program (see Annex C).

### Response to Follow Up Request from the Standing Senate Committee on Energy, the Environment and Natural Resources – 29 March 2018

**Question/Request #3:** 

## Senator Mockler: [...]

If you look at the complete North, what is the [housing] shortfall per area? Can you give us those facts? [...]

[...]

As far as urgent needs go, do you know what the shortfall is? **Could you provide us** with some sort of grid or table, from the Canada Mortgage and Housing Corporation, so that the committee can do something even though that is not its responsibility? [...]. You were asked to appear before the committee so that we could develop recommendations aimed at helping the most vulnerable members of society.

**Mr. Hopkins:** We will strive to identify some sort of measure of need across the North. I don't know that we have it. There are challenges in identifying the need. One is because it grows. Two, there are issues around family arrangements. There are issues around quality of construction, how many units, what sort of units, how many people, multi-family arrangements, what scope is there to adjust the way you build the living environment all factor into your calculation of need. That isn't to say I don't think everyone understands how dramatic it is, but **quantifying it becomes a challenge**. I will look and see what we have. There will certainly be many assumptions that need to be made around it.

## Answer:

The territorial governments, through their respective Housing Corporations, track the housing needs and conditions within their jurisdiction. Federal funding for housing flows from Canada Mortgage and Housing Corporation (CMHC) to each territorial government via bilateral agreements with the territorial governments.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) does monitor housing data related to Inuit housing given that it funds the Inuit Housing Program for the Inuit regions of Nunavik, Nunatsiavut and Inuvialuit. As noted above, Nunavut is funded separately by CMHC.

Based on regional scans reported to the Standing Senate Committee on Aboriginal Peoples, it is estimated that the current housing gap is approximately 4,370 housing units across the four Inuit regions (See Table 1).

Table 1:							
	Nunatsiavut Nunavik Inuvialuit Nunavut Tota						
Gap (units)	196	1,030	144	3,000	4,370		
• • • •							

\* Figures are from the March 2017 Standing Senate Committee on Aboriginal Peoples, <u>We can do Better: Housing in Inuit Nunangat</u>. They are estimates of the current need provided by Inuit regional representatives.

Among Aboriginal households in the Inuit Nunangat, 39.5% were living in core housing need in 2016 (see Table 2), compared to 6.5% of non-Aboriginal households, resulting in a core housing need gap of roughly 4,200 households.

# Table 2: Core housing need gap for Aboriginal households in the InuitNunangat, 2016

			•		
	% Aboriginal households in	% non- Aboriginal	Gap		
	core housing need	households in core housing	(Percentage point)	(Number of households)	
Inuit	30.5%	6.5%		/ 175*	
Nunangat	00.070	0.070	33.0	ч,175	
Nunatsiavut	26.6%	16.7%	10.0	70	
Nunavik	38.0%	2.6%	35.4	1,065	
Nunavut	44.3%	7.5%	36.8	2,815	
Inuvialuit	23.8%	7.6%	16.2	225	
region					

### Notes:

Includes only private, non-farm, non-band, non-reserve households with incomes greater than zero and shelter costs to income ratios less than 100%.

\*Calculated as the sum of households for the four regions in the Inuit Nunangat, rather than using the average incidence. Using the average incidence for the Inuit Nunangat yielded a core housing need gap of 4,245 households.

**Source:** CMHC (Census-based housing indicators and data)

# Table 3: Core housing need gap for Aboriginal households in the Provincesand Territories, 2016

	% Aboriginal	% non-	Gap	
	households in core housing need	households in core housing need	(Percentage point)	(Number of households)
Canada	18.3%	12.4%	5.8%	38,705 <sup>1</sup>
Provinces	17.9%	12.4%	5.4%	34,445 <sup>2</sup>
Territories	31.7%	10.4%	21.3%	4,260 <sup>3</sup>
Yukon	24.3%	12.3%	12.0%	420
Northwest Territories	22.2%	8.4%	13.8%	1,025
Nunavut	44.3%	7.5%	36.7%	2,815

### Notes:

Includes only private, non-farm, non-band, non-reserve households with incomes greater than zero and shelter costs to income ratios less than 100%.

1. Calculated as the sum of households for the Provinces and Territories, rather than using the average incidence. Using the average incidence for the Canada yielded a core housing need gap of 37,940 households.

2. Calculated as the sum of households for Provinces, rather than using the average incidence. Using the average incidence for the Provinces yielded a core housing need gap of 34,340 households.

3. Calculated as the sum of households for the Territories, rather than using the average incidence. Using the average incidence for the Territories yielded a core housing need gap of 3,970 households.

Source: CMHC (Census-based housing indicators and data)

### Response to Follow Up Request from the Standing Senate Committee on Energy, the Environment and Natural Resources – 29 March 2018

## Question/Request #4:

Senator Patterson: [...]

[...] government can help First Nations and other Aboriginal peoples to lever existing programs so as to find private partners and develop other sources of revenues. [...]

I don't know if you would have any comments on that. We understand the government can't do it all.

**Ms. Langevin:** Thank you. It's very interesting. It lines up with the conversations we're having with our partners.

We have a working group comprised of the Assembly of First Nations, Indigenous Services and the Canada Mortgage and Housing Corporation. [...]

# [...] a policy framework co-developed by First Nation partners and Indigenous Services Canada, with the help of CMHC, was approved [...]

## [...]

On your behalf, I will ask the Assembly of First Nations if they can share that strategy. They were sharing it widely, so I think they would be happy to do that, but I will have to ask them.

## Answer:

As part of the National Housing Strategy, the Government of Canada is working closely with Indigenous partners to co-develop distinctions-based housing strategies with First Nations, Inuit and Métis Nation communities. CMHC is also supporting this work. These will be grounded in the principles of self-determination, reconciliation, respect, co-operation and partnership. Budget 2017 and Budget 2018 committed \$1.5 billion over 10 years specifically for Indigenous-led housing strategies.

Dedicated funding for each of the distinctions-based housing strategies:

- \$600 million over three years to support First Nation housing on reserve as part of a Housing Strategy that is being developed with First Nations.
- \$400 million over 10 years to support an Inuit-led housing plan in Nunavik, Nunatsiavut and Inuvialuit.
- o \$500 million over 10 years to support the Métis Nation's housing strategy.

These strategies are expected to be finalized in 2018.

Indigenous Services Canada and the Canada Mortgage and Housing Corporation are continuing to collaborate while engaging First Nations, Métis and Inuit partners on how investments can be maximized to benefit their communities for the long term.

A policy framework was co-developed by First Nation partners and Indigenous Services Canada, further approved by the Special Chiefs Assembly of the Assembly of First Nations in December 2017 under Resolution 27. This document and Resolution 27 serve as key steps towards the co-development of National First Nations Housing and Infrastructure Strategy and recommendations for federal housing program reform.

A copy of the draft policy framework, entitled *Toward a First Nations Housing and Infrastructure Strategy* is attached as Annex B.

### Response to Follow Up Request from the Standing Senate Committee on Energy, the Environment and Natural Resources – 29 March 2018

### **Question/Request #5:**

## Senator Dupuis: [...]

In addition, could you provide a comparison of federal carbon reduction initiatives by territory? That way, we could see how Nunavut, the Northwest Territories and the Yukon are doing comparatively.

Mr. Hopkins: I'll start with the [...] question around federal initiatives to reduce carbon across the three territories. That will take a period of time; it's not something we have easily available, because there are an awful lot of federal departments whose activities have an impact on carbon emissions across the North.

I can relatively easily give a picture of specifically targeted programs and what impacts they have had. I can narrow the scope in that way.

### Answer:

The Northern Responsible Energy Approach for Community Heat and Electricity (Northern REACHE) program funds renewable energy and energy efficiency projects, and related capacity building and planning in Yukon, Northwest Territories, Nunavut, and in the regions of Nunavik and Nunatsiavut.

The program's objective is to reduce Northern communities' reliance on diesel for heating and electricity by increasing the use of local renewable energy sources and energy efficiency. This will result in environmental, social and economic benefits to support developing healthier, more sustainable Northern communities.

The program works closely with regional stakeholders to identify, prioritize and fund projects. Priority is given to projects that have a higher likelihood of being built and becoming operational; and include strong Indigenous or community leadership, engagement, or partnerships. Eligible projects will focus on proven technologies such as solar, wind, energy storage, hydro, biomass heating, residual heat recovery, and LED lighting.

Please see attached Appendix C for projects funded through this program.

### Response to Follow Up Request from the Standing Senate Committee on Energy, the Environment and Natural Resources – 29 March 2018

## Question/Request #6:

Senator Dupuis: [...] you said you were going to submit data or documentation on Inuit-related matters. Could you give us an assessment of the Inuit housing needs? We heard that \$9 billion was for First Nations, Inuit and Métis housing. Could we get the department's assessment of those needs?

**Ms. Langevin:** With respect to the Métis population, there has never been a program until now. I'll check with my colleagues, but **I don't know whether enough research has been done to quantify the results,** considering how new the approach is. **We'll check, but we can't make any promises**.

**Senator Galvez (Chair):** Maxime will follow up on the commitments made to provide the committee with additional information.

### Answer:

It is estimated that the current housing gap is approximately 4,370 housing units across the four Inuit regions (see Table 4).

Table 4.							
	Nunatsiavut	Nunavik	Inuvialuit	Nunavut	Total		
Gap (units)	196	1,030	144	3,000	4,370		

Figures are drawn from the March 2017 Standing Senate Committee on Aboriginal Peoples, <u>We can do Better: Housing in Inuit Nunangat</u>. They are estimates of the current need provided by Inuit regional representatives.

Among Aboriginal households in the Inuit Nunangat, 39.5% were living in core housing need in 2016 (see Table 5), compared to 6.5% of non-Aboriginal households, resulting in a core housing need gap of roughly 4,200 households.

# Table 5: Core housing need gap for Aboriginal households in the InuitNunangat, 2016

	% Aboriginal	% non-	Gap	
	households in	Aboriginal		
	core housing	households in	(Percentage	(Number of
	need	core housing	point)	households)
		need	. ,	
Inuit Nunangat	39.5%	6.5%	33.0	4,175*
Nunatsiavut	26.6%	16.7%	10.0	70
Nunavik	38.0%	2.6%	35.4	1,065
Nunavut	44.3%	7.5%	36.8	2,815
Inuvialuit	23.8%	7.6%	16.2	225
region				

### Notes:

Includes only private, non-farm, non-band, non-reserve households with incomes greater than zero and shelter costs to income ratios less than 100%.

\*Calculated as the sum of households for the four regions in the Inuit Nunangat, rather than using the average incidence. Using the average incidence for the Inuit Nunangat yielded a core housing need gap of 4,245 households.

**Source:** CMHC (Census-based housing indicators and data)

# Table 6: Core housing need gap for Aboriginal households in the Provincesand Territories, 2016

	% Aboriginal	% non- Aboriginal	Gap		
	core housing need	households in core housing	(Percentage point)	(Number of households)	
Canada	18.3%	12.4%	5.8%	38.705 <sup>1</sup>	
Provinces	17.9%	12.4%	5.4%	34,445 <sup>2</sup>	
Territories	31.7%	10.4%	21.3%	4,260 <sup>3</sup>	
Yukon	24.3%	12.3%	12.0%	420	
Northwest					
Territories	22.2%	8.4%	13.8%	1,025	
Nunavut	44.3%	7.5%	36.7%	2,815	

Notes:

Includes only private, non-farm, non-band, non-reserve households with incomes greater than zero and shelter costs to income ratios less than 100%.

1. Calculated as the sum of households for the Provinces and Territories, rather than using the average incidence. Using the average incidence for the Canada yielded a core housing need gap of 37,940 households.

2. Calculated as the sum of households for Provinces, rather than using the average incidence. Using the average incidence for the Provinces yielded a core housing need gap of 34,340 households.

3. Calculated as the sum of households for the Territories, rather than using the average incidence. Using the average incidence for the Territories yielded a core housing need gap of 3,970 households.

Source: CMHC (Census-based housing indicators and data)

# Table 7: Core housing need gap for Métis Aboriginal households in the MétisHomeland, 2016

	% Métis Aboriginal households in core housing need	% non- Aboriginal households in core housing need	(Percentage point)	Gap (Number of households)
Métis Homeland	15.5%	14.0%	1.5	7,125*
Ontario	15.5%	15.1%	0.4	275
Manitoba	14.4%	9.9%	4.4	2,110
Saskatchewan	17.7%	11.8%	5.9	1,750
Alberta	14.2%	11.0%	3.2	1,925
British				
Columbia	16.6%	14.6%	2.1	1,065

## Notes:

Includes only private, non-farm, non-band, non-reserve households with incomes greater than zero and shelter costs to income ratios less than 100%, and living in the provinces of Ontario, Manitoba, Saskatchewan, Alberta and British Columbia.

\*Calculated as the sum of households for the five provinces in the Métis homeland rather than using the average incidence. Using the average incidence for the Métis homeland yielded a core housing need gap of 3,870 households.

## **Source:** CMHC (Census-based housing indicators and data)

There is no data available for Section 35 Métis<sup>2</sup> households, therefore the core housing need for this group cannot be estimated at this time. However, data from the 2016 Census shows that 15.5% of self-identified Métis households (the average for provinces from Ontario westward) were living in core housing need, compared to 14.0% of non-Indigenous households in the same region. To close this gap, the number of Métis Nation households experiencing core housing need must be reduced by approximately 7,100.

<sup>&</sup>lt;sup>2</sup> See footnote 1 for definition of Section 35 Métis.

Annex A

## Aboriginal Housing Conditions and Needs On Reserve: 2011 Update – Detailed Report

for

## **Indigenous and Northern Affairs Canada**

by

**Stewart Clatworthy** *Four Directions Project Consultants* 

March, 2016



## Section 1

## Introduction

## Background

Previous research supported by the Strategic Research and Analysis Directorate of Aboriginal Affairs and Northern Development Canada (now Indigenous and Northern Affairs Canada (INAC)) and Canada Mortgage and Housing Corporation (CMHC) provided estimates of the existing and projected housing needs of Aboriginal households residing on reserve.<sup>1</sup> These earlier studies were based on analysis of housing data collected by the 2001 and 2006 censuses/ household surveys and provided estimates of the prevalence of select housing consumption deficiencies, including the number of households that failed to meet the National Occupancy Standard (NOS), the number of households that occupied dwellings that required major repair, and the number of families that were not maintaining a separate dwelling unit (i.e. "doubled" families). Separate series of housing need estimates were prepared for the years 2001 and 2006 (based on the population of Aboriginal households as identified by the census) and for the years 2004 and 2009 (based on the population of registered Indian households as developed from data contained on the Indian Register). As part of these studies, estimates of the approximate levels of capital investment needed to address current housing needs on reserve were also produced.

<sup>&</sup>lt;sup>1</sup> This research concerning housing needs on reserve is described in two reports prepared by Stewart Clatworthy of Four Directions Project Consultants entitled "Aboriginal Housing Conditions and Needs on Reserve", prepared for the Research and Analysis Directorate, Indian and Northern Affairs Canada and Canada Mortgage and Housing Corporation, Ottawa, 2008 and "Aboriginal Housing Conditions and Needs On Reserve", prepared for the Strategic Planning and Analysis Branch, Aboriginal Affairs and Northern Development Canada, Ottawa, 2012



In addition to estimating baseline housing needs, these studies also included components which examined the projected levels of new construction and related capital investment required to: a) accommodate future household/family growth on reserve and b) replace lost dwelling units or those that deteriorate to the point where they require replacement. Future renovation requirements (in terms of the number of units and associated capital investment) to maintain the existing housing stock of dwelling units on reserve were also prepared. These estimates were developed for 5-year intervals spanning 25 year time frames.

Additional work sponsored by the Community Infrastructure Branch of INAC extended the scope of the housing research to include:

• the construction of statistical indicators measuring the rate at which reserve and non-reserve housing units develop minor and/or major repair needs by tenure, province/region.<sup>2</sup>

INAC has requested further consulting services to provide an update of the estimates of housing circumstances and needs on reserve in light of new data collected by the 2011 Census of Population and National Household Survey and recently released projections of Aboriginal populations and households prepared for the 2011-2036 time period by Statistics Canada.<sup>3</sup> Revisions to existing estimates of housing needs on reserve are also to be undertaken to incorporate revised construction and renovation cost estimates and more recent INAC administrative data concerning trends in housing stock losses and dwelling unit condition.

<sup>&</sup>lt;sup>3</sup> A description of these projections is provided in a recent report entitled "**Projections of the Aboriginal Population and Households in Canada, 2011 to 2036**" prepared by Morency et al, September, 2015 (Statistics Canada Catalogue 91-552-X).



<sup>&</sup>lt;sup>2</sup> The results of this research are contained in a report by Stewart Clatworthy of Four Directions Project Consultants entitled "Indicators and Projections of Housing Renovation Requirements by Tenure, Province/Region and Location of Residence", prepared for the Community Infrastructure Branch, Aboriginal Affairs and Northern Development Canada, Ottawa, March, 2013

The updated research presented in this report focuses on revisions to estimates of current and future housing needs on reserve. These estimates have been developed using methodologies comparable to those discussed in the 2012 report entitled *"Aboriginal Housing Conditions and Needs On Reserve"*, prepared by Stewart Clatworthy of *Four Directions Project Consultants*. A forthcoming research report entitled *"Indicators and Projections of Housing Repair Requirements: 2011 Update"*, presents the results of additional analyses which focus on revised measures of the rate of change of the state of repair of reserve dwellings over time by tenure and region. Comparable measures for dwellings located off reserve are also presented in that report.

The remainder of this report is structured into four sections. Section 2 provides a discussion of the study's scope, concepts and definitions, and major sources of data. Section 3 identifies several aspects of the housing consumption patterns and housing needs of Aboriginal households on reserve as estimated from the 2011 National Household Survey. Estimates of current housing needs and the related capital investment needed to address these needs are also presented in this section. Estimates of the nature and scale of future housing needs of the Aboriginal populations on reserve are presented in Section 4. This section also presents estimates of the scale of capital investment required to address these future housing needs. A final section (Section 5) contains a summary of the main findings and limitations and suggestions for future research.

Although some regional-level data and estimates are provided in this report, most of the study's results are presented at the national level. Where possible and appropriate, the revised estimates developed for this study have been compared to those identified in the research (noted previously) to illustrate the nature and scale of recent changes in housing consumptions patterns and needs of



Aboriginal households residing on reserve. More complete regional-level data and estimates, produced as part of this study, are available in digital format.<sup>4</sup>

## Section 2

## Scope, Concepts, Definitions and Data Sources

## Scope of the Research

As with the previous (2008 and 2012) research initiatives, the scope of this study focuses on the following three objectives:

- documenting the housing consumption patterns and housing needs of the Aboriginal population currently residing on reserve;<sup>5</sup>
- estimating the future housing requirements associated with population and household growth on reserve; and
- estimating the scale of resources (capital investment and/or subsidies) that would be required to address current housing needs and provide sufficient housing stock to accommodate population and household growth.

## **Aboriginal Population**

For purposes of the study, the Aboriginal population is defined to include those individuals who reported Aboriginal identity (i.e. affiliation with one or more

<sup>&</sup>lt;sup>5</sup> It is recognized that many First Nations maintain waiting lists for individuals or families that have applied for (or expressed an interest in obtaining) housing on reserve. Although a thorough analysis of the existing housing backlogs reported by First Nations does not appear to exist, many of those contained on housing waiting lists are likely to be existing reserve residents who are presently poorly housed or residing in "doubled up" or multiple family living arrangements. This study does address the needs of all these individuals and families. Some individuals or families on housing waiting lists, however, are likely to reside off reserve and wish to relocate to the reserve. This aspect of the housing needs of the population is not addressed in this report.



<sup>&</sup>lt;sup>4</sup> Readers interested in regional estimates that are not reported in this study should contact Indigenous and Northern Affairs Canada (INAC) for further information.

Aboriginal groups), Indian registration or band membership. Most aspects of the analysis reported in this study relate to the total Aboriginal population residing on reserve. The study's estimates of current and future housing needs, however, were also developed for the population that reported Indian registration. This latter population accounts for a large majority of the Aboriginal and total population residing on reserve.

## **Aboriginal Households and Families**

To maintain comparability with prior research concerning reserve housing needs, this study uses the same definitions for identifying Aboriginal households and families. An Aboriginal household is defined as a "private" household in which an Aboriginal family lives or where at least 50% of the household's members reported Aboriginal identity, Indian registration and/or band membership.<sup>6</sup> An Aboriginal family is defined as a family in which at least one of the spouses or the lone parent reported Aboriginal identity, Indian registration and/or band membership. A similar approach is used to define registered Indian households and families.<sup>7</sup>

Readers should note that the definitions of Aboriginal and registered Indian households and families used in this study differ from those employed by Statistics Canada in their recent projections (noted in footnote 3 on page 2 of this report). For purposes of their projections, Aboriginal (or registered Indian) households/families were defined to include all households/families which contained at least one Aboriginal (or registered Indian) individual.

<sup>&</sup>lt;sup>7</sup> A registered Indian household is defined as a household in which a registered Indian family lives or where at least one half of the household's members reported Indian registration. A registered Indian family is defined as a family in which at least one of the spouses or the lone parents reported Indian registration.



<sup>&</sup>lt;sup>6</sup> The projections are restricted to "private" households as defined by the Census of Population and do not include households living in various forms of collective dwellings (e.g. group homes, rooming houses, etc.).

## **Projected Household/Family Estimates**

Estimates of future housing needs developed for this study require estimates of future number and characteristics (e.g. age and structure) of Aboriginal (and registered Indian) households and families. Projections of Aboriginal households and families were developed specifically for this study using the same "headship" rate method developed and used in the 2007 and 2012 studies.<sup>8</sup> Revised "headship" rates were constructed using data from the 2011 Census. The rates estimated for 2011 (for both households and families) differed little from those estimated for 2001 and 2006.

The "headship" rates were applied to projected population estimates (by age group and region) prepared by Statistics Canada. Three series of estimates were developed for both the Aboriginal and registered Indian populations. These series use projected population estimates generated for Statistics Canada's reference scenario, moderate fertility decline scenario, and stable fertility scenario. Estimates based on the reference and moderate fertility decline population projections use "headship" rates that are assumed to continue to decline at the rate observed for the 2001-2011 period (i.e. about 2% per decade) throughout the 25-year projection period. Estimates which are based on the stable fertility population projection assume that future "headship" rates remain stable at levels observed for 2011. As the population projection results supplied to this study were rounded to the nearest 1,000 individuals, the household and family estimates developed for this study are subject to rounding error. At the

<sup>&</sup>lt;sup>8</sup> The term headship rate refers to a generic measure of the likelihood of an individual maintaining a separate household. The rate for households is constructed using data concerning household maintainers (i.e. **household maintainer rate**). The rate for families is measured using data on family reference persons (i.e. **family reference person rate**).



provincial/regional level the size of this error is estimated to be roughly (+/-) 3 to 7%.<sup>9</sup>

Results presented in this study relate to Aboriginal households and families and reflect the population estimates under the moderate fertility decline scenario. The report's appendix provides estimates of housing needs derived for other scenarios and for the registered Indian population.

## **Geographic Constructs**

Analysis and estimates presented in this report relate to the population residing on reserve. The concept of reserve residency for the 2011 Census and National Household Survey differed from that of prior census periods, as Indian settlements not formally recognized in legislation were not included in reserve population counts. As these settlements were considered part of the reserve population in prior years, data for the 2011 period are not directly comparable to earlier time periods. In particular, population and household counts for reserves located in the northern territories were too small to support analysis. As such, the study's scope has been restricted to reserves located in the provinces. National level estimates of housing circumstances and needs presented in this report derive from the aggregation of provincial-level estimates. Provincial/ regional estimates are available for the Atlantic Region (Newfoundland and Labrador, Prince Edward Island, New Brunswick and Nova Scotia combined), Quebec, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia.

To support a higher degree of comparability between the results of the current and prior studies, estimates developed previously for the 2006 time period have been recalculated to exclude territorial data.

<sup>&</sup>lt;sup>9</sup> The estimated error associated with rounding is calculated as the difference in the population estimated based on the sum of the discrete categories of a variable (e.g. the population summed over age groups) and the total reported for the variable.

## Main Sources of Data

The housing consumption patterns presented in this study are based on analysis of data contained in a series of custom tabulations prepared from the 2011 Census of Population and National Household Survey. For most housing consumption indicators comparable estimates are also presented for 2006. The 2006 indicators were prepared as the part of the 2012 study (noted earlier).

Data for the 2000-2014 time period from INAC's Capital Assets Management System (CAMS) are also used in this study to examine trends in additions, deletions and renovations to the reserve housing stock, as well as changes over time in the composition of the reserve housing stock by state of repair. Readers should note that the methods of measuring the state of repair of dwelling units between the Census and CAMS sources are not directly comparable.<sup>10</sup> New housing construction and renovation cost estimates used in this study derive from analysis of construction cost estimates supplied by Canada Mortgage and Housing Corporation (CMHC) for on-reserve housing constructed under Section 95 of the National Housing Act and renovation cost estimates reported under the Residential Rehabilitation Assistance Program (RRAP).<sup>11</sup> These data were provided to this study at the regional level. Average construction costs for new housing prepared for this study are based on actual reserve housing projects (involving the construction of more than 3,500 units) undertaken during the 2001-2006 time period. Renovation cost estimates used in this study are estimated from CMHC RRAP data collected for the 2003-2006 time period and are based on projects involving a total of roughly 4,100 units. Construction and

<sup>&</sup>lt;sup>10</sup> The methodology used by the CAMS to measure dwelling unit state of repair was recently changed to conform more closely to the procedures used by the census. However, the CAMS data base is also known to exclude a segment of the total housing stock on reserve which would be included in Census estimates. In general, the CAMS data relate primarily to dwellings constructed or renovated with First Nations capital. Other dwellings (e.g. those constructed without First Nations capital) may not be reported on the CAMS data base. It is also the case that some First Nations also do not report capital asset information to CAMS.

<sup>&</sup>lt;sup>11</sup> Additional information concerning this study's estimates and assumptions concerning construction and renovation costs are provided in the following section of this report.

renovation cost estimates from these sources were updated (using Statistics Canada's housing construction price indices) to reflect construction costs in 2015 dollars. All future costs reported in the study are also presented in 2015 dollars.

Infrastructure costs prepared for this study are based on a per unit estimate reported for First Nations housing construction by the Auditor General of Canada (2003). These costs are limited to housing-related infrastructure and include site access and preparation costs and costs associated with utility connections (e.g. water, sewer, gas and electrical services). Estimates used in this report were updated (using housing construction price indices) to reflect construction costs in 2015 dollars.

## Section 3

# Housing Consumption Patterns and Housing Needs in 2011 Measuring Housing Need in Canada

Housing needs in Canada are generally discussed and measured in relation to three consumption standards: affordability, adequacy and suitability. Affordability refers to the cost of housing in relation to the household's ability to pay and is measured using a shelter cost to income ratio (STIR). Shelter costs include rent and utility payments in the case of those who rent accommodation and mortgage and interest payments and utility costs for those who own their home. Households whose shelter costs exceed 30% of household income do not meet the national affordability standard.

Within the context of Census data, housing adequacy is measured using data on the need for dwelling unit repair. This subjective measure, as reported by census respondents based on their judgement, categorizes dwellings into three groups; those requiring regular maintenance (i.e. general upkeep) only, those needing minor (i.e. non-structural) repairs only, and those requiring major repairs. Major repairs include electrical and plumbing systems, roofing, foundation and other



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structural problems. Households in dwellings that require major repairs are deemed to be experiencing housing adequacy deficiencies. Housing deemed to require major repair(s) may also require minor repair(s), however census data do not permit one to identify units needing both major and minor repairs.

Housing suitability involves the relationship between a household's requirements for space and the size of the dwelling unit. A special indicator, the National Occupancy Standard (NOS), is used by CMHC to measure housing suitability.<sup>12</sup> Households which do not meet the occupancy standard are viewed to be experiencing a suitability deficiency (referred to as overcrowding).

The presence of housing consumption deficiencies should not necessarily be viewed as reflecting housing consumption problems. For example, some households which do not meet the occupancy standard may be able to acquire larger housing that is suitable for their needs without exceeding the affordability standard. For purposes of measuring housing needs, CMHC has developed the concept of *core housing need*. A household is viewed to be experiencing core housing need if its housing does not meet at least one of the adequacy, affordability or suitability standards and it would have to spend more than 30% of its total before-tax income for housing that meets all three standards in the local market.

## Measuring Housing Needs on Reserve

Canada's housing consumption standards and the measure of core housing need were developed within the conceptual framework of a conventional housing market, where housing consumption decisions are viewed to be made in relation

<sup>&</sup>lt;sup>12</sup> The NOS measures suitability in terms of the number of bedrooms required to meet the household's needs based on the size and composition of the household. According to the NOS enough bedrooms means one bedroom for each cohabitating adult couple; unattached household member 18 years of age and over; same-sex pair of children under age 18; and additional boy or girl in the family, unless there are two opposite sex siblings under 5 years of age, in which case they are expected to share a bedroom. A household of one individual can occupy a bachelor unit (i.e. a unit with no bedroom).



to prices or rents and the household's needs, and ability and willingness to pay. The housing market on most reserves differs significantly from a conventional market in that much of the reserve housing stock is owned collectively (i.e. by the First Nation or by corporate entities owned or controlled by the First Nation) and allocated to households by the First Nation directly, rather than through a pricing or market mechanism.<sup>13</sup> Stock maintenance and the supply of new housing on reserve can be restricted by a First Nation's financial resources, as well as by policies and bylaws (e.g. land and property tenure) which serve to prevent or discourage private (individual) investment in housing. Imbalances between growth in housing demand or need and housing supply can occur and result in stock shortages that may persist for long periods of time.

In such contexts, the notions of housing affordability and "core" housing need are not fully applicable, as effective housing demand can be severely constrained by both the availability of housing (e.g. appropriate housing units may not exist) and by the housing allocation process (e.g. appropriate housing units may not be accessible, even for those who are able and willing to pay for housing). As such, data concerning housing affordability and estimates of "core" housing need on reserve are not collected.

In light of the above discussion, this study focuses on the remaining two dimensions of housing consumption: housing adequacy (condition) and housing suitability (overcrowding). In addition to these traditional measures of need, the study also examines the extent of "family doubling" or situations where more than one family shares a single dwelling unit. This latter measure is commonly viewed

<sup>&</sup>lt;sup>13</sup> Several First Nations do allow and encourage alternative forms of housing tenure through certificates of possession and other forms of *evidence of title*. The *Indian Act*, however, places restrictions on the transfer of such properties which serve to limit the development and functioning of a reserve housing market. Currently, properties subject to evidence of title can only be transferred to another *member* of the First Nation and transfers must be approved by the Minister.



as an additional dimension of overcrowding, and represents one key component of the housing shortage on reserve.<sup>14</sup>

## **Characteristics of Households Residing on Reserve**

### **Composition by Aboriginal and Registered Indian Status**

As the household represents the fundamental unit of housing consumption, it is useful to identify some of the basic characteristics of households residing on reserve. Table 1 presents the distribution of households residing on reserve by Aboriginal and registered Indian status for Canada and provinces/regions as identified by the 2011 Census.

#### Table 1

#### Distribution of Households Residing on Reserve by Aboriginal and Registered Indian Status and Province/Region, Canada, 2011

Province/Region	Number of Households					
	Registered Indian	Other Aboriginal	Total Aboriginal	Non- Aboriginal	Total Households	
Canada (1)	90,115	1,270	91,385	14,810	106,195	
Atlantic Region	6,715	25	6,740	175	6,915	
Quebec	10,335	60	10,395	495	10,890	
Ontario	17,025	160	17,185	780	17,965	
Manitoba	14,675	100	14,775	300	15,075	
Saskatchewan	13,125	125	13,250	235	13,485	
Alberta	11,345	100	11,445	335	11,780	
British Columbia	16,895	700	17,595	12,490	30,085	
Province/Region	Distribution of Households					

<sup>&</sup>lt;sup>14</sup> Although family doubling can occur by choice, it is generally regarded to result from the inability of families to afford or acquire a separate dwelling unit. On reserve, family doubling is believed to result primarily from housing stock shortages which require more than one family to share a dwelling. About 65% of "doubled" families reside in housing units which fail to meet the National Occupancy Standard. As such, there is some overlap with respect to suitability needs based on the NOS and family doubling. Estimates of suitability needs presented later this study have been constructed to isolate the suitability needs of doubled families from those of other households which fail to meet the NOS.



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	Registered Indian	Other Aboriginal	Total Aboriginal	Non- Aboriginal	Total Households
Canada (1)	84.9	1.2	86.1	13.9	100.0
Atlantic Region	97.1	0.4	97.5	2.5	100.0
Quebec	94.9	0.6	95.5	4.5	100.0
Ontario	94.8	0.9	95.7	4.3	100.0
Manitoba	97.3	0.7	98.0	2.0	100.0
Saskatchewan	97.3	0.9	98.3	1.7	100.0
Alberta	96.3	0.8	97.2	2.8	100.0
British Columbia	56.2	2.3	58.5	41.5	100.0

(1) Canada total excludes households residing on reserve in the northern territories Values in italics subject to error due to small population counts

Source: Custom tabulations from the 2011 Census of Population (unadjusted for non-enumeration and survey under-coverage)

As noted previously, registered Indian households formed a large majority of total Aboriginal households on reserve in all provinces/regions and accounted for roughly 99% of all Aboriginal households at the national level. Non-registered Aboriginal households numbered only about 1,270 at the national level and formed a small segment of the total number of households in most provinces/regions. These households were concentrated in British Columbia. In addition to Aboriginal households, the population of households residing on reserve in most provinces/regions also contained a sizable number of non-Aboriginal households. At the national level, non-Aboriginal households numbered approximately 14,810 and formed about 14% of all reserve households (largely unchanged from 2006). Non-Aboriginal households were most common in British Columbia (about 42% of all households), Quebec (about 5% of all households) and Ontario (about 4% of all households).

The distribution of households by Aboriginal group observed for 2006 and 2011 did not differ dramatically. Registered Indian households formed the same share of all Aboriginal households in both 2006 and 2011. The 2011 population of households on reserve, however, included a slightly higher share of non-



Aboriginal households (13.9% in 2011 compared to 13.6% in 2006), an increase primarily attributable to growing numbers of non-Aboriginal households on reserve in British Columbia.

## **Composition by Household Type**

2011 Census data reveal that the Aboriginal population in Canada continues to display a very youthful demographic, in which children form a large segment of the population, especially on reserve. This youthful demographic is reflected in the structure or composition of Aboriginal households on reserve. As indicated in Table 2, family households, especially those which contain children, formed a very large segment of all Aboriginal households living on reserve. At the national level, family households accounted for about 79% of all Aboriginal households living on reserve in 2011 (unchanged from 2006). About 78% of these family households also contained children (down about 2% from 2006). With the exception of the Atlantic region and British Columbia, married (or common law) couples with children under 18 years of age formed the largest segment of Aboriginal family households living on reserve. Lone parent families formed a sizable share of households in all provinces/regions and accounted for the largest segment of Aboriginal households in the Atlantic region. Multiple family households (i.e. households with more than one family) also formed a significant share of Aboriginal households in all provinces/regions and accounted for about 12% of all Aboriginal households on reserve at the national level. Multiple family households were most common among Aboriginal households in the prairie region (roughly 16% of all households) and in Quebec (about 13% of all households).

#### Table 2

Distribution of Aboriginal Households Residing on Reserve by Household Type and Province/Region, Canada, 2011

Province/Region Househ	ds % of Household	i
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		Couples With Children < 18 yr	Couples Without Children < 18 yr	Lone Parent Families	Multiple Family Households	Non-Family Households
Atlantic Region	6,740	24.3	15.3	28.1	6.2	26.1
Quebec	10,395	32.1	17.3	20.4	12.9	17.4
Ontario	17,185	23.4	20.9	22.0	5.7	27.9
Manitoba	14,775	31.4	13.8	21.9	15.6	17.4
Saskatchewan	13,250	29.1	11.8	25.8	16.3	16.9
Alberta	11,445	29.2	14.2	23.2	16.3	17.0
British Columbia	17,595	22.4	22.9	21.2	8.5	25.1
All Regions	91,385	27.1	17.2	22.8	11.6	21.4

Source: Custom tabulations from the 2011 Census of Population (unadjusted for non-enumeration and survey under-coverage)

Row percentages may not sum to 100 due to rounding Values in italics subject to error due to small population counts

As illustrated in Figure 1, some changes in the composition of Aboriginal households living on reserve have occurred between 2001 and 2011. In relation to 2001, couples with children under 18 years of age formed a considerably smaller segment of Aboriginal households residing on reserve in 2011 (27% in 2011 compared to 36% in 2001). Modest increases in the share of households associated with all other household types were observed for 2011.

#### Figure 1

Distribution of Aboriginal Households Residing on Reserve by Household Type, Canada, 2001, 2006 and 2011



Source: Custom tabulations from the 2001, 2006 and 2011 Census of Population (unadjusted



### Households by Size

The youthful age structure of the Aboriginal population living on reserve also contributes to large family and household sizes. As revealed in Figure 2, however, some changes in the distribution of Aboriginal households by household size were observed between 2001 and 2011. In relation to 2001, the 2011 data reveal increases in the share of households with one and two persons, as well as increases in the share of households with 7 and 8 or more persons. These shifts in household size distribution are consistent with previously observed changes in household composition which revealed increases in both non-family households (which tend to have fewer persons) and multiple family households (which tend have larger numbers of persons). Between 2001 and 2006, overall, the average size of Aboriginal households on reserve fell slightly from about 3.7 to 3.6 persons) remained unchanged from that observed in 2006.

In spite of declining household sizes, larger households continue form a large segment of Aboriginal households on reserve. In 2011, households with 5 or more persons formed about 38% of all Aboriginal family households and 30% of all Aboriginal households living on reserve. Aboriginal households on reserve averaged about 3.6 persons (unchanged from 2006), and remained roughly 1.1 persons larger than non-Aboriginal households (2.5 persons nationally). Aboriginal family households living on reserve averaged about 4.2 persons (unchanged from 2006), about 1.1 persons larger than non-Aboriginal non-family households averaged 1.2 persons (roughly equivalent to the average size of all non-Aboriginal non-family households).

#### Figure 2

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#### Distribution of Aboriginal Households Residing on Reserve by Household Size, Canada, 2001, 2006 and 2011



non-enumeration and survey under-coverage)

Although differences in average size were not pronounced among non-family households, quite large regional variations were identified in the average size of Aboriginal family households living on reserve. As illustrated in Figure 3, the average size of Aboriginal family households in 2011 ranged widely between 3.6 persons (in Ontario) and 4.7 persons (in Saskatchewan and Manitoba). Time series data for the 2001-2011 time period, suggest a very gradual decline in the average size of Aboriginal family households on reserve has occurred in most provinces/regions.

Figure 3

Average Size of Aboriginal Family Households on Reserve by Province/Region, Canada, 2001, 2006 and 2011







## Household Income<sup>15</sup>

In off-reserve contexts, low household income is generally regarded to be the primary cause of housing consumption deficiencies and core housing need.<sup>16</sup> In light of the different context of housing allocation and housing markets on reserve, the expected effects of income on housing consumption are not readily apparent. Income, however, may be a critical factor in some aspects of housing consumption, most notably home ownership and dwelling unit adequacy.<sup>17</sup>

<sup>&</sup>lt;sup>17</sup> As is the case off reserve, income should play a critical role in access to home ownership for those First Nations which issue *evidence of title* or other similar forms of land tenure (also commonly referred to as *Certificates of Possession*). In such contexts, income may also facilitate homeowners to acquire sufficiently large housing to meet the National Occupancy Standard. One would also expect income levels to influence housing adequacy, even on reserves in which bandowned housing predominates, as individuals who acquire band-owned housing are expected to carry out regular property maintenance and may undertake improvements to the property. Levels of maintenance and improvements are likely to vary with household income levels.



<sup>&</sup>lt;sup>15</sup> The concept of household income used in this report refers to the total (pre-tax) income from all sources of all household members as reported to the Census.

<sup>&</sup>lt;sup>16</sup> On- and off-reserve comparisons of household incomes and income adequacy (e.g. the concept of the low income cut-off) are complicated by differential taxation rules which apply to Registered Indians residing in these locations. Registered Indians who live and work on reserve are not subject to income taxation, while those living (or working) off reserve are subject to taxation.

Figure 4 illustrates the income distribution of Aboriginal households living on reserve at the national level for income year 2010. As revealed in the figure, total incomes among Aboriginal households were highly skewed to lower income categories. Roughly 36% of all Aboriginal households on reserve reported 2010 income under \$20,000. An additional 28% reported income ranging between \$20,000 and \$39,999. Only 24% of Aboriginal households on reserve reported incomes of \$60,000 or more. In 2011, lower income households (i.e. with incomes below \$40,000) continued to form a large majority (about 64%) of all Aboriginal households on reserve.



#### Figure 4

Distribution of Aboriginal Households Residing on Reserve by

Source: Custom tabulations from the 2011 Census of Population (unadjusted for non-enumeration and survey under-coverage)

The median income in 2010 for all Aboriginal households was \$31,893 and varied widely by household type (Table 3). In 2010, median household income was highest among couples with children under 18 years of age (\$43,027) and multiple family households (\$54,671) and lowest among single person households (\$15,115) and lone parent families (\$24,946). Although multiple family households reported the highest median income, larger household sizes associated with this type of household translated into sharply lower median

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income per capita (\$8,372) than all other household types for which data were available.<sup>18</sup>

#### Table 3

	20	10	2005	
Household Type	Median Income (2010\$)	Median Income Per Capita (2010\$)	Median Income (2010\$)	Median Income Per Capita (2010\$)
Total households	31,893	8,915	31,550	9,432
Single family households	35,606	9,339	35,146	9,550
Married couples	42,255		41,038	
With children < 18 years	43,027		42,518	
Without children < 18 years	40,799		37,265	
Lone parent families	24,946		24,690	
Multiple family households	54,671	8,372	53,263	8,375
Non-family households	15,667	12,609	14,688	12,564
One person	15,115		14,260	
Two or more persons	24,538		23,298	

#### Median Income and Median Per Capita Income of Aboriginal Households Residing on Reserve by Household Type, Canada, Income Years 2005 and 2010

Source: Custom tabulations from the 2006 and 2011 Census of Population (unadjusted for non-enumeration and survey under-coverage)

Data necessary to construct median per capita income by single family household type were not available to the study

The income data presented in Table 3 also reveal that median incomes among all household types increased between 2005 and 2010 (after inflation adjustment based on the CPI). The increase averaged \$343 or roughly 1.1% over the 5-year period but also varied widely among household types. In general, households without children at home reported larger income gains (on a percentage basis).

As revealed in Table 4, 2010 median total income among Aboriginal households living on reserve ranged from about \$23,110 in Manitoba to \$46,723 in Quebec. In addition to Manitoba, Aboriginal households living on reserves in

<sup>&</sup>lt;sup>18</sup> The estimate of median household income per capita developed for this study was constructed for household types by dividing total median household income by average household size.
Saskatchewan (\$27,964) and the Atlantic region (\$28,695) reported median household income well below the national average (\$31,893).

### Table 4

Province/Pagion	Median Household Income (in 2010\$)							
Province/Region	2010	2005	Change	% Change				
Atlantic Region	28,695	26,685	2,010	7.5				
Quebec	46,723	44,472	2,251	5.1				
Ontario	32,472	32,923	-451	-1.4				
Manitoba	23,110	27,523	-4,413	-16.0				
Saskatchewan	27,964	25,319	2,645	10.4				
Alberta	34,874	34,126	748	2.2				
British Columbia	33,968	30,370	3,598	11.8				
Canada	31,893	31,550	343	1.1				
Province/Pagion	Median Household Income Per Capita (in 2010\$)							
Province/Region	2010	2005	Change	% Change				
Atlantic Region	9,324	8,674	650	7.5				
Quebec	12,308	11,564	743	6.4				
Ontario	11,196	10,232	964	9.4				
Manitoba	5,590	6,851	-1,261	-18.4				
Saskatchewan	0	6 242	509	8.2				
	6,751	0,242						
Alberta	6,751 8,566	8,518	48	0.6				
Alberta British Columbia	6,751 8,566 10,997	8,518 9,510	48	0.6 15.6				

Median Income and Median Income Per Capita of Aboriginal Households Residing on Reserve by Province/Region, Canada, Income Years 2005 and 2010

Source: Custom tabulations from the 2006 and 2011 Census of Population (unadjusted for non-enumeration and survey under-coverage), Statistics Canada, Catalogue No. 62-010-x and 62-001-x

Sizable increases in inflation-adjusted median household income were observed among Aboriginal households living on reserve in British Columbia (11.8%), Saskatchewan (10.4%), and the Atlantic region (+7.5%). Declines in median household income between 2005 and 2010 were most pronounced in Manitoba (-16.0%) and Ontario (-1.4%).



## Housing Consumption Patterns

The 2008 and 2012 research studies referred to previously in this report examined the housing consumption patterns of Aboriginal households residing on reserve in 2001 and 2006, respectively. Analyses undertaken for this study provide revised estimates of consumption patterns for 2011, as well as estimates of the prevalence of housing consumption deficiencies by household type, household income, tenure and province/region. The primary focus relates to three major indicators of consumption deficiencies, including: the prevalence of *housing condition* problems (i.e. the proportion of households living in units requiring major repair), overcrowding (i.e. the proportion of households which do not meet the National Occupancy Standard (NOS) and family doubling (the proportion of family households which contain more than one family). In addition to the above measures of consumption deficiencies, the study also examines housing tenure patterns and rates of home ownership among Aboriginal households living on reserve.

### Housing Tenure and Rates of Home Ownership

Since 1991, the Census has collected information on the housing tenure of households residing on reserve using three categories, owned, rented and bandowned. Some issues may exist with respect to whether households are able to accurately distinguish between rented and band-owned housing. The concern relates to situations where households who occupy band-owned housing are required to pay at least nominal rents. It is further complicated in that much of the rental housing stock on reserves is likely to have been constructed under various government sponsored programs (such as Section (95) of the National Housing Act) by band-owned entities (e.g. First Nation housing corporations) that also assume management responsibility for the entire housing portfolio including all forms of band-owned housing. While the rent structures and management requirements attached to Section 95 of the National Housing Act differ from those of other band-owned housing stock, many reserve households are likely to be



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unsure of these differences, as well as unsure about how the housing was constructed. While data presented in this study differentiates households on the basis of the three tenure categories, the distinction between rented and bandowned may be unclear.

As shown in Table 5, a large majority (about 69%) of Aboriginal households living on reserve in 2011 reported that they did not own their housing unit. Home owners formed a minority among all types of households. Rates of home ownership were especially low among multiple family households (22%), lone parent families (27%) and couples with children (26%).

#### Table 5

		Distribution of Households (%)						
Household Type	Households	Owned	Rented	Band Owned	Rented or Band Owned	Total All Tenures		
Total households	91,375	31.4	10.0	58.6	68.6	100.0		
Single family households	61,290	31.5	9.9	58.5	68.5	100.0		
Married couples	40,455	33.7	9.5	56.8	66.3	100.0		
With children < 18 years	24,775	26.2	10.9	63.0	73.8	100.0		
Without children < 18 years	15,680	45.5	7.4	47.1	54.5	100.0		
Lone parent families	20,835	27.4	10.7	61.9	72.6	100.0		
Multiple family households	10,560	22.4	7.1	70.5	77.6	100.0		
Non-family households	19,525	35.7	11.7	52.6	64.3	100.0		
One person	16,430	36.6	11.8	51.5	63.4	100.0		
Two or more persons	3,120	30.6	11.1	58.3	69.4	100.0		

### Distribution of Aboriginal Households Residing on Reserve by Tenure, Canada, 2011

Source: Custom tabulations from the 2011 Census of Population (unadjusted for non-enumeration and survey under-coverage) Percentages may not sum to 100 due to rounding error.

Quite large regional variations existed with respect to rates of home ownership. As illustrated in Table 6, rates of home ownership among Aboriginal households living on reserve in 2011 ranged from about 9% in Saskatchewan to about 59% in British Columbia. Rates sharply lower than the national average (31%) were identified for each of the Prairie provinces, where the vast majority of housing on



reserve is band-owned. In addition to British Columbia, a majority of Aboriginal households living on reserves in Ontario (54%) reported owning their home.

Table 6 also reveals that although the rate of home ownership in 2011 remained largely unchanged from 2006 at the national level, home ownership among Aboriginal households living on reserve increased in several provinces/region. Increased rates of home ownership were reported in Ontario (14 percentage points higher), British Columbia (7 percentage points higher), and Manitoba (1 percentage points higher). Home ownership rates among on-reserve Aboriginal households in the Atlantic region (7 percentage points lower), Quebec (6 percentage points lower) and Alberta (2 percentage points lower) declined during the time period. The rate among Aboriginal households living on reserve in Saskatchewan was largely unchanged.

### Table 6

Rate of Home Ownership (%)					
2011	2006	Ppt. Change			
21.7	28.5	-6.8			
29.4	35.2	-5.8			
54.4	40.9	13.5			
11.3	10.1	1.2			
9.1	8.9	0.2			
13.1	15.5	-2.4			
59.3	52.2	7.2			
31.4	30.6	0.8			
	Rate of       2011       21.7       29.4       54.4       11.3       9.1       13.1       59.3       31.4	Rate of Home Owner       2011     2006       21.7     28.5       29.4     35.2       54.4     40.9       11.3     10.1       9.1     8.9       13.1     15.5       59.3     52.2       31.4     30.6			

Proportion of On-Reserve Aboriginal Households Reporting Home Ownership by Province/Region, Canada, 2006 and 2011

Source: Custom tabulations from the 2001 Census of Population (unadjusted for non-enumeration and survey under-coverage)

Data concerning household income and home ownership levels among Aboriginal households living on reserve reveal a strong and consistent positive association (Figure 5). The rate of home ownership among households reporting incomes of \$100,000 or more was about 1.7 times higher than that of households reporting incomes of less than \$10,000 annually. The figure also reveals that although home ownership rates remained largely unchanged among lower



income households (i.e. those reporting incomes under \$60,000 annually), rates were lower among upper income households in 2011. For households with incomes of \$60,000 or more, the homeownership rate in 2011 averaged about 38% in 2011 compared to about 42% in 2006. Reasons for declining levels of home ownership among higher income Aboriginal households on reserve are unknown.



#### Proportion of Aboriginal Households Living On Reserve Reporting Home Ownership by 2005 and 2010 Household Income, Canada, 2006 and 2011



Source: Custom tabulations from the 2006 and 2011 Censuses of Population (unadjusted for non-enumeration and survey under-coverage)

Additional evidence of the effects of income on home ownership is presented in Table 7 which displays data concerning median household income by tenure and household type. The table reveals that the median household income of Aboriginal households that owned their home was much higher than non-owners among all household types. Median household income differentials between owners and non-owners ranged from \$2,403 (about 16%) among non-family households to \$13,479 (about 34%) among couples with children under 18 years living at home. In relation to both 2001 and 2006 (see Clatworthy, 2008 and 2012), inflation-adjusted median income differentials between owners and non-owners and non-owners and non-owners were larger in 2011.

> Four Directions Project Consultants, March, 2016

NCR#8391844 - v2 NCR#8706753 - v1 The strong association between income and home ownership and the scale of income differentials between owners and non-owners clearly suggests that low household income represents a significant barrier to home ownership and an important contributing factor to the low levels of home ownership which characterize Aboriginal households living on reserve.

### Table 7

### Median Household Income of Aboriginal Households Residing on Reserve by Household Type and Tenure, Canada, Income Year 2010

Household Type	Median H	ousehold Income	Difference (Owners	
Household Type	Owners	Rented or Band Owned	All Tenures	vs Rented or Band- Owned)
Total households	37,565	29,519	31,893	8,046
Couples with children < 18 yr	52,801	39,322	43,027	13,479
Couples without children < 18 yr	46,340	36,014	40,799	10,326
Lone parent families	30,841	22,830	24,946	8,011
Multiple family households	60,924	52,514	54,671	8,410
Non-family households	17,301	14,898	15,667	2,403

Source: Custom tabulations from the 2006 Census of Population (unadjusted for non-enumeration and survey under-coverage)

### **Consumption Deficiencies and Housing Needs**

In 2006, roughly 23% of all on-reserve Aboriginal households reported no housing deficiencies and resided in dwellings which required only regular maintenance and which met the National Occupancy Standard. An additional 24% of households reported that their dwelling required minor repairs but met the occupancy standard. These two groups of households, which jointly formed about 47% of all Aboriginal households on reserve, were deemed to have acceptable housing situations. The remaining 53% of households experienced problems with dwelling unit condition (42%), overcrowding (23%) or both (12%).

Indicators of the prevalence of housing consumption deficiencies experienced by various types of Aboriginal households living on reserve in 2011 are summarized in Table 8. At that time, about 50% of Aboriginal households residing on reserve



were reported to have acceptable housing situations (about 3% higher than in 2006). Roughly 40% of Aboriginal households experienced dwelling unit condition deficiencies in 2011 (about 2% lower than in 2006). Roughly 21% of Aboriginal households on reserve were overcrowded in 2011 as measured by the NOS (also about 2% lower than in 2006) and about 11% experienced both condition deficiencies and overcrowding (about 1% lower than in 2006). *Changes in the indicators over time suggest that the prevalence of housing consumption deficiencies among Aboriginal households residing on reserve decreased modestly between 2006 and 2011.* 

A sizable proportion of all types of Aboriginal households reported the need for major repairs to their dwelling unit and condition deficiencies did not vary widely by household type. Overcrowding, as measured by the National Occupancy Standard was concentrated among three types of households, multiple family households (64%), couples with children under 18 years of age (25%) and lone parent families (24%).

Table 9, which presents similar measures for all Aboriginal households living on reserve by province/region, indicates that although housing consumption deficiencies were experienced by a significant proportion of households in all regions, deficiencies were most common among households in the Prairie provinces. In these provinces, a majority (more than 60%) of all Aboriginal households residing on reserve reported at least one housing deficiency. Multiple housing deficiencies were also much more common among households in these provinces.



### Table 8

## Prevalence of Housing Consumption Deficiencies among Aboriginal Households Residing on Reserve by Household Type, Canada, 2011

			Percent of Households								
Household Type	Households	Needs Minor Repair Only (A)	Needs Major Repair Only (B)	Below NOS Only (C)	Needs Minor Repair and Below NOS (D)	Needs Major Repair and Below NOS (E)	Total Needing Minor Repair (A+D)	Total Needing Major Repair (B+E)	Total Below NOS (C+D+E)	No Deficiency	Acceptable Housing (1)
Total households	91,385	24.1	28.9	4.6	5.9	10.6	30.0	39.5	21.0	25.9	50.0
Single family households	61,295	24.7	29.0	4.3	5.6	9.6	30.3	38.6	19.5	26.8	51.5
Married couples	40,450	25.2	28.8	3.5	4.9	8.6	30.1	37.4	17.0	29.0	54.2
With children under 18 yr	24,780	23.3	25.6	5.2	7.2	13.0	30.5	38.5	25.4	25.7	49.1
Without children	15,685	28.1	33.8	1.0	1.2	1.7	29.4	35.5	3.9	34.1	62.3
Lone parent families	20,835	23.8	29.5	5.8	6.8	11.5	30.7	41.0	24.2	22.5	46.3
Multiple family households	10,565	11.0	15.4	13.4	17.5	33.6	28.6	48.8	64.4	9.3	20.3
Non-family households	19,535	29.3	36.0	0.6	0.8	1.2	30.1	37.1	2.5	32.2	61.6
One person	16,405	29.7	36.2	0.0	0.0	0.0	29.8	36.2	0.0	34.0	63.7
Two or more persons	3,110	27.2	34.7	3.4	4.2	7.6	31.7	42.4	15.4	23.0	50.2

Source: Custom tabulations from the 2011 Census of Population unadjusted for non-enumeration and survey under-coverage)

(1) Acceptable housing is defined to include dwellings which do not require major repair and where the dwelling's household also meets the National Occupancy

Standard.

Totals may not sum due to rounding error

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### Table 9

## Prevalence of Housing Consumption Deficiencies among Aboriginal Households Residing on Reserve by Province/Region, Canada, 2011

				Percer	ntage Distrib	ution of Ho	useholds by	Housing De	eficiency Sta	itus	
Province/Region	Households	Needs Minor Repair Only (A)	Needs Major Repair Only (B)	Below NOS Only (C)	Needs Minor Repair and Below NOS (D)	Needs Major Repair and Below NOS (E)	Total Needing Minor Repair (A+D)	Total Needing Major Repair (B+E)	Total Below NOS (C+D+E)	No Deficiency	Acceptable Housing
Atlantic	6,740	28.6	27.7	3.0	3.3	4.6	31.8	32.3	10.9	32.7	61.4
Quebec	10,395	24.0	23.3	5.8	5.4	7.8	29.3	31.1	19.0	33.7	57.7
Ontario	17,185	24.8	26.0	3.9	3.5	5.6	28.3	31.6	13.0	36.2	61.0
Manitoba	14,775	20.9	32.3	4.9	8.7	17.8	29.7	50.1	31.4	15.3	36.3
Saskatchewan	13,250	21.4	29.4	6.0	9.4	16.0	30.8	45.4	31.4	17.8	39.2
Alberta	11,445	20.7	35.2	4.2	7.0	16.5	27.7	51.7	27.7	16.4	37.1
British Columbia	17,595	28.8	28.4	3.9	3.9	5.3	32.7	33.6	13.1	29.8	58.6
All Regions (Excluding Territories)	91,385	24.1	28.9	4.6	5.9	10.6	30.0	39.5	21.0	25.9	50.0

Source: Custom tabulations from the 2011 Census of Canada (unadjusted for non-enumeration and survey under-coverage)

(1) Acceptable housing is defined to include dwellings which do not require major repair and where the household dwelling meets the National Occupancy Standard Totals may not sum due to rounding error



As revealed in Table 10, the extent of improvements between 2006 and 2011 in housing circumstances among Aboriginal households living on reserve differed among provinces/regions. The proportion of Aboriginal households with acceptable housing situations increased in Ontario (by about 8%), Saskatchewan (about 5%), British Columbia (about 4%) the Atlantic region (about 2%) and Manitoba (about 1%). The proportion of Aboriginal households residing in acceptable housing situations declined during the time period in both Quebec (-2%) and Alberta (-1%).

### Table 10

Drevines/Degien	%	6 Acceptab	ole
Province/Region	2006	2011	Change
Atlantic	59.4	61.4	2.0
Quebec	60.0	57.7	-2.3
Ontario	53.3	61.0	7.7
Manitoba	35.1	36.3	1.2
Saskatchewan	34.5	39.2	4.6
Alberta	37.6	37.1	-0.5
British Columbia	54.8	58.6	3.8
Canada (Excluding Territories)	47.0	50.0	3.0

Proportion of Aboriginal Households on Reserve Living in Acceptable Housing By Province/Region, Canada, 2006 and 2011

> Source: Custom tabulations from the 2011 Census of Canada (unadjusted for non-enumeration and survey under-coverage)
> (1) Acceptable housing is defined to include dwellings which do not require major repair and where the household dwelling meets the National Occupancy Standard

Table 11 identifies the incidence of deficiencies among all Aboriginal households on reserve by income group. Although the proportion of households residing in acceptable housing did not vary widely by household income, quite strong associations between household income and the prevalence of housing condition problems and overcrowding are apparent. As identified in prior research, housing condition deficiencies continued to be inversely associated with



#### Table 11

## Prevalence of Housing Consumption Deficiencies among Aboriginal Households Residing on Reserve by Household Income, Canada, 2011

			Percentage Distribution of Households by Housing Deficiency Status								
Total Household Income	Households	Needs Minor Repair Only (A)	Needs Major Repair Only (B)	Below NOS Only (C)	Needs Minor Repair and Below NOS (D)	Needs Major Repair and Below NOS (E)	Total Needing Minor Repair (A+D)	Total Needing Major Repair (B+E)	Total Below NOS (C+D+E)	No Deficiencies	Acceptable Housing
Total Households	91,385	24.1	28.9	4.6	5.9	10.6	30.0	39.5	21.0	25.9	50.0
< \$10,000	14,355	27.3	40.0	1.7	2.5	4.9	29.8	44.8	9.0	23.7	51.0
\$10,000 - \$19,999	16,305	24.6	32.8	3.3	4.5	9.0	29.2	41.7	16.9	25.7	50.3
\$20,000 - \$29,999	12,780	23.7	29.8	4.8	6.4	11.4	29.9	41.3	22.5	23.9	47.7
\$30,000 - \$39,999	11,000	23.5	27.4	4.6	6.5	12.5	29.9	40.0	23.7	25.5	48.9
\$40,000 - \$49,999	9,025	24.0	26.2	5.6	6.8	12.4	30.7	38.7	24.8	25.2	49.1
\$50,000 - \$59,999	6,770	23.8	24.9	5.5	6.9	12.3	30.7	37.4	24.7	26.4	50.1
\$60,000 - \$69,999	5,185	23.0	23.9	5.5	7.2	13.8	30.3	37.8	26.5	26.2	49.3
\$70,000 - \$79,999	3,855	21.8	23.1	6.0	8.4	12.3	30.5	35.5	26.5	28.3	50.1
\$80,000 - \$89,999	3,060	23.5	21.4	6.7	7.2	12.7	30.7	34.0	26.5	28.6	52.1
\$90,000 - \$99,999	2,275	22.9	20.4	6.4	7.9	12.7	31.4	33.4	27.5	29.2	52.1
\$100,000 or more	6,775	21.4	18.0	7.8	8.8	12.1	30.3	30.0	28.6	31.7	53.1

Source: Custom tabulations from the 2001 Census of Canada (unadjusted for non-enumeration and survey under-coverage)

(1) Acceptable housing is defined to include dwellings which do not require major repair and where the household dwelling meets the National Occupancy Standard Data exclude about 45 households that reported no income in 2010.



household income and households reporting higher incomes were much less likely to live in dwellings requiring major repair. The reverse pattern was identified for overcrowding, where higher income households continued to be much more likely to experience overcrowding. As noted in the 2012 study, this situation appears to be related in large part to the presence of additional income earners in larger households.

Some commentators have argued that promoting home ownership among households living on reserve may be a critical factor in improving and maintaining the quality of the housing stock on reserve. The argument appears to be based on the assumption that those who own their home have a greater vested interest in maintaining and caring for their property than those who rent housing or occupy housing provided by the First Nation.

Table 12 presents measures of the prevalence of housing consumption deficiencies for Aboriginal households who reside in owner-occupied as opposed to rental or band owned housing units. The table reveals that Aboriginal homeowners residing on reserve in 2011 were more likely than non-owners to occupy acceptable housing (59% compared to 46%) and were less likely to report condition deficiencies (34% compared to 42%) and overcrowding (13% compared to 25%).

Comparison of the 2011 results with those identified for 2006 (see Table 13) suggest that differences in the prevalence of housing consumption deficiencies between homeowners and non-owners have become less pronounced between 2006 and 2011. Although the proportion of households residing in acceptable housing increased among both homeowners and non-owners during the period, the extent of the increase was more pronounced among non-owners. Among non-owners, the improvement in the proportion of households living in acceptable housing situations during the period resulted primarily from reduced levels of

### Table 12

### Prevalence of Housing Consumption Deficiencies among Aboriginal Households Residing on Reserve by Tenure, Canada, 2011

	Percentage of Households						
Consumption Deficiency	Owned	Rented or Band Owned	Total				
Minor Repair Only	25.5	23.5	24.1				
Major Repair Only	27.9	29.4	28.9				
NOS Only	3.3	5.2	4.6				
Minor Repair and NOS	3.4	7.1	5.9				
Major Repair and NOS	6.1	12.6	10.6				
Total Minor Repair	29.0	30.5	30.0				
Total Major Repair	34.0	42.1	39.5				
Total NOS	13.1	24.7	21.0				
No Deficiencies	33.5	22.4	25.9				
Acceptable Housing	59.0	45.9	50.0				
Number of Households	28,670	62,710	91,385				

Source: Custom tabulations from the 2011 Census of Population (unadjusted for non-enumeration and survey under-coverage)

### Table 13

#### Change in the Prevalence of Housing Consumption Deficiencies among Aboriginal Households Residing on Reserve by Tenure, Canada, 2006 and 2011

Concumption Deficiency	2006-2011 Change in Percent of Households					
Consumption Denciency	Owned	Rented or Band Owned	Total			
Minor Repair Only	0.6	-0.5	-0.1			
Major Repair Only	0.2	-1.7	-1.1			
NOS Only	-0.9	0.5	0.0			
Minor Repair and NOS	-1.1	-0.3	-0.6			
Major Repair and NOS	-1.4	-1.3	-1.4			
Total Minor Repair	-0.4	-0.9	-0.7			
Total Major Repair	-1.1	-2.9	-2.5			
Total NOS	-2.9	-1.3	-1.9			
No Deficiencies	2.1	3.5	3.2			
Acceptable Housing	2.6	3.0	3.0			

Source: Custom tabulations from the 2006 and 2011 Census of Population (unadjusted for non-enumeration and survey under-coverage)

housing condition deficiencies, a situation which suggests that *improvements to the physical condition of rental and band-owned housing stock on reserve occurred during the period at a pace that exceeded that of owner-occupied housing.* 

Although the extent of housing deficiencies declined among Aboriginal households living in rental and band-owned housing, deficiencies (both condition and overcrowding) among this tenure group continued to be much more common than among Aboriginal homeowners.

### Housing Adequacy and Repair Needs

As deficiencies associated with housing condition affect a significant proportion of Aboriginal households living on reserve (regardless of tenure) some deeper exploration of relationships between condition and other factors appears to be needed. Figure 6 illustrates the prevalence of housing adequacy problems among Aboriginal households living on reserve by household income group



Figure 6

Proportion of Aboriginal Occupied Dwellings on Reserve Requiring Major Repair By 2010 Household Income and Tenure, Canada, 2011

Source: Custom tabulations from the 2011 Census of Population (unadjusted for non-enumeration and survey under-coverage)

and tenure. As revealed in the figure, higher income households, regardless of tenure, are less likely to report living in dwellings which require major repairs. Although homeowners were generally less likely to report the need for major repairs, differences based on tenure are most pronounced among higher income households. Among lower income households (i.e. those reporting annual income under \$50,000), differences in the prevalence of the need for major repairs between tenure groups is much less pronounced. Results for the 2001 and 2006 time periods revealed a similar pattern over household income groups.

The lower prevalence of major dwelling repair needs reported among higher income owners, as opposed to non-owners, appears to be linked to differences between tenure groups in household size and, as a result, median per capita household income. As illustrated in Figure 7, the prevalence of dwelling repairs among Aboriginal households living on reserve in 2011 was positively associated with household size, that is larger households were much more likely to report the need for major dwelling repairs. This situation, which was also identified for 2006, most likely reflects the more intensive use of the dwelling by larger households.



### Figure 7

Proportion of Aboriginal Occupied Dwellings on Reserve Requiring Major Repair by Household Size, Canada, 2006 and 2011

Source: Custom tabulations from the 2006 and 2011 Censuses of Population (unadjusted for non-enumeration and survey under-coverage)

The effects of household size on housing condition can be further illustrated by examining the prevalence of the need for major repairs among Aboriginal households that meet the National Occupancy Standard and those that are overcrowded. As revealed in Figure 8, the need for major dwelling repair was about 1.4 times more common among those that did not meet the National Occupancy Standard. Overcrowded households were much more likely than non-overcrowded households to report a need for major repair among both owners (1.4 times higher) and non-owners (1.3 times higher). The pattern observed for 2011 did not differ from that observed previously for 2006.

### Figure 8

Proportion of Aboriginal Occupied Dwellings on Reserve Requiring Major Repair by Occupancy Status and Tenure, Canada, 2011





As noted in the 2006 housing study (Clatworthy, 2012), larger households and overcrowded households did report higher annual median household incomes, but median household income *per capita* was negatively associated with household size. Median household income per capita may provide a better basis for measuring the economic well-being of households and the ability of households to afford property maintenance and improvements. As illustrated in Figure 9, 2011 data revealed much lower median household incomes per capita

among Aboriginal households that reported the need for major dwelling repairs, regardless of the size of the household. The situation observed in 2011 was also identified in analysis of data for 2006.

#### Figure 9





Source: Custom tabulations from the 2011 Census of Population (unadjusted for non-enumeration and survey under-coverage)

In general, this study's results continue to suggest that larger household sizes, overcrowding, and low household incomes are the main factors contributing to the housing condition deficiencies experienced by Aboriginal households living on reserve. These factors affect housing quality among both home owners and those who rent or occupy band-owned housing. While Aboriginal home owners do report fewer housing deficiencies than non-owners, much of the difference between home owners and non-owners with respect to housing well-being may be the result of differences in household size, household composition and household income. The analyses also suggest that the prevalence of dwelling unit condition deficiencies declined between 2006 and 2011 among both home owners and non-owners. The extent of improvements during the period, however, was greater among non-owners.



### **Overcrowding and Family Doubling**

As noted previously, overcrowding (i.e. households not meeting the NOS) and family doubling (i.e. more than one family in the same dwelling unit) are also common housing deficiencies among Aboriginal households living on reserve. In 2006, about 23% of all Aboriginal households on reserve were identified to be living in overcrowded housing situations and nearly 14% of all family households contained more than one family. In 2011, the prevalence of overcrowding among Aboriginal households on reserve decreased to about 21%. At that time, however, about 15% of all Aboriginal family households contained more than one family in the prevalence of that the prevalence of the 2006. The trend toward increasing concentrations of multiple family households was also observed for the 2001-2006 time period.

Data presented previously in this report identified the incidence of overcrowding to be highest among multiple family households, lone parent families and couples with children less than 18 years of age. Table 14 reveals that Aboriginal home owners were less likely to be overcrowded than those who rented or occupied band-owned housing (13% compared to 25%). Lower rates of overcrowding among home owners were identified for all household types.

In relation to data for 2006, the 2011 data suggest that reductions in the prevalence of overcrowding were greater among home owners than non-owners among nearly all types of households. In 2006, non-owners were roughly 1.6 times more likely than home owners to experience overcrowding. In 2011, non-owners were about 1.9 times more likely than home owners to be overcrowded.

Differences in rates of overcrowding between tenure groups cannot be accounted for by differences in household income levels. As revealed in Table 15, those who owned their home were less likely than non-owners to experience overcrowding among all income groups. Among both owners and non-owners, higher income households tended to be more likely to experience overcrowding;



a pattern that appears to reflect the higher income levels characteristic of larger households and households containing more than one family.

### Table 14

	Perce	ent Not Meeting I	NOS	Ratio of Rented or	
Household Type	Owned	Rented or Band Owned	All Tenures	Band -Owned to Owned	
Total households	13.0	24.7	21.0	1.90	
Single family households	12.2	22.8	19.5	1.87	
Married or common-law couples	9.6	20.8	17.0	2.18	
With children < 18 yr	17.1	28.3	25.4	1.66	
Without children < 18 yr	2.7	4.9	3.9	1.78	
Lone parent families	18.4	26.4	24.2	1.44	
Multiple family households	52.8	67.7	64.4	1.28	
Non-family households	1.9	2.8	2.5	1.50	
One person	0.0	0.0	0.0		
Two or more persons	13.5	16.2	15.4	1.21	

### Proportion of Aboriginal Households on Reserve in Dwellings That Did Not Meet the National Occupancy Standard by Household Type and Tenure, Canada, 2011

Source: Custom tabulations from the 2011 Census of Population (unadjusted for non-enumeration and survey under-coverage)

#### Table 15

## Proportion of Aboriginal Households on Reserve in Dwellings That Did Not Meet the National Occupancy Standard by Household Income and Tenure, Canada, 2011

	Perce	Ratio of Rented or		
Household Income	Owned	Rented or Band Owned	All Tenures	Band-Owned to Owned
< \$10,000	5.6	10.1	9.0	1.82
\$10,000 - \$19,999	9.3	19.8	16.9	2.14
\$20,000 - \$29,999	11.7	27.1	22.5	2.32
\$30,000 - \$39,999	13.0	28.6	23.7	2.19
\$40,000 - \$49,999	14.8	30.0	24.8	2.03
\$50,000 - \$59,999	17.2	28.7	24.7	1.67
\$60,000 - \$69,999	16.8	32.1	26.5	1.91
\$70,000 - \$79,999	15.9	32.2	26.5	2.03
\$80,000 - \$89,999	17.1	32.5	26.5	1.90
\$90,000 - \$99,999	19.4	32.7	27.5	1.68
\$100,000 or more	17.4	36.3	28.6	2.09
All Income Groups	13.1	24.7	21.0	1.89

Source: Custom tabulations from the 2006 Census of Population (unadjusted for non-enumeration and survey under-coverage)

Table 16 presents data on the prevalence of "family doubling" measured as the proportion of family households which contain more than one family.<sup>19</sup> In 2011, the prevalence of doubling was about 1.6 times higher among family households who rented or occupied band-owned housing as opposed to home owners. This situation existed among all income groups. Concentrations of multiple family households tended to be most pronounced among higher income groups, regardless of tenure.

In relation to 2006, the prevalence of family doubling in 2011 was higher among all tenure groups and among all income groups. This situation suggests that Aboriginal families experienced greater difficulties with respect to accessing and/or maintaining their own housing unit. A shortage of dwelling units on reserve could account for this situation.

### Table 16

Proportion of Aboriginal Family Households on Reserve That Contained More than One Family by Tenure, Canada, 2011

	Multiple Family Share (Percentage) of Family Households					
Household Income	Owned	Rented or Band Owned	Total			
< \$10,000	4.5	5.0	5.0			
\$10,000 - \$19,999	6.1	9.4	8.6			
\$20,000 - \$29,999	6.3	12.1	10.5			
\$30,000 - \$39,999	8.5	15.2	13.2			
\$40,000 - \$49,999	10.0	17.0	14.7			
\$50,000 - \$59,999	12.5	19.2	16.9			
\$60,000 - \$69,999	13.6	22.9	19.6			
\$70,000 - \$79,999	13.3	25.8	21.4			
\$80,000 - \$89,999	12.1	27.3	21.6			
\$90,000 - \$99,999	16.8	27.1	23.0			
\$100,000 or more	20.1	35.1	28.9			
Total households	10.9	16.3	14.7			

Source: Custom tabulations from the 2011 Census of Population (unadjusted for non-enumeration and survey under-coverage)

<sup>&</sup>lt;sup>19</sup> Doubling can also be measured as the proportion of census families that share a dwelling unit. In 2011, about 31% of all Aboriginal census families living on reserve were estimated to be living in doubled family households.

The study's findings with respect to housing consumption patterns in 2011 suggest that among Aboriginal households living on reserve, home owners are more likely than those who rent or occupy band-owned housing to live in dwellings large enough to meet the National Occupancy Standard. Although home ownership appears to have a less positive effect on dwelling unit condition, it is associated with substantially reduced levels of overcrowding and family doubling.

## **Estimating Existing Housing Needs**

The study's estimates of existing housing needs on reserve use the results of the analyses presented above in conjunction with estimates of the number of households residing on reserve derived from household and census family projections developed for this study. As discussed previously, the household and census family projections used in this study were developed by applying age-specific "headship rates" (i.e. household maintainer and family reference person rates) developed from 2011 census data to projected estimates of the Aboriginal population residing on reserve that were prepared by Statistics Canada for the 2011-2036 time period. The general procedure is described in a recent report by Clatworthy (2012a). All parameters (rates and proportions) used to construct the household and census family projections were revised to reflect new information collected by the 2011 Census and National Household Survey.

Two sets of estimates of the existing housing needs on reserve were developed for this report. The initial set examines the current and future needs of Aboriginal households living on reserve under three population projection scenarios. These population projection scenarios included: 1) a "**reference scenario**" in which Aboriginal fertility rates fully converge to those of the non-Aboriginal population over a 25 year period; 2) a "**moderate fertility decline scenario**" in which the gaps between Aboriginal and non-Aboriginal fertility rates is halved over a 25 year period; and 3) a "**constant fertility scenario**" in which Aboriginal fertility rate remain unchanged at current (2011) levels. A second set of estimates was developed for registered Indian households using the same three population projections scenarios. In the body of this report, housing need estimates are presented and discussed only for Aboriginal households. Estimates for registered Indian households are contained in the report's appendix.<sup>20</sup>

Unlike the housing consumption deficiency indicators presented in this study, which are based on unadjusted census data, housing need estimates are developed using household and family estimates which have been adjusted to account for the populations living on incompletely enumerated Indian reserves, as well as those missed as a consequence of census under-coverage.

The housing needs component of the research focuses on four specific requirements associated with resolving existing housing deficiencies on reserve. These activities relate to:

- providing sufficient and appropriate new housing stock to eliminate family doubling;
- constructing sufficient and appropriate new units to replace units that have deteriorated to the point they cannot be viably renovated;
- modifying the size of the existing stock (through room additions to existing units) to eliminate overcrowding; and
- renovating units that require major repairs.

Estimates of the scale of each of these components of existing housing need are presented in terms of the number of housing units (or bedrooms in the case of overcrowding) required and the approximate capital investment needed to address these requirements.

<sup>&</sup>lt;sup>20</sup> As registered Indian households account for very large majority of all Aboriginal households on reserve, the estimates for this population do not differ greatly from those developed for Aboriginal households.

The procedure for estimating the existing housing needs of households residing on reserve is described briefly below.

## **Dwellings Needed to Eliminate Family Doubling**

The procedure used to estimate the number of new dwelling units required to eliminate family doubling involved two main stages and is summarized in Figure 10. In the initial stage, distributions of family households by size (i.e. number of persons) and age of household maintainer were developed using census data for *single family* households. These distributions were constructed by province/region. The household size distributions developed for single family households were then applied to estimates of the number of *census families* (by age of family reference person) to produce estimates of the baseline number of census families by household size (number of persons) and age of maintainer.

In the second stage, 2011 Census data were used to identify the distributions of dwelling unit sizes (i.e. number of bedrooms) needed to meet the National Occupancy Standard (NOS) for single family households by household size. These distributions were also constructed by region. Application of these distributions to the estimates of census families by household size yields estimates of the total number of dwelling units required by unit size (number of bedrooms). Estimates of both the number and size of additional housing units needed to eliminate family doubling are then computed by subtracting the existing number of family dwelling units (by number of bedrooms).

## **Dwellings Needed to Replace Deteriorated Units**

In addition to estimating the number and size of dwelling units needed to eliminate family doubling, estimates of the number and size of dwelling units needed to replace existing on-reserve units that have deteriorated to the point where cannot be viably renovated have also been developed.

### Figure 10





Estimates of dwelling unit needing replacement result from analysis of data contained on INAC's Capital Asset Management System (CAMS).<sup>21</sup> Among other things, the CAMS database identifies reserve dwelling units by state of repair, *including those that require replacement*. CAMS data for 2009-2014 time period were used to estimate the proportion of reserve units that required replacement in each of the provinces/regions. These proportions were then applied to baseline estimates of the total number of Aboriginal occupied dwelling

<sup>&</sup>lt;sup>21</sup> As noted previously, the CAMS data base has limitations. For example, some First Nations are not covered by the system and data are generally available only for band-owned or managed units and other units constructed with AANDC financial support. Comparison of the CAMS unit counts for 2011 with adjusted dwelling unit counts from the 2011 Census suggest that about 90% of all reserve dwellings are contained on the CAMS file. The analyses and projections developed for this study assume that units not covered by the CAMS data system experience comparable rates of replacement needs.

units on reserve in each region to obtain estimates of the number of units needed to replace deteriorated units.<sup>22</sup>

The method assumes that the likelihood of living in a unit that requires replacement is the same for all households regardless of type (i.e. family/non-family) or household size. This assumption allows for the same procedure outlined above to be used to convert the total dwelling unit requirements associated with replacement of deteriorated units into estimates by household size, household type and number of bedrooms.<sup>23</sup>

## Stock Modifications Needed to Eliminate Overcrowding

Overcrowding among both non-family households and single family households may be addressed through modifications to existing units to add sufficient numbers of bedrooms to bring housing units occupied by overcrowded households in line with the National Occupancy Standard. The study's estimates are based on census data that allows for construction of distributions of the number of additional bedrooms required by overcrowded households to meet the National Occupancy Standard.<sup>24</sup> These distributions were constructed by province/region, household type (family/non-family) and Aboriginal group.

<sup>&</sup>lt;sup>22</sup> As CAMS data were available to the study up to the ends of the 2014 year, estimates for the 2012-2014 period were derived by applying proportions developed for these years from the CAMS database. The proportions used for subsequent years of the projections were based on the trend in the proportions observed over the 2004-14 time period.

<sup>&</sup>lt;sup>23</sup> Readers should note that the likelihood of a dwelling unit deteriorating to the point where it requires replacement may be correlated with household size, as overcrowded units may be subject to more accelerated decline in condition due to greater intensity of use. The CAMS data system does not provide data concerning the characteristics of dwelling occupants.

<sup>&</sup>lt;sup>24</sup> The procedure for determining whether or not a specific household's dwelling meets the National Occupancy Standard requires that a calculation be made of the number of bedrooms needed by the household to meet the standard. As such, it is possible to construct custom tabulations identifying the number of additional bedrooms required for overcrowded households to meet the NOS. As part of prior research, tables identifying the distribution of additional bedroom requirements were constructed using the 2001 and 2006 census. As the distributions for 2001 and 2006 did not differ, this study assumes that the distribution of additional bedroom requirements (given region, household type and Aboriginal group) as identified for 2006 has remained stable in 2011. Footnote 11 provides a brief discussion of NOS estimation procedure.

Estimates of the number of family and non-family households that did not meet the National Occupancy Standard (i.e. those that were overcrowded) were developed by applying proportions (measuring the prevalence of overcrowding) to the adjusted baseline (2011) household counts estimated from the household and family projections. These proportions were constructed by province/region and household type.

By applying the bedroom shortfall distributions to the number of overcrowded households, estimates of the total number of additional bedrooms needed to eliminate overcrowding are computed. These estimates were then adjusted to remove the bedroom requirements associated with overcrowded *multiple* family households, as the housing space requirements associated with these households are already factored into the estimates of dwelling units needed to eliminate family doubling.<sup>25</sup>

### **Renovation of Dwellings Needing Major Repair**

Revised estimates of the number of dwelling units that require major repairs were also developed for this study. Two sources of data concerning the state of repair of dwellings on reserve were used: the 2011 Census and INAC's CAMS data system. These two data sources differ with respect to both the extent of reserve dwellings covered (as discussed previously), as well as the source of dwelling unit condition information.

In the case of the census, the information is based on the occupant's perception of the repair needs of their dwelling. State of repair data contained on the CAMS

<sup>&</sup>lt;sup>25</sup> The adjustment to remove the additional bedroom requirements of doubled families was accomplished by subtracting the estimated number of bedrooms associated with new dwelling units required by doubled families that occupied dwellings that did not meet the National Occupancy Standard. At the national level, roughly 64% of all doubled family households lived in dwellings that did not meet the National Occupancy Standard. Bedroom requirements associated with overcrowded doubled families were estimated by applying regional rates of overcrowding among doubled families (estimated from the 2011 census data) to the total bedroom requirements estimated for all doubled families.

data base are provided by First Nation housing authorities and are likely to be subject to varying degrees of accuracy depending upon the method used by individual First Nations to collect the data and the frequency at which data are collected or updated. Both sources of data are based, to a large extent, on subjective assessments of repair needs and can be expected to provide only a rough indicator of the renovation needs of dwellings on reserve.

The method used to estimate the number of reserve dwellings requiring major repairs is based on the distribution of dwellings by state of repair as identified from analysis of 2011 Census and CAMS data for 2011 to 2014. For both data sources, these distributions were constructed by province/region.<sup>26</sup> Distributions derived from the 2011 Census were also constructed for all Aboriginal households, as well as for Registered Indian households and by tenure group.

As the distributions of dwellings by state of repair based on the Census and CAMS data were found to be quite different, two sets of estimates of repair needs have been constructed, one based on the census distributions and the other based on the distributions developed from the CAMS data. In both cases, these distributions were applied to the baseline (2011) estimates of reserve dwelling units developed as part of the household projections.

## Existing Housing Needs of Aboriginal Households on Reserve<sup>27</sup>

Table 17 presents estimates of the existing housing needs of Aboriginal households on reserve for the year 2011. Total existing housing needs on reserve are estimated to include:

• 14,217 new units to address the needs of doubled families;

<sup>&</sup>lt;sup>26</sup> As the CAMS data base does not record information for reserves in the Northwest Territories, distributions developed for this region were based on data compiled for Yukon. It is assumed that due to similar geography the distributions for these two regions would be similar.

<sup>&</sup>lt;sup>27</sup> Estimates for registered Indian households living on reserve are provided in the report's appendix.

- 5,617 new units to replace units which have deteriorated to the point where they cannot be renovated;
- the addition of 27,243 bedrooms (to 17,535 existing dwellings) to address the space requirements of overcrowded households; and
- the renovation of between 20,387 and 39,997 existing dwellings which require major repairs.

### Table 17

### Estimates of Existing New Construction and Major Repair Needs for Dwelling Units of Aboriginal Households on Reserve by Province/Region, Canada, 2011

Province/Region	Units Needed to	Replacement	Bedrooms	Units Needing Major Repair		
	Family Doubling	of Existing Units	Eliminate Overcrowding	Census Estimates	CAMS Estimates	
Atlantic Region	361	254	754	2,232	1,005	
Quebec	2,361	206	3,718	4,900	1,374	
Ontario	1,679	1,379	3,254	7,090	3,542	
Manitoba	2,878	1,241	6,530	7,586	4,596	
Saskatchewan	2,596	213	5,603	5,989	1,879	
Alberta	2,491	1,123	4,785	6,191	3,770	
British Columbia	1,851	1,201	2,599	6,009	4,221	
Canada (Excluding Territories)	14,217	5,617	27,243	39,997	20,387	

Source: Based on analysis of data contained on the 2011 Census of Population and the 2004-14 Capital Assets Management System (CAMS) of INAC

Provincial /regional estimates may not sum to the "Canada" total due to rounding error.

In relation to estimates prepared for the year 2006, the estimates for the number of units needed to eliminate family doubling on reserve were higher (by about 6%) in 2011 at the national level (and in all provinces except British Columbia). At the national level, estimates for all other aspects of housing needs declined between 2006 and 2011. These declines were most pronounced among dwelling unit repair requirements which fell by between 9% (census based) and 17% (CAMS based) during the period. Requirements for additional bedrooms to address overcrowding and requirements for stock replacements were estimated to have fallen by about 8%. In general, the distribution of housing needs by province/region remained largely unchanged during the 2006-2011 time period. While sizable numbers of existing dwelling units continued to require major repair in all provinces/regions, overcrowding and family doubling were more pronounced in the prairie region.

# Capital Investment Associated with Existing Housing Needs of Aboriginal Households

As discussed in the second section of this report, CMHC administrative data concerning new construction and home renovation costs were used in this study to support the construction of estimates of the approximate scale of capital investment required to address existing housing needs on reserve. Assumptions concerning the construction costs associated with new dwelling units derive from analysis of data supplied from CMHC for actual housing projects developed on reserve under the Section 95 housing program. These costs relate only to construction and exclude site preparation and related infrastructure costs. A regional breakdown of the assumed construction costs in 2015 dollars by size of dwelling unit (based on analysis of the CMHC data) are summarized in Table 18.<sup>28</sup>

Site preparation and housing-related infrastructure costs can be expected to vary widely due to differences in location, material and labour costs, proximity of the construction site to existing infrastructure systems and a host of other factors. Site preparation and housing-related infrastructure costs used in this study are

<sup>&</sup>lt;sup>28</sup> Although cost estimates prepared by number of bedrooms were used for purposes of calculating the costs of new dwellings, Table 16 also provides some rough estimates of the average per square foot construction costs associated with these projects. Per square foot construction costs can vary widely on the basis of several factors including size, structure type, location and the quality of finishes used. Calculation of average per square foot costs developed for this study required assumptions concerning the size (in square footage) of the units constructed under the Section 95 program. Although the CMHC data did identify units constructed by number of bedrooms, related information concerning square footage was not available. The estimates of average cost per square foot appearing in Table 18 assumed the following unit sizes: 1 bedroom (750 sq ft), 2 bedroom (900 square ft), 3 bedroom (1,100 sq ft), 4 bedroom (1,400 sq ft), 5 bedroom (1,700 sq ft) and 6 bedroom (2,000 sq. ft), and reflect the weighted average of all units constructed in each region.

### Table 18

## Assumed Construction Costs for New Dwelling Units on Reserve by Number of Bedrooms and Province/Region, Canada, 2011 (in 2015\$)

Bedrooms	Atlantic Region	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada
1	122,831	103,107	131,406	142,902	154,363	175,411	122,973	141,592
2	140,731	167,690	140,833	152,894	169,045	177,382	122,993	159,568
3	144,000	180,843	143,501	176,553	173,960	200,407	137,946	170,287
4	146,445	186,941	164,315	193,424	190,020	244,371	145,411	172,262
5	166,648	194,112	166,984	220,571	212,056	240,263	156,292	179,928
6+	183,314	213,523	183,682	242,630	233,262	264,288	171,922	197,920
Avg \$ per Sq Ft	169	201	158	148	211	199	151	178
Site Preparation/Infrastructure	27,170	26,085	24,905	32,737	40,190	34,050	21,811	30,735

Source: Based on data supplied by Canada Mortgage and Housing Corporation for Section 95 housing projects developed on reserve, 2001-2006 See footnote 27 for additional information concerning assumptions and limitations.

based on estimates reported in the 2003 Report from the Auditor General concerning reserve housing. These costs (adjusted for housing construction price changes) were estimated to average about \$30,735 per unit at the national level (in 2015 dollars).

CMHC's Residential Rehabilitation Assistance Program (RRAP) administrative data were used to provide estimates of the capital costs associated with renovation requirements on reserve.<sup>29</sup> Although the RRAP program is generally associated with projects that involve major repairs, the program does place limits on the total amount of assistance available. Program expenditure data, therefore, may not reflect total repair requirements as some repairs may not have been undertaken because they could not be supported within the assistance limits of the program. Estimates concerning the average costs of major repairs developed for this study, which are provided in Table 19, should be viewed as conservative and may underestimate the true costs associated with major repair needs on reserve.

### Table 19

Province/Region	Assumed Renovation Cost per Unit 2015\$			
Atlantic Region	18,102			
Quebec	34,443			
Ontario	23,079			
Manitoba	39,600			
Saskatchewan	27,215			
Alberta	46,197			
British Columbia	17,914			
All Regions	27,523			

### Assumed Costs per Dwelling Unit for Housing Renovations Involving Major Repairs by Province/Region, Canada, 2011 (in 2015\$)

Source: Based on analysis of CMHC RRAP program data, 2003-2006

<sup>&</sup>lt;sup>29</sup> RRAP data supplied to this study were based only on projects located in urban areas. Average cost estimates developed from these data were adjusted upward by 10% to compensate for the additional transportation costs that would likely be incurred for construction on reserves.

Costs per square foot estimated for new construction (Table 18) are assumed to apply for bedroom additions needed to eliminate overcrowding. Estimates of construction costs for bedroom additions also assume an average addition of 110 square feet per bedroom.<sup>30</sup> Regional estimates of the assumed costs of construction per bedroom added are identified in Table 20.

### Table 20

### Assumed Costs per Bedroom of Additions to Existing Dwelling Units by Province/Region, Canada, 2011 (in 2015\$)

Province/Region	Average Cost Per Bedroom (2015\$)			
Atlantic	17,899			
Quebec	22,103			
Ontario	17,213			
Manitoba	18,687			
Saskatchewan	21,262			
Alberta	21,439			
British Columbia	15,030			
All Regions (excluding Territories)	19,271			

Source: Based on analysis of data supplied by Canada Mortgage and Housing Corporation for Section 95 housing projects developed on reserve, 2001-2006 and related estimates of construction cost per square foot. Average costs assume 110 square feet per bedroom

As in the case of the housing need estimates, estimates of the capital investment associated with addressing existing housing needs on reserve are presented for Aboriginal households. Similar estimates for registered Indian households are provided in the report's appendix.

<sup>&</sup>lt;sup>30</sup> The assumed size of 110 square feet per bedroom is likely to be appropriate in situations where only one additional bedroom is required. In situations where more than one bedroom is required, more space may be needed to provide appropriate means of access to the addition (e.g. a hallway). Analysis of the number of bedrooms needed per unit was undertaken as part of this study. This analysis revealed that in 2011 about 63 % of overcrowded units needed only one bedroom, 24 % needed 2 bedrooms, and 13 % required 3 or more bedrooms to meet the national occupancy standard. In cases where 3 or more additional bedrooms are required, consideration probably should also be given to the option of constructing an entirely new dwelling unit. This option has not been explored in this study.



### **Capital Investment Associated with Aboriginal Household Needs**

Table 21 provides a summary of the estimated capital costs of new construction, stock modification and renovations required to address the existing housing needs of Registered Indian households and families as determined from the INAC series baseline. In 2015\$, the total cost of addressing Aboriginal housing needs on reserve is estimated to range between \$4.9 billion (assuming CAMS-based renovation estimates) and \$5.5 billion (assuming census-based renovation estimates).

Estimated capital costs include about \$3.7 billion for the construction and servicing of new dwelling units required to eliminate family doubling and to replace deteriorated units, \$534.5 million to add bedrooms to existing units to eliminate overcrowding, and between \$630.2 million (CAMS estimate) and \$1.2 billion (census estimate) for renovation of the existing housing stock.

Comparison of the 2011 estimates with those developed previously for the year 2006 reveal that capital investment requirements have increased by roughly 1% to 2% during the 5-year period (after adjustment for inflation).<sup>31</sup> Increased costs in 2011 result exclusively from additional new unit requirements associated with eliminating family doubling.

<sup>&</sup>lt;sup>31</sup> Application of construction cost indices to the capital investment estimates for 2006 suggests that total investment required to address housing needs at that time was between \$4.8 and \$5.4 billion in 2015\$.

### Table 21

## Estimated Capital Investment Required to Address Housing Needs of Aboriginal Households on Reserve by Province/Region, Canada, 2011 (in 2015\$)

Province/Region	New Construction (2015\$ Millions)			Additions to	Major Repairs (2015\$ millions)		Total (2015\$ millions)	
	Elimination of Family Doubling	Replacement of Existing Units	Site Preparation and Infrastructure	Overcrowding (2015\$ millions)	Census Parameters	CAMS Parameters	Census Parameters	CAMS Parameters
Atlantic Region	50.5	34.4	9.8	13.5	40.4	18.2	148.7	126.5
Quebec	398.5	32.7	61.6	82.2	168.8	47.3	743.8	622.3
Ontario	240.8	193.5	41.8	56.0	163.6	81.7	695.7	613.8
Manitoba	504.0	210.4	94.2	122.0	300.4	182.0	1,231.1	1,112.7
Saskatchewan	463.5	37.1	104.3	119.1	163.0	51.1	887.1	775.2
Alberta	503.5	221.5	84.8	102.6	286.0	174.2	1,198.4	1,086.6
British Columbia	242.7	155.0	40.4	39.1	107.6	75.6	584.8	552.8
Canada (Excluding Territories)	2,403.6	884.7	437.0	534.5	1,229.8	630.2	5,489.5	4,889.9

Source: Based on analysis of data contained on the 2011 Census of Population; the Capital Assets Management System (INAC), 2009-14; CMHC Section 95 data (2001-2006); and RRAP program data (2003-2006)

## Section 4

## **Estimates of Future Housing Requirements**

This study's examination of future housing requirements on reserve focuses on three specific issues, including:

- the number and type of new housing units required to accommodate projected household and family growth;
- the number and type of new housing units needed to replace those that are lost due to deterioration, abandonment, demolition, conversion (or other events); and
- the renovation requirements associated with maintaining the condition of existing housing units.

As in the case of existing housing requirements, future housing requirements for the 2012-36 time period have been developed for both Aboriginal and registered Indian households under three scenarios (as described previously). Detailed estimates of future requirements are presented in this report for Aboriginal households and are based on the moderate fertility decline scenario. Results for all other projections scenarios and for registered Indian households are presented in the report's appendix.<sup>32</sup>

Projected unit requirements may differ slightly from the number of family and non-family households reported in the baseline projections. This results from the methodology employed which rounded down partial units to the nearest whole number and the fact that some units of specific sizes needed in the early portion of the time period are not needed later in the time period due to shifts in the size distribution of incremental households. Differences between the dwelling



<sup>&</sup>lt;sup>32</sup> See footnote 3 for a reference to the population, household and family projections used for this study. The three projections scenarios considered in this study differ only with respect to the assumed rate of future fertility. While fertility differences clearly affect the size of the future population in the short and longer term, impacts on household and family formation relate to the medium and longer term (as household/family formation occurs among adult cohorts). As such, the three scenarios do not differ greatly in terms of future household estimates. Projected Aboriginal households in 2036 were estimated to number 190,037 under the reference scenario, 191,472 under the moderate fertility decline scenario (about .8% higher than the reference scenario) and 201,795 (about 6.2% higher that the reference scenario) under the stable fertility scenario.

## **Requirements to Accommodate Future Household Growth**

The procedure used to estimate the number and size of dwelling units required to eliminate family doubling was also used to estimate the number and size of units needed to accommodate the projected future population of family and non-family households on reserve. This procedure, which is discussed below for family households, also involved two main stages.<sup>33</sup>

In the initial stage, distributions of family households by size (i.e. number of persons) and age of household maintainer were developed using census data for *single family* households. These distributions were constructed by region, location and (in the case of the Census series) by Aboriginal group. Analyses of changes in these distributions for the 2001-2011 time period were undertaken to develop assumptions concerning future changes in the size distribution of family households by age over the projection time period. The analyses revealed a small shift in the size distribution of single family households (for all Aboriginal groups) toward smaller households between 2001 and 2011.<sup>34</sup> This trend toward declining family sizes was assumed to continue in the future at the pace measured for the 2001-2011 time period.

The household size distributions developed for single family households were then applied to estimates of the number of *census families* (by age of family reference person) to produce estimates of the baseline and projected number of census families by household size (number of persons) and age of maintainer.

In the second stage, the distributions of dwelling unit sizes (i.e. number of bedrooms) required to meet the National Occupancy Standard (NOS) for family

unit estimates and household estimates are generally quite small (less than 1%) for both the Aboriginal and registered Indian populations.

<sup>&</sup>lt;sup>33</sup> The approach is quite similar for non-family households.

<sup>&</sup>lt;sup>34</sup> Minor shifts in the distribution of non-family households to smaller households also occurred during the 2001-2011 period.
households by household size were applied to the estimates of census families by household size to produce estimates of dwelling unit requirements by unit size (number of bedrooms). These distributions, which were constructed by region, location and Aboriginal group, were assumed to remain stable throughout the projection time period.<sup>35</sup>

## **Estimation of Stock Replacement Requirements**

Addressing future housing needs on reserve requires not only that sufficient and appropriate dwellings be made available to satisfy future household growth, but also that units lost to the housing stock through deterioration, abandonment, demolition, conversion or other reasons (e.g. fire, flooding) are replaced.

This component of the analysis was based on analysis of data contained on INAC's Capital Asset Management System (CAMS). Among other things, the CAMS database identifies on-reserve dwelling units by state of repair (including those in need of replacement) as well as units added to and deleted from the reserve housing stock. CAMS data were available to the study at annual intervals for the period spanning 1989-2014. Data for the 2004-2014 time period were used for this analysis as changes to the system were made in 2004 to the way of recording the state of dwelling unit repair.

By tracking annual changes in the number of units requiring replacement and the number of units removed or deleted from the housing stock, it is possible to construct measures of the rate at which units degrade to the point of requiring replacement (i.e. stock replacement rate) and the rate at which units were removed or lost from (or conversely retained in) the stock (i.e. stock retention rate). Future stock replacement and retention rates used in this study assume

<sup>&</sup>lt;sup>35</sup> Prior analyses of these distributions for the 1996, 2001 and 2006 time periods did not reveal large differences for different locations, regions and Aboriginal groups. In addition, these distributions also did not differ greatly by age of household maintainer. As such, the current study assumes that the distributions observed for the 1996-2006 period remain unchanged throughout the projection period.

that trends observed during the 2004-14 time period continue throughout the projection period.<sup>36</sup>

The projection methodology used for this aspect of the study is summarized in Figure 11, and involved three main stages. In the initial stage, the rate of stock retention (as estimated from the CAMS data) was applied to the projection estimates of households (occupied dwelling units) by household type (family/non-family) and household size.<sup>37</sup> This yielded annual counts of the number of units lost to the stock and the number of surviving (or retained) units by household type and household size. In the second stage, the stock replacement rate was applied to the annual counts of surviving units to estimate the number of retained dwelling units that require replacement. In a third stage, distributions identifying the number of bedrooms required to meet the National Occupancy Standard (NOS) by household type and size were used to convert the estimated number of units lost and requiring replacement into dwelling unit requirements by unit size.

## Estimation of Requirements for Major Repairs to Existing Stock

Analyses of the existing renovation requirements of the housing stock on reserve were presented in the previous section of this report. Renovation requirements, however, can be expected to continue into the future. *The estimates of future renovation requirements developed for this study reflect only those units contained in the existing or baseline housing stock on reserve.*<sup>38</sup>

<sup>&</sup>lt;sup>36</sup> The rates of stock retention and replacement requirements did not vary greatly during the 2004-2014 time period.

<sup>&</sup>lt;sup>37</sup> The methodology assumes that the likelihood of living in a unit that requires replacement or is lost from the housing stock is same for all households regardless of type (i.e. family/non-family) or household size. This assumption allows for the same procedure to be used to convert total dwelling unit requirements into units by size (i.e. number of bedrooms). Readers should note that the likelihood of a dwelling unit deteriorating to the point where it requires replacement may be correlated with household size, as overcrowded units may be subject to more accelerated declines in condition due to greater intensity of use. There are presently no data available to examine the relationship be household size and the rate of deterioration in dwelling unit condition.

<sup>&</sup>lt;sup>38</sup> The estimates of future renovation requirements presented in this section of the report are incremental to the existing repair needs identified in Section 3 of this report. In preparing

#### Figure 11

#### Summary of Approach for Estimating Dwelling Unit Requirements Associated with Units Lost or Requiring Replacement



Two different approaches have been used to estimate the future renovation needs of the existing housing stock. The initial approach is based on analysis of trends over time in the state of repair of reserve dwellings as identified by the CAMS data system. Using data for the 2004-2014 time period, annual estimates

estimates of future repair needs, it has been assumed that existing repair needs have already been addressed. Maintenance and renovation will also be needed for units which are added to the reserve housing stock over the course of the projection period. Future renovation requirements associated with units added to the housing stock in the future have not been developed for this study.

of the proportion of dwellings requiring major repairs were constructed for each region, as well as the average annual rate of change in these proportions. The future proportion of units requiring major repairs was then estimated by applying the average annual rate of change to the 2011 baseline proportion, as measured from the CAMS data base. The baseline proportion (and the rate of change in the proportion) was based on units that *did not* require replacement.

As the proportions developed from the CAMS data were not adjusted for the level of renovation activity that took place over the 2004-2014 time period, future renovation requirements estimated from this procedure implicitly assume that levels of renovation and maintenance that occurred during the 2004-2014 period will also continue throughout the projection period. Estimates of future renovation requirements presented in this study should be interpreted as incremental to the average level of renovation activity that occurred during the 2004-2014 time period.

A second approach to estimating future renovation requirements was based on analysis of changes in the state of dwelling unit repair by age of dwelling as measured from census data. Census data for on-reserve dwellings by state of repair and period of construction were compiled for all reserves that were fully enumerated in each of the 1991, 1996, 2001, 2006 and 2011 Censuses/Nation Household Surveys. The distribution of dwelling units by state of repair was constructed for seven groups of dwellings based on period of construction (pre-1971, 1971-1980, 1981-1990, 1991-1995, 1996-2000, 2001-2005 and 2006-2011).

Statistical analysis of changes in the state of repair distributions over time and by period of construction was undertaken to develop average annual rates of change in the proportions of dwellings that required major repair by period of construction. By applying these rates of change to the baseline proportion of units needing major repair, while controlling for period of construction, it is

possible to construct estimates of the proportion of dwellings needing major repair by age of dwelling.

Figure 12 presents estimates of the proportion of reserve dwellings requiring major repair by dwelling unit age. The proportions are assumed to apply to all reserve dwellings occupied by Aboriginal households.



Figure 12

Proportion of On-Reserve Dwelling Units Requiring Major Repair by

Source: Based on analysis of data from the 1991, 1996, 2001, 2006 and 2011 Censuses.

# Capital Investment Associated with Future Housing Requirements

Estimates of the capital costs associated with addressing the projected housing requirements have been developed for this study using the same procedures described in Section 3 of this report. All future capital costs are presented in 2015 dollars.

### **Future Housing Requirements of Aboriginal Households**

### Dwelling Units Needed to Accommodate Household and Family Growth

Estimates of the incremental number of dwelling units required to accommodate Aboriginal household growth on reserve during the 2012-2036 time period are

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summarized in Table 22 by unit size and household type. Over the 25-year projection period, the total number of new units needed is estimated to be 99,581 including 77,535 family units and 22,045 non-family units. Requirements for new units to accommodate Aboriginal household growth are expected to continue to be concentrated among smaller units. Larger units with 4 or more bedrooms are projected to form about 17% of the requirements for new housing units during the period.

#### Table 22

Projected Incremental Number of Aboriginal Occupied Dwelling Units Required to Accommodate Future Aboriginal Household Growth on Reserve by Number of Bedrooms and Household Type, Canada, 2012-2036 (Moderate Fertility Decline Scenario)

Bedroom			Incremental	Family Units						
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36				
1	2,473	2,255	3,011	2,808	3,044	13,591				
2	5,593	5,187	5,838	5,862	5,523	28,002				
3	4,152	4,155	3,974	3,867	3,001	19,148				
4+	2,961	3,670	3,717	3,494	2,953	16,794				
Total	15,179	15,267	16,540	16,031	14,520	77,535				
Bedroom		Incremental Non-Family Units								
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36				
1	3,262	2,322	3,119	2,519	2,525	13,748				
2	1,059	1,245	1,600	2,107	1,855	7,866				
3	105	81	89	75	19	369				
4+	24	16	7	14	2	63				
Total	4,450	3,664	4,815	4,715	4,402	22,045				
Bedroom			Incrementa	I Total Units						
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36				
1	5,735	4,577	6,131	5,327	5,569	27,339				
2	6,652	6,432	7,438	7,969	7,377	35,868				
3	4,257	4,235	4,062	3,942	3,020	19,517				
4+	2,985	3,686	3,724	3,508	2,955	16,858				
Total	19,629	18,930	21,355	20,745	18,921	99,581				
0	Level a state	(	4 0	▲		1 0045				

Source: Based on analysis of data from the 2011 Census of Canada and Morency et al, 2015 Totals may not sum exactly due to rounding error

New housing requirements associated with Aboriginal household growth are projected to remain relatively stable throughout the projection period in the range of 3,660 to 4,270 units annually. Provincial/regional estimates of new units

needed to accommodate the future growth of Aboriginal households on reserve are provided in Table 23.

#### Table 23

Brovinco/Pogion	Incremental Total Units								
Frovince/Region	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36			
Atlantic Region	381	1,520	314	1,456	735	4,406			
Quebec	1,537	3,410	1,848	3,525	1,960	12,280			
Ontario	3,757	2,659	5,578	3,080	3,929	19,002			
Manitoba	3,282	3,129	2,740	3,132	1,417	13,700			
Saskatchewan	4,082	2,728	3,287	3,264	3,914	17,276			
Alberta	2,825	2,417	3,463	1,618	4,121	14,443			
British Columbia	3,764	3,068	4,126	4,671	2,846	18,474			
Canada (Excluding Territories)	19,629	18,930	21,355	20,745	18,921	99,581			

Projected Incremental Number of Aboriginal Occupied Dwelling Units Required to Accommodate Future Aboriginal Household Growth on Reserve by Household Type and Province Region, Canada, 2012-2036 (Moderate Fertility Decline Scenario)

Source: Based on analysis of data from the 2011 Census of Canada and Morency et al, 2015 Totals may not sum exactly due to rounding error

In relation to estimates prepared in the 2012 study for 25-year period spanning 2007-2031, the revised estimates for the 25-year period spanning 2012-2036 prepared for this study are about 15-20% lower. The difference in the results of the two study's appears to be primarily attributable to the much lower estimate of the 2011 Aboriginal population residing on reserve and the lower level of population growth projected for the 2012-36 period by Morency et al. (2015).

#### **Dwelling Units Needed to Replace Deteriorated or Lost Units**

Table 24 identifies the estimated number of Aboriginal housing units by type and size that are expected to be required to replace deteriorated units or units lost from the existing housing stock on reserve. Over the 25-year period an estimated 5,836 units are projected to become deteriorated or lost, including about 4,696 family units and 1,140 non-family units. About 44% of the units requiring replacement are expected to be larger units with 3 or more bedrooms. Stock replacement needs are projected to decline over the projection period from roughly 400 units annually at the outset of the period to about 175 annually at the

end of the period. Table 25 provides estimates of stock replacement requirements by province/region.

#### Table 24

#### Projected Incremental Number of Aboriginal Dwelling Units Required to Replace Deteriorated or Lost Units on Reserve by Number of Bedrooms and Household Type, Canada, 2012-2036

Bedroom			Incremental	Family Units					
Requirements	2012-16	2017-21	2021-26	2027-31	2032-36	2012-36			
1	205	127	114	106	100	652			
2	490	303	270	250	235	1,549			
3	453	281	249	228	214	1,425			
4+	340	214	188	171	158	1,071			
Total	1,489	926	821	754	707	4,696			
Bedroom		Incremental Non-Family Units							
Requirements	2012-16	2017-21	2021-26	2027-31	2032-36	2012-36			
1	300	185	167	156	148	955			
2	44	27	24	22	21	137			
3	12	7	6	6	5	37			
4+	4	2	2	2	2	11			
Total	359	221	198	185	176	1,140			
Bedroom			Incrementa	I Total Units					
Requirements	2012-16	2017-21	2021-26	2027-31	2032-36	2012-36			
1	505	313	280	261	248	1,606			
2	534	330	294	272	256	1,686			
3	465	289	255	234	219	1,462			
4+	344	216	190	172	159	1,082			
Total	1,848	1,147	1,019	939	883	5,836			

Source: Based on analysis data from the Capital Assets Management System (INAC), 2004-2014 and Morency et al, 2015

Totals may not sum exactly due to rounding error

The updated estimates of stock loss and stock replacement rates prepared for this study from more recent CAMS data are lower than those estimated for the 2012 study (for the year 2006). The rate of stock loss estimated at the national level for 2011 was 0.457% compared to 0.582% in 2006. The stock replacement rate estimated for 2011 was 5.56% at the national level compared to 5.82% nationally in 2006.

#### Table 25

Province/Region		Incremental	Number of D	welling Units	- Total Units	;
Province/Region	2012-16	2017-21	2021-26	2027-31	2032-36	2012-36
Atlantic Region	44	46	46	45	45	226
Quebec	115	115	115	114	113	572
Ontario	196	143	143	142	141	766
Manitoba	642	500	436	377	323	2,278
Saskatchewan	402	87	86	86	85	745
Alberta	107	130	89	70	70	467
British Columbia	342	126	106	105	105	783
Canada (Excluding Territories)	1,848	1,147	1,019	939	883	5,836

#### Projected Incremental Number of Aboriginal Dwelling Units Required to Replace Deteriorated or Lost Units On Reserve by Province/Region, Canada, 2012-2036

Source: Based on analysis data from the Capital Assets Management System (INAC), 2004-2014 and Morency et al, 2015

Totals may not sum exactly due to rounding error

### Future Requirements for Major Repairs to the Existing Housing Stock

Estimates of the incremental number of existing dwellings occupied by Aboriginal households on reserve that are projected to require renovation over the course of the 25-year projection period are presented in Tables 26 and 27. Estimates based on the CAMS approach (Table 26) suggest that about 2,506 units contained in the existing reserve housing stock occupied by Aboriginal households will require major repairs over the course of the 25-year period. All of these units are located on reserve in either Saskatchewan (2,349) or British Columbia (157). CAMS data suggests that if recent trends in home repair (estimated for the 2004-2014 period) continue, the number of existing dwellings requiring major repairs should not increase throughout the period in all other provinces/regions.<sup>39</sup>

Significantly higher estimates of future renovation requirements associated with Aboriginal occupied units on reserve emerge from the census approach (Table 27). This approach identifies an incremental requirement for major repairs to

<sup>&</sup>lt;sup>39</sup> This implies that with the exception of British Columbia and Saskatchewan, recent levels of home repair on reserve appear to be sufficient to at least maintain the condition of the reserve housing stock at its present level.

12,492 units during the 2012-36 time period. Sizable incremental requirements for major repairs based on the Census approach were identified in all provinces. Updated estimates of incremental repair requirements to the existing stock based on the Census approach are sharply higher (by about 3,700 units) for the 2012-2036 period than for the 2007-2031 period (estimated in the 2012). Sharply higher estimates for the more recent period exist for all provinces except British Columbia and Manitoba.

#### Table 26

Drevin es/Degien		Increme	ental Units Re	equiring Majo	or Repair	
Province/Region	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36
Atlantic Region	0	0	0	0	0	0
Quebec	0	0	0	0	0	0
Ontario	0	0	0	0	0	0
Manitoba	0	0	0	0	0	0
Saskatchewan	917	304	338	374	415	2,349
Alberta	0	0	0	0	0	0
British Columbia	0	35	40	41	41	157
All Regions	917	340	378	415	456	2,506

#### Projected Incremental Number of Aboriginal Dwelling Units Requiring Major Repair by Province/Region, Canada, 2012-2036 (CAMS Based Estimates)

Source: Based on analysis data from the Capital Assets Management System (INAC), 2004-2014

Totals may not sum exactly due to rounding error

#### Table 27

#### Projected Incremental Number of Aboriginal Dwelling Units Requiring Major Repair by Province/Region, Canada, 2012-2036 (Census-Based Estimates)

Drevines/Degien		Incremental Units Requiring Major Repair								
Province/Region	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36				
Atlantic Region	380	266	169	143	157	1,115				
Quebec	723	534	407	130	149	1,942				
Ontario	854	568	453	394	221	2,490				
Manitoba	581	318	246	55	51	1,251				
Saskatchewan	465	424	375	243	262	1,769				
Alberta	628	388	378	296	231	1,921				
British Columbia	603	560	408	250	183	2,005				
Canada (Excluding Territories)	4,235	3,057	2,435	1,511	1,254	12,492				

Source: Based on analysis data from the 2011 Census of Population and Morency et al, 2015 Totals may not sum exactly due to rounding error The Census approach also suggests that incremental requirements for major repairs to the existing stock are expected to decline sharply over the course the projection period.

# Estimated Capital Investment for Future Aboriginal Housing Requirements

Estimates of the capital investment required to address the future housing requirements of Aboriginal households on reserve are summarized in Table 28. Total capital requirements over the 2012-2036 time period are estimated to be roughly \$20.0 billion in 2015\$. Required investment includes about \$18.7 billion in new housing construction to accommodate projected Aboriginal household growth, about \$939 million to replace units which are projected to be removed from the housing stock and between \$67 and \$367 million in incremental investment for major repairs to the existing housing stock.

Annual incremental investment requirements are projected average about \$800 million over the course of the 25-year period (in 2015\$), roughly 12% lower than those estimated in the 2012 study for the 25-year period spanning 2007-31 (i.e. about \$910 million annually in 2015\$).



#### Table 28

#### Estimated Capital Cost of Future Housing Requirements of Aboriginal Households and Families on Reserve by Type of Requirement and Province/Region, Canada, 2012-2036 (Moderate Fertility Decline Scenario)

		Capital Cost (2015\$ Millions)									
Time Period	Atlantic Region	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada (Excluding Territories)			
		Ne	w Construct	ion (Dwellings	and Related Infras	tructure)					
2012-16	62.9	276.8	602.1	658.3	877.8	648.0	579.7	3,705.7			
2017-21	247.4	605.1	426.3	648.9	598.9	573.9	478.0	3,578.5			
2022-26	55.0	349.7	892.7	579.6	713.8	793.9	631.4	4,016.1			
2026-31	237.2	626.7	490.5	647.1	711.7	378.3	716.6	3,808.0			
2032-36	120.8	370.4	624.4	304.3	837.1	941.8	435.1	3,634.0			
	Replacement of Deteriorated or Lost Stock (Dwellings and Related Infrastructure)										
2012-16	6.0	18.3	27.5	108.9	70.1	21.2	44.1	296.1			
2017-21	6.2	18.3	20.1	84.7	15.2	25.7	16.2	186.5			
2022-26	6.2	18.2	20.0	74.0	15.1	17.5	13.6	164.6			
2026-31	6.1	18.1	19.9	64.0	15.0	13.8	13.6	150.5			
2032-36	6.1	17.9	19.8	54.8	14.9	13.8	13.5	140.9			
Future Major Repairs to Existing (2011) Stock - CAMS Based Measure											
2012-16	0.0	0.0	0.0	0.0	25.0	0.0	0.0	25.0			
2017-21	0.0	0.0	0.0	0.0	8.3	0.0	0.6	8.9			
2022-26	0.0	0.0	0.0	0.0	9.2	0.0	0.7	9.9			
2026-31	0.0	0.0	0.0	0.0	10.2	0.0	0.7	10.9			
2032-36	0.0	0.0	0.0	0.0	11.3	0.0	0.7	12.0			
		Future Ma	jor Repairs	to Existing (20	11) Stock - Census	Based Meas	sure				
2012-16	6.9	24.9	19.7	23.0	12.7	29.0	10.8	127.0			
2017-21	4.8	18.4	13.1	12.6	11.5	17.9	10.0	88.4			
2022-26	3.1	14.0	10.4	9.7	10.2	17.5	7.3	72.2			
2026-31	2.6	4.5	9.1	2.2	6.6	13.7	4.5	43.1			
2032-36	2.8	5.1	5.1	2.0	7.1	10.7	3.3	36.2			
			Total Rec	uirements – C	AMS-Based Measu	res		-			
2012-16	68.9	295.1	629.7	767.1	972.9	669.2	623.8	4,026.7			
2017-21	253.7	623.4	446.4	733.6	622.4	599.6	494.9	3,773.9			
2022-26	61.2	367.9	912.7	653.5	738.1	811.4	645.8	4,190.6			
2026-31	243.3	644.7	510.4	711.1	736.9	392.1	730.9	3,969.4			
2032-36	126.9	388.4	644.3	359.1	863.3	955.6	449.4	3,786.9			
		-	Total Req	uirements – C	ensus-Based Meas	ures					
2012-16	75.8	320.0	649.4	790.1	960.6	698.2	634.6	4,128.7			
2017-21	258.5	641.8	459.5	746.2	625.6	617.6	504.3	3,853.4			
2022-26	64.3	381.9	923.1	663.3	739.1	828.9	652.3	4,252.9			
2026-31	245.9	649.2	519.5	713.3	733.3	405.8	734.7	4,001.6			
2032-36	129.8	393.5	649.4	361.1	859.1	966.3	451.9	3,811.1			

## Section 5 Summary and Discussion

The research presented in this report seeks to provide an overview of current housing circumstances of Aboriginal households living on reserve, estimates of current and future housing needs of this population and estimates of the scale of capital investment required to address these needs. Estimates of current housing circumstances and needs are presented for the year 2011 for Aboriginal and registered Indian households. These estimates provide updated information to previously produced information presented for the years 2001 and 2006 for Aboriginal households and for the years 2004 and 2009 for registered Indian households.

In 2011, roughly one-half of all Aboriginal households living on reserve experienced one or more housing deficiencies. About 40% of all Aboriginal households occupied a dwelling requiring major repairs, roughly 21% of Aboriginal households were overcrowded, and roughly one in every six Aboriginal family households contained more than one family. When viewed in relation to the results of earlier on-reserve housing research using the same data sources and estimation procedures (Clatworthy, 2012), the study's findings suggest that with the exception of family doubling (which increased during the period), the prevalence of housing deficiencies among Aboriginal households residing on reserve decreased modestly during the previous 5-year period. Nevertheless, Aboriginal populations on reserve continue to form some of the most poorly housed segments of Canadian society.

Estimates prepared for this study suggest that bringing current (i.e. 2011) Aboriginal housing circumstances on reserve in line with Canada's housing standards would require:



- 14,217 new units to address the needs of doubled families (up from 13,454 units in 2006);
- 5,617 new units to replace existing units which have deteriorated to the point where they cannot be renovated (down from 6,088 units in 2006);
- the addition of 27,243 bedrooms (in 17,535 existing dwellings) to address the space requirements of overcrowded households (down from 29,766 bedrooms in 19,799 dwellings in 2006); and
- the renovation of 20,387 to 39,997 existing dwellings which require major repairs (down from 24,560 to 43,894 dwellings in 2006).

Capital investment needed to address the 2011 housing needs of Aboriginal households on reserve is conservatively estimated to total between \$4.9 and \$5.5 billion (in 2015 dollars). In relation to the situation in 2006, the scale of investment required to address the housing needs among Aboriginal households on reserve in 2011 increased by roughly 1 to 2% (after adjusting for inflation).

Future housing needs of Aboriginal households living on reserve prepared for the 2012-2036 time period suggest that:

- 99,581 new dwellings would be required to accommodate projected growth in the number of Aboriginal households and families;
- 5,836 new dwellings would be required to replace units which are projected to be lost to the housing stock (through deterioration, demolition, conversion or other events); and
- incremental renovations would be required to support major repairs to between 2,506 and 12,492 dwellings units contained in the existing (i.e. 2011) stock.<sup>40</sup>

<sup>&</sup>lt;sup>40</sup> The future renovation estimates prepared for this study are in addition to level of renovations reported during the 2004-2014 time frame. These estimates also relate only to units contained in the 2011 housing stock. Any expansion of the housing stock resulting from new construction during the 2011-2036 time period would also be expected to lead to further renovation requirements. This aspect of future renovation requirements was not explored in this study.

Capital investment associated with addressing the housing needs of Aboriginal households living on reserve during the 2012-2036 time period is estimated to total roughly \$20.0 billion (in 2015\$). In 2015\$, the average annual investment requirements estimated for the 2012-2036 time period (i.e. about \$800 million) are about 12% lower than those calculated in previous research for the 2007-2031 time period (about \$910.0 million annually in 2015 dollars).

In light of the scale of existing and future capital investment required to provide acceptable housing, Canada's First Nations communities continue to face a considerable challenge. Evidence from this study is not very encouraging. While the prevalence of overcrowding and the need for major repairs to dwelling units appears to have improved modestly between 2006 and 2011, a much larger proportion of Aboriginal families were sharing dwellings. The context suggests that recent policies, programs and financial arrangements related to the development and maintenance of on-reserve housing are failing to address the needs of First Nations communities.

As with any research which attempts to project the future, the accuracy of the estimates of future housing requirements developed for this study depend on the extent to which the underlying assumptions of the projections reflect the actual course of future events. In general, the projection methodologies developed for this study involve extrapolations of recent trends in a variety of factors that are expected to influence housing needs (household and family growth, household size, state of dwelling unit repair and housing stock losses). Although assumptions concerning trends in these factors have been developed on the basis of analysis of time series data spanning a reasonable length of time, there is no guarantee that future trends will follow those of the past.

The study's estimates of capital investment requirements are based on the actual construction/renovation cost experience of projects recently supported by CMHC. As the number of projects used to estimate average costs was relatively small,

especially at the regional level, the capital investment estimates presented in this report should appropriately be viewed as approximations.

Although the study has attempted to incorporate housing-related infrastructure costs, these costs include only site preparation, site access and connections to existing service systems. Other infrastructure costs associated with required expansions of water, sewer and other utility systems to support projected growth in the reserve housing stock were not explored in this study. As these costs are likely to be quite significant further research in this area is required.

Readers should also be reminded that changes to the survey format of the 2011 National Household Survey (NHS) may also have impacted the study's results, as the possibility clearly exists that the voluntary nature of the 2011 NHS could contribute to response bias. Such bias could affect the study's estimates of both current and future housing needs, as well as the study's results concerning changes observed over the 2001-2011 time period.

The limitations and uncertainties discussed above should be recognized in using the projection results.



# Appendix A

**Additional Tables** 



Summary of Future Housing Needs of Aboriginal Households: Other Projections Scenarios



Projected Incremental Number of Aboriginal Dwelling Units Required to Accommodate Future Aboriginal Household Growth on Reserve by Number of Bedrooms and Household Type, Canada, 2012-2036 (Reference Scenario)

Bedroom			Incremental	Family Units				
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36		
1	2,485	2,294	2,997	2,816	2,803	13,395		
2	5,601	5,310	5,728	5,806	5,055	27,499		
3	4,142	4,315	3,789	3,765	2,632	18,644		
4+	2,950	3,853	3,519	3,401	2,322	16,046		
Total	15,179	15,772	16,034	15,788	12,811	75,584		
Bedroom	Incremental Non-Family Units							
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36		
1	3,262	2,322	3,105	2,519	2,477	13,684		
2	1,059	1,275	1,582	2,104	1,781	7,801		
3	105	86	86	74	17	368		
4+	24	16	7	14	2	63		
Total	4,450	3,699	4,780	4,711	4,277	21,917		
Bedroom	Incremental Total Units							
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36		
1	5,746	4,616	6,102	5,335	5,280	27,079		
2	6,660	6,584	7,310	7,910	6,836	35,301		
3	4,248	4,401	3,875	3,839	2,649	19,012		
4+	2,975	3,870	3,526	3,415	2,323	16,109		
Total	19,629	19,471	20,813	20,499	17,088	97,501		

Source: Based on analysis of data from the 2011 Census of Canada and Morency et al, 2015 Totals may not sum exactly due to rounding error



Projected Incremental Number of Aboriginal Occupied Dwelling Units Required to Accommodate Future Aboriginal Household Growth on Reserve by Household Type and Province Region, Canada, 2012-2036 (Reference Scenario)

Province/Region			Incremen	ntal Total Unit	ts	
Province/Region	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36
Atlantic Region	381	1,520	314	1,456	735	4,406
Quebec	1,537	3,410	1,848	3,525	1,173	11,493
Ontario	3,757	2,659	5,578	3,080	3,873	18,946
Manitoba	3,282	3,129	2,740	3,132	1,178	13,461
Saskatchewan	4,082	3,270	2,746	3,018	3,917	17,032
Alberta	2,825	2,417	3,463	1,618	3,601	13,923
British Columbia	3,764	3,068	4,126	4,671	2,612	18,240
Canada (Excluding Territories)	19,629	19,471	20,813	20,499	17,088	97,501

Source: Based on analysis of data from the 2011 Census of Canada and Morency et al, 2015 Totals may not sum exactly due to rounding error

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#### Projected Incremental Number of Aboriginal Dwelling Units Required to Accommodate Future Aboriginal Household Growth on Reserve by Number of Bedrooms and Household Type, Canada, 2012-2036 (Stable Fertility Scenario)

Bedroom			Incremental	Family Units				
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36		
1	2,475	2,278	3,008	2,804	3,030	13,595		
2	5,593	5,297	5,780	5,738	5,833	28,242		
3	4,150	4,327	3,875	3,777	3,376	19,505		
4+	2,960	3,871	3,600	3,530	3,111	17,072		
Total	15,179	15,772	16,262	15,850	15,351	78,414		
Bedroom	Incremental Non-Family Units							
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36		
1	3,486	2,576	3,399	2,734	2,872	15,067		
2	1,096	1,356	1,714	2,219	2,355	8,740		
3	111	97	106	82	33	429		
4+	26	18	10	12	7	74		
Total	4,720	4,047	5,229	5,047	5,267	24,310		
Bedroom			Incrementa	Total Units				
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36		
1	5,961	4,854	6,407	5,538	5,902	28,662		
2	6,690	6,653	7,494	7,957	8,188	36,982		
3	4,261	4,423	3,981	3,859	3,410	19,934		
4+	2,987	3,889	3,610	3,542	3,119	17,146		
Total	19,898	19,820	21,492	20,896	20,618	102,724		

Source: Based on analysis of data from the 2011 Census of Canada and Morency et al, 2015 Totals may not sum exactly due to rounding error

#### Projected Incremental Number of Aboriginal Occupied Dwelling Units Required to Accommodate Future Aboriginal Household Growth on Reserve by Household Type and Province Region, Canada, 2012-2036 (Stable Fertility Scenario)

Province/Region			Incremen	tal Total Unit	S	
Frovince/Region	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36
Atlantic Region	401	1,549	314	1,502	778	4,544
Quebec	1,568	3,459	1,901	3,611	2,046	12,586
Ontario	3,837	2,760	5,744	3,257	4,105	19,703
Manitoba	3,314	3,167	2,780	3,183	1,937	14,381
Saskatchewan	4,107	3,296	2,775	3,276	4,190	17,644
Alberta	2,852	2,448	3,754	1,944	3,914	14,911
British Columbia	3,820	3,140	4,224	4,125	3,647	18,955
Canada (Excluding Territories)	19,898	19,820	21,492	20,896	20,618	102,724

Source: Based on analysis of data from the 2011 Census of Canada and Morency et al, 2015 Totals may not sum exactly due to rounding error



#### Estimated Capital Cost of Future Housing Requirements of Aboriginal Households and Families on Reserve by Type of Requirement and Province/Region, Canada, 2012-2036 (Reference Scenario)

				Capital Co	st (2015\$ Millions)						
Time Period	Atlantic Region	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada (Excluding Territories)			
		New	Construction	(Dwellings a	and Related Infras	tructure)					
2012-16	62.9	275.7	602.1	658.3	877.8	648.0	579.7	3,704.6			
2017-21	247.4	603.4	426.3	648.9	719.9	573.9	478.0	3,697.8			
2022-26	55.0	348.4	892.7	579.6	593.8	793.9	631.4	3,894.8			
2026-31	237.2	623.8	490.5	647.1	658.1	378.3	716.6	3,751.5			
2032-36	120.8	217.1	616.0	254.0	837.7	814.5	398.8	3,258.7			
Replacement of Deteriorated or Lost Stock (Dwellings and Related Infrastructure)											
2012-16	6.0	18.3	27.5	108.9	70.1	21.2	44.1	296.1			
2017-21	6.2	18.3	20.1	84.7	15.2	25.7	16.2	186.5			
2022-26	6.2	18.2	20.0	74.0	15.1	17.5	13.6	164.6			
2026-31	6.1	18.1	19.9	64.0	15.0	13.8	13.6	150.5			
2032-36	6.1	17.9	19.8	54.8	14.9	13.8	13.5	140.9			
Future Major Repairs to Existing (2011) Stock - CAMS Based Measure											
2012-16	0.0	0.0	0.0	0.0	25.0	0.0	0.0	25.0			
2017-21	0.0	0.0	0.0	0.0	8.3	0.0	0.6	8.9			
2022-26	0.0	0.0	0.0	0.0	9.2	0.0	0.7	9.9			
2026-31	0.0	0.0	0.0	0.0	10.2	0.0	0.7	10.9			
2032-36	0.0	0.0	0.0	0.0	11.3	0.0	0.7	12.0			
		Future Majo	r Repairs to E	Existing (201	1) Stock - Census	Based Meas	ure				
2012-16	6.9	24.9	19.7	23.0	12.7	29.0	10.8	127.0			
2017-21	4.8	18.4	13.1	12.6	11.5	17.9	10.0	88.4			
2022-26	3.1	14.0	10.4	9.7	10.2	17.5	7.3	72.2			
2026-31	2.6	4.5	9.1	2.2	6.6	13.7	4.5	43.1			
2032-36	2.8	5.1	5.1	2.0	7.1	10.7	3.3	36.2			
			Total Requir	ements – CA	MS-Based Measu	res					
2012-16	68.9	294.0	629.7	767.1	972.9	669.2	623.8	4,025.6			
2017-21	253.7	621.8	446.4	733.6	743.3	599.6	494.9	3,893.2			
2022-26	61.2	366.6	912.7	653.5	618.0	811.4	645.8	4,069.2			
2026-31	243.3	641.9	510.4	711.1	683.2	392.1	730.9	3,912.9			
2032-36	126.9	235.0	635.8	308.8	863.8	828.3	413.0	3,411.7			
			Total Require	ements – Cer	sus-Based Measu	ures					
2012-16	75.8	318.9	649.4	790.1	960.6	698.2	634.6	4,127.6			
2017-21	258.5	640.1	459.5	746.2	746.6	617.6	504.3	3,972.7			
2022-26	64.3	380.6	923.1	663.3	619.0	828.9	652.3	4,131.5			
2026-31	245.9	646.3	519.5	713.3	679.7	405.8	734.7	3,945.1			
2032-36	129.8	240.2	640.9	310.8	859.7	838.9	415.6	3,435.8			

#### Estimated Capital Cost of Future Housing Requirements of Aboriginal Households and Families on Reserve by Type of Requirement and Province/Region, Canada, 2012-2036 (Stable Fertility Scenario)

	Capital Cost (2015\$ Millions)										
Time Period	Atlantic Region	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada (Excluding Territories)			
		New C	Construction	(Dwellings a	nd Related Infrast	ructure)					
2012-16	65.9	281.1	614.7	663.9	882.8	653.5	587.9	3,749.8			
2017-21	252.0	612.1	442.2	655.9	725.5	580.5	488.5	3,756.6			
2022-26	55.0	357.7	918.8	587.3	599.7	861.7	645.6	4,025.9			
2026-31	244.1	639.7	518.3	656.3	714.1	457.8	632.6	3,862.8			
2032-36	127.6	384.1	652.4	412.8	896.6	887.1	556.0	3,916.5			
Replacement of Deteriorated or Lost Stock (Dwellings and Related Infrastructure)											
2012-16	6.0	18.3	27.5	108.9	70.1	21.2	44.1	296.1			
2017-21	6.2	18.3	20.1	84.7	15.2	25.7	16.2	186.5			
2022-26	6.2	18.2	20.0	74.0	15.1	17.5	13.6	164.6			
2026-31	6.1	18.1	19.9	64.0	15.0	13.8	13.6	150.5			
2032-36	6.1	17.9	19.8	54.8	14.9	13.8	13.5	140.9			
		Future Majo	r Repairs to E	Existing (201	1) Stock - CAMS E	Based Measu	re				
2012-16	0.0	0.0	0.0	0.0	25.0	0.0	0.0	25.0			
2017-21	0.0	0.0	0.0	0.0	8.3	0.0	0.6	8.9			
2022-26	0.0	0.0	0.0	0.0	9.2	0.0	0.7	9.9			
2026-31	0.0	0.0	0.0	0.0	10.2	0.0	0.7	10.9			
2032-36	0.0	0.0	0.0	0.0	11.3	0.0	0.7	12.0			
		Future Major	Repairs to E	xisting (2011	) Stock - Census	Based Meası	ıre				
2012-16	6.9	24.9	19.7	23.0	12.7	29.0	10.8	127.0			
2017-21	4.8	18.4	13.1	12.6	11.5	17.9	10.0	88.4			
2022-26	3.1	14.0	10.4	9.7	10.2	17.5	7.3	72.2			
2026-31	2.6	4.5	9.1	2.2	6.6	13.7	4.5	43.1			
2032-36	2.8	5.1	5.1	2.0	7.1	10.7	3.3	36.2			
	-		Total Require	ements – CAI	MS-Based Measur	es	-				
2012-16	71.8	299.5	642.2	772.8	977.9	674.7	632.0	4,070.9			
2017-21	258.2	630.4	462.4	740.6	748.9	606.2	505.3	3,952.0			
2022-26	61.2	375.9	938.8	661.3	624.0	879.2	660.0	4,200.4			
2026-31	250.2	657.7	538.2	720.3	739.3	471.6	646.9	4,024.3			
2032-36	133.7	402.0	672.3	467.7	922.8	900.9	570.3	4,069.5			
	-	Т	otal Require	ments – Cen	sus-Based Measu	res	-				
2012-16	78.7	324.3	661.9	795.8	965.6	703.7	642.8	4,172.9			
2017-21	263.0	648.8	475.5	753.2	752.2	624.2	514.7	4,031.5			
2022-26	64.3	389.9	949.3	671.0	625.0	896.7	666.6	4,262.7			
2026-31	252.8	662.2	547.3	722.5	735.7	485.3	650.6	4,056.4			
2032-36	136.5	407.1	677.4	469.7	918.6	911.5	572.8	4,093.6			

# Summary of Current and Future Housing Needs of Registered Indian Households by Projection Scenario



#### Estimates of Existing New Construction and Major Repair Needs for Dwelling Units of Registered Indian Households on Reserve by Province/Region, Canada, 2011

Province/Region	Units Needed to Eliminate	Replacement of Existing	Bedrooms Needed to Eliminate	Units Needing Major Repair		
5	Doubling	Units	Overcrowding	Census Estimates	CAMS Estimates	
Atlantic Region	361	254	752	2,232	1,005	
Quebec	2,358	198	3,594	4,715	1,322	
Ontario	1,614	1,367	3,233	7,035	3,512	
Manitoba	2,878	1,241	6,469	7,581	4,581	
Saskatchewan	2,480	210	5,568	5,926	1,859	
Alberta	2,484	1,071	4,587	5,906	3,598	
British Columbia	1,641	1,127	2,463	5,633	3,960	
Canada (Excluding Territories)	13,816	5,468	26,666	39,037	19,850	

Source: Based on analysis of data contained on the 2011 Census of Population and the 2004-14 Capital Assets Management System (CAMS) of INAC

Provincial /regional estimates may not sum to the "Canada" total due to rounding error.

Four Directions Project Consultants, February 2016

# Estimated Capital Investment Required to Address Housing Needs of Registered Indian Households on Reserve by Province/Region, Canada, 2011 (in 2015\$)

	New Cor	nstruction (2015\$	Millions)	Additions to Eliminate	Major Repairs (2015\$ millions)		Total (2015\$ millions)	
Province/Region	Elimination of Family Doubling	Replacement of Existing Units	Site Preparation and Infrastructure	Overcrowding (2015\$ millions)	Census Parameters	CAMS Parameters	Census Parameters	CAMS Parameters
Atlantic Region	50.5	34.4	9.8	13.5	40.4	18.2	148.7	126.5
Quebec	398.6	32.7	61.5	79.4	162.4	45.5	743.8	622.3
Ontario	231.4	193.5	40.2	55.6	162.4	81.1	695.7	613.8
Manitoba	504.0	210.4	94.2	120.9	300.2	181.4	1,231.10	1,112.70
Saskatchewan	442.6	37.1	99.7	118.4	161.3	50.6	887.1	775.2
Alberta	502.7	221.5	84.6	98.3	272.9	166.2	1,198.40	1,086.60
British Columbia	214.8	155	35.8	37.0	100.9	70.9	584.8	552.8
Canada (Excluding Territories)	2,344.8	884.7	425.8	523.2	1,200.4	614.0	5,489.50	4,889.90

Source: Based on analysis of data contained on the 2011 Census of Population; the Capital Assets Management System (INAC), 2004-14; CMHC Section 95 data (2001-2006); and RRAP program data (2003-2006)



#### Projected Incremental Number of Registered Indian Occupied Dwelling Units Required to Accommodate Future Aboriginal Household Growth on Reserve by Number of Bedrooms and Household Type, Canada, 2012-2036 (Reference Scenario)

Bedroom			Incremental	Family Units						
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36				
1	2,515	2,230	3,073	2,375	2,074	12,267				
2	6,013	4,915	6,152	4,840	4,233	26,153				
3	4,744	3,667	4,442	3,019	2,418	18,291				
4+	3,345	3,194	4,132	2,940	2,063	15,674				
Total	16,617	14,007	17,800	13,174	10,788	72,385				
Bedroom	Incremental Non-Family Units									
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36				
1	3,380	2,454	3,173	2,162	2,068	13,238				
2	1,091	1,209	1,612	1,883	1,693	7,488				
3	112	85	91	53	45	386				
4+	28	17	7	11	11	74				
Total	4,611	3,765	4,884	4,110	3,816	21,186				
Bedroom			Incrementa	Total Units						
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36				
1	5,895	4,684	6,247	4,537	4,142	25,505				
2	7,104	6,124	7,764	6,723	5,925	33,641				
3	4,856	3,752	4,533	3,072	2,463	18,676				
4+	3,373	3,211	4,139	2,951	2,073	15,748				
Total	21,228	17,772	22,683	17,284	14,604	93,571				

Source: Based on analysis of data from the 2011 Census of Canada and Morency et al, 2015 Totals may not sum exactly due to rounding error



#### Projected Incremental Number of Registered Indian Occupied Dwelling Units Required to Accommodate Future Aboriginal Household Growth on Reserve by Household Type and Province Region, Canada, 2012-2036 (Reference Scenario)

Drovince/Degien	Incremental Total Units									
Province/Region	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36				
Atlantic Region	381	1,520	314	1,456	735	4,406				
Quebec	2,131	3,161	1,848	3,276	884	11,300				
Ontario	4,018	2,390	5,575	2,444	2,237	16,664				
Manitoba	2,649	3,762	2,740	2,522	1,788	13,461				
Saskatchewan	4,341	1,968	4,115	2,505	3,166	16,096				
Alberta	2,822	2,226	3,646	1,614	3,598	13,905				
British Columbia	4,885	2,744	4,446	3,466	2,197	17,739				
Canada (Excluding Territories)	21,228	17,772	22,683	17,284	14,604	93,571				

Source: Based on analysis of data from the 2011 Census of Canada and Morency et al, 2015 Totals may not sum exactly due to rounding error



Projected Incremental Number of Registered Indian Occupied Dwelling Units Required to Accommodate Future Aboriginal Household Growth on Reserve by Number of Bedrooms and Household Type, Canada, 2012-2036 (Moderate Fertility Decline Scenario)

Bedroom			Incremental	Family Units					
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36			
1	2,678	2,067	3,024	2,480	2,302	12,551			
2	6,247	4,683	5,913	5,077	4,685	26,605			
3	4,811	3,597	4,093	3,315	2,799	18,615			
4+	3,349	3,192	3,757	3,281	2,410	15,989			
Total	17,085	17,085 13,539		14,153	12,195	73,760			
Bedroom	Incremental Non-Family Units								
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36			
1	3,639	2,195	3,139	2,211	2,134	13,319			
2	1,110	1,190	1,596	1,896	1,779	7,571			
3	112	85	89	52	47	384			
4+	28	17	7	11	11	74			
Total	4,889	3,486	4,831	4,171	3,970	21,347			
Bedroom			Incrementa	l Total Units					
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36			
1	6,317	4,262	6,163	4,692	4,436	25,870			
2	7,357	5,873	7,509	6,973	6,464	34,176			
3	4,923	3,682	4,182	3,367	2,846	18,999			
4+	3,377	3,209	3,764	3,292	2,420	16,063			
Total	21,974	17,025	21,619	18,324	16,165	95,107			

Source: Based on analysis of data from the 2011 Census of Canada and Morency et al, 2015 Totals may not sum exactly due to rounding error



#### Projected Incremental Number of Registered Indian Occupied Dwelling Units Required to Accommodate Future Aboriginal Household Growth on Reserve by Household Type and Province Region, Canada, 2012-2036 (Moderate Fertility Decline Scenario)

Brovinco/Bogion			Incremen	Ital Total Unit	ts	
Frovince/Region	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36
Atlantic Region	381	1,520	314	1,456	735	4,406
Quebec	2,131	3,161	1,848	3,525	1,133	11,797
Ontario	4,018	2,390	5,575	2,718	2,516	17,218
Manitoba	2,649	3,762	2,740	2,522	2,026	13,700
Saskatchewan	4,341	1,968	3,051	3,023	3,425	15,808
Alberta	2,822	2,226	3,646	1,614	3,598	13,905
British Columbia	4,885	2,744	4,446	3,466	2,732	18,274
Canada (Excluding Territories)	21,228	17,772	21,619	18,324	16,165	95,107

Source: Based on analysis of data from the 2011 Census of Canada and Morency et al, 2015 Totals may not sum exactly due to rounding error



Projected Incremental Number of Registered Indian Occupied Dwelling Units Required to Accommodate Future Aboriginal Household Growth on Reserve by Number of Bedrooms and Household Type, Canada, 2012-2036 (Stable Fertility Scenario)

Bedroom			Incremental	Family Units					
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36			
1	2,560	2,117	3,049	2,629	2,294	12,649			
2	5,971	4,865	6,010	5,322	4,732	26,901			
3	4,512	3,923	4,185	3,408	2,881	18,909			
4+	3,087	3,587	3,830	3,236	2,713	16,454			
Total	16,131	16,131 14,493		14,595	12,620	74,913			
Bedroom	Incremental Non-Family Units								
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36			
1	3,778	2,446	3,428	2,538	2,493	14,684			
2	1,128	1,298	1,697	2,143	2,001	8,267			
3	115	100	103	66	57	442			
4+	29	19	9	12	12	81			
Total	5,051	3,863	5,237	4,760	4,563	23,474			
Bedroom			Incrementa	Total Units					
Requirements	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36			
1	6,339	4,563	6,477	5,168	4,786	27,333			
2	7,100	6,163	7,707	7,465	6,733	35,168			
3	4,627	4,023	4,288	3,474	2,939	19,351			
4+	3,117	3,606	3,839	3,248	2,725	16,535			
Total	21,182	18,356	22,312	19,355	17,183	98,387			

Source: Based on analysis of data from the 2011 Census of Canada and Morency et al, 2015 Totals may not sum exactly due to rounding error



#### Projected Incremental Number of Registered Indian Occupied Dwelling Units Required to Accommodate Future Aboriginal Household Growth on Reserve by Household Type and Province Region, Canada, 2012-2036 (Stable Fertility Scenario)

Provinco/Pogion			Incremen	tal Total Unit	ts	
FTOVINCE/Region	2012-16	2017-21	2022-26	2027-31	2032-36	2012-36
Atlantic Region	401	1,549	314	1,502	778	4,544
Quebec	2,162	3,210	1,901	3,611	1,215	12,098
Ontario	4,096	2,491	5,468	3,163	2,726	17,944
Manitoba	2,678	3,802	2,780	2,567	2,554	14,381
Saskatchewan	3,778	2,513	3,614	3,277	3,685	16,867
Alberta	2,846	2,258	3,690	1,655	3,673	14,122
British Columbia	4,941	2,814	4,544	3,580	2,551	18,430
Canada (Excluding Territories)	20,901	18,637	22,312	19,355	17,183	98,387

Source: Based on analysis of data from the 2011 Census of Canada and Morency et al, 2015 Totals may not sum exactly due to rounding error



#### Estimated Capital Cost of Future Housing Requirements of Registered Indian Households and Families on Reserve by Type of Requirement and Province/Region, Canada, 2012-2036 (Reference Scenario)

	Capital Cost (2015\$ Millions)										
Time Period	Atlantic Region	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada (Excluding Territories)			
	-	New	Construction	(Dwellings a	and Related Infras	tructure)					
2012-16	62.9	382.2	645.2	540.4	934.3	647.0	755.6	3,967.6			
2017-21	247.4	556.9	382.4	766.8	434.8	518.9	426.6	3,333.9			
2022-26	55.0	349.6	892.2	579.6	891.0	847.0	682.2	4,296.7			
2026-31	237.2	578.5	388.2	532.9	543.7	377.4	529.7	3,187.6			
2032-36	120.8	163.2	353.8	370.4	671.5	813.6	340.4	2,833.6			
	Repl	acement of D	eteriorated o	or Lost Stock	(Dwellings and R	elated Infras	tructure)				
2012-16	6.0	18.3	27.5	108.9	70.1	21.2	44.1	296.1			
2017-21	6.2	18.3	20.1	84.7	15.2	25.7	16.2	186.5			
2022-26	6.2	18.2	20.0	74.0	15.1	17.5	13.6	164.6			
2026-31	6.1	18.1	19.9	64.0	15.0	13.8	13.6	150.5			
2032-36	6.1	17.9	19.8	54.8	14.9	13.8	13.5	140.9			
	-	Future Majo	or Repairs to	Existing (201	1) Stock - CAMS	Based Measu	ire				
2012-16	0.0	0.0	0.0	0.0	25.0	0.0	0.0	25.0			
2017-21	0.0	0.0	0.0	0.0	8.3	0.0	0.6	8.9			
2022-26	0.0	0.0	0.0	0.0	9.2	0.0	0.7	9.9			
2026-31	0.0	0.0	0.0	0.0	10.2	0.0	0.7	10.9			
2032-36	0.0	0.0	0.0	0.0	11.3	0.0	0.7	12.0			
	-	Future Majo	r Repairs to I	Existing (201	1) Stock - Census	Based Meas	ure				
2012-16	6.9	24.9	19.7	23.0	12.7	30.2	10.8	128.2			
2017-21	4.8	18.4	13.1	23.1	11.5	19.8	10.0	100.7			
2022-26	3.1	14.0	10.4	18.0	10.2	18.2	7.3	81.2			
2026-31	2.6	4.5	9.1	9.2	6.6	13.8	4.5	50.3			
2032-36	2.8	5.4	5.1	8.3	7.1	10.8	3.3	42.9			
			Total Requir	ements – CA	MS-Based Measu	res	1				
2012-16	68.9	400.5	672.7	649.2	1,029.4	668.2	799.7	4,288.6			
2017-21	253.7	575.2	402.5	851.5	458.3	544.7	443.5	3,529.3			
2022-26	61.2	367.8	912.3	653.5	915.3	864.5	696.6	4,471.2			
2026-31	243.3	596.6	408.1	597.0	568.9	391.2	544.0	3,349.1			
2032-36	126.9	181.1	373.6	425.2	697.7	827.3	354.7	2,986.6			
		-	Total Require	ements – Cer	sus-Based Measu	ires					
2012-16	75.8	425.4	692.4	672.3	1,017.1	698.4	810.5	4,391.8			
2017-21	258.5	593.6	415.6	874.6	461.5	564.4	452.9	3,621.1			
2022-26	64.3	381.8	922.7	671.5	916.3	882.7	703.2	4,542.4			
2026-31	245.9	601.0	417.2	606.2	565.3	405.0	547.8	3,388.5			
2032-36	129.8	186.5	378.7	433.6	693.5	838.1	357.2	3,017.4			

#### Estimated Capital Cost of Future Housing Requirements of Registered Indian Households and Families on Reserve by Type of Requirement and Province/Region, Canada, 2012-2036 (Moderate Fertility Decline Scenario)

	Capital Cost (2015\$ Millions)										
Time Period	Atlantic Region	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada (Excluding Territories)			
		New	Construction	(Dwellings a	and Related Infras	tructure)					
2012-16	62.9	382.2	645.2	540.4	934.3	647.0	755.6	3,967.5			
2017-21	247.4	556.9	382.4	766.8	434.8	518.9	426.6	3,333.9			
2022-26	55.0	349.6	892.2	579.6	654.1	847.0	682.2	4,059.8			
2026-31	237.2	626.7	432.3	532.9	663.7	377.4	529.7	3,400.0			
2032-36	120.8	208.8	398.6	420.4	727.4	813.6	425.4	3,114.9			
	Repla	acement of D	eteriorated o	or Lost Stock	(Dwellings and R	elated Infras	tructure)				
2012-16	6.0	18.3	27.5	108.9	70.1	21.2	44.1	296.1			
2017-21	6.2	18.3	20.1	84.7	15.2	25.7	16.2	186.5			
2022-26	6.2	18.2	20.0	74.0	15.1	17.5	13.6	164.6			
2026-31	6.1	18.1	19.9	64.0	15.0	13.8	13.6	150.5			
2032-36	6.1	17.9	19.8	54.8	14.9	13.8	13.5	140.9			
		Future Majo	or Repairs to	Existing (201	11) Stock - CAMS	Based Measu	ure				
2012-16	0.0	0.0	0.0	0.0	25.0	0.0	0.0	25.0			
2017-21	0.0	0.0	0.0	0.0	8.3	0.0	0.6	8.9			
2022-26	0.0	0.0	0.0	0.0	9.2	0.0	0.7	9.9			
2026-31	0.0	0.0	0.0	0.0	10.2	0.0	0.7	10.9			
2032-36	0.0	0.0	0.0	0.0	11.3	0.0	0.7	12.0			
		Future Majoi	Repairs to I	Existing (201	1) Stock - Census	Based Meas	ure				
2012-16	6.9	24.9	19.7	23.0	12.7	30.2	10.8	128.2			
2017-21	4.8	18.4	13.1	23.1	11.5	19.8	10.0	100.7			
2022-26	3.1	14.0	10.4	18.0	10.2	18.2	7.3	81.2			
2026-31	2.6	4.5	9.1	9.2	6.6	13.8	4.5	50.3			
2032-36	2.8	5.4	5.1	8.3	7.1	10.8	3.3	42.9			
			Total Requir	ements – CA	MS-Based Measu	res		-			
2012-16	68.9	400.5	672.7	649.2	1,029.4	668.2	799.7	4,288.6			
2017-21	253.7	575.2	402.5	851.5	458.3	544.7	443.5	3,529.3			
2022-26	61.2	367.8	912.3	653.5	678.4	864.5	696.6	4,234.3			
2026-31	243.3	644.8	452.3	597.0	688.9	391.2	544.0	3,561.4			
2032-36	126.9	226.7	418.4	475.3	753.5	827.3	439.7	3,267.9			
		-	Total Require	ements – Cer	nsus-Based Measu	ures					
2012-16	75.8	425.4	692.4	672.3	1,017.1	698.4	810.5	4,391.8			
2017-21	258.5	593.6	415.6	874.6	461.5	564.4	452.9	3,621.1			
2022-26	64.3	381.8	922.7	671.5	679.4	882.7	703.2	4,305.6			
2026-31	245.9	649.2	461.4	606.2	685.3	405.0	547.8	3,600.8			
2032-36	129.8	232.1	423.5	483.6	749.4	838.1	442.3	3,298.7			

#### Estimated Capital Cost of Future Housing Requirements of Registered Indian Households and Families on Reserve by Type of Requirement and Province/Region, Canada, 2012-2036 (Stable Fertility Decline Scenario)

	Capital Cost (2015\$ Millions)										
Time Period	Atlantic Region	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada (Excluding Territories)			
	-	New C	Construction	(Dwellings a	nd Related Infrast	ructure)		- -			
2012-16	65.9	389.9	657.3	537.4	812.9	652.6	763.7	3,879.6			
2017-21	252.0	564.6	398.2	782.2	554.4	533.7	436.9	3,522.0			
2022-26	55.0	357.6	873.7	587.1	780.5	849.1	696.5	4,199.4			
2026-31	244.1	639.8	503.5	532.6	714.4	390.3	546.2	3,570.9			
2032-36	127.6	228.3	431.6	538.0	787.2	831.3	394.1	3,338.0			
	Repla	cement of De	eteriorated o	r Lost Stock	(Dwellings and Re	elated Infrast	ructure)				
2012-16	6.0	18.3	27.5	108.9	70.1	21.2	44.1	296.1			
2017-21	6.2	18.3	20.1	84.7	15.2	25.7	16.2	186.5			
2022-26	6.2	18.2	20.0	74.0	15.1	17.5	13.6	164.6			
2026-31	6.1	18.1	19.9	64.0	15.0	13.8	13.6	150.5			
2032-36	6.1	17.9	19.8	54.8	14.9	13.8	13.5	140.9			
	-	Future Major	r Repairs to E	Existing (201	1) Stock - CAMS E	Based Measu	re				
2012-16	0.0	0.0	0.0	0.0	25.0	0.0	0.0	25.0			
2017-21	0.0	0.0	0.0	0.0	8.3	0.0	0.6	8.9			
2022-26	0.0	0.0	0.0	0.0	9.2	0.0	0.7	9.9			
2026-31	0.0	0.0	0.0	0.0	10.2	0.0	0.7	10.9			
2032-36	0.0	0.0	0.0	0.0	11.3	0.0	0.7	12.0			
	-	Future Major	Repairs to E	xisting (2011	) Stock - Census	Based Measu	ire				
2012-16	6.9	24.9	19.7	23.0	12.7	30.2	10.8	128.2			
2017-21	4.8	18.4	13.1	23.1	11.5	19.8	10.0	100.7			
2022-26	3.1	14.0	10.4	18.0	10.2	18.2	7.3	81.2			
2026-31	2.6	4.5	9.1	9.2	6.6	13.8	4.5	50.3			
2032-36	2.8	5.4	5.1	8.3	7.1	10.8	3.3	42.9			
		•	Total Require	ements – CAI	MS-Based Measur	es	1				
2012-16	71.8	408.2	684.8	646.3	908.0	673.8	807.8	4,200.7			
2017-21	258.2	583.0	418.4	866.9	577.8	559.4	453.8	3,717.4			
2022-26	61.2	375.8	893.7	661.0	804.7	866.6	710.8	4,373.9			
2026-31	250.2	657.9	523.4	596.6	739.6	404.1	560.5	3,732.3			
2032-36	133.7	246.2	451.4	592.8	813.4	845.0	408.4	3,490.9			
	-	Т	otal Require	ments – Cen	sus-Based Measu	res	-				
2012-16	78.7	433.1	704.6	669.3	895.7	704.0	818.6	4,303.9			
2017-21	263.0	601.3	431.5	890.0	581.0	579.2	463.2	3,809.2			
2022-26	64.3	389.8	904.2	679.0	805.7	884.8	717.4	4,445.2			
2026-31	252.8	662.3	532.5	605.9	736.0	418.0	564.2	3,771.8			
2032-36	136.5	251.6	456.5	601.2	809.2	855.8	410.9	3,521.8			
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#### Annex B

#### **Draft Policy Reform Framework**

#### Toward a First Nations Housing and Infrastructure Strategy

**Co-development Team** Assembly of First Nations and Chiefs Committee on Housing and Infrastructure Indigenous and Northern Affairs Canada

December 6, 2017

#### **EXECUTIVE SUMMARY**

First Nations and the Government of Canada are working towards a renewed nation-tonation relationship and reconciliation to address the legacies of colonization, the barriers presented by the *Indian Act* and the lost opportunities resulting from previous top-down federal approaches in housing and infrastructure. Federally driven and designed approaches have not resulted in sustainable housing stocks or reliable community infrastructure. This approach has resulted in debilitating social, economic and health outcomes for First Nations.

The gap between the living conditions on First Nations and in the rest of Canada is well documented. In recent years, Canada has ranked between 6<sup>th</sup> and 8<sup>th</sup> on the UN Human Development Index while First Nations fall between 63<sup>rd</sup> and 78<sup>th</sup>. Further, the federal government's Community Well-Being Index shows that the gap has not reduced since 1981. This gap is clearly visible as shown in the housing conditions in First Nations communities and the higher proportion of Indigenous homeless people in Canada.

As a critical step towards reconciliation and to acknowledge the Crown's fiduciary relationship with First Nations; the Assembly of First Nations, First Nations and federal partners have co-developed this policy framework to lay the ground work for fundamental reform to federal housing and infrastructure programming.

Sufficient resources are required to transition to First Nations care, control and management, and would need to take into consideration both the government's fiduciary responsibility and compensation for the devastating housing and infrastructure delivery system and its past effects on First Nations. The development of housing and infrastructure delivery models should include adequate government funding support and resources.

First Nations fall along a 'reconciliation continuum' where some First Nation communities are ready to take on care, control and management of housing and infrastructure while other communities may want to first address the issues of the legacy of federal programs and clarify their treaty relationships.

In accordance with the spirit and intent of the Treaties entered into with the Imperial Crown, in order to meet a community's need effectively, a Strategy must include a treaty perspective and treaty right to shelter. These are important considerations which need to be included in any upcoming housing policy development

A phased approach to housing and infrastructure reform is required where First Nations must lead the transition at a pace that suits them. First Nations require the opportunity

to determine their own needs, how to meet these needs and the way forward to accommodate their various levels of readiness.

This transformative change must be envisioned from a First Nations perspective in order to transition to true First Nations care, control and management of housing and infrastructure. Safe, healthy, accessible, suitable and affordable housing and adequate community infrastructure are fundamental building blocks of a thriving community. Immediate housing and infrastructure reform must happen simultaneously.

First Nations leadership and their representatives must take a lead role on the development of a strategy. A successful strategy will be dependent on the Federal Government's commitment to provide adequate time and resources for First Nations to establish short, medium and long-term strategies. The scope of the Strategy will need to ensure off-reserve housing is included to address the needs of First Nations community members living away from home.

### Considerations to Support the First Nations Housing and Infrastructure Strategy Development:

- Engage with First Nations leadership, communities, technical experts, regional organizations, and underrepresented groups, etc., on strategic considerations of what incremental steps can be taken now, during and after transition;
- Acquire standardized data and confirm existing data on physical housing and infrastructure stock, population-based needs and projections, and on the skills and capacity gaps to inform planning efforts;
- Develop new models for funding self-sufficiency in housing and infrastructure which will increase financial, human resources and organizational capacity for First Nations in order to meet the continuum of housing and relevant infrastructure needs;
- Review a range of governance models to support the establishment of selfdetermined governance systems that are sustainable and effective in managing housing and infrastructure;
- Consider the development of First Nations led organizations to build and mobilize skills and capacity, and to provide coordination and oversight for existing services to support home occupants, housing and infrastructure personnel and larger community groups and Tribal Councils;
- Explore innovative and alternative First Nations' financial instruments to leverage investments and First Nations community's own source revenue;
- Explore the potential economic benefits of housing and infrastructure; and
- Establish relationships with urban housing providers to ensure seamless delivery of housing services to First Nations living away from home.

A one size fits all approach will not work but rather it needs to incorporate a suite of local and regional approaches that each community can tailor to improve their housing and infrastructure. For example, in northern and remote communities specific challenges exist such as high costs of transportation and building materials.

First Nations community members should have equal access to financial opportunities as provided to those living off-reserve, as an example, access to mortgages and financial loans. In order for First Nations to achieve their housing and infrastructure goals, the Strategy will need to address the lack of financial opportunities for First Nations community members on-reserve.

Overall, the legacy of the *Indian Act* and colonization has created challenges for First Nations. These challenges must be addressed immediately and in the longer term as First Nations do not want to inherit the entrenched dysfunctional legacy of federal housing and infrastructure programs and services. This Policy Framework for reform is a first step to reversing the past direction of colonial policies. It's time to move towards building housing and infrastructure successes in First Nations communities, including off-reserve housing.

#### Rationale: Why do we need Housing and Infrastructure Reform?

#### The Legacy of Colonization

As discussed in the Truth and Reconciliation Commission's final report, this legacy includes the fact that "for over a century, the goals of Canada's Aboriginal Policy were to eliminate Aboriginal Governments; ignore Aboriginal Rights; Terminate Treaties; and through a process of assimilation, cause Aboriginal People to cease to exist as distinct legal, social, cultural, religious and racial entities in Canada." These actions have caused an upheaval of Indigenous People that has its legacy entrenched in federal policies. Families have been disrupted to such an extent that cultural values and identity from one generation to the next have been profoundly impacted.

Nowhere can this legacy be seen more strikingly than in the case of First Nations housing. Housing is, in large measure, linked to the cause of poverty in First Nations communities. It is also linked to poorer health conditions, poor educational outcomes, loss of children to residential schools and foster homes, domestic violence, addictions, high rate of house fires and ultimately shortened life spans and reduced quality of life.

Current federal housing programs have left a legacy of underfunding. According to INAC's 2013 Report on Cost Drivers and Pressures, the infrastructure gap in First Nations communities is estimated to be \$9.7 billion by 2018.

The 2016 Evaluation for INAC's On-Reserve Housing, states that the formulae used to determine funding allocations are not reflective of needs and the current data requested from INAC does not provide a sufficient view of needs, priorities or performance. This legacy can only be addressed with new additional funding and financial arrangements.

#### Persistent Substandard Living Conditions

First Nations housing and infrastructure fall far below the standard that prevail elsewhere in Canada and continues to be detrimental to the health and wellbeing of First Nations. The inadequacy of these services is visible evidence of the poverty and marginalization experienced disproportionately by First Nations.

As noted in the 2015 report by the Senate Standing Committee on Aboriginal Peoples, "Too many First Nations people across the country live in housing which is woefully inadequate, and still others face barriers which prevent them from having the full range of housing choices available off-reserve...The poor quality of housing and the overcrowding in many communities is a distressing situation...Witnesses across the country outlined the crisis in housing in many First Nation communities in Canada, even referring to the situation as a state of emergency."

The Community Well-Being Index shows that socio-economic gaps between First Nations compared to the general Canadian population have not been significantly reduced over the last 30 years. The CWB Index is measured using Statistics Canada's Census of Population (1981-2006) and National Household Survey (2011). In addition to lower education, income and employment rates, First Nations experience poverty in the form of higher rates of food insecurity, poor health, substandard electricity services, and unsafe drinking water. According to 2016 census1 figures, 44.2 percent of on-reserve housing was below adequate standards, compared to 14.2 percent of housing off-reserve. Despite efforts to improve First Nations community well-being, the gap continues to widen.

INAC commissioned Four Directions Project Consultants (Clatworthy Report March 2016) to provide an update on INAC's estimates of current and future housing needs on reserve. The Clatworthy Report identified the need for an annual incremental investment of \$800 million over the course of the 25 year period from 2012 to 2036. There are 99,581 new dwellings needed to accommodate projected growth for households and families, and an additional 5,836 new dwellings is required to replace existing units, and approximately 12,492 units requiring major repairs. However, some First Nations led reports indicate that these numbers are higher than reported in Clatworthy Report.

<sup>&</sup>lt;sup>1</sup> <u>http://www12.statcan.gc.ca/census-recensement/2016/as-sa/98-200-x/2016021/98-200-x2016021-eng.cfm</u>

Standards of housing available for First Nations families remains measurably below what is required for basic health, safety, accessibility and sustainability. This has resulted in issues of overcrowding, mould, and high incidence of health conditions such as tuberculosis. As early as 1991, these challenges were documented in the Aboriginal Peoples Survey (APS), the first comprehensive study of Aboriginal Housing and Living conditions on reserve undertaken by Statistics Canada. This was confirmed again in 1994 for registered Indians living on reserves by the Department of Indian Affairs and Northern Development (DIAND).

First Nations are the fastest growing demographic in Canada, and the current investments and housing programs administered by the federal government are not meeting the housing needs nor are they decreasing the current backlog of housing in First Nations communities. Any improvements in housing will have beneficial effects in other areas of society, for example, health, education and other social and economic outcomes.

#### The Right to Self-Determined Housing and Infrastructure

The right to housing is well recognized in Canada, and has been emphasized in the international sphere. The International Covenant on Economic, Social and Cultural Rights calls for the progressive realization of a right to housing through continuous improvement of housing conditions.

The United Nations Declaration on the Rights of Indigenous Peoples further emphasizes the importance of housing, and states in Article 21, that "Indigenous peoples have the right, without discrimination, to the improvement of their economic and social conditions, including...housing."

Article 23 gives a mandate to ensure Indigenous peoples drive the realization of this right through program design, by stating that "Indigenous peoples have the right to determine and develop priorities and strategies for exercising their right to development" and "to be actively involved in developing and determining health, housing and other economic and social programmes affecting them and, as far as possible, to administer such programmes through their own institutions."

It is widely accepted that housing choice is a basic human requirement if a person is to thrive. However, housing programs, largely controlled by government, have for generations reassigned critical housing decisions from First Nations individuals and communities to federal government agents. Consequently the responsibility for housing has become a confusing and contentious issue. Active involvement by individuals and communities must be reinstated if housing improvement is to be achieved.

#### **Failed Government Programs**

The federal government provides support for on-reserve housing as a matter of social policy as is the case off-reserve. Federal funding is not intended to cover the full cost of housing, and First Nations are expected to secure funding from other sources for their housing needs, such as through shelter charges and loans. Most First Nation members do not have access to housing loans or access to credit, such as mortgages as one would have living off-reserve.

Under Indigenous and Northern Affairs Canada (INAC) on-reserve federal housing programming, the majority of funding agreements with First Nations fall under the 1996 *On-Reserve Housing Policy*, which states that on-reserve housing, is intended to be a shared responsibility between the federal government and First Nations. The transition to shared responsibility continues to be a problem affecting First Nations, as the on-reserve federal housing programming does not address the housing needs of First Nations or provide adequate opportunity for First Nations people to house themselves. Annual funding based on population and remoteness is provided to over 400 First Nations that opted into this policy. First Nations use these funds at their discretion for a wide range of housing-related activities that include construction, renovation, insurance and salary for housing managers. All First Nations in British Columbia and 20 First Nations in Ontario chose not to opt into the 1996 policy and operate instead under the Housing Subsidy Program, which provides proposal-based subsidies for construction and renovation.

Current programming forces communities to plan based on year-over-year federal fiscal cycles driven by INAC, CMHC and others rather than long-term planning cycles centered on the needs and priorities of the community and individual homeowners. Proposal and application-based processes condition communities to be skilled at applying for funding, not for managing housing and infrastructure in the context of a comprehensive community planning and multi-year delivery approach. INAC's project approval process does not take into consideration meeting construction season demands resulting in additional costs to the First Nation as they cannot build during their normal construction season.

The Evaluation of On-Reserve Housing released January 2017 stated: "INAC's residual role in providing funding, while technically appropriate, is ineffective in that its reactive approach to housing crises has not led to improvements. Despite significant investments, INAC's approach has not resulted in desired outcomes being met nationally, and its approach has not been cost-effective because it does not address the underlying capacity and resource challenges in First Nations communities necessary to facilitate long-term change in capacity and sustainability. A proactive approach is required wherein INAC supports First Nations and conglomerate organisations to

articulate their needs and capacities and improve their governance and management of housing, supporting self-determination and innovation."

The Section 95 On-Reserve Non-Profit Housing Program, (available on reserve since the late 70s) instituted by the Canada Mortgage and Housing Corporation through the National Housing Act, an off-reserve legislation, augments Indigenous and Northern Affairs Canada On-Reserve Housing program. The Section 95 program provides subsidized loans to First Nations on 25-year repayment plans for the construction or purchase and rehabilitation of rental housing projects on reserve. First Nations are expected to generate revenue, typically through rental regimes, for loan repayment and maintenance needs. Communities are expected to manage large housing and infrastructure portfolios and often do not have the resources or expertise required to reasonably achieve this expectation. The heavy administrative and financial burden associated with this program has resulted in enormous debt particularly in small First Nation communities.

A June 2015 Senate Committee on Aboriginal Peoples report entitled: On-Reserve Housing and Infrastructure: Recommendations for Change: stated that section 95 was inadequately funded and requires greater flexibility to be effective on-reserve.

There is also the matter of the infrastructure required to support new units. For example, roads, lot servicing, sanitary sewer systems, water systems and community facilities will all need to be enhanced to support the new housing. In some cases First Nations have no land base left and additions to reserves need to be created.

As stated in the 2017 Ontario First Nations Technical Services Report: First Nations/Municipalities (Operations and Maintenance) Cost Comparison, "First Nations' actual O&M expenditures exceed INAC's net funding requirements for most asset types. Current O&M funding formulas are antiquated."

The current approach and programming for First Nations housing and infrastructure has failed to achieve sustainable long-term positive outcomes. Billions of dollars have been spent building new, renovating existing housing and delivering programs. The proportion of expenditures spent on the public service internal operations is not clear, e.g., salaries and travel, nor is the proportion, allocation or predictability of funding for programs. The current federal system further restricts housing to timelines and eligibility criteria which do not enable flexibility for First Nations to invest in their own priorities.

The Senate Committee's February 2015 Interim Report states that "the poor quality of housing and the overcrowding in many communities is a distressing situation. At the same time, the Committee has been inspired by the innovative approaches taken by creative individuals in so many communities across the country. Indeed, innovation has

been where big strides have been made by First Nations – in financing mechanisms, land use and building materials."

#### **Need for New Financial Mechanisms**

The current cash-based housing and infrastructure system is problematic because it fails to account for inflation or changes in the cost of construction, transportation and materials over time. This pay-as-you-go system fails to capitalize on housing investments and has turned First Nations housing into a competition for limited resources rather than an opportunity for building wealth as in other Canadian jurisdictions. Proposal-based, time-limited, non-predictable and unstable funding present significant cash flow challenges for First Nations to manage their housing stock needs and also contributes to lost value and sustainability of the investments over time. The current federal program model does not provide First Nations with the opportunity to fully participate in the Canadian economy.

#### **Governments' Agenda and Priorities**

In National Chief Perry Bellegarde's address at the AFN 2016 Housing and Infrastructure Forum he stated that..."Every First Nation family and individual, no matter where they live, deserves to live in a healthy home that is safe, dry, and free of overcrowding...They deserve clean drinking water and communities with essential government services including infrastructure facilities. We must make this a priority as we eliminate the social and economic gap between Indigenous peoples and others in Canada...Our people live the reality of the housing and infrastructure deficit everyday...We do have the expertise and the experience to develop the right solutions and we invite partners in government, industry and the public to work with us."

In Prime Minister Justin Trudeau's Address to 72th Session of the United Nations General Assembly, September 21, 2017 he stated that..."We are working closely with Indigenous Peoples in Canada to better respond to their priorities, to better understand how they see and define self-determination, and to support their work of nation rebuilding....Over time, programs and services will increasingly be delivered by Indigenous Peoples, as part of their move toward true self-government, and the full implementation of the United Nations Declaration on the Rights of Indigenous Peoples...The time has come to forge new paths together...To move beyond the limitations of old and outdated colonial structures, and to create in their place something new, something that respects the inherent right of Indigenous Peoples to self-govern, and to determine their own future.... Indigenous Peoples will decide how they wish to represent and organize themselves....Our efforts to build a better relationship with Indigenous Peoples in Canada are not only about righting historical wrongs....They are about listening, and learning, and working together. They are also about concrete action for the future."

Reconciliation with Indigenous Peoples as a priority of the Government of Canada was emphasized in the Prime Minister's 2015 Departmental mandate letters to all Ministers, and re-affirmed in Ministers Philpott and Bennett new Mandate "...it is time for a renewed, nation-to-nation relationship with Indigenous Peoples, based on recognition of rights, respect, co-operation, and partnership."

A December 2016 Cabinet directive following the National Housing Strategy Memorandum to Cabinet mandated the Minister of INAC to engage with Indigenous partners to develop distinctions-based First Nations, Métis and Inuit housing strategies and return to Cabinet in late 2017-18 with proposed options.

The 2015 Indigenous and Northern Affairs Canada mandate letter directed the Minister to work with Indigenous Peoples to rebuild and reconstitute their nations, advancing self-determination, and, for First Nations, facilitating the transition away from the *Indian Act* and toward self-government. Subsequently, the 2017 mandate letters direct Indigenous and Northern Affairs Canada to work in consultation with First Nations and federal departments to improve essential physical infrastructure for First Nation communities, including improving housing outcomes, and to modernize institutional and governance structures to build capacity that supports First Nations in the implementation of their vision of self-determination.

# Recommended Approaches to Support the First Nations Housing and Infrastructure Strategy Development

#### 1. Data Capture, Ongoing Engagement and Planning

Support for community engagement, planning, and the collection, standardization and validation of data on physical housing and infrastructure stock, population-based needs and projections, and on the skills and capacity gap are critical precursors to guide the development of custom frameworks and program direction. Data exists on First Nations housing, but not in an aggregated and standardized form. First Nations are seeking access to their own information bank for historical knowledge, resourcing and procurement, information technology, and infrastructure, skills and capacity needs assessments. A reliable base of First Nation-owned data alongside communities' priorities and planning will allow First Nations to better communicate, make decisions and alert their communities, leaders as well as the governments of ongoing and emerging priorities.

#### **RECOMMENDATIONS:**

 Conduct a skills and capacity gap analysis at community, organizational and regional levels to fully understand the scope and need with which to provide important insights to help shape the direction of skills and capacity and address training needs. Information is needed to identify the gaps in funding and financing mechanisms to support necessary housing and infrastructure needs, and to make projections to support community planning over the long term. Analysis on what currently exists for skills and capacity, including the organizations, services delivered and needs at all levels is critical to inform the path forward.

- Plans can be developed based on priorities and existing strengths after completing a skills and capacity gap analysis. Individual communities, territorial governments, territorial and regional organizations and treaty organizations must plan the way forward and identify their unique needs. Regardless of the delivery mechanism, community conversations to develop housing and infrastructure plans must be encouraged to ensure buy-in and identify priorities, needs and a path forward.
- A discussion on the transformative approach will take time, requiring ongoing support and resources in which to engage First Nations (i.e. technical experts, communities, leadership, underrepresented groups) in strategic consideration of what incremental steps can be taken now, during and after transformation.

#### 2. A New Model for Funding Self-Sufficiency

The long-term goal is to eliminate the gap in housing and infrastructure, and increase financial, human resource and organizational capacity of First Nations to meet the range of housing and relevant infrastructure needs along the housing continuum, for example, shelters, social housing, housing for disabled community members, seniors' housing, rental units and rent to own, market-based and private home ownership.

A lack of standardized data does not prevent partners from acting on areas of consensus, such as the immediate need for significant investments in housing and infrastructure without delay to begin to reduce the accumulated backlog and mobilize skills and capacity. There is sufficient data to adequately inform additional investments immediately and during a transition period to begin to address the staggering housing and infrastructure problems plaguing First Nations.

#### **RECOMMENDATIONS:**

- At a minimum, address the infrastructure gap as identified in INAC's 2013 Report on Cost Drivers and Pressures, and account for inflation and current costs for construction.
- In the interim, during the transition period, maintain the current pace of investment that was started under Budget 2016, and revise the operations and maintenance funding levels to better reflect the real costs.
- Amend federal program authorities to allow for multi-year funding and monetization
  of federal transfers to extend purchasing power, give flexibility and time for
  communities to plan, and simplify processes to flow funds to First Nations more
  effectively.

 Establish a stable and predictable funding framework to support transition to First Nations' care, control and management of housing and infrastructure for the long term.

#### 3. Building and Mobilizing Skills and Capacity

First Nations require investments in skills and capacity as well as the authority to direct where and how the funding should be used to better support the home owner, the housing and infrastructure personnel and larger community groups and Tribal Councils.

Capacity and skills investments are required to mobilize and build communities' knowledge and self-sufficiency. Funding and initiatives would support policy development, information management, human resources (i.e. recruitment, development, retention and replacement of employees) and other local needs such as access to trades and expertise.

There is a need for local, regional and/or national networks that can organize and create skills development, and an information archive that makes research readily accessible. Education will play a key role in the governance development of each community. Immediate work needs to be done to examine funding and delivery models as determined by First Nations.

#### **RECOMMENDATIONS:**

- Conduct a skills and capacity gap analysis at community, organizational and regional levels to fully understand the scope and need with which to provide important insights to help shape the direction of skills and capacity and to address training needs.
- Provide support for First Nations to create sound business models to establish a flexible delivery system for skills and capacity development.
- Provide direct funding to housing management positions as recommended in the 2015 Senate Committee Report.
- Restore and increase funding for Tribal Councils and technical organizations to provide support during the transition period.

#### 4. Exploration of Governance Models

First Nations seek to establish self-determined governance systems that are sustainable and effective in managing housing and infrastructure. Planning and research will be needed at the local, regional, national and international levels to assess governance model opportunities and solutions.

The process of transition to First Nations self-determined governance systems cannot be a "devolution" exercise and will require sufficient financial resources, time and

capacity to be effective. The First Nations Housing and Infrastructure Strategy will support the establishment of a housing and infrastructure delivery framework that can be applicable regionally and nationally where and when First Nations communities are ready.

#### **RECOMMENDATIONS:**

- Research into existing First Nation-led governance models, international housing and infrastructure frameworks in general will support discussion amongst First Nations.
- Support a strategic, meaningful and respectful engagement process with First Nations communities for further discussion. Some First Nations are ready to explore options, but others will likely want more time under the current model of housing and infrastructure program delivery before making a transition.
- Territorial governments manage housing and infrastructure without consultation with First Nations. An in depth review of existing housing and infrastructure programming in the territories is required so that First Nations can provide input into the future direction of their housing and infrastructure within their territory. There is a need to initiate dialogue between territorial governments and First Nations.
- First Nations in the territories, Treaty and modern treaty, and self-government First Nations should have the opportunity to determine a strategy that meets their needs.

#### 5. Alternative and Innovative First Nation Financial Instruments

First Nations access to new and current financial instruments is needed if the housing and infrastructure gap is to be closed. Further research is needed to identify effective ways to leverage investments, to leverage First Nations community's own source revenue, and to explore the potential economic benefits of housing and infrastructure.

#### **RECOMMENDATIONS:**

- Explore and research existing financial models in order to better address First Nations financial housing and infrastructure needs.
- Investigate home ownership options for both on and off reserve individuals who are interested in owning their own home.
- Invest in new research and pilot financing options for low resource and/or low capacity First Nations to ensure equitable access to tools, services and financing.
- Investigate potential economic benefits of a housing industry in First Nations communities.
- Investigate the terms and the mandate of the First Nations Market Housing Fund with the objective to transfer the management and administration of the Fund from CMHC to First Nations Control as per terms of the Indenture of Trust in March 26, 2008.

 Initiate discussion with appropriate Federal departments as directed by AFN Resolution 16/2013 on options and recommendations in regards to First Nations Market Housing Fund and honour the Government of Canada's intent to transfer the Fund to First Nation control.

#### Key Considerations and Risks

- Market-based housing and approaches assume First Nations have an economic base on which to build. The reality for many First Nations is that due to historic exclusion from resource wealth and the local economical context, many First Nations have a lack of own-source revenue and social housing is the default answer. One must be realistic and admit that the local economic context and other sources of wealth have an undeniable influence on the development of the continuum of housing. The goal of developing a "housing market" may be ambitious in the short, medium and even long term for First Nations who rely on social housing. It is more appropriate to focus on the development of incremental "individual home ownership" over a long period of time by focusing on considerations that go beyond resale value.
- Financing options for low resource and/or low capacity First Nations are limited. All options need to be critically explored and considered.
- There is a financial risk for First Nations if they take the care and control of housing and infrastructure without adequate financial support and capacity, and without financial recognition of the devastating legacy of housing and infrastructure programs. A needs and gap analysis are critically needed to determine the level of financial support required to achieve the expected results. Good practices exist at all levels among First Nations, and must be promoted.
- If the Government doesn't address the legacy of entrenched underfunding of housing and infrastructure programs then First Nations communities will not be successful. The massive injection of additional funds is an unavoidable necessity that is documented (even before conducting new gap analysis and needs analysis).
- Adopting main stream housing delivery systems without consideration for cultural, social and economic realities in First Nations communities will result in the same failed outcomes. Transferring existing programs or "tweaked" programs to First Nations is therefore not an option. An entirely new approach determined by and for First Nations is a promising avenue.
- Timing of the transition process is critical to achieve the desired outcomes of the Strategy. First Nations continuum of readiness has to be considered.
- There is a risk that it becomes a political issue for the federal government and First Nations leadership. Communication is an important part of next steps. A communication strategy needs to be developed (key messages, etc.). Risks at this level are likely to vary depending on the degree of transparency that is perceived by First Nations. Mutual commitment must be flawless.

- There is a need for federal government commitment to this transition process regardless of change in government. Certainty from the federal government is required for this transition process to succeed.
- The needs of the most vulnerable groups (women, elders, homeless, disabled, etc.) may not be addressed to an acceptable level. The reform must allow each First Nation to have access to the conditions that make it possible to develop a housing continuum adapted to their specific needs.

#### **COMMUNICATIONS ANNEX**

- A December 2016 Cabinet directive following the National Housing Strategy Memorandum to Cabinet mandated the Minister of INAC to engage with Indigenous partners to develop distinctions-based First Nations, Métis and Inuit housing strategies and return to Cabinet in late 2017-18 with proposed options. The 2015 Indigenous and Northern Affairs Canada mandate letter directed the Minister to work with Indigenous Peoples to rebuild and reconstitute their nations, advancing selfdetermination, and, for First Nations, facilitating the transition away from the *Indian Act* and toward self-government. Subsequently, the 2017 mandate letters direct INAC to work in consultation with First Nations and federal departments to improve essential physical infrastructure for First Nation communities, including improving housing outcomes, and to modernize institutional and governance structures to build capacity that supports First Nations in the implementation of their vision of selfdetermination.
- INAC is fully committed to working in collaboration with the AFN and the CCoHI to develop a First Nations Housing and Infrastructure Strategy as a critical step to transitioning to First Nations care, control and management of housing and infrastructure.
- AFN Resolution 27/2017 directs:
  - the AFN and Chiefs Committee on Housing and Infrastructure (CCoHI) to jointly develop, with the federal government, a Terms of Reference for the establishment of a joint Working Group that will develop a First Nations National Housing and Infrastructure Strategy, which will include housing both on- and offreserve.
  - the AFN and the CCoHI to work in partnership with First Nations and the Government of Canada on the co-development of a strategic plan with short, medium and long-term objectives and outcomes, which will be implemented to contribute to the development of a National First Nations Housing and Infrastructure Strategy.
  - the AFN to call upon the Government of Canada that any drafting of legislation, regulations and policy instruments (such as a Memorandum to Cabinet) related to the proposed First Nations National Housing and Infrastructure Strategy be co -developed with the AFN and CCoHI, and any resulting legislation be ratified by

the Chiefs-in-Assembly before being introduced into the federal House of Commons with a commitment to long term investments for the work ahead.

- A Joint Housing and Infrastructure Working Group has been established with members from the Chiefs Committee on Housing and Infrastructure (CCoHI) and Regional Housing Technicians, AFN, Indigenous and Northern Affairs Canada (INAC), Canada Mortgage and Housing Corporation (CMHC), and Health Canada.
- This joint Working Group have co-developed this Draft Policy Reform Framework to lay the ground work for fundamental reform to federal housing and infrastructure programming. The Draft Policy Reform Framework will feed into the development of First Nations Housing and Infrastructure Strategy.
- The Draft Policy Reform Framework was presented at the Special Chiefs Assembly on December 5-7, 2017. AFN Resolution 87/2017 was passed by the Chiefs-in-Assembly which supports the Policy Reform Framework to be included as an Annex to INAC's Memorandum to Cabinet (MC).
- A Strategy and Dialogue session on housing and infrastructure also took place at the Special Chiefs Assembly which provided an opportunity to have further dialogue and input on the Draft Policy Reform Framework.
- First Nations leadership and their representatives must take a lead role on the development of a strategy. A successful strategy will be dependent on the Federal Government's commitment to provide adequate time and resources for First Nations to establish short, medium and long-term strategies. The scope of the Strategy will need to ensure off-reserve housing is included to address the needs of First Nations community members living away from home.
- It is crucial that First Nations lead the development of a First Nations National Housing and Infrastructure Strategy to ensure the future of housing and infrastructure reform is envisioned from a First Nations perspective.
- Ongoing investments for engagement will support a strategic, meaningful and respectful engagement process with First Nations to develop a distinctions-based First Nations Housing and Infrastructure Strategy which will include a strategic plan with short, medium and long-term objectives and outcomes.
- This engagement process will include northern and territory-based First Nations and underrepresented (i.e. women, the elderly, the disabled, youth and LGTBQ) groups. Ongoing discussion with Self-Government and Modern Treaty groups will be required to ensure their voices are heard to define the path forward, their needs are considered and there is equitable access to funding as part of First Nations housing and infrastructure fundamental reform.
- This transformative change must be envisioned from a First Nations perspective in order to transition to true First Nations care, control and management of housing and infrastructure. Continued engagement with First Nations communities and leadership must continue to discuss needs, plans and strategies.

- Partners have been communicating and seeking endorsement of the co-developed approach through existing leadership tables including the First Nations Permanent Bilateral Mechanism, the Prime Minister's Office, Ministerial offices, interdepartmental working groups with senior officials, the Cabinet machinery and First Nations Chief and Council leadership tables including Tribal Councils and the Special Chiefs Assembly.
- Partners will seek to co-develop a communications strategy to ensure respective leadership and communities are informed of actions and outcomes relating to the development of a distinctions-based First Nations Housing and Infrastructure Strategy and related housing reform initiatives.

### ANNEX C List of projects funded by Northern Responsible Energy Approach for Community Heat and Electricity Program (REACHE) since 2016

# Northern REACHE Projects 2016-2017

(Year 1)

Region	Community	Recipient	Project Name	Technology	Approved Funding
Canada	Catalyst 20/20	Aboriginal Human Resource Council	Catalyst 20/20 Participant Travel	capacity	\$8,600.00
Yukon	Мауо	Government of Yukon	Mayo 11 kW Solar PV	solar	\$11,000.00
Yukon	Old Crow	Vuntut Gwitchin Government	Old Crow Solar 330 kW PV	solar	\$15,045.00
Yukon	Yukon	Yukon College	Yukon Workshop	workshop	\$24,672.00
Yukon	Teslin	Government of Yukon	Teslin Biomass District Heating - Admin Building	biomass-heat	\$82,000.00
Yukon	Burwash Landing	Kluane First Nation	Kluane Wind	wind	\$108,000.00
Yukon	Мауо	Government of Yukon	Mayo (Na-Cho Nyäk Dun FN) Energy Audit and Solar PV Installation	solar	\$110,333.33
Yukon	Haines Junction	Government of Yukon	Haines Junction (Champagne-Aishihik FN) Energy Audit and Solar PV Installation	solar	\$110,333.33
Yukon	Dawson	Government of Yukon	Dawson (Energy Tr'ondëk Hwëch'in FN) Audit and Solar PV install.	solar	\$110,333.33
Yukon	Carcross	Government of Yukon	Carcross (Carcross-Tagish FN) Energy Audit and Solar PV install.	solar	\$110,999.69
Yukon	Teslin	Teslin Tlingit Council	Teslin Biomass District Heating	biomass-heat	\$218,407.00
Northwest Territories	GNWT - Catalyst 20/20	GNWT - Public Works and Services	Catalyst 20/20	capacity	\$25,000.00
Northwest Territories	Fort Simpson	GNWT - Public Works and Services	Fort Simpson Combined Heat and Power	biomass-CHP	\$100,000.00
Northwest Territories	Norman Wells, Fort Simpson, Aklavik, Paulatuk, Trout Lake	GNWT - Public Works and Services	Arctic Energy Alliance LED retrofits for Norman Wells, Fort Simpson, Aklavik, Paulatuk, Trout Lake	energy efficiency	\$100,000.00
Northwest Territories	Inuvik	GNWT - Public Works and Services	Solar PV for 17 Unit Housing Corp. Building	solar	\$100,000.00

Northwest Territories	Sachs Harbour	GNWT - Public Works and Services	Remote Diesel Community Wind Feasibility study	wind	\$100,000.00
Northwest Territories	NWT workshops	GNWT - Public Works and Services	NWT workshops	workshop	\$125,000.00
Northwest Territories	Aklavik	GNWT - Public Works and Services	Solar PV integration with Variable Speed Generator	solar	\$200,000.00
Northwest Territories	Inuvik	Northwest Territories Power Corporation	Exhaust Gas Recovery Unit for Inuvik Power Plant	residual heat	\$460,000.00
Nunavut	Qikiqtaaluk Corporation	Qikitaaluk Business Development Corporation	Catalyst 20/20 Training	capacity	\$15,000.00
Nunavut	Rankin Inlet, Whale Cove	GN - Community and Government Services	Solar-Domestic Hot Water and Air Heating Systems in Rankin Inlet, and Solar PV Design for Whale Cove School	solar	\$60,000.00
Nunavut	lqaluit workshop	World Wildlife Fund (WWF)	Arctic Renewable Energy Summit	workshop	\$74,270.00
Nunavut	Iqaluit, Rakin Inlet, Arviat	Qulliq Energy Corporation	Assessment to Optimize Heat Recovery in Iqaluit, Rankin Inlet and Arviat Plants	residual heat	\$80,000.00
Nunavut	North Baffin	GN - Community and Government Services	North Baffin Energy Building Retrofit Project - Investment Grade Feasibility Study	energy efficiency	\$100,000.00
Nunavut	Iqaluit	Qikitaaluk Business Development Corporation	Iqaluit Wind Energy - Business and Technical Case Study	wind	\$150,000.00
Nunavut	Rankin Inlet + Cambridge Bay	Qulliq Energy Corporation	LED Street Lighting in Rankin Inlet, Cambridge Bay, Iqaluit and Kugluktuk)	energy efficiency	\$280,000.00
Nunavut	Iqaluit	Qulliq Energy Corporation	Iqaluit Aquatic Centre District Heating System Project	residual heat	\$300,000.00
Nunavik	Inukjuak	Pituvik Landholding Corporation	Inukjuak Hydro Project	hydro	\$149,000.00
Nunavik	Kuujjuak	Makivik Corporation	Solar PV for Makivik Head Office	solar	\$271,545.00
Nunatsiavut	5 Communities	Nunatsiavut Government	High Efficiency Wood Stoves	biomass-heat	\$50,000.00
Nunatsiavut	5 communities	Nunatsiavut Government	Nunatsiavut Community Recreation Centres - Renewable Energy & Energy Optimization Assessment	solar	\$52,500.00
Nunatsiavut	Nain	Nunatsiavut Government	Solar PV for Illusuak Cultural Centre	solar	\$79,200.00
TOTAL					\$3,781,238.68

# Northern REACHE Projects 2017-2018 (Year 2)

Region	Community	Recipient	Project Name	Technology	Approved Funding
Canada	Whitehorse	Yukon Government	Renewables in Remote Communities Conference	workshop	\$110,000.00
Canada	Whitehorse	Pembina Institute	Renewables in Remote Communities Conference	workshop	\$33,000.00
Canada	Yukon College	Yukon College	Sharepoint Host	capacity	\$52,644.00
Canada		Yukon College	HOMER Workshop	workshop	\$15,000.00
Yukon	Old Crow	Vuntut Gwitchin Government	Old Crow Solar	solar	\$1,220,553.00
Yukon	Teslin	Government of Yukon	Teslin Energy Audit and Biomass Integration	biomass-heat	\$100,000.00
Yukon	Burwash Landing	Kluane First Nation	Kluane Wind Farm	wind	\$500,000.00
Yukon	Champagne Aishihik	Yukon Government	Energy Efficiency Retrofits for Cultural Centre	energy efficiency	\$136,600.00
Yukon	White River First Nation	Yukon Government	Beaver Creek Solar & Energy Audit	solar	\$97,900.00
Yukon	Various	Yukon Government	Community Green Energy Initiative (CGEI)	energy efficiency	\$277,300.00
Yukon	Burwash Landing	Kluane First Nation	Kluane First Nation Arctic Energy Summit - Helsinki	capacity	\$4,500.00
Yukon	Carcross	Carcross/Tagish Management Corporation	Caross/Tagiscsh Wind Farm	wind	\$125,000.00
Northwest Territories	Sachs Harbour	GNWT	Sachs Harbour Wind Monitoring	wind	\$100,000.00
Northwest Territories	Beaufort Delta Region	Gwichin Council International	Beaufort Region Off-Grid Fossil Fuel Cost Study	research	\$135,000.00
Northwest Territories	Paulatuk	Inuvialuit Regional Corporation	15kW Solar PV for Paulatuk Visitors Centre Corporation	solar	\$75,000.00
Northwest Territories	Tuktoyaktuk	Hamlet of Tuktoyaktuk	15kW Solar PV for Hamlet Office	solar	\$58,750.00
Northwest Territories	Tulita	GNWT	Tulita Utility Scale Solar PV	solar	\$250,000.00
Northwest Territories	Norman Wells	GNWT	Norman WellsWind Monitoring	wind	\$100,000.00

Northwest Territories	NWT	GNWT (AEA)	AEA Wood Stoves for Communities	biomass-heat	\$150,000.00
Northwest Territories	Whati	GNWT (Housing Corp)	20 kW on 9-unit building Whati	solar	\$100,000.00
Northwest Territories	Inuvik	Nihtat Corporation	Feasibility Analysis of Net-Metering Solar Program in Inuvik	solar	\$38,500.00
Northwest Territories	Inuvik	Aurora College (Aurora Resarch Institute)	Cardboard Fuel Pellet Manufacturing	biomass-heat	\$95,000.00
Northwest Territories	Fort McPherson	CanNor - NT Region (ILA)	Fort McPherson Biomass Forestry Initiative	biomass-heat	\$14,000.00
Northwest Territories	Inuvik	Nihtat Corporation	Biomass Business Plan	biomass-heat	\$55,192.00
Nunavut	Iqaluit	Qulliq Energy Corporation	Iqaluit Aquatic Centre District Heating System Project	residual heat	\$1,000,000.00
Nunavut	Nunavut	Government of Nunavut	Nunavut Climate Change Mitigation Specialist	capacity	\$150,000.00
Nunavut	Kivalliq Region	Kivalliq Inuit Association	Update Scoping Study - Hydroelectric Power and Fiber Optics to the Kivalliq Region	hydro	\$55,000.00
Nunavut	Nunavut	GN - Department of Environment (Climate Change Secretariat)	NC <sup>3</sup> Website Redesign to Incorporate Climate Change Mitigation	capacity	\$45,000.00
Nunavut	Hamlet of Kugluktuk	Hamlet of Kugluktuk	Wind Generation Feasibility	wind	\$22,220.00
Nunavut	Hamlet of Arviat	Hamlet of Arviat	Arviat Community Clean Energy Project Development	solar	\$125,000.00
Nunavik	Kuujjuak	Makivik Corporation	82kW Solar PV for Makivik Head Office	solar	\$285,354.00
Nunavik	Nunavik	Makivik Corporation	Makivik Particpation in Catalyst 20/20	capacity	\$22,600.00
Nunavik	Nunavik	Makivik Corporation	4 MET towers	wind	\$735,032.00
TOTAL					\$6,284,145.00

## Northern REACHE Projects 2018-2019 (Year 3)

Region	Community	Recipient	Project Name	Technology	Approved Funding
Yukon	Burwash Landing	Kluane First Nation	Kluane Wind Farm	wind	\$500,000.00
Yukon	Yukon College	Yukon College	Sharepoint Host	capacity	\$67,882.00
Northwest Territories	Beaufort Delta Region	Gwichin Council International	Beaufort Region Off-Grid Fossil Fuel Cost Study	research	\$20,000.00
Northwest Territories	Tulita	GNWT	Tulita Utility Scale Solar PV	solar	\$200,000.00
Northwest Territories	NWT	GNWT	AEA Wood Stoves for Communities	biomass-heat	\$150,000.00
Northwest Territories	Paulatuk	Inuvialuit Regional Corporation	15kW Solar PV for Paulatuk Visitors Centre Corporation	solar	\$35,000.00
Northwest Territories	Tuktoyaktuk	Hamlet of Tuktoyaktuk	15kW Solar PV for Hamelt Office	solar	\$39,650.00
Northwest Territories	Inuvik	Nihtat Corporation	Biomass Business Plan	biomass-heat	\$17,068.00
Nunavut	Iqaluit	Qulliq Energy Corporation	Iqaluit Aquatic Centre District Heating System Project	residual heat	\$700,000.00
TOTAL					\$1,729,600.00

### A description of federal programs targeted to Green House Gas (GHG) reduction across the North

Northern REACHE (CIRNA) • Ongoing delivery	\$53.5 million is committed over 10 years for the deployment of renewable energy projects in northern communities to reduce their reliance on diesel for heating and electricity through the use of local renewable energy sources and energy efficiency.	Territories, Nunavik, Nunatsiavut	<ul> <li>Direct application</li> <li>100% funding</li> <li>No stacking limit</li> </ul>
Clean Energy for Rural and Remote Communities (NRCan) • Currently accepting project proposals	<ul> <li>\$220 million over six years to support clean energy infrastructure projects that reduce reliance on diesel in off-grid, rural and remote communities, and industrial sites across Canada including:</li> <li>demonstrating innovative technologies to reduce diesel use</li> <li>deploying renewable energy technologies for electricity and forest-based biomass heating solutions (&gt;250 kW).</li> <li>building capacity to support communities</li> </ul>	Provinces and Territories	<ul> <li>Direct application</li> <li>Open to private sector</li> <li>Deployment stream</li> <li>40% funding limit</li> <li>100% stacking limit</li> <li>Demonstration stream</li> <li>75% funding limit</li> <li>100% stacking limit</li> <li>Bioheat stream</li> <li>100% funding limit</li> <li>100% stacking limit</li> <li>Capacity Building Stream</li> <li>100% funding limit</li> <li>100% stacking limit</li> </ul>
Science and Technology Program - Clean Energy and Infrastructure Stream (Polar Knowledge) • Not currently accepting new projects in 2018- 19	<ul> <li>Polar Knowledge Canada's (POLAR) Clean Energy and Infrastructure priority will help remote northern communities reduce their dependency on diesel by:</li> <li>mobilizing renewable technologies (wind, solar, biomass and micro hydro)</li> <li>testing and 'northernizing' clean energy technologies</li> <li>supporting capacity building in energy project development and management</li> </ul>	Canadian Arctic	<ul> <li>Not accepting new projects for 2018-19)</li> <li>Direct application</li> <li>\$250,000 limit</li> </ul>

Strategic Investments in Northern Economic Development (CanNor) • Program was renewed in budget 2018. Program launch date later in 2018.	<ul> <li>Strategic Investments in Northern Economic Development (SINED) is an economic development program that strengthens key economic sectors in Canada's three territories. SINED supports projects that increase northern economic growth and diversification, support innovation and capacity development, and create jobs for Indigenous and non-Indigenous Northerners.</li> <li>Renewable energy projects with an economic development component are eligible.</li> </ul>	Territories	Direct application
Arctic Energy Fund - Investing in Canada Infrastructure Program (INFC) • Agreements being signed, project submissions to follow	\$400 million will be delivered over 10 years for energy security in Canada's territories through the Arctic Energy Fund by developing efficient and reliable energy systems for communities not connected to the grid.	Territories	<ul> <li>Integrated Bilateral Agreements</li> <li>75% Gov't and Indigenous funding limit, otherwise 25%</li> <li>100% Indigenous stacking limit</li> </ul>
Impact Canada Initiative (NRCan) • Program under development	<ul> <li>The Government of Canada announced \$75 million over four years to solve Canada's major challenges in clean tech by using innovative program approaches to deliver greater results, including:</li> <li>co-creation with stakeholders, including jointly defining ambitious targets and combining resources to achieve them</li> <li>innovative financial instruments to attract participation</li> <li>data collection and analysis to integrate best practices into programming</li> <li>Natural Resources Canada is developing a challenge to help Canada's remote communities reduce their reliance on diesel for power and heat.</li> </ul>	Provinces and Territories	Direct Application

Indigenous Forestry Initiative (NRCan) • Ongoing delivery	<ul> <li>The program received \$10M over 3 years in Budget 2017 to support Indigenous forestry projects aimed at achieving economic development through one of the following activity areas:</li> <li>Clean technology and participation in the forest bioeconomy (e.g. a project that promotes using biomass for heat and power to reduce reliance on diesel fuel)</li> <li>Environmental stewardship (e.g. a project that focuses, on climate change mitigation and adaptation, land reclamation, or environmental/ecological services)</li> <li>Use and management of forest resources (e.g. a project that gives people in the community training in forest management)</li> </ul>	Provinces and Territories	Direct application
Rural and Remote Communities Stream - Investing in Canada Infrastructure Program (INFC) • Agreements being signed, project submissions to follow	\$1.6 billion for community infrastructure priorities through <u>Rural and</u> <u>Northern Communities</u> Infrastructure funding; including roads, food security and broadband.	Provinces and Territories	<ul> <li>Integrated Bilateral Agreements</li> <li>75% Gov't and Indigenous funding limit, otherwise 25%</li> <li>100% Indigenous stacking limit</li> </ul>
Green Infrastructure Stream - Investing in Canada Infrastructure Program (INFC) • Agreements being signed, project submissions to follow	<ul> <li>The 9.2 billion Green Infrastructure funding stream is divided into three sub-streams:</li> <li>Climate Change Mitigation—supporting projects such as cleaner energy generation, cleaner transportation initiatives and others that will reduce greenhouse gas (GHG) emissions;</li> <li>Adaptation, Resilience and Disaster Mitigation—helping to make communities more resilient by investing in projects that enable them to better withstand and mitigate the impacts of climate change; and</li> <li>Environmental Quality—building healthier communities through investments in clean, safe drinking water, sewage treatment, and reducing or remediating soil and air pollutants.</li> </ul>	Provinces and Territories	<ul> <li>Integrated Bilateral Agreements</li> <li>75% Gov't and Indigenous funding limit, otherwise 25%</li> <li>100% Indigenous stacking limit</li> </ul>

Low Carbon Economy – Leadership Fund (ECCC) • Currently accepting proposals	\$1.4 billion in contributions will be available for provincial and territorial actions that generate clean growth and reduce greenhouse gas emissions. One of the target areas for the fund is energy efficiency in residential and commercial buildings	Provinces and Territories	<ul> <li>Integrated Bilateral Agreements</li> <li>75% Indigenous funding limit</li> <li>No stacking permitted</li> </ul>
Low Carbon Economy Challenge (ECCC) • Champions Stream is currently accepting proposals • Partnerships Stream is under development	<ul> <li>\$500 million will be available for the Low Carbon Economy Challenge. The Challenge will support ambitious projects that can be submitted by all provinces and territories as well as municipalities, Indigenous communities and organizations, businesses, and not-for-profit organizations. Projects will leverage Canadian ingenuity across the country to reduce emissions and generate clean growth.</li> <li>Champions: The over-\$450-million Champions stream is open to all applicants. Eligible applicants include all provinces and territories, municipalities, Indigenous communities and organizations, businesses, and not-for-profit organizations. Projects will be selected primarily based on their ability to reduce greenhouse gas emissions at the lowest cost.</li> <li>Partnerships: The \$50-million Partnerships stream is limited to Indigenous communities and organizations, small and medium-sized businesses, not-for-profit organizations, and small municipalities. The Partnerships stream will help ensure a broad range of Canadians are able to participate in the Challenge.</li> </ul>	Provinces and Territories	<ul> <li>Direct application</li> <li>75% Territorial stacking limit</li> <li>75% Indigenous stacking limit</li> <li>50% Provincial stacking limit</li> <li>Minimum federal contribution of \$1M</li> </ul>
Emerging Renewable Power Program (NRCan) • Currently accepting proposals	The Emerging Renewable Power Program (ERPP) provides up to \$200 million to expand the portfolio of commercially viable renewable energy sources available to provinces and territories as they work to reduce GHG emissions from their electricity sectors. (eg. geothermal, off-shore wind)	Provinces and Territories	<ul> <li>50% funding limit up to \$50M</li> <li>75% stacking limit</li> <li>100% Gov't and Indigenous stacking limit</li> </ul>